# ISDA JOURNAL

## Studies in Development and Public Policy

Institute for the Study of Developing Areas
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## STUDIES IN DEVELOPMENT AND PUBLIC POLICY

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# Instructions to Authors

Empirical studies, conceptual papers and review articles that fall within the scope of *ISDA Journal* are invited for publication. *ISDA Journal* is a multi‑disciplinary, refereed and indexed journal. Research papers and articles are reviewed by experts and specialists, considering several aspects like originality, logical cohesion, language, citations and on the suitability of the article for publication in the journal. All research papers and articles are subjected to a strict plagiarism check. Authors are instructed to follow the instructions given below while submitting articles or research papers for publication. Please note that *ISDA Journal* is following the APA style (sixth edition) to enhance its international visibility and acceptability.

**Maximum word limit**

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(b) Conceptual paper and review articles: 6000

(c) Research notes and brief reports:1500.

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Manuscripts should be sent as MS Word files, typed in Times New Roman, font size 12 with 1.5 line spacing.

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The title should be short and accurate. A shortened version of the title in 2/3 words should be given to use as running head of the article/paper.The name of the author(s) may be provided below the title, and the institutional affiliation(s) as footer in the first page alone.

**Acknowledgements** if any, may be given at the end of the paper.

**Abstract and Keywords**

The abstract should be in about 100 to 150 words only and may encapsulate the background information, objectives, methods and findings. Key words should not be more than five.

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The introductory paragraphs should be concise and pertinent to the area of research.

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**In-Text Citation Examples**

**Single Author**

- Mohanan (2003) finds that the much publicized Kerala model
- Kerala society is widely considered as a matrilineal one (Mohanan, 2003).
- “It is widely believed that tlfe legal status of Kerala women is higher status, since they could share the benefits of education” (Mohanan, 2003, p.84).

**Two or more authors**

- Same as single author with the surnames of all the authors.
- (Pillai&Joshy,2010)
- Pillai and Joshy (2010)argue that...
- Strategic autonomy issue has been raised by several authors (e.g.,Pillai,Parija,Menon&Josukutty, 2015)
- Pillai, Josukutty Joshy and Parija (2015)support

**List of References**

**Citing print sources:**

Mohanan, B. (2003). *Women and Low: The case of Kerala.* Trivandrum: ISDA Publications.

Ramalingam, P., & Nath, Y. (2012). School Psychology in India: A Vision for the Future, *Journal of the Indian Academy of Applied Psychology, 38,* 21-34.

Josukutty, C.A., (2013). Af-Pak Policy: Implications for India. In Mohanan B Pillai (Ed.) *India's National Security: Concerns and Strategies.* New Delhi: New Century Publication.

Zubin, J. (1975). Problem of attention in schizophrenia. In M.l. Kietzman, S. Sutton and J. Zubin (Eds.) *Experimental approaches to psychopathology.* New York: Academic Press.

**Citing DOI**

Farrell, P. (2010). School psychology: Learning lessons from history and moving forward. *School Psychology International, 31,* 581-598. doi: 10.1177/ 0143034310386533.

**Citing web resources**

Shackelford, W. (2000). The six stages of cultural competence. In Diversity central: Learning. Retrieved April 16, 2000, from *http://www.diversityhotwire.com/learning/culturaljnsights.html*

**Structure of an Empirical Paper**

Introduction, Objectives/Hypotheses, Method (not methodology), Results, Discussion, Conclusion and References.

*Objectives/Hypotheses:* Objectives and hypotheses may be made part of the introduction or given under a separate sub-heading.

**Method** (not 'Methodology'): This section should deal with Techniques, Sample, Tools/Measures, Procedure, etc.

**Results**

Results should be drafted in such a way that only the relevant points are included. Data may be provided preferably in the form of tables and occasionally in figures. Data should not be repeated in more than one form. Arabic numerals should be used for the numbering of tables and figures. Please avoid detailed ANOVA tables and give only F-values and their significance. Avoid describing the values already provided in the tables in subsequent paragraphs.

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Initially, the findings may be stated briefly. In subsequent paragraphs, the findings may be discussed in the light of relevant works in the past. In some cases, the results need not be given under a separate sub-heading and may be included along with the discussion so as to avoid repetition.

**Conclusion**

Conclusion should be stated in unequivocal terms in agreement with the findings. It may also carry a paragraph or so on the applications of the study, if any.

**Structure of a Conceptual Paper**

Abstract, Introduction, Specification of a theory or Propositions, Discussion, Closing paragraph/Conclusion and References.

**Mode of submission**

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# MARKET TIMING ABILITIES OF INDIAN MUTUAL FUND MANAGERS: AN EVALUATION

**Kishore. H***

## Abstract

*Mutual funds play a crucial role in an economy by mobilizing savings from investors and invest the same in the stock-market, thereby establishing a direct link between savings and the capital market. The growth of mutual funds depends on the performance of the mutual fund schemes, which in turn, to a great extent depends on the ability of fund managers in generating superior returns on mutual fund schemes. The fund manager's efficiency is evaluated by looking into their stock selection skills and market timing abilities. The present study is an attempt to examine whether Indian mutual fund managers exploit market timing activities in generating superior returns on mutual fund schemes.*

Mutual funds play a crucial role in an economy by mobilising savings from investors and invest the same in the stock-market, thereby establishing a direct link between savings and the capital market. Mutual fund is an investment avenue especially for those investors who want to participate in the stock market but who do not know the intricacies of the stock market. An average investor always prefers mutual fund investment rather than directly investing in stock market as it involves a huge amount of risk. An investor engaging directly in the stock market should have updated information and this information is

**Assistant Professor in Economics, Mahatma Gandhi College, Thiruvananthapuram*

expensive. Further, he should have the technical knowhow of the stock market which is very complex. Mutual funds have highly experienced fund managers who are experts in stock market investment. They are well informed and know the technical aspects of stock market investment. The objective of the fund manager is to minimize risk and maximize returns, which in turn depends on his stock selection skills and his market timing abilities. Thus in addition to stock selection skills, the fund managers can also generate superior returns by timing the market correctly.

Market timing implies that fund managers are capable of assessing the direction of market correctly, whether bull or bear and would be positioning their portfolios accordingly. For instance, if managers are expecting a bearish market, they could change their portfolio suitably by increasing the cash percentage of the portfolio or by decreasing the beta of the equity portion of the portfolio. However, in case of a bullish market, fund managers could reduce the cash position or increase the beta of the equity portion of their portfolios. Thus the fund managers by timing the market correctly, would be generating superior returns (Amitabh Gupta, 2002). Hence the growth of mutual funds depends on the performance of the mutual fund schemes, which in turn, to a great extent depends on the ability of fund managers in generating superior returns on mutual fund schemes.

In India mutual funds made its debut with the setting up of Unit Trust of India (UTI) in the year 1964 by a special Act of Parliament. The year 1987 witnessed the entry of mutual funds sponsored by commercial banks and public sector financial institutions. The year 1993 marked the entry of private players in the Indian mutual fund market and as a result a number of foreign mutual funds were set up in India. The present study is an attempt to examine whether the Indian mutual fund managers exploited market timing activities in generating superior returns.

## Objective of the Study

The objective of the study is to examine whether the Indian mutual fund managers have exploited market timing strategy in generating superior returns on mutual fund schemes.

## Hypotheses

*Null Hypothesis ($H_0$):* Indian mutual fund managers do not exhibit distinct market timing abilities in their attempt to generate superior returns on mutual fund schemes.

*Alternate Hypothesis ($H_a$):* Indian mutual fund managers exhibit distinct market timing abilities in their attempt to generate superior returns on mutual fund schemes.

## Method

Secondary data is used to evaluate the market timing skills of Indian mutual fund managers. The data were collected from web sites of Association of Mutual Funds in India (AMFI), Reserve Bank of India (RBI), Bombay Stock Exchange (BSE), and National Stock Exchange (NSE). In the present study, mutual fund schemes which invest a high proportion in equity are considered. A sample of 50 open ended schemes of public and private mutual funds are selected for the study. The NAV of the sample schemes for a period of ten years from April 1, 2000 and December 31, 2010 are used for the study. The performance of the sample schemes is compared with the two benchmarks - BSE-SENSEX and S&P CNX NIFTY, as they are the most widely accepted benchmarks for comparing the mutual fund schemes which has a higher exposure to equities. The closing NAV's of schemes and closing prices of these two indices are used for the study. In the present study, return on 91-days T-bills is used as the return on risk free asset. The monthly returns of the sample schemes, market portfolios and risk free rate has been calculated and used for further analysis.

**Measures**

The average returns on the sample mutual fund schemes has been worked out using the monthly return series by the following formula

$R_{st} = (NAV_t - NAV_{t-1})/NAV_{t-1}$ where

$R_{st}$ – observed average scheme return

Similarly, the monthly returns for the market portfolio (SENSEX and S&P CNX Nifty) have been calculated as $R_{mt} = (I_t - I_{t-1})/I_{t-1}$ where $R_{mt}$ – Average market (benchmark) return and I –Index value

The observed average return for each mutual fund scheme is then compared with the average returns of the benchmark portfolios.

The systematic risk (Beta) of the portfolio is obtained from the Capital Asset Pricing Model

$R_{st} = á_s + â (R_m) + e_i$

Higher â indicates a high sensitivity of scheme returns against market returns, and a lower â value indicates a low sensitivity.

Two measures were used to test the market timing abilities of the fund managers. They are

1. *Treynor - Mazuy measure*

Treynor and Mazuy model to detect the market timing abilities of fund managers is given as under:

$R_{st}$ – $R_f$ = á + â ($R_m$ – $R_f$) + ã ($R_m$ – $R_f$)$^2$ + $e_s$

$R_s$ - Return of the scheme, $R_f$ - Risk free return, $R_m$ - Market return $e_s$ - Random error term; á , â and ã are parameters of the model.

The parameters of the above model are estimated using standard regression methodology. According to Treynor and Mazuy the estimated value of parameter 'ã' acts as a measure of market timing skills of the fund managers. If fund managers are not able to time the market correctly, the estimated value of 'ã' should not be significantly different from zero. Thus, under the null hypothesis the value of parameter 'ã' is assumed to be zero. On the contrary if investment managers do time the market correctly, the estimated value of 'ã' would be significantly positive, thereby providing an evidence of market timing (Amitabh Gupta, 2002).

*2. Henriksson and Merton measure*

Henriksson and Merton have proposed an improved model to test for the market timing abilities of the fund managers. In the Treynor and Mazuy formulation, portfolio's beta fluctuates over many values, depending on the size of market's excess returns. However in terms of Henriksson and Merton formulation the fund beta would take only two values: a large value if the market is expected to do well i.e. when $R_m > R_f$ (up markets) and a small value otherwise i.e., when $R_m < R_f$ (down markets). Therefore, it is argued that a successful market timer would select a high up-market beta and low down-market beta. Thus, such a relationship can be estimated by the following equation using a dummy variable:

$R_{st} - R_f = á + â(R_m - R_f) + ã[D(R_m - R_f)] + e_s$

where, D is a dummy variable that equals 0 for $R_m > R_f$ and -1 otherwise. Hence, the beta of the portfolio is â in a bull or up-markets and (â- ã) in a bear or down markets. Thus, under this formulation, parameter 'ã' indicates the difference between the two betas and a positive and significant value of 'ã' would indicate market timing ability of the fund managers. (Amitabh Gupta, 2002).

**Empirical Results of Treynor - Mazuy Model**

The empirical result of Treynor-Mazuy measure using S&P CNX Nifty as benchmark presented in table-1 indicates that out of the 50 sample schemes, there are no successful market timers. This is because there are no statistically significant positive observed t-values for their gamma coefficients. But there are three observed t-values which are significant at five percent level but are negative. They are Principal growth fund, ICICI Prudential balanced fund and Principal tax saving fund. Thus, even though the fund managers of these three schemes appear to undertake market timing activities, they were unsuccessful as they were timing in the wrong direction.

## Table-1
## Treynor - Mazuy measure of sample Mutual fund schemes (NIFTY as benchmark)

| SL No | Scheme | Beta | Std. Error beta | t-beta | P-beta | Gamma | Std Error Gamma | t-Gamma | P-gamma | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | LIC NOMURA MF Growth Fund | 0.94 | 0.05 | 20 | 0 | -0.6 | 0.38 | -1.7 | 0.09 | 0.79 |
| 2 | ING Core Equity Fund | 1.08 | 0.06 | 17 | 0 | -0.5 | 0.51 | -1.1 | 0.29 | 0.73 |
| 3 | ICICI Prudential Top 200 Fund | 0.89 | 0.04 | 24 | 0 | -0.5 | 0.29 | -1.6 | 0.11 | 0.84 |
| 4 | ICICI Prudential Top 100 Fund | 0.93 | 0.03 | 30 | 0 | -0.4 | 0.25 | -1.6 | 0.12 | 0.89 |
| 5 | HDFC Capital Builder | 0.82 | 0.04 | 19 | 0 | -0.6 | 0.34 | -1.6 | 0.1 | 0.78 |
| 6 | HDFC Equity fund | 0.93 | 0.04 | 26 | 0 | 0 | 0.29 | -0.1 | 0.92 | 0.86 |
| 7 | HDFC Top 200 Fund | 0.91 | 0.03 | 31 | 0 | 0 | 0.23 | -0.2 | 0.87 | 0.9 |
| 8 | HDFC Growth Fund | 0.85 | 0.03 | 26 | 0 | -0.2 | 0.26 | -0.8 | 0.43 | 0.85 |
| 9 | Franklin India Opportunities Fund | 0.99 | 0.04 | 24 | 0 | -0.6 | 0.34 | -1.6 | 0.1 | 0.84 |
| 10 | Franklin India Prima Fund | 0.92 | 0.06 | 15 | 0 | -0.6 | 0.5 | -1.3 | 0.21 | 0.67 |
| 11 | Franklin India Bluechip Fund | 0.91 | 0.03 | 33 | 0 | -0.2 | 0.22 | -1.1 | 0.28 | 0.91 |
| 12 | Franklin India Prima Plus Fund | 0.88 | 0.03 | 28 | 0 | -0.3 | 0.25 | -1.2 | 0.22 | 0.88 |
| 13 | DSP Black Rock Opportunities Fund - Reg | 0.96 | 0.03 | 29 | 0 | -0.3 | 0.26 | -1.3 | 0.21 | 0.89 |
| 14 | Sundaram growth fund | 0.98 | 0.04 | 24 | 0 | 0 | 0.33 | -0.1 | 0.9 | 0.84 |
| 15 | Tata Pure Equity Fund | 0.94 | 0.04 | 24 | 0 | 0 | 0.32 | -0.1 | 0.93 | 0.83 |
| 16 | JM Equity fund | 1.03 | 0.04 | 25 | 0 | -0.3 | 0.33 | -1 | 0.31 | 0.85 |
| 17 | Birla sunlife advantage fund | 0.99 | 0.04 | 24 | 0 | -0.2 | 0.34 | -0.5 | 0.64 | 0.84 |
| 18 | Birla sunlife 95 fund | 0.72 | 0.03 | 21 | 0 | -0.3 | 0.28 | -1 | 0.32 | 0.8 |
| 19 | Birla sunlife Buy India fund | 0.76 | 0.05 | 15 | 0 | -0.6 | 0.4 | -1.4 | 0.16 | 0.68 |
| 20 | Birla sunlife Equity fund | 1.02 | 0.04 | 24 | 0 | -0.4 | 0.34 | -1.1 | 0.26 | 0.84 |
| 21 | Birla sunlife India opportunities fund | 0.94 | 0.07 | 14 | 0 | -0.9 | 0.55 | -1.6 | 0.11 | 0.64 |
| 22 | Birla Sun Life New Millenium Fund | 0.92 | 0.07 | 13 | 0 | -1 | 0.59 | -1.6 | 0.11 | 0.61 |
| 23 | LIC Nomura Equity fund | 0.94 | 0.05 | 20 | 0 | -0.6 | 0.38 | -1.7 | 0.09 | 0.79 |
| 24 | Morgan Stanley Growth Fund | 0.96 | 0.03 | 34 | 0 | -0.1 | 0.23 | -0.6 | 0.55 | 0.91 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 | Taurus Discovery | 1.06 | 0.07 | 15 | 0 | 0 | 0.58 | 0 | 0.97 | 0.66 |
| 26 | Taurus Bonanza fund | 0.97 | 0.06 | 17 | 0 | -0.2 | 0.46 | -0.5 | 0.64 | 0.73 |
| 27 | Taurus Starshare | 1.12 | 0.07 | 17 | 0 | 0.13 | 0.54 | 0.25 | 0.8 | 0.71 |
| 28 | Principal Growth Fund | 0.89 | 0.03 | 29 | 0 | -0.7 | 0.24 | -2.9 | 0 | 0.89 |
| 29 | UTI Balanced Fund | 0.61 | 0.03 | 22 | 0 | -0.1 | 0.22 | -0.3 | 0.75 | 0.82 |
| 30 | Tata Balanced Fund | 0.74 | 0.03 | 21 | 0 | 0.03 | 0.28 | 0.12 | 0.91 | 0.81 |
| 31 | HDFC Prudence Fund | 0.68 | 0.03 | 20 | 0 | -0.2 | 0.27 | -0.6 | 0.58 | 0.79 |
| 32 | DSP BlackRock Balanced Fund | 0.67 | 0.03 | 25 | 0 | -0.1 | 0.22 | -0.7 | 0.52 | 0.85 |
| 33 | HDFC Balanced Fund | 0.63 | 0.02 | 29 | 0 | -0.2 | 0.17 | -1.1 | 0.29 | 0.88 |
| 34 | ICICI Prudential Balanced fund | 0.68 | 0.03 | 25 | 0 | -0.4 | 0.22 | -2 | 0.05 | 0.86 |
| 35 | Principal Balanced fund | 0.75 | 0.03 | 29 | 0 | -0.1 | 0.21 | -0.4 | 0.67 | 0.88 |
| 36 | FT India Balanced fund | 0.65 | 0.02 | 28 | 0 | -0.2 | 0.19 | -1.1 | 0.29 | 0.88 |
| 37 | LIC Nomura Balanced fund | 0.64 | 0.03 | 20 | 0 | -0.4 | 0.25 | -1.7 | 0.09 | 0.79 |
| 38 | ING Balanced fund | 0.72 | 0.03 | 24 | 0 | -0.3 | 0.25 | -1.1 | 0.27 | 0.83 |
| 39 | Baroda Pioneer Equity Linked Saving Scheme 96 | 1.01 | 0.06 | 17 | 0 | -0.1 | 0.48 | -0.3 | 0.79 | 0.72 |
| 40 | Sahara Tax Gain Fund | 1 | 0.11 | 9.2 | 0 | 0.78 | 0.87 | 0.9 | 0.37 | 0.42 |
| 41 | ICICI Prudential Tax Plan | 1 | 0.06 | 17 | 0 | -0.2 | 0.47 | -0.4 | 0.66 | 0.72 |
| 42 | UTI Equity Tax Savings Plan | 0.95 | 0.05 | 21 | 0 | -0.2 | 0.36 | -0.5 | 0.59 | 0.8 |
| 43 | Franklin India Taxshield | 0.89 | 0.03 | 28 | 0 | -0.1 | 0.25 | -0.2 | 0.85 | 0.88 |
| 44 | Canara Robeco Equity Tax Saver Fund | 0.97 | 0.07 | 14 | 0 | 0.08 | 0.56 | 0.14 | 0.89 | 0.63 |
| 45 | Principal Tax Saving Fund | 0.91 | 0.04 | 22 | 0 | -0.8 | 0.33 | -2.5 | 0.01 | 0.82 |
| 46 | Taurus Tax Shield | 1.03 | 0.09 | 12 | 0 | 0.11 | 0.69 | 0.16 | 0.87 | 0.57 |
| 47 | HDFC Tax saver fund | 0.97 | 0.06 | 16 | 0 | -0.2 | 0.5 | -0.4 | 0.73 | 0.69 |
| 48 | Tata Tax saving fund | 0.97 | 0.05 | 18 | 0 | -0.6 | 0.43 | -1.3 | 0.19 | 0.75 |
| 49 | LIC Nomura tax plan | 0.92 | 0.05 | 20 | 0 | 0.01 | 0.38 | 0.04 | 0.97 | 0.77 |
| 50 | Principal personal tax saver | 0.92 | 0.08 | 12 | 0 | -0.7 | 0.61 | -1.2 | 0.23 | 0.58 |

**Significant at 5 percent level*

*Source: Researcher's own calculation*

The empirical result of Treynor-Mazuy measure using SENSEX as benchmark presented in table- 2 also gave similar results.

**Table – 2**

**Treynor - Mazuy measure of market timing ( SENSEX as benchmark)**

| SL No | Scheme | Beta | Std. Error beta | t-beta | P-beta | Gamma | Std Error Gamma | t-Gamma | P-gamma | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | LIC NOMURA MF Growth Fund | 0.95 | 0.05 | 20 | 0 | -0.7 | 0.42 | -1.66 | 0.1 | 0.79 |
| 2 | ING Core Equity Fund | 1.1 | 0.06 | 17.9 | 0 | -0.7 | 0.54 | -1.19 | 0.24 | 0.75 |
| 3 | ICICI Prudential Top 200 Fund | 0.91 | 0.04 | 25.3 | 0 | -0.5 | 0.31 | -1.72 | 0.09 | 0.85 |
| 4 | ICICI Prudential Top 100 Fund | 0.94 | 0.03 | 31.2 | 0 | -0.5 | 0.26 | -1.72 | 0.09 | 0.9 |
| 5 | HDFC Capital Builder | 0.82 | 0.04 | 19.4 | 0 | -0.7 | 0.37 | -1.84 | 0.07 | 0.78 |
| 6 | HDFC Equity fund | 0.95 | 0.03 | 27.4 | 0 | -0.1 | 0.3 | -0.3 | 0.76 | 0.87 |
| 7 | HDFC Top 200 Fund | 0.93 | 0.03 | 32.9 | 0 | -0.1 | 0.24 | -0.57 | 0.57 | 0.91 |
| 8 | HDFC Growth Fund | 0.86 | 0.03 | 25.6 | 0 | -0.3 | 0.29 | -0.91 | 0.36 | 0.85 |
| 9 | Franklin India Opportunities Fund | 1 | 0.04 | 24 | 0 | -0.7 | 0.36 | -1.99 | 0.05 | 0.84 |
| 10 | Franklin India Prima Fund | 0.94 | 0.06 | 15.1 | 0 | -0.8 | 0.55 | -1.37 | 0.17 | 0.68 |
| 11 | Franklin India Bluechip Fund | 0.93 | 0.02 | 37.3 | 0 | -0.3 | 0.22 | -1.41 | 0.16 | 0.93 |
| 12 | Franklin India Prima Plus Fund | 0.89 | 0.03 | 29.4 | 0 | -0.4 | 0.27 | -1.58 | 0.12 | 0.89 |
| 13 | DSP Black Rock Opportunities Fund - Reg | 0.98 | 0.03 | 31.5 | 0 | -0.5 | 0.27 | -1.73 | 0.09 | 0.9 |
| 14 | Sundaram growth fund | 1 | 0.04 | 25 | 0 | -0.1 | 0.35 | -0.26 | 0.79 | 0.85 |
| 15 | Tata Pure Equity Fund – Appreciation | 0.95 | 0.04 | 24.1 | 0 | -0.1 | 0.35 | -0.32 | 0.75 | 0.84 |
| 16 | JM Equity fund | 1.04 | 0.04 | 25.8 | 0 | -0.4 | 0.35 | -1.14 | 0.26 | 0.86 |
| 17 | Birla sunlife advantage fund | 1.01 | 1.01 | 1.01 | 0 | -0.2 | 0.36 | -0.6 | 0.55 | 0.84 |
| 18 | Birla sunlife 95 fund | 0.73 | 0.03 | 21.7 | 0 | -0.3 | 0.3 | -1.15 | 0.25 | 0.81 |
| 19 | Birla sunlife Buy India fund | 0.77 | 0.05 | 14.8 | 0 | -0.6 | 0.45 | -1.24 | 0.22 | 0.67 |
| 20 | Birla sunlife Equity fund | 1.03 | 0.04 | 24.5 | 0 | -0.5 | 0.37 | -1.39 | 0.17 | 0.85 |
| 21 | Birla sunlife India opportunities fund | 0.96 | 0.07 | 14.2 | 0 | -1.1 | 0.59 | -1.85 | 0.07 | 0.66 |
| 22 | Birla Sun Life New Millenium Fund | 0.94 | 0.07 | 12.8 | 0 | -1.1 | 0.65 | -1.7 | 0.09 | 0.62 |
| 23 | LIC Nomura Equity fund | 0.95 | 0.05 | 20 | 0 | -0.7 | 0.42 | -1.66 | 0.1 | 0.79 |
| 24 | Morgan Stanley Growth Fund | 0.95 | 0.03 | 33.1 | 0 | -0.2 | 0.26 | -0.88 | 0.38 | 0.91 |
| 25 | Taurus Discovery | 1.08 | 0.07 | 14.6 | 0 | -0.2 | 0.65 | -0.23 | 0.82 | 0.66 |
| 26 | Taurus Bonanza fund | 0.99 | 0.06 | 17.4 | 0 | -0.3 | 0.5 | -0.65 | 0.52 | 0.73 |
| 27 | Taurus Starshare | 1.14 | 0.07 | 17 | 0 | -0.1 | 0.59 | -0.16 | 0.87 | 0.72 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 28 | Principal Growth Fund | 0.91 | 0.03 | 31.3 | 0 | -0.9 | 0.25 | -3.62 | 0 | 0.9 |
| 29 | UTI Balanced Fund | 0.61 | 0.03 | 21.6 | 0 | -0.1 | 0.25 | -0.53 | 0.6 | 0.81 |
| 30 | Tata Balanced Fund | 0.74 | 0.04 | 20.5 | 0 | -0.1 | 0.32 | -0.19 | 0.85 | 0.79 |
| 31 | HDFC Prudence Fund | 0.69 | 0.03 | 20.4 | 0 | -0.2 | 0.3 | -0.67 | 0.5 | 0.79 |
| 32 | DSP BlackRock Balanced Fund | 0.68 | 0.03 | 24.4 | 0 | -0.2 | 0.25 | -0.65 | 0.52 | 0.84 |
| 33 | HDFC Balanced Fund | 0.64 | 0.02 | 29.1 | 0 | -0.3 | 0.19 | -1.28 | 0.2 | 0.88 |
| 34 | ICICI Prudential Balanced fund | 0.68 | 0.03 | 24.5 | 0 | -0.6 | 0.24 | -2.26 | 0.03 | 0.85 |
| 35 | Principal Balanced fund | 0.76 | 0.03 | 29.7 | 0 | -0.2 | 0.23 | -0.78 | 0.43 | 0.89 |
| 36 | FT India Balanced fund | 0.66 | 0.02 | 30.1 | 0 | -0.3 | 0.19 | -1.58 | 0.12 | 0.89 |
| 37 | LIC Nomura Balanced fund | 0.64 | 0.03 | 18.9 | 0 | -0.4 | 0.29 | -1.5 | 0.14 | 0.77 |
| 38 | ING Balanced fund | 0.73 | 0.03 | 23.7 | 0 | -0.4 | 0.27 | -1.52 | 0.13 | 0.84 |
| 39 | Baroda Pioneer Equity Linked Saving Scheme 96 | 1.02 | 0.06 | 16.4 | 0 | -0.2 | 0.54 | -0.38 | 0.71 | 0.71 |
| 40 | Sahara Tax Gain Fund | 1.03 | 0.11 | 9.45 | 0 | 1 | 0.95 | 1 | 0.32 | 0.44 |
| 41 | ICICI Prudential Tax Plan | 1.02 | 0.06 | 17.3 | 0 | -0.3 | 0.52 | -0.47 | 0.64 | 0.73 |
| 42 | UTI Equity Tax Savings Plan | 0.96 | 0.05 | 20.8 | 0 | -0.3 | 0.41 | -0.71 | 0.48 | 0.8 |
| 43 | Franklin India Taxshield | 0.9 | 0.03 | 29.2 | 0 | -0.1 | 0.27 | -0.48 | 0.64 | 0.89 |
| 44 | Canara Robeco Equity Tax Saver Fund | 0.99 | 0.07 | 13.9 | 0 | 0.1 | 0.62 | 0.22 | 0.82 | 0.64 |
| 45 | Principal Tax Saving Fund | 0.92 | 0.04 | 22.2 | 0 | -1.1 | 0.36 | -2.99 | 0 | 0.83 |
| 46 | Taurus Tax Shield | 1.04 | 0.09 | 11.9 | 0 | 0.1 | 0.76 | 0.07 | 0.94 | 0.56 |
| 47 | HDFC Tax saver fund | 0.98 | 0.06 | 15.6 | 0 | -0.3 | 0.55 | -0.51 | 0.61 | 0.69 |
| 48 | Tata Tax saving fund | 0.98 | 0.05 | 17.9 | 0 | -0.8 | 0.48 | -1.63 | 0.1 | 0.75 |
| 49 | LIC Nomura tax plan | 0.92 | 0.05 | 18.8 | 0 | 0 | 0.43 | -0.07 | 0.94 | 0.76 |
| 50 | Principal personal tax saver fund | 0.94 | 0.08 | 12.5 | 0 | -0.7 | 0.66 | -1.11 | 0.27 | 0.59 |

**Significant at 5 percent level*
*Source: Researcher's own calculation*

It indicates that out of the 50 sample schemes, there are no successful market timers. This is because there are no statistically significant positive observed t-values for their gamma coefficients. But there are four observed t-values which are significant at five percent level but are negative. They are Franklin India Opportunities Fund, Principal growth fund, ICICI Prudential Balanced fund and Principal tax saving fund. Thus, even though the fund managers of these two schemes appear to undertake timing activities, they were unsuccessful as they were timing the market in the wrong direction.

Thus the findings of the study on market timing ability of Indian fund managers in terms of Treynor-Mazuy measure reveals that the fund managers does not display distinct market timing abilities. Further, even though a hand few of funds have shown signs of market timing attempts by fund managers, the results reveal that they were timing the market in the wrong direction.

## Empirical Result of Henriksson and Merton model

The empirical result of Henriksson and Merton measure using S&P CNX Nifty as benchmark presented in table-3 indicates that out of the 50 sample schemes, there are no successful market timers.

**Table-3**

**Henriksson and Merton measure of market timing (NIFTY as benchmark)**

| SL No | Scheme | Beta | Std. Error beta | t-beta | P-beta | Gamma | Std Error Gamma | t-Gamma | P-gamma | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | LIC NOMURA MF Growth Fund | 0.79 | 0.09 | 8.5 | 0 | 0 | 0.15 | -2.1 | 0 | 0.8 |
| 2 | ING Core Equity Fund | 0.95 | 0.12 | 7.6 | 0 | 0 | 0.2 | -1.4 | 0 | 0.7 |
| 3 | ICICI Prudential Top 200 Fund | 0.8 | 0.07 | 11 | 0 | 0 | 0.12 | -1.7 | 0 | 0.8 |
| 4 | ICICI Prudential Top 100 Fund | 0.84 | 0.06 | 14 | 0 | 0 | 0.1 | -1.8 | 0 | 0.9 |
| 5 | HDFC Capital Builder | 0.69 | 0.08 | 8.3 | 0 | 0 | 0.13 | -2 | 0 | 0.8 |
| 6 | HDFC Equity fund | 0.92 | 0.07 | 13 | 0 | 0 | 0.12 | -0.2 | 1 | 0.9 |
| 7 | HDFC Top 200 Fund | 0.9 | 0.06 | 16 | 0 | 0 | 0.09 | -0.3 | 1 | 0.9 |
| 8 | HDFC Growth Fund | 0.79 | 0.06 | 13 | 0 | 0 | 0.1 | -1.2 | 0 | 0.9 |
| 9 | Franklin India Opportunities Fund | 0.82 | 0.08 | 10 | 0 | 0 | 0.13 | -2.5 | 0 | 0.8 |
| 10 | Franklin India Prima Fund | 0.75 | 0.12 | 6.1 | 0 | 0 | 0.2 | -1.7 | 0 | 0.7 |
| 11 | Franklin India Bluechip Fund | 0.86 | 0.05 | 16 | 0 | 0 | 0.09 | -1.2 | 0 | 0.9 |
| 12 | Franklin India Prima Plus Fund | 0.78 | 0.06 | 13 | 0 | 0 | 0.1 | -2 | 0 | 0.9 |
| 13 | DSP Black Rock Opportunities Fund - Reg | 0.88 | 0.06 | 14 | 0 | 0 | 0.1 | -1.8 | 0 | 0.9 |
| 14 | Sundaram growth fund | 0.95 | 0.08 | 12 | 0 | 0 | 0.13 | -0.4 | 1 | 0.8 |
| 15 | Tata Pure Equity Fund | 0.9 | 0.08 | 11 | 0 | 0 | 0.13 | -0.6 | 1 | 0.8 |
| 16 | JM Equity fund | 0.94 | 0.08 | 12 | 0 | 0 | 0.13 | -1.3 | 0 | 0.9 |
| 17 | Birla sunlife advantage fund | 0.92 | 0.08 | 12 | 0 | 0 | 0.13 | -1 | 0 | 0.8 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 | Birla sunlife 95 fund | 0.64 | 0.07 | 9.5 | 0 | 0 | 0.11 | -1.4 | 0 | 0.8 |
| 19 | Birla sunlife Buy India fund | 0.68 | 0.1 | 6.8 | 0 | 0 | 0.16 | -1.1 | 0 | 0.7 |
| 20 | Birla sunlife Equity fund | 0.91 | 0.08 | 11 | 0 | 0 | 0.14 | -1.6 | 0 | 0.8 |
| 21 | Birla sunlife India opportunities fund | 0.71 | 0.13 | 5.3 | 0 | 0 | 0.22 | -2.2 | 0 | 0.7 |
| 22 | Birla Sun Life New Millenium Fund | 0.68 | 0.14 | 4.7 | 0 | 0 | 0.23 | -2.1 | 0 | 0.6 |
| 23 | LIC Nomura Equity fund | 0.79 | 0.09 | 8.5 | 0 | 0 | 0.15 | -2.1 | 0 | 0.8 |
| 24 | Morgan Stanley Growth Fund | 0.91 | 0.06 | 16 | 0 | 0 | 0.09 | -0.9 | 0 | 0.9 |
| 25 | Taurus Discovery | 1.04 | 0.14 | 7.2 | 0 | 0 | 0.23 | -0.2 | 1 | 0.7 |
| 26 | Taurus Bonanza fund | 0.91 | 0.11 | 8.1 | 0 | 0 | 0.18 | -0.8 | 1 | 0.7 |
| 27 | Taurus Starshare | 1.06 | 0.13 | 8 | 0 | 0 | 0.21 | -0.5 | 1 | 0.7 |
| 28 | Principal Growth Fund | 0.76 | 0.06 | 13 | 0 | 0 | 0.09 | -2.9 | 0 | 0.9 |
| 29 | UTI Balanced Fund | 0.58 | 0.05 | 11 | 0 | 0 | 0.09 | -0.6 | 1 | 0.8 |
| 30 | Tata Balanced Fund | 0.71 | 0.07 | 10 | 0 | 0 | 0.11 | -0.6 | 1 | 0.8 |
| 31 | HDFC Prudence Fund | 0.66 | 0.07 | 9.8 | 0 | 0 | 0.11 | -0.4 | 1 | 0.8 |
| 32 | DSP BlackRock Balanced Fund | 0.62 | 0.05 | 12 | 0 | 0 | 0.09 | -1.3 | 0 | 0.9 |
| 33 | HDFC Balanced Fund | 0.6 | 0.04 | 14 | 0 | 0 | 0.07 | -1 | 0 | 0.9 |
| 34 | ICICI Prudential Balanced fund | 0.58 | 0.05 | 11 | 0 | 0 | 0.09 | -2.4 | 0 | 0.9 |
| 35 | Principal Balanced fund | 0.7 | 0.05 | 14 | 0 | 0 | 0.08 | -1.2 | 0 | 0.9 |
| 36 | FT India Balanced fund | 0.57 | 0.05 | 13 | 0 | 0 | 0.07 | -2.1 | 0 | 0.9 |
| 37 | LIC Nomura Balanced fund | 0.55 | 0.06 | 8.8 | 0 | 0 | 0.1 | -2 | 0 | 0.8 |
| 38 | ING Balanced fund | 0.64 | 0.06 | 11 | 0 | 0 | 0.1 | -1.7 | 0 | 0.8 |
| 39 | Baroda Pioneer Equity Linked Saving Scheme 96 | 0.95 | 0.12 | 7.9 | 0 | 0 | 0.19 | -0.6 | 1 | 0.7 |
| 40 | Sahara Tax Gain Fund | 1.12 | 0.21 | 5.2 | 0 | 0 | 0.35 | 0.78 | 0 | 0.4 |
| 41 | ICICI Prudential Tax Plan | 0.91 | 0.12 | 7.8 | 0 | 0 | 0.19 | -0.9 | 0 | 0.7 |
| 42 | UTI Equity Tax Savings Plan | 0.89 | 0.09 | 10 | 0 | 0 | 0.14 | -0.9 | 0 | 0.8 |
| 43 | Franklin India Taxshield | 0.87 | 0.06 | 14 | 0 | 0 | 0.1 | -0.4 | 1 | 0.9 |
| 44 | Canara Robeco Equity Tax Saver Fund | 0.93 | 0.14 | 6.7 | 0 | 0 | 0.22 | -0.3 | 1 | 0.6 |
| 45 | Principal Tax Saving Fund | 0.76 | 0.08 | 9.3 | 0 | 0 | 0.13 | -2.5 | 0 | 0.8 |
| 46 | Taurus Tax Shield | 0.98 | 0.17 | 5.8 | 0 | 0 | 0.27 | -0.3 | 1 | 0.6 |
| 47 | HDFC Tax saver fund | 0.9 | 0.12 | 7.3 | 0 | 0 | 0.2 | -0.8 | 1 | 0.7 |
| 48 | Tata Tax saving fund | 0.76 | 0.1 | 7.2 | 0 | 0 | 0.17 | -2.5 | 0 | 0.8 |
| 49 | LIC Nomura tax plan | 0.92 | 0.09 | 9.9 | 0 | 0 | 0.15 | 0.02 | 1 | 0.8 |
| 50 | Principal personal tax saver | 0.74 | 0.15 | 5 | 0 | 0 | 0.24 | -1.5 | 0 | 0.6 |

*Significant at 5 percent level

Source: Researcher's own calculation

This is because there are no statistically significant positive observed t-values for their gamma coefficients. But there are thirteen observed t-values which are significant at five percent level but are negative. They are LIC Nomura MF Growth Fund, HDFC Capital Builder, Franklin India Opportunities Fund – Growth, Franklin India Prima Plus Fund – Growth, Birla sun life India opportunities fund, Birla Sun Life New Millennium Fund, LIC Nomura Equity fund, ICICI Prudential Balanced fund, FT India Balanced fund, LIC Nomura Balanced fund, Principal Growth Fund, Tata Tax saving fund, Principal Tax Saving Fund. Thus, even though the fund managers of these twelve sample schemes appear to undertake market timing activities, they were unsuccessful, as they were timing in the wrong direction.

The empirical result of Henriksson and Merton measure using SENSEX as benchmark presented in table- 4 also gave similar results.

**Table- 4**

**Henriksson and Merton measure of market timing (SENSEX as benchmark)**

| SL No | Scheme | Beta | Std. Error beta | t-beta | P-beta | Gamma | Std Error Gamma | t-Gamma | P-gamma | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | LIC NOMURA MF Growth Fund | 0.79 | 0.09 | 8.36 | 0 | -0.34 | 0.2 | -2.2 | 0.03 | 0.79 |
| 2 | ING Core Equity Fund | 0.96 | 0.12 | 7.81 | 0 | -0.29 | 0.2 | -1.5 | 0.15 | 0.75 |
| 3 | ICICI Prudential Top 200 Fund | 0.81 | 0.07 | 11.4 | 0 | -0.21 | 0.1 | -1.8 | 0.07 | 0.85 |
| 4 | ICICI Prudential Top 100 Fund | 0.85 | 0.06 | 14.1 | 0 | -0.19 | 0.1 | -2 | 0.05 | 0.9 |
| 5 | HDFC Capital Builder | 0.66 | 0.08 | 7.88 | 0 | -0.33 | 0.1 | -2.4 | 0.02 | 0.78 |
| 6 | HDFC Equity fund | 0.92 | 0.07 | 13.2 | 0 | -0.07 | 0.1 | -0.6 | 0.56 | 0.87 |
| 7 | HDFC Top 200 Fund | 0.88 | 0.05 | 16.1 | 0 | -0.09 | 0.1 | -1 | 0.34 | 0.91 |
| 8 | HDFC Growth Fund | 0.81 | 0.06 | 12.6 | 0 | -0.1 | 0.1 | -1 | 0.33 | 0.86 |
| 9 | Franklin India Opportunities Fund | 0.82 | 0.08 | 9.99 | 0 | -0.37 | 0.1 | -2.8 | 0.01 | 0.85 |
| 10 | Franklin India Prima Fund | 0.74 | 0.12 | 5.99 | 0 | -0.41 | 0.2 | -2 | 0.05 | 0.69 |
| 11 | Franklin India Bluechip Fund | 0.86 | 0.05 | 17.3 | 0 | -0.14 | 0.1 | -1.8 | 0.08 | 0.93 |
| 12 | Franklin India Prima Plus Fund | 0.78 | 0.06 | 13 | 0 | -0.23 | 0.1 | -2.4 | 0.02 | 0.89 |
| 13 | DSP Black Rock Opportunities Fund - Reg | 0.86 | 0.06 | 14.1 | 0 | -0.24 | 0.1 | -2.4 | 0.02 | 0.9 |
| 14 | Sundaram growth fund | 0.96 | 0.08 | 12 | 0 | -0.07 | 0.1 | -0.6 | 0.57 | 0.85 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | Tata Pure Equity Fund | 0.89 | 0.08 | 11.3 | 0 | -0.12 | 0.1 | -0.9 | 0.36 | 0.84 |
| 16 | JM Equity fund | 0.93 | 0.08 | 11.6 | 0 | -0.22 | 0.1 | -1.7 | 0.1 | 0.86 |
| 17 | Birla sunlife advantage fund | 0.93 | 0.08 | 11.4 | 0 | -0.16 | 0.1 | -1.2 | 0.24 | 0.85 |
| 18 | Birla sunlife 95 fund | 0.64 | 0.07 | 9.49 | 0 | -0.19 | 0.1 | -1.8 | 0.08 | 0.81 |
| 19 | Birla sunlife Buy India fund | 0.67 | 0.1 | 6.5 | 0 | -0.2 | 0.2 | -1.2 | 0.25 | 0.67 |
| 20 | Birla sunlife Equity fund | 0.89 | 0.08 | 10.7 | 0 | -0.28 | 0.1 | -2.1 | 0.04 | 0.85 |
| 21 | Birla sunlife India opportunities fund | 0.7 | 0.13 | 5.2 | 0 | -0.55 | 0.2 | -2.5 | 0.01 | 0.67 |
| 22 | Birla Sun Life New Millenium Fund | 0.68 | 0.15 | 4.63 | 0 | -0.54 | 0.2 | -2.3 | 0.02 | 0.63 |
| 23 | LIC Nomura Equity fund | 0.79 | 0.09 | 8.36 | 0 | -0.34 | 0.2 | -2.2 | 0.03 | 0.79 |
| 24 | Morgan Stanley Growth Fund | 0.9 | 0.06 | 15.2 | 0 | -0.11 | 0.1 | -1.2 | 0.25 | 0.91 |
| 25 | Taurus Discovery | 1 | 0.15 | 6.75 | 0 | -0.15 | 0.2 | -0.6 | 0.53 | 0.66 |
| 26 | Taurus Bonanza fund | 0.9 | 0.11 | 7.95 | 0 | -0.19 | 0.2 | -1.1 | 0.3 | 0.73 |
| 27 | Taurus Starshare | 1.01 | 0.13 | 7.59 | 0 | -0.25 | 0.2 | -1.1 | 0.26 | 0.73 |
| 28 | Principal Growth Fund | 0.76 | 0.06 | 13.1 | 0 | -0.29 | 0.1 | -3.3 | 0 | 0.9 |
| 29 | UTI Balanced Fund | 0.57 | 0.06 | 10 | 0 | -0.08 | 0.1 | -0.9 | 0.38 | 0.81 |
| 30 | Tata Balanced Fund | 0.69 | 0.07 | 9.45 | 0 | -0.1 | 0.1 | -0.9 | 0.38 | 0.79 |
| 31 | HDFC Prudence Fund | 0.65 | 0.07 | 9.53 | 0 | -0.08 | 0.1 | -0.8 | 0.45 | 0.79 |
| 32 | DSP BlackRock Balanced Fund | 0.61 | 0.06 | 11 | 0 | -0.13 | 0.1 | -1.4 | 0.17 | 0.85 |
| 33 | HDFC Balanced Fund | 0.61 | 0.04 | 14.2 | 0 | -0.07 | 0.1 | -1 | 0.31 | 0.88 |
| 34 | ICICI Prudential Balanced fund | 0.56 | 0.06 | 10.2 | 0 | -0.24 | 0.1 | -2.7 | 0.01 | 0.85 |
| 35 | Principal Balanced fund | 0.7 | 0.05 | 13.5 | 0 | -0.14 | 0.1 | -1.6 | 0.11 | 0.89 |
| 36 | FT India Balanced fund | 0.57 | 0.04 | 13.1 | 0 | -0.18 | 0.1 | -2.6 | 0.01 | 0.9 |
| 37 | LIC Nomura Balanced fund | 0.55 | 0.07 | 8.25 | 0 | -0.19 | 0.1 | -1.8 | 0.07 | 0.77 |
| 38 | ING Balanced fund | 0.63 | 0.06 | 10.3 | 0 | -0.21 | 0.1 | -2.1 | 0.04 | 0.84 |
| 39 | Baroda Pioneer Equity Linked Saving Scheme 96 | 0.94 | 0.12 | 7.54 | 0 | -0.15 | 0.2 | -0.8 | 0.45 | 0.71 |
| 40 | Sahara Tax Gain Fund | 1.21 | 0.22 | 5.55 | 0 | 0.39 | 0.4 | 1.1 | 0.27 | 0.44 |
| 41 | ICICI Prudential Tax Plan | 0.92 | 0.12 | 7.81 | 0 | -0.19 | 0.2 | -1 | 0.34 | 0.73 |
| 42 | UTI Equity Tax Savings Plan | 0.89 | 0.09 | 9.59 | 0 | -0.15 | 0.2 | -1 | 0.33 | 0.8 |
| 43 | Franklin India Taxshield | 0.87 | 0.06 | 14 | 0 | -0.07 | 0.1 | -0.7 | 0.47 | 0.89 |
| 44 | Canara Robeco Equity Tax Saver Fund | 0.94 | 0.14 | 6.68 | 0 | -0.07 | 0.2 | -0.3 | 0.75 | 0.64 |
| 45 | Principal Tax Saving Fund | 0.73 | 0.08 | 8.78 | 0 | -0.41 | 0.1 | -3.1 | 0 | 0.83 |
| 46 | Taurus Tax Shield | 0.98 | 0.17 | 5.64 | 0 | -0.09 | 0.3 | -0.3 | 0.75 | 0.56 |
| 47 | HDFC Tax saver fund | 0.88 | 0.13 | 7.01 | 0 | -0.19 | 0.2 | -0.9 | 0.35 | 0.69 |
| 48 | Tata Tax saving fund | 0.73 | 0.11 | 6.84 | 0 | -0.49 | 0.2 | -2.8 | 0.01 | 0.76 |
| 49 | LIC Nomura tax plan | 0.9 | 0.1 | 9.24 | 0 | -0.03 | 0.2 | -0.2 | 0.87 | 0.76 |
| 50 | Principal personal tax saver | 0.75 | 0.15 | 5.02 | 0 | -0.38 | 0.3 | -1.6 | 0.12 | 0.6 |

**Significant at 5 percent level*

*Source: Researcher's own calculation*

The findings presented in table -4 indicate that out of the 50 sample schemes, there are no successful market timers. This is because there are no statistically significant positive observed t-values for their gamma coefficients. But there are 17 observed t-values which are significant at five percent level but are negative. They are LIC NOMURA MF Growth Fund, ICICI Prudential Top 100 Fund, HDFC Capital Builder, Franklin India Opportunities Fund ,Franklin India Prima Fund, Franklin India Prima Plus Fund, DSP Black Rock Opportunities Fund – Reg, Birla sunlife Equity fund, Birla sunlife India opportunities fund, Birla Sun Life New Millenium Fund, LIC Nomura Equity fund, Principal Growth Fund , ICICI Prudential Balanced fund, FT India Balanced fund, ING Balanced fund, Principal Tax Saving Fund and Tata Tax saving fund. Thus, even though the fund managers of these three schemes appear to undertake timing activities, they were unsuccessful, as they were timing in the wrong direction.

The findings of the study on market timing ability of fund managers in terms of Henriksson and Merton measure reveals that the Indian fund managers have not exhibited distinct market timing abilities. Further, even though some of the funds have shown signs of market timing attempts by fund managers, the results reveal that they were timing the market in the wrong direction.

## Conclusion

The study on the evaluation of market timing abilities of fund managers reveals that the Indian fund managers are not seriously engaging in any market timing activities at all. Even though some of the fund managers of certain mutual fund schemes appear to undertake market timing activities, the analysis reveals that they were timing the market in the wrong direction. Thus from the results of the study it can be concluded that the Indian fund managers have not exploited the market timing strategy for generating superior returns.

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# DEVELOPMENT DEBATE AND POLITICS OF SOCIAL MOVEMENTS IN INDIA AND KARNATAKA

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## Abstract

*The concept of development occupied prominent place in the academic discourses especially after the Second World War. Developmental issues were seen as technical requirements to build the infrastructure and to mobilise resources so as to contribute growth along with social justice. This has led to a debate on growth versus development with sustainability. In the Indian context, developmental issues were observed through different dimensions especially in the post-independence era. It has resulted in the emergence of different social movements and protests with different perspectives such as farmers, environmental, ecological, tribal/Dalit issues etc.*

***Key words:*** *Development, Growth, Sustainability, New Social Movements, Environment, Social Justice*

In the academic discourses development is reviewed as a strategy of providing and satisfying the fundamental necessities of the people. It is viewed as a straight forward economic issue, especially after the II world war; in identifying and quantifying the composition of economic growth packages. Provisions of basic necessities were considered as development. Developmental programmes therefore aimed at eradication of fundamental problems like poverty, unemployment, inequality and environmental pollution. Development in Under Developed Countries (UDCs) is understood to have a continuous reduction of the aforesaid

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problems. Mere increase of national income or GDP is not development if a reduction in poverty, unemployment etc. takes place. Development should generate employment, eradicate poverty and hunger, provision of shelter and improve the standard of living of the people, without altering the environment (Singh 2006). The Marshal Plan Aid Programmes to reconstruct Europe; along with Bretton Woods institutions (IMF, IBRD) created to guide international economic policy reflected the composition of economic growth packages. It recognised that numerous social, political, geographical, historical, cultural, psychological and environmental determinants affect a nation's prospectus for successful development.

Developmental issue was seen not as philosophical inquiry into value change or a search for new institutions and rules of global governance but as technical examination of how to mobilize resources most efficiently and build the infrastructures best suited to growth. Critical assessment of performance eventually led to making developmental debate multidimensional and multidisciplinary. It was belatedly recognised that development is a value laden issue demanding explicitly ethical analysis. The last three decades beginning from 1950s development was regarded as an economic issue i.e, the continuous growth or increase in the national income of a nation. During this period while defining development except national income, the issues like, poverty, unemployment, illiteracy, ill-health, environmental pollutions etc., were not given prominence. The changed notion of development i.e. infrastructure development has posed issues like environmental pollution due to excessive use of land, water, air, forest, wildlife, bio-diversity, natural resources etc. Today development therefore, is said to be not only economic phenomenon but it has social dimensions too. Development is above all else a question of human values and attitudes, goals self-defined by societies and criteria for determining what are tolerable cost to be borne, and by whom, in the course of change. Nor is development a harmonious process but rather a traumatic one full of contradictions and conflicts. Thus development becomes highly critical issue in political and economic discourses and among the policy makers world over. Many a times development is mis-defined as growth, cutting across the issue of social justice i.e., distributive aspect- wherein the developmental paradigms are decided and imposed from the above, unleashing the regional issues and identities. Above all the project of development has decisively questioned by the advocates of sustainable development strategies. Developmental project resulting large scale exclusion of social categories and communities and threaten their very survival. Development should become – in the Indian contest – an instrument of social transformation expected to inform, inspire and cohere with the state's initiatives in areas of welfare, secularism and development (Jayal, 2011).

It is said that Indian state may be appropriately characterised as an interventionist, rather than a welfare state. This interventionism did subsume a welfarist orientation, but its primary purpose was developmentalist. The developmental initiatives of the state, however, were largely directed to the modern industrial sector. While welfarist initiatives were directed substantially towards the redressal of poverty stemming from inequalities in the ownership and use of land, without however distributing the rural power structure.

**Growth V/s Development Debate:**

It is said that the 2014 Loksabha polls brought this debate into focus through the Sen-Bhagwathi dialogue on this issue. Common-sense dictates that the two are related, but they are neither mutually exclusive nor are they perfectly correlated. Of course, economic growth does not automatically trickledown to the bottom; it tends to remain concentrated in top few hands. Similarly, targeting human development indicators will not automatically prop up economic growth. Both should be seen side by side in the right perspective. Moreover, the large population base, widespread poverty and climate change disturbances must be factored into development trajectory.

The Sen-Bhagwati dialogue is a healthy debate between two factors of researchers. One side is led by Nobel winner professor of economics and philosophy at Harvard University, Amartya Sen, with capability theory. He argues that India should invest more in its social infrastructure like health and education to improve human capabilities that will cause economic growth. Otherwise inequality will widen and falter the growth process. He stresses on state sponsored social welfare schemes to solve India's development problems (Sen; Dreze 1989).

On the contrary, Jagdish Bhagwati, a Colombia University professor of economics argues that focus on growth is important that enough resources are available for social welfare programmes. He views that inequality may raise with growth initially but sustained growth will eventually also sustain the social benefit programmes to redistribute and mitigate the effects of the initial inequality. Bhagwati argued that the reforms introduced by Government of India in 1991 have brought prosperity to even the lowest social classes and hence they must be continued. He also downplayed the low ranking of India on the Human Hevelopment Index (HDI) which originated from the effects of Sen and the renowned Pakistani economist, Mahbub Ul Haq. Bhagwati thinks that the HDI has little scientific basis.

The difference between Sen and Bhagwati is certainly not a battle between the left and the right. Yet, Sen attracts left leaning people while those on the right tend to favour Bhagwati views. The debate is not about rejecting market economy; it appears to be more about policy preferences rather than policy directions. However, critics point out that the this debate bypasses the more pressing issues of global warming and rising population; with fertility rate of 2.6 per women. India is still away from population stabilisation target of 2.1, which should have been reached in 2010. To conclude, one may say that Bhagwati wants to focus on reforms to push economic growth, while Sen wants the focus on tackling poverty and inequality through social measures.

## Development Debate on Sustainability

Sustainability has been defined as the capacity to meet the needs of the present without compromising those of future generations (Brundtland Report 1989). Over the years, sustainability has come to mean different things depending on who uses it and in what context. Review of development archive of the last four decades since 1950's, the critical analysis and reflection on the development process has continually pointed out that there were unsustainable development patterns. In the late 1960's the development programmes were caused rampant environmental damages (Rivkin,1963), the 1970's called for creation of a new world order (Peccei,1976); from the realisation of the flaws of the growth paradigm and the importance of unequal economic order (Ul Haq 1976); to the failure of such equitable order to be created (Abdul Aziz 1978); from the recognition of the urgency for the North to change its ways of life (Irvine 1980), to the lessons from the ecology movement that fought to protect land and communities around the world (Shiva 1985), from the question of whether growth and sustainability can ever go together (Daly 1990) to the attention on those who do not talk about sustainability but concretely struggle for it in their local contexts.

Many factors ultimately paved the way for different contradictions like protests and movements against the development initiatives. These movements were largely structured in the rural India. The Karnataka state witnessed a few social movements when compared to post independent period. During the colonial rule Veerashaiva movement popularly known as Bhakti Movement was prominent- which was a protest against caste discrimination brought in structural changes in the socio cultural practices in the state of Karnataka (Ishwaran,1983; Assadi,2009). British rule witnessed a few farmers or peasants revolts during 1800 against the new tax system introduced by them in the coastal belt (Assadi,1999). But it was only in 1830's a broad based massive pleasant movement arose in the old Mysore province called Nagar Division in the present Shimoga district. The protest was against the princely state's land policy called the "Sharath System" i.e. selling the land to the highest bidder. This protest raised the issues like Nepotism, anti-upper caste hold over the state etc. had tremendous impact on the princely state of Mysore. In 1920s the princely state under the British rule, the peasants of Mandya district took out a long march to Bangalore demanding redressal of their grievances. Besides, there are references where in the peasants do participated in forest sathyagraha, civil disobedience, non-cooperation etc.

As stated earlier, Karnataka has passed through very few social movements until the end of the colonial rule needs an explanation. One reason may be the uneven development between and across the regions which made the tasks of knitting different social categories difficult. Secondly, the experience of exploitation also varied due to the presence of various rural or agrarian structure and social setup. Thirdly, the princely state of Karnataka was a liberal state, which would accommodate different social categories into its fold by providing spaces in the state administration. Lastly, this decade the state did not witness different forms of crises such as the ecological/environmental of urban space, of working class including the fact that the state did not witness massive growth of industries. This is the reason why majority of the social movements occurred in the state came to the surface during post-independence period.

The post-independence social movements were popularly called "New

Social Movements" (NSM) by Assadi (1995), Brass (1995) was conceptualised on the basis of the following.

- ❖ The NSMs are concerned with the larger issues affecting social categories when compared to the earlier movements.
- ❖ The operational areas of the NSMs have expanded to the wider global level and henceforth they have no more confined to the rural areas.
- ❖ The NSMs believe in forming larger collectives both at the national and international level.
- ❖ They basically believe in retrieving an autonomous space for different social categories from within the civil society.
- ❖ Although NSMs throw up large number of ideologies, they all inclinated towards Gandhism and such other variants.
- ❖ The strategies they employ are also new i.e. ransacking the multinationals and their properties.
- ❖ They believe in analysing issues both from within and the larger perspectives, such as from globalisation etc.

A plethora of factors contributed for the emergence of social movements such as terms and conditions of trade against agriculture, growing depletion of environment, globalization, growth of militant social categories and finally, growing fear of identity, loss of culture, loss of social space and life and loss of nature etc. Many social movements during the decades of 1980s/90s had nationwide inter-links including the state of Karnataka and the coastal belt and were very much vocal such as ecology, farmers, dalits, tribals, etc.

The 1980's witnessed the emergence of environmental issues, although its symptoms were present much earlier. The developmental issues like massive industrialization, depleting green cover, water levels and forest lands, and many other issues created suitable conditions for environmental movement. This shows that unlike north India, Karnataka was not able to throw up a comprehensive environmental movement. The NSM's have a special relationship with identity. As a cultural force, identity defines a group's particular needs that challenge the social control of needs and hence environmental issues were taken up. Another issue drew the attention during the decade was social forestry with massive foreign aid from the World Bank. Karnataka government introduced social forestry which was later on converted into the monoculture of eucalyptus plantation to serve the interests of Rayon and paper industries. The forest otherwise was supposed to provide fuel, fodder, timber, manure, fruits, oil, fibres and raw materials for the rural people were lost because of the introduction of social forestry transformation. Besides, eucalyptus plantation transforms a self-sufficient economy into a market oriented deficit economy, rural unemployment and poverty. One important movement which opposed eucalyptus plantation was "Kittiko Hattiko Chaluvali" or popularly called "Kasunur Horata" in Dharwad district during 1980's. This struggle began when the Karnataka government leased out 30,000 hectares of land to the Harihar Polyfibre Company to plant eucalyptus saplings. Samaja Parivarthana Samudaya took up the cause of peasants who were displaced and rendered unemployed.

Other than social forestry movement, yet another movement prominent in the state was farmer's movement led by the Karnataka Rajya Raitha Sangha (KRRS). Even the Dalits Movement joined the agitation as the plantation economy had evicted large number of Dalits from the lands on which they had no legal title. Even there are a few references of protests held in the state pertaining to the ecology issue such as retaining the fertility of land (Dhanagare,1998). The interesting fact is that large number of women and children participated in the protests as they are the first victims of ecological disaster in the country side. Yet there were many other issues that the KRRS and other social movements picked up were mining, pollution, urban space etc. The resistance took the form of attacking or destroying the properties of multinationals including Bt.Cotton crop in different parts of Karnataka.

One of the earliest environmental struggles was 'Save Western Ghat March' in 1989. This march necessitated as the Western Ghat was coming under severe pressure due to rampant urbanization, industrialisation, deforestation, inappropriate utilization of natural resources and mining. Subsequent to the march a spate of new movements began to grow in the erstwhile Dakshina Kannada district in the coastal areas. Mega industries such as Cogentrix, Mangalore Refinery and Petrochemicals Ltd (MRPL), Nagarjuna, Ispat, Indo-Gulf Fertilizers Ltd and others came under severe contestation. In all these cases pollution, increasing stress on the eco-sensitive district, loss of Bio-diversity, pollution, acid rain etc. became major issues. In the undivided district i.e. both Udupi and Dakshina Kannada, the struggle against the mega industries was led by Nagarika Seva Trust (NST), D.K Jilla Parisarasakthi Okkuta (D.K District Environmental Federation), D.K Meenugarara Parisara Samithi. As a result of the protests some of the companies were made to withdraw from the coastal areas.

The recent struggle drew the attention of environmentalists was against mining in Kudremukh. This was centred on opposing further extension of leasing to the Kudremukh Iron Ore Company Ltd (KIOCL) in the Kudremukh region of Western Ghats in Chikamagalur district. This opposition also combined with other multiple issues: since the KIOCL is a profit making public sector, is involved in ecocide from time to time and causing serious damage to the irrigation potential of Rivers Tunga, Bhadra and Nethravati. Finally, the argument centred around the fact that, "mining over the past twenty five years has depleted the Shola forest and replaced them with heaps of mined waste, several naturalists accounted for the disappearance of many varieties of fish, decline in the agricultural productivity, due to deposition of mine tailings, communities complain of sickness and disease due to pollution of a river a major source of potable water" (Assadi, 2007). The important issues involved are: (a) Converting Kudremukh region as a National Park and (b) Tribals living in the vicinity of Kudremukh region. There are two streams in the environmental movement, other than the intellectuals who had sympathised with the larger issues of Kudremukh region: D.K Parisakthara Okkuta- Organisation of Environment Interested of D.K Environment Support Group, Kalpavriksha Environment Action group, represents one stream. It is conglomeration of modernist, liberals and Gandhians, Civil Society groups. On the other hand, the radical discourse/group came from Kudremukh Rastriya Udyana Virodhi Okkuta (Organisation against Kudremukh National Park). As a result of long protest, the Kudremukh mining issue has come to a standstill with the order of the Supreme Court, the latter declined to give extension of mining.

The early 1970s witnessed another important movement in the name of the Dalit. In the beginning it took the form of literacy protest which was popularly called "Dalita Bandaya". The Dalit Movement later transformed itself into Dalita Sangharsha Samithi (DSS), was the product of a number of factors. Firstly, the radical land reforms measures that brought into focus the intense conflicts between the landed gentry and Dalits on the issue of owning land. Secondly, during this period/ decade the effects of emergency were also felt in Karnataka. It was during this period that a new generation of cultural constructionists among Dalits began to identify with Lohia, through Jaya Prakash Naryan's total revolution. Thirdly, the episode of "Boosa", where in the Kannada literature was equated with cattle fodder- triggered off a major controversy and ended up in the resignation of a state minister.

During the decades 1970's and 1980's, the regional cultural specificities were also contributed for the growth of Dalit Movement or the Dalit politics. It took different forms in different parts in the state. For example, in Dharwad district the movement emerged against the cultural practices of nude worship, domination and confiscation of land. Whereas, in Chikamagalur the issue of "Bagar Hukum" land, destruction of property, by the dominant castes controlling common grazing of "Gomal" lands created conditions for the growth of Dalit Movement. In Gulbarga, the movement voiced against practice of bonded labour, practice of untouchability in hotels and nude worship. In Bangalore it started as a protest against increasing discrimination in the workplace, atrocities, prohibition to enter into temples, prevailing bonded labour, land alienation and confiscation of common grazing land. Overall, the Dalit Movement did not revolve around one particular issue while resorting to agitational politics.

Dalit movement also resorted to many land struggles till the end of 1980's. Sidlipur land struggle (1977), Bidari Kavli Land Struggle (1980) in Hassan, Honnali Land Struggle in Shimoga, Chandgod and Kooduvalli struggle (1979) in Chikamagalur, Nagasandra Struggle (1985) in Kolar etc, compelled the government to introduce the Prevention of Land Alienation Act. Above all the Dalit Movement/ politics ventured into heterogeneous issues like struggle for student hostels, scholarships and free ships for Dalit students, struggle against untouchability and rape etc. Over and above, the Dalit Movement also concerned with the effects of globalisation- critiquing it. There are three arguments vis-à-vis with globalisation: loss of identity, loss of culture and loss of their economy and/or employment.

Like other movement, the militancy of Dalit Movement too has been diluted over the years due to the sharp differences from within the movement leading to split. One of the issues was the question of politics of supporting or opposing a particular political party. Such differences were even reflected on the issue of internal reservation or what is called “reservation within reservation” for “Holeyas” and “Madigas”. Recently these groups started demanding reservations based on their respective numerical strength. These issues were responsible for the dilution of the Dalit identity and henceforth as a strong social movement.

Another major movement that Karnataka has seen during 1980’s was the “New Farmers Movement” lead by the KRRS under Prof. Nanjundaswani’s leadership. This movement went beyond the national boundaries to join international collectives- which began as a protest against the acute problems faced by the farmers. Till the end of 1980’s the KRRS resorted to many agitations – non-tax agitation, rasta roko agitation, dharna in Vidhana Saudha etc (Assadi, 1999; Nadkarni, 1987). All these agitations revolved around certain major issues: remunerative prices, waiving of loans, attachment of the property of the defaulters, removing the restrictions placed on the movement of grains, urban bias in policies, alienations of land, imposition of agricultural tax and higher wages to agricultural labourers etc,.

The farmer’s movement had not had any connection with globalisation until the decade of early 1980’s even though it had linkages with industrial capital until India became the party to globalisation during the 1990’s. The farmer’s movement under KRRS resorted to different strategies such as organising seminars and conferences. It also demonstrated its clear-cut stand by pinpointing its long consequences and larger agenda behind globalisation.

This is very much vocal with the statement that:

“Major decisions that affect our farmers are no longer being made by farmers and their organisations or by state legislatures or even by Parliament. Decisions are being taken in Washington and Geneva at IMF and World Bank headquarters and at the GATT Secretariat with no popular participation. We seem to be entering a new era of colonization with our production and consumption and our natural resources being increasingly controlled by multinational corporations for producing luxury goods".(Assadi, 2007)

Further, the flow of global capital to the agriculture and henceforth its control over land and seed transformed the farmers into low wage earning farmers to agricultural market. Modernization and mechanised agricultural development under the mask of globalisation has proved to be a threat to Indian farmers vis-à-vis freedom of our country. In fact the village/farming rural society- the treasure of diverse culture, the basis of distinctive civilization has paralyzed due to the developmental strategies adopted by globalisation resulting in wide amount of displacement of small farmers, tribals and thus destruction of our culture and economy.

The KRRS's opposition to the globalisation, mediating through the Dunkel Draft and multi-nationals was clear-cut when glanced over the resolution submitted to the Prime Minister in 1992. Besides the above, the movement came out with other important issues to confront Dunkel Draft: violation of Human Rights of Farmers, imperialist jurisprudence, reversal of burden of proof, constitutional misconduct and constitutional anomaly. In the case of Violation of Human Rights of Farmers the argument centres around the following:

"....that patenting of genes and plants, as envisaged by the Dunkel Draft rests in the creation of monopolies over seed production and bio-technology in general and in the field of bio-fertilizers and bio-pesticides in particular, to the total exclusion of the individual farmer's right to produce his own seeds and fertilizers. It would also lead to privatisation and commercialisation of research and as a consequences capitalist censorship of knowledge for profit. The Dunkel Draft on the contrary, deprives the individual farmers his right to produce, his own means of production, namely, seeds and fertilizers by allowing monopolies. Thus violating the basic human right of the individual to practice any trade, profession or occupation of the choice to live with dignity". (Assadi, 2007)

Another important form of protest came out in the form of "Seed or Beeja Sathyagraha". This was resorted to in 1992 and it was equated to the "second stage of Salt Sathyagraha of yesteryears". "If Charka was the symbol of Indian independence, the seed is the symbol of protection of this independence and also the protection of farmer's culture declares the KRRS". The Seed or Beeja Sathyagraha supported by different Farmer's Movements at the all India level culminated in what is called "Dehli Muttige" (Seizing Delhi). The rally came out with a charter of demands which stressed/demanded: total rejection of Dunkel Draft Treaty, Amendment of the constitution of India to make it mandatory for international treaties to be ratified by the Indian Parliament and state legislatures, scientifically calculated parity prices for agricultural produce, liquidation of debts of the farmers, restriction on import of agricultural and dairy products, restriction on diversion of prime lands for non-agricultural purposes, no agricultural lands should be given to Multi-National Companies/Corporations (MNC's) etc.

The "Seed Sathyagraha" aimed at a strategy for preserving the traditional seed, bio-diversity, rights of individual farmer's etc,. The significant strategy to confront globalisation came in the form of resorting to direct attack and destroying the properties of MNC's operating in Karnataka. The KRRS along with other organisation took out a Caravan in 1996 to Europe to protest together with local people against the world economic system against gene technology, against war, against the nuclear threat. The action taken by the caravan included 'demonstration in front of the headquarters of MNC's such as Novartis, Monsanto, Cargil, Nestle and others, at institutions such as WTO, the FAO and the European Central Bank. None the less, two organisations at the global level made the Karnataka movement transform into Global movement: via Campensia and people's global action.

Another important movement emerged in the form of tribal struggle or movement. In the recent years the tribal struggles have become sharp with the globalisation entering into the domain of culture, nature and environment. This is because tribals have been confronted with new forms of contradictions. Historically their immediate contradiction has been the State. Earlier it was the colonial state and after independence it has been the Indian state (through the means of forest officials). The entry of World Bank and global capital under the garb of economic development project has added a different mode of contradiction. This has come out at a time when the Indian State was giving up the model of "Command Economy", succumbing to the pressure of globalisation and western capitalism. Further, the Supreme Court verdict to vacate the lands occupied by the tribals in the forest region has further sharpened the contradictions between the Indian State and the global capital and the tribals.

Besides, the tribals in 1990s have formed many organisations to register resistance and to put forward their demands/claims- Karnataka Rajya Moolavasigala Budakattu Janara Vedike, Girijanara Jilla Samithi, Nagarahole Budakattu Janara Hakku Stapana Samithi etc. These organisations have adopted different form of protests against the economic-development programme sponsored by the World Bank project aimed at converting the Nagarahole areas into a National Park or Protected Area with an intention of improving bio-diversity. None the less, these projects leads to increased cultural alienation- i.e. alienation between the tribals and the nature, loss of self. The struggle also pressurised the demand for uniform law for the protection of forest areas, declaring natural forest resources as the common property of tribals providing facilities like telephone, transport, putting a halt to the construction of dams and roads inside the forest areas, total rights over forest produce, and provision of basic facilities like hospitals, dispensary, water and schools (Assadi: *EPW* 1996).

The tribals resorted into a new movement of "Enter the Forest" in 1995 asserting "self-rule" near Nagarahole National Park in South Karnataka. When the tribal were denied their traditional right to collect fue, fodder and also their right to worship nature. In enter the forest movement the tribals tacitly put forwarded the argument that "the forest which was our home in the past has become the property of forest department, it is high time we re-established our self-rule in the forest" (Assadi, 1998; NST, 1994).

Thus the tribals in an organised way tried to re assert their claim over the forest areas within the forest region. Besides, they also waged a struggle against eviction from the forest land, based on Supreme Court's order. This judgement strengthened the case for declaring the Kudremukh region as the National Park. The tribals of KNP region and North Canara region have resented the eviction notices and formed different tribal organisations such as Malekudiyara Sangha, Kudremukh Udyanavasi Malekudiyara Sangha, Malekudiyara Horata Samithi, Zilla Adivasi Hitharakshana Samithi etc. These organisations not only demanded the several benefits, but also demanded the scrapping of the KNP programme, and protecting their rights (Assadi: *EPW* 2002; NST 2001). Yet issue the land struggle has been the major concern for large number of categories in the state. Even the Land Reforms Act introduced by Devaraj Urs in mid 1970's could not resolve the land question, due to the inherent loopholes in the act. This is one of the reasons why Land Reforms Act never destroyed feudalism in the state of Karnataka (Thimmaiaha; Aziz 1983). The feudal elements within the dominant castes led to caste struggles and also to be seen the presence of forced labour. In this context, it should be noted here that Karnataka State also saw the prevalence of parallel social formation i.e. feudal and capitalist.

The issue of land becomes important because it provides the ground for identity formation for the rural folk, secondly it helps in the transformation of the rural economy and thirdly, it creates space for the growth of independent individual identities in the rural areas. Hence, different social groups including the left took up the issue of land in their struggles (Assadi,2002b). In the coastal districts of Karnataka, the struggle was jointly waged by the Kisan Sabhas, Trade Union Councils and the Communist Party. At this juncture, the party demanded for fixing ceiling and abolition of land revenue on all uneconomic holdings.

In many parts of Karnataka the DSS took up the land question along with its anti-feudal agenda vis-à-vis creating spaces for Dalit identity. On the contrary, the tribals looked at the issue of identity rather than the feudal issues. Therefore tribal struggle against land mediated through opposing the state policy of eviction and rehabilitation and conversion of forest lands into reserved lands. This struggle took a new twist came in in 1990s when state came out with the notification to evict the tribals from the forest region. The struggle centred around Kudremukh, Nagarhole, Uttara Kannada, D.K, Udupi and Chikamagalur districts (Assadi,1998). The marginal farmers from Uttara Kannada, D.K, Udupi, Chikamagalur and Shimoga districts have been facing similar situation. The farmers in these districts have been tilling the land for many years and struggling to retain hold over land. This made the land issue becomes the yardstick of identity, existence and social life for the farmers.

The study shows the increasing growth of social movements in recent years. This is due to broadening of issues and inclusion of new categories as well. Most of the movements were isolated due to lack of unity and hence led to the factionalization and dilution of militancy. These movements have failed to bring about radical and structural changes. Hence these movements remained localised, class, caste and area specific and they have not spread evenly between different regions in the state. Absence of clear cut vision and frameworks, theoretical and ideological backings have been equally responsible for the ineffectiveness of social movements at large.

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# CONVERGENCE OF SCHOOL EDUCATION IN INDIA: A GENDER BASED ANALYSIS

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## Abstract

*School education has been encompassing radical changes in quality, quantity, and approaches. With respect to the quantity perspectives, the school education has improved in enrolment rate, dropout rate and the number of educational institutions in public and private sectors. One of the important criticisms towards the growth of Indian education is that there is inequality in the educational attainment. Inequalities exist mainly in terms of social group, regional and gender issues. These inequalities persist even when our nation is passing through the Millennium Development Goals. This paper is intended to analyse the changing trends in school education in enrolment, dropout and number of female teachers to 100 male teachers. Secondary data were used for the present analysis.*


**Key Words**: Transformation, School Education, Gender Inequality

Development of an individual is greatly depended on his achievements in his education. It is a fact that higher the achievement in education, higher will be the development of the individual. It will definitely reflect in the development of the nation as a whole. So there is potential to derive a cause-effect relationship between the individual educational achievement and the development of the society and the nation as a whole. Formal education is essential to promote equality of employment opportunities and strengthen economic growth. It

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intensifies cognitive and non-cognitive skills, improves productivity and provides individuals with greater ability to further develop their knowledge and skills throughout their lives. Increased participation in education is associated with better health, and more investments in the education and health of children especially among women (OECD,2011)

Development in education faces serious constraints in every nation. One of the important criticisms towards the development of Indian education is the inequality in the educational attainment. Inequalities exist mainly with respect to social group, regional and gender inequality. These inequalities persist even when our nation is passing through the Millennium Development Goals. One of the important objectives of Millennium Development Goal in Indian education is the promotion of gender equality in education and empowerment of women (UN,2015). But inequality with respect to educational participation is continuing. However, it is welcomes note that, the magnitude of inequalities with respect to educational opportunities is narrowing and moving towards the convergence of educational equality with respect to gender. This paper is intended to analyse the changing trends in school education in enrolment, dropout and number of female teachers to 100 male teachers.

**Significance and objectives**

It is a general conception that, the representation of female children is crucially less than the male children in education. Numbers of studies were gathered around to this issue. Many of the studies found out the enrolment rate of girls increasing since 1990. But still there exists a wide gap between male and female with respect to educational participation. It paves the way for other forms of social inequalities such as caste, ethnicity and religion (Bandyopadhyay & Subrahmanian,2008). It is clear that for ensuring the welfare of the nation, balanced and equitable allocation of resources is to be ensured. The existing inequalities in educational opportunities with respect to gender should be addressed to ensure a balanced and sustainable educational development. This will result in the all-round development of the nation. The findings and the inferences of the present study would have an impetus on the policy making and formulation of programmes in tune with the magnitude of the problem.

The main objectives of the study include analysis of the growth of school education in India, compare the growth of school education with respect to gender and to examine the recent trends in school education in the country as a whole.

## Method

The study has used secondary data for analysis. The data were collected from the published source of educational statistics (2014) by Government of India, Ministry of Human Resource Development, Bureau of Planning, Monitoring and Statistics, New Delhi. Gross Enrolment Ratio, Dropout rate and Number of male and female teachers in schools were taken to analyze the convergence of gender gap in school education.

## Analysis

1. Gross Enrolment Ratio (GER) in Primary, Upper Primary Elementary Education

(Table-1) presents the Gross Enrolment Ratio of all categories in India from 1950-51 to 2013-14 with respect Gender and level of school education. From the statistics it is evident that, the school education in India with respect to gender has culminated a paradigm shift from low participation of girls to high participation in school education. It is equally reflected in primary, upper primary and elementary education also. It is very interesting to see that how and the magnitude by which the gender gap has been bridged and how the culmination of girls over boys has occurred in school education over the years in India.

**Table-1: Gross Enrolment Ratio (GER) All Categories of Students**

| Year | Primary ( I-V) | | | (UP)(VI-VIII) | | | Elementary (I-VIII) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Boys | Girls | Total | Boys | Girls | Total | Boys | Girls | Total |
| 1950-51 | 60.6 | 24.8 | 42.6 | 20.6 | 45.6 | 12.7 | 46.4 | 17.7 | 32.1 |
| 1960-61 | 82.6 | 41.4 | 62.4 | 33.2 | 11.3 | 22.5 | 65.2 | 30.9 | 48.7 |
| 1970-71 | 95.5 | 60.5 | 78.6 | 46.5 | 20.8 | 33.4 | 75.5 | 44.4 | 61.9 |
| 1980-81 | 95.8 | 64.1 | 80.5 | 54.3 | 28.6 | 41.9 | 82.2 | 52.1 | 67.5 |
| 1990-91 | 94.8 | 71.9 | 83.8 | 80.1 | 51.9 | 66.7 | 90.3 | 65.9 | 78.6 |
| 2000-01 | 104.9 | 85.9 | 95.7 | 66.7 | 49.9 | 58.6 | 90.3 | 72.4 | 81.6 |
| 2010-11 | 114.9 | 116.3 | 115.5 | 87.5 | 82.9 | 85.2 | 104.5 | 103.3 | 103.9 |
| 2013-14(P) | 98.1 | 100.6 | 99.3 | 84.9 | 90.3 | 87.4 | 93.3 | 96.9 | 95.0 |

*Source: Educational Statistics, MHRD, 2014*

## 2. Gross Enrolment Ratio (GER) in Secondary, Senior Secondary, Higher Secondary and Higher Education

Gross Enrolment Ratio (GER) in Secondary, Senior Secondary, Higher Secondary and Higher Education is presented in (Table. 2). It shows that the girls participation in secondary, and higher secondary levels has been witnessing tremendous changes from 2001-02 to 2013-14 towards girls. Participation in school education was higher to boys in 20000-01, but the girls have overcome the boys in 2013-14 in almost all levels of school education.

**Table–2: Gross Enrolment Ratio (GER) All Categories of Students (II)**

| Year/ | SE (IX-X)14 15Y | | | SS (XI-XII)16-17YY | | | ( IX-XII)14-17 Y | | | Higher Education | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Level | Boys | Girls | Total | Boys | Girls | Total | Boys | Girls | Total | Boys | Girls | Total |
| 2001-02 | NA | NA | NA | NA | NA | NA | 38.2 | 27.7 | 33.3 | 9.3 | 6.7 | 8.1 |
| 2005-06 | 57.6 | 46.2 | 52.2 | 31.4 | 25.2 | 28.5 | 4.6 | 35.8 | 40.4 | 13.5 | 9.4 | 11.6 |
| 2010-11 | 9.2 | 60.9 | 65.2 | 42.3 | 36.2 | 39.4 | 5.7 | 8.5 | 52.2 | 20.8 | 17.9 | 9.4 |
| 2012-13(P) | 7.9 | 67.4 | 43.9 | 3.2 | 3.6 | 6.5 | 56.1 | 6.3 | 2.3 | 9.8 | 1.1 | 7.9 |
| 2013-14(P) | 73.5 | 73.7 | 73.6 | 49.1 | 49.1 | 49.1 | 61.9 | 62.1 | 62.0 | NA | NA | NA |

*Source: Educational Statistics, MHRD, 2014*

## 3. Dropout Rates in School Education

The dropout rate in school education on the basis of gender is furnished in (Table.3). From the data it is very much obvious that, the dropout rate has decreased sharply from 1960-61 to 2013-14. It is very important to note that, the dropout rate of both boys and girls in primary, upper primary and secondary has declined where the decline of girls dropout rate is greater than boys. And it is also significant that, presently, the dropout rate is greater among the boys than the girls in entire level of school education.

**Table 3: Dropout Rates in School Education: All Categories of Students**

| Year/ | Class I-V | | | Class I-VIII | | | Class I-X | | |
|---|---|---|---|---|---|---|---|---|---|
| Level | Boys | Girls | Total | Boys | Girls | Total | Boys | Girls | Total |
| 1960-61 | 61.7 | 7 0.9 | 6 4.9 | 75.0 | 85.0 | 78.3 | NA | NA | NA |
| 1970-71 | 64.5 | 0.9 | 67.0 | 74.6 | 83.4 | 77.9 | NA | NA | NA |
| 1980-81 | 6.2 | 2.5 | 8.7 | 68.0 | 79.4 | 72.7 | 9.8 | 86.6 | 82.5 |
| 1990-91 | 40.1 | 46.0 | 42.6 | 59.1 | 65.1 | 60.9 | 67.5 | 76.6 | 71.3 |
| 2000-01 | 39.7 | 41.9 | 40.7 | 50.3 | 57.7 | 53.7 | 66.4 | 71.5 | 68.6 |
| 2011-12 | 23.4 | 21.0 | 22.3 | 41.5 | 40.0 | 40.8 | 48.6 | 52.2 | 50.3 |
| 2012-13(P) | 23.0 | 19.4 | 21.3 | 41.8 | 35.7 | 39.0 | 50.4 | 50.3 | 50.4 |
| 2013-14(P) | 21.2 | 18.3 | 19.8 3 | 39.2 | 32.9 | 36.3 | 48.1 | 46.7 | 47.4 |

*Source: Educational Statistics, MHRD, 2014*

## 4. Number of Girls per hundred Boys Enrolled by Stages of Education Level

The number of girls per hundread boys enrolled by different stages of Education is presented in (Table.4). The figures clearly describe the gradual change in the enrolment of girls to hundread boys in primary, secondary, higher secondary and higher education in India. It says that the divide in this respect has been narrowing over the years. The gap between boys and girls were very huge in 1950-51. But it is drastically decreased and the enrolment of girls per hundred boys increased from

39 to 93 in primary education, 19 o 95 in upper primary education, 15 to 89 in higher secondary and 13 to 81 in Higher education respectively. It conveys an indication that, in the near future it will be equal or greater than the enrolment of male.

**Table-4: Number of Girls per hundred Boys Enrolled by Stages of Education Level**

| Year | P(IV) | UP (VI-VIII) | ( IX-X) | HSS (XI-XII) | Higher Education |
|---|---|---|---|---|---|
| 1950-51 | 39 | 19 | NA | 15 | 13 |
| 1960-61 | 48 | 31 | NA | 26 | 21 |
| 1970-71 | 60 | 41 | NA | 33 2 | 8 |
| 1980-81 | 63 | 49 | NA | 45 | 36 |
| 1990-91 | 71 | 58 | NA | 49 | 46 |
| 2000-01 | 78 | 69 | 63 | 62 | 58 |
| 2010-11 | 92 | 89 | 82 | 79 | 78 |
| 2012-13(P) | 94 | 95 | 89 | 87 | 81 |
| 2013-14(P) | 93 | 95 | 90 | 89 | NA |

*Source: Educational Statistics, MHRD, 2014*

## 5. Number of Teachers by Type of School (in thousands)

(Table.5) illustrate the number of teachers by type of schools. From the given data, it can be well comprehend that, the representation gap between the male and female teachers in primay and upper primary schools has been declining. The decline is in the sense that, the male and female teacher participation in primary school was 456 and 82 in the year 1950-51. It increased to 1431 and 1253 in 2013-14. It is 73 and 13 for male and female participation in Upper primary level in 1950-51. It increased to 1375 and 1138 in upper primary schools. It clearly highlights the decrease in the disparities of male female teachers participation in primary and upper primary schools.

**Table. 5: Number of Teachers by Type of School (in thousands)**

| Year/Level | Primary | | | Upper Primary | | |
|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total |
| 1950-51 | 456 | 82 | 538 | 73 | 13 | 86 |
| 1960-61 | 615 | 127 | 742 | 262 | 83 | 345 |
| 1970-71 | 835 | 225 | 1060 | 463 | 175 | 638 |
| 1980-81 | 1021 | 342 | 1363 | 598 | 253 | 851 |
| 1990-91 | 1143 | 473 | 1616 | 717 | 356 | 1073 |
| 2000-01 | 1221 | 675 | 1896 | 820 | 506 | 1326 |
| 2010-11 | 1194 | 905 | 2099 | 1048 | 839 | 1887 |
| 2011-12 | 1259 | 995 | 2254 | 1168 | 889 | 2057 |
| 2012-13(P) | 1422 | 1234 | 2656 | 1348 | 1079 | 2427 |
| 2013-14(P) | 1431 | 1253 | 2684 | 1375 | 1138 | 2513 |

*Source: Educational Statistics, MHRD, 2014*

## Discussion

From the analysis and discussion it is empathically revealed that the growth of school education is marching towards an equitable, balanced and sustainable level of education. It is in the sense that the Gross enrolment rate of the nation has increased tremendously both of girls and boys in primary, upper primary, secondary and higher secondary level. It is very significant to note that, the growth of gross enrolment in Indian school education has witnessed a paradigm shift with respect to gender. The educationally excluded girls were now become the part of mainstream school education and equally competing with their counterparts to par with their counterparts in educational participation.

Drastic change in dropout rate of boys and girls in Indian school education is another interesting nature of contemporary school education. The dropout rate has declined both boys and girls in India. The fall in dropout rate is steeper among the girls than boys in school education.

It increases the importance in the chemistry of fall in dropout rate in Indian school education.

One of the other achievements in Indian school education is that, the number of girls enrolled per hundred boys has been increased. It was very meager in the 50s but it has registered momentum growth from 1950-51 to 2013-14 period. The girls in India is now proving that girls are not for keeping behind the boys but also capable to equally strive to maintain equality in education as well as to be part of the nations development trajectory.

Teacher has a decisive role in shaping the society and social transformation. Teacher makes maximum impact on the personality of an individual (Barahate, R 2014). The study shows that the women in India are striving with the male for attaining employment opportunities in teaching field. It is more emphatic from the statistics that the participation of females in teaching profession has been increasing remarkably than the 1950. It gives the message that in the near future the females in India will dominate the male in teaching profession. They might be assimilate the role that a teacher can play in shaping the individual, society and the nation.

## Major Findings

Gross Enrolment of both girls and boys in primary, upper primary, secondary and higher secondary school has increased.

1. Growth of Gross Enrolment Rate is greater among the girls than the boys in primary to Higher Secondary school.
2. Dropout rate has decreased tremendously both boys and girls in primary, upper primary and secondary schools.
3. The decrease in dropout rate is faster among the girls than the boys in primary, upper primary and secondary schools.
4. Number of girls per hundread boys enrolled in primary, upper

primary and secondary schools has recorded significant increase from 1950-51 to 2013-14.

5. Number of female teachers in primary school has increased. It was 456 and 82 for male and female respectively in primary school in 1950-51. It is increased to 1431 and 1253 respectively in 2013-14.
6. Number of female teachers in upper primary school has increased. It was 73 and 13 for male and female respectively in primary school in 1950-51. It is increased to 1375 and 1138 respectively in 2013-14.

## Conclusion

Perusal of the above analysis and discussion lead us to conclude that the school education in India has been witnessed a paradigm shift with respect gender. It is sure that as a result of the favorable change in educational participation of girls in school education will definitely have a positive impact in higher education also. Increased educational attainment will enable the women in India to stay in par with the men by increasing their productivity and efficiency in production. It will further led to developing skill, training and capability for attaining adequate employment. They will be enabled to compete with male counterparts in almost all spheres of life achievements. They can equally part of the growth and development of the individual, family, society, and the nation. So the convergence of education will be possible in the near future, as what the theory of convergence says. The theory speculating that, since poorer economies tend to grow more rapidly than wealthier economies, all economies in time will converge in terms of per capita income. So the existing divide gender will be wiped out and women empowered.

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# REMITTANCE AND FINANCIAL SECTOR DEVELOPMENT IN THE TOP REMITTANCE RECEIVING COUNTRIES

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**Abstract**

*Remittance, as one of the major financial flows, has a significant role to play in financial sector development of recipient countries. A significant proportion of remittances are channeled through financial institutions which encourages savings by recipients and availability of credit by the financial institutions. This paper analyses the link between remittance and financial sector development in selected top remittance recipient countries by using World Bank data from 1990-2014. The result indicated that there is a positive and significant relationship between remittance and financial sector development.*

**Key Words**: Bank Credit GDP Ratio, Remittance, Financial Sector Development (FSD)

Remittance is transfer of money by someone living outside the country of his origin to some other person in his country of origin. It is defined as "cross-border person to person payments of relatively low amount". Remittance has become one of the major financial flows between countries along with foreign direct investment and aid flows. The global trend of remittance shows that remittance sent to developing countries is increasing from time to time. The amount of global remittance flow which was only $67.8 billion in 1990 has grown into $592.9 billion in 2015. From the total remittance flow, developing

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countries receive more than 70% of the total amount. The projections from the World Bank (2016) report shows that the volume of remittance only to developing countries will increase to $459 billion with a growth rate of 4.4% in 2016. All the regions of developing countries are expected to receive relatively higher volumes of remittance in 2016 with 6.3% growth rates in the low income countries, 4.1% in middle income countries and 3.4% in high income countries (Dilip, Supriyo, Sonia, Kirsten, William, & Hanspeter, 2016).

In 2015, worldwide remittance flows are estimated to have exceeded USD601 billion. Of that amount, developing countries receive about USD441billion which is about 73.3%. The top remittance receiver countries in 2015 are India (USD72.2 billion), China(USD 63.9billion), the Philippines(USD 29.7bllion) and Mexico(USD 25.7 billion ) which makes Asia as a continent to be the largest interms of overseas remittance (World Bank Group, 2016). A broad base of studies are conducted to analyze the micro and macroeconomic impacts of remittance. At macro level remittance serves as an automatic stabilizer of the economy and as a major source of foreign exchange. It is one of the most regular financial flows even showing counter-cyclical effects at times of economic shocks. At micro level remittance has improved the life of households in many developing countries of the world.

Financial sector development in remittance receiving countries is very crucial to maximize the amount of money coming in the form of remittance. As most of the remittance receiving countries are developing countries, majority of them are found in low financial sector development. Countries with better financial sector development are more likely to maximize potential remittance income. When the financial sector is not well developed, it raises the cost of sending, discouraging remittance senders which will likely increase informal remittance. By strengthening financial-sector infrastructure and facilitating international travel, countries could increase remittance flows, thereby bringing more funds into formal channels.

Remittances are usually sent through financial institutions when they are sent formally. Remittances sent to countries are sources of revenue and deposits for the banks facilitating the transaction process (Githaiga & Kabiru, 2014). A study of remittance market in the huge remittance recipient country of India indicated that banks control 50%-60% of the remittance market with the remaining percentages controlled by money transfer operators and online banking (Afram, 2012). Even though, there are different views on the impact of remittance on financial sector development, well-developed financial sector plays a tremendous role in facilitating the remittance market.

A Study conducted on the impact of remittance flows on financial sector development in South Asia using data from 1989 to 2011 by (Shahzad, Adnan, Sajid, & Naveed, 2014) shows that there is a significant positive impact of remittances on the financial sector development. Another study by (Reena, Asli, & Maria, 2011) similarly provides evidence of a positive, significant, and robust link between remittances and financial development in developing countries. On the contrary, there are also other studies like that of (Githaiga & Kabiru, 2014) which shows an adverse effect of remittance on domestic credit to private sector and foreign direct investment based on data collected from 31 countries. But the study has found a positive but insignificant relationship between remittance and bank deposit. These findings show a mixed effect of remittance on financial sector development of countries. This paper analyses the association between remittance and financial sector development in selected four countries which usually dominate the remittance market.

For this paper, four countries topping other countries in terms of remittance are selected. These countries are India, China, The Philippines and Mexico. According to the data from World Bank, out of the total remittance flows all over the world, these four countries has received more than 30% of the total remittance which is a tremendous amount in the year 2015 (World Bank, 2016). A number of studies are conducted on the impacts of remittance on financial sector development. This analysis focuses on how far these countries, which are dominating the world in remittance inflow, have developed their financial sector to facilitate the remittance inflow.

## Objectives

1. To assess the role of financial sector development for the remittance market in the selected countries
2. To study the extent of relationship between remittance and financial sector development in the selected countries

## Methods

This analysis will assess the extent of association and relationship between remittance and financial sector development in the selected top remittance receiving countries. The data is collected from World Bank Database which covers 25 years from 1990-2014 for the four selected countries. The econometric used to study the link is applied according to the model used by (SHAHZAD, ADNAN, Sajid, & Naveed, 2014). The model used to study the relationship is given below.

$$FSDit= \hat{a}_1 Rem_{i\,t} + \hat{a}_2 X_{i\,t} + \mu_{it}$$

The dependent variable selected here is financial sector development (FSD) in country i at time t. Financial sector development, most commonly measured by the ratio of bank credit or bank deposits to the private sector expressed as a percentage of GDP. For this study Bank Credit to GDP ratio is used as a proxy variable to measure the level of financial sector development. Domestic credit provided by the financial sector includes all credit to various sectors on a gross basis, with the exception of credit to the central government, which is net. The financial sector includes monetary authorities and deposit money banks as well as other financial corporations (International Monetary Fund, 2016). It shows the development level reached by the banking and other financial institutions in the country.

The independent variable of this model is remittance which is given by (Rem). This refers to the inflow of personal remittance from abroad to the selected countries. Personal remittance is the summation of compensation of employees and personal transfers by individuals living abroad. The log of personal remittance inflow to the countries is used as an independent variable. This is the variable the study is mainly concerned with and tries to findout the relationship it has with the level of financial sector development.

Control Variables (Xi) which are likely to affect the financial sector development based on literature are selected to be Log of GDP and GDP per capita (in thousands US$) which are used as a measure of the level of economy of the countries, Inflation (%) measured as GDP deflator is also use as a control variable. To control how open the market is and its effect on the financial sector, Exports to GDP ratio (%) and Foreign direct investment (FDI) inflows to GDP (%) ratio are used. The control of the above variables gives more reliable results to determine the relationship between remittance and financial sector development.

Pooled Ordinary Least Square (OLS) regression is used to estimate the model. The model gives us the estimates of the coefficients for the independent and control variables. The model has a limitation of causing endogeneity which may create bias. Endogeneity factor is not considered for this analysis. The data was analyzed by using STATA software version 12.

## Remittance Volume and Trend

According to the projection report by World Bank, the volume of remittance is expected to rise with increasing number of migrants and with ease of money transfer methods and technologies. Looking into the volume of remittance received by the four countries in 2015, India has the largest inflow followed by China, the Philippines and Mexico. These four countries together received about 33% of the remittance flows in the world in 2015.

The reason behind the large volume of remittance to these countries differs from country to country. For instance India's remittance is mainly coming from the Gulf where millions of Indians work in different sectors of the Arab countries followed by North America. However, the recent crash in petroleum price in Gulf countries is feared to reduce the volume of remittance and loss of jobs by many Indians in the Gulf. This has reduced the rate of remittance growth in countries in 2015 from that of 2014. In 2015 India has retained its top spot with $68.9 billion in remittances, but down from $70.4 billion in 2014. If the situation is to continue like this, it will have an adverse effect on the economy of India, mainly on the households who are dependent on it. This is a signal that India should look a way to tackle the situation by looking for other destination or negotiating with the already existing countries.

Philippines has also a number of its workers in the Gulf Countries which will also have similar impact like that of India. The Philippine Overseas Employment Administration noted 1.8 million Filipinos were deployed abroad in 2015. Around 43 percent of the job orders were in the service, production, professional and technical sectors in Saudi Arabia, Kuwait, the United Arab Emirates, Taiwan and Qatar. The Oil crisis in the Gulf countries will also have similar effect on the economy of Philippines like that of India. The remittance to Philippines which was $28.4 billion in 2014 has show very slight increment to $28.5 billion in 2015.

China and Mexico derive foreign remittances mainly from USA which is also a major source of remittance for all of the four countries. The US is still the major remittance source country in the world with $56.3 billion in 2014. The relative stability of the US economy will have a stable impact on the remittance coming to China and Mexico. The remittance to China has shown a big leap from $29.9 billion to $63.9 billion. Mexico's remittance has also a positive increment from $24.5 billion to $24.8 billion. This indicates that countries which are dependent on Gulf Countries are more likely to be affected than other countries, which mainly includes India and Philippines. The table below shows the details.

**Table 1: Volume, GDP ratio and growth rate of remittance**

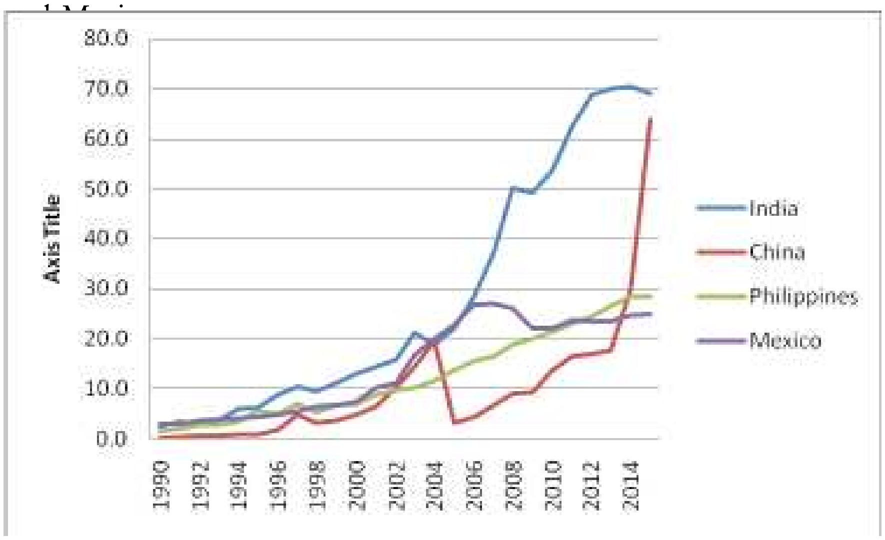
| Country | Volume of Remittance in 2015 in billion $ | Percentage share of remittance from the world (%) in 2014 | Remittance GDP ratio (%) in 2014 |
|---|---|---|---|
| India | 72.2 | 12.41 | 3.43 |
| China | 63.9 | 10.98 | 0.28 |
| The Philippines | 29.7 | 5.10 | 9.97 |
| Mexico | 25.7 | 4.41 | 1.88 |
| World | 581.6 | 32.92 | _ |

*Source: World Bank Database*

Remittance as percentage of GDP ratio is another measure of the size of remittance flowing to a country. Countries with relatively large economy are more likely to have a small percentage of remittance to GDP ratio. For instance India and China, the huge recipients of remittance in the world, have low remittance to GDP ratio because of the big size of their economy. Remittances as a share of GDP are larger in small economies, particularly in Central Asian countries and Pacific Islands. For instance, remittance makes up 49 percent of GDP in Tajikistan and a quarter of GDP in Tonga (Dilip, Supriyo, Sonia, Kirsten, William, & Hanspeter, 2016). High dependency on remittances increases countries' vulnerability to shocks from remittance-sending countries.

The global trend of remittance shows an increasing trend but at a lower rate. The rate for developing countries is higher than the global rate. The growth rate of remittance which was 3.3% in 2014 has reduced to -1.7% in 2015 which is forecasted again to show a positive growth rate of 3.7% in 2016 (World Bank Group, 2016). The causes for the low growth rate in 2015 were identified to be difficult economic conditions in major remittance-source countries and the appreciation of the U.S. dollar against other remittance source currencies (eg. Rubles and Euro). The trend of remittance from 1990-2015 for the four selected countries is shown in the figure below.

Figure 1: Trend of Remittance for the India, China, Philippines and Mexico




*Source: World Bank Database*

## Remittance and Financial Sector Development

The growth and development of Banks and financial institutions in a country depends on income earned by the people and capital flows. Financial sector development, which makes remittance flow easier and cheaper, stimulates remittances (IMF, 2005). Ayadi *et al* (2013) and Garcia and Lin (1999) found that income and capital flow are central to banking sector development. Capital flows have an income effect which stimulates savings in the form of bank deposits and eventually availability of credit. This study focuses on credit supply factors which affect the credit growth and as a result availability of bank loans for investment purposes. Aggarwal et al (2004), Beck et al (2007) and Gupta el al (2009) argue that remittances support banking sector development in the recipient country. Remittance increases the culture of use of financial institutions by recipients and increases the propensity of saving and availability of credit by financial institutions.

In the table below is indicated some of financial sector development indicators. In terms of number of commercial banks per 100,000 people, Mexico has the highest (14%) followed by India (13%). China has very high number of adults with account at a financial institution which reaches upto 80%. In India and China, the number of foreign banks operating in their country is high. This facilitates the remittance business by linking individuals living abroad and at home. In addition to this, these two countries have a number of overseas banks operating abroad. These banks are mostly established where their own citizens live in abundance.

For instance banks in India have banking operations in many foreign countries and are leveraging their branch networks abroad to source remittances. India is getting a huge remittance not only because of the large number of migrants abroad, but also because of the paramount roles played by the banks and money transfer operators (MTOs) to leverage remittance. A report from this, a study in India shows that 15 private and public sector banks have established branches in 30 different countries of the world and in every continent (Afram, 2012). The banks are established in countries where Indians are living in masses. This strategy has helped India to maximize remittance income from all over the world. These banks also provide a special saving account for Indians living abroad known as Non-Resident Indian (NRI) account.

The table below summarizes financial sector development by taking some financial indicators in the selected countries. It shows how the countries are using their financial institutions at home and abroad to leverage foreign remittance. To maximize potential remittance income the countries should work more to develop their financial sector both at home and abroad. This will reduce cost of sending remittance with advanced mode of transaction. The result below shows that India has done better in terms of expanding its home banks abroad but still has to do a lot in expanding the sector at home. China is better in terms of financial sector development at home but also accessed its banks where its citizens live in number. Philipinnes is also better performing in terms of overseas banks which has reduced the obstacles in remittance sending with the home financial sector still has . Data is unavailable for Mexico regarding its oversears banks but it has a number of foreign bank operating in their countries facilitating the remittance business.

**Table 2: Some Indicators of financial sector development**

| Country | Commercial bank branches per 100,000 adults, 2014 | Account at a financial institution (% age 15+) (2014) | Number of Home-grown banks in foreign countries | Number of foreign banks at home country |
|---|---|---|---|---|
| India | 13 | 35.2 | 183 (2015) | 325 ( as of 2015) |
| China | 8.1 | 78.9 | 76 (2014) | 1000 (as of 2014) |
| The Philippines | 8.8 | 26.6 | 18 (2013) | 28 ( as of 2015) |
| Mexico | 14.9 | 27.4 | - | 10 (2012) |

*Source: World Bank & IMF Database*

## Cost of Sending Remittance and Financial Sector Development

Cost of sending remittance is one of the factors affecting the inflow of remittance. Case studies have shown that remittances flows are very sensitive to costs and are likely to increase significantly as costs go down (Gibson, McKenzie and Rohorua, 2006). Globally cost of sending remittance is declining contributing to the high inflow of remittances. The cost of sending remittance is commonly measured interms of percentage payment out of every $200 sent abroad. In the second quarter of 2015, the Global Average Cost of sending remittance was recorded at 7.78% (World Bank, 2016) . Comparing the four countries selected for this study, the cost of sending remittance is high for China and it is the lowest for India. India is highly benefiting from the low cost of sending remittance, which has made remittance much higher compared to foreign direct investment. For instance, according to the report from World Bank in the second quarter of 2015, the average cost of sending remittance from UAE (where millions of Indians live) to India was only 2.8%. By taking the United States (US) as a reference country, the average cost of sending remittance from the US to India is the lowest followed by Mexico and the Philippines.

**Table 3: Cost of Sending Remittance % from every $200 sent (2015)**

| Country | Average Cost of Sending Remittance | Average cost of sending Remittance from USA |
|---|---|---|
| India | 4.75 | 3.25% |
| China | 10.38% | 8.4% |
| Philippines | 5.68% (1st Q, 2016) | 5.76% |
| Mexico | 5.3% | 4.97 |
| World | 7.8% | |

*Source: (World Bank, 2016)*

## Correlation of International Remittance and Financial Sector Development

Remittance flow to a country is likely to grow with the financial sector development of that country. From the data collected for the selected countries, the correlation coefficient between log of remittance and financial sector development measured in terms of bank credit to GDP ratio was calculated. Based on the result, there is high positive correlation of remittance and bank credit to GDP ratio for India and China, but the coefficient for both Philippines and Mexico shows poor correlation with positive results. The relationship between FDI and financial sector development was also considered to compare it with the correlation coefficient of remittance. The result in three of the four countries selected shows better correlation of remittance with financial sector development than foreign direct investment. This might be due to the stable and non-volatile nature of remittance relative to FDI, which goes together with the development of financial sector and economic growth of the countries.

**Table 4: Correlation of remittance and Bank Credit GDP ratio (1990-2014)**

| Country | Correlation between remittance and Bank Credit GDP ratio | p - value | Correlation Between FDI and Bank Credit GDP ratio | p - value |
|---|---|---|---|---|
| India | 0.92** | 0.000 | 0.86*** | 0.000 |
| China | 0.89** | 0.000 | 0.77*** | 0.000 |
| The Philippines | 0.24 | 0.25 | 0.37 | 0.06 |
| Mexico | 0.057 | 0.78 | -0.03 | 0.86 |

*** Significant at 5% probability level, ***Significant at 1% probability level*

## Empirical Results

The proxy variable used to study financial sector development in this study is bank credit to GDP ratio. The result shows high performance by China which registers a credit to GDP ratio of more than 100 percent. India's bank credit to GDP ratio is very low compared to China and almost at the level of The Philippines. Remittance measured by remittance GDP ratio shows an average of 3.4% for the countries with a ratio of 9% for the Philippines and very low ratio for China with only 0.3%. This small ratio in China is because of the big size of Chinese economy. The size of economy measured by log of GDP and GDP per capita are used as determinants of financial sector development. Log of the GDP is used to control for the gap in the economies of the country. The value is high for China followed by India, Mexico and the Philippines. Inflation also affects the level of financial sector development in the countries. It is measured by the percentage change in the GDP deflator. The result indicated high inflation rate of 12% for Mexico, the other countries have fairly small inflation rate. Export to GDP ratio and FDI to GDP ratio measure the openness of the economy of the countries. The values for these two variables show an average of 25% for export to GDP ratio and 2% for FDI to GDP ratio. The detail results of all the variables under the designated period are provided in the table below.

**Table 5: Descriptive Statistics of Financial Sector Development Indicators (1990-2014)**

| Variable Name | India | | China | | Philippines | | Mexico | | Average of the four | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | Mean | SD | M | SD |
| Bank Credit to GDP (%) | 34.74 | 11.65 | 109.46 | 16.85 | 33.09 | 8.59 | 21.49 | 5.44 | 49.6 | 7.50 |
| Log of remittance | 10.21 | 0.47 | 9.62 | 0.6 | 9.94 | 0.38 | 10.3 | 0.35 | 9.95 | 0.44 |
| Log of GDP per capita | 3.46 | 0.15 | 3.65 | 0.28 | 3.67 | 0.07 | 4.16 | 0.03 | 3.83 | 0.01 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Log of GDP | 12.54 | 0.21 | 12.85 | 0.31 | 11.59 | 0.13 | 12.19 | 0.08 | 12.3 | 0.24 |
| Inflation | 6.84 | 2.76 | 5.36 | 5.24 | 6.74 | 4.66 | 12.04 | 9.92 | 7.74 | 4.36 |
| Export to GDP ratio | 15.66 | 6.07 | 23.25 | 6.02 | 38.67 | 8.02 | 24.95 | 5.70 | 25.6 | 4.64 |
| Log of FDI inflow | 9.67 | 0.76 | 10.78 | 0.52 | 9.14 | 0.31 | 10.18 | 0.31 | 9.94 | 0.44 |

## Result from Model

Results from financial sector development equation with pooled OLS estimation are reported in the table below. Based on the model, the major focus is to find out the relationship between remittance and financial sector development by controlling the effect of other variables. The t-statistics on remittances coefficient indicates that there is a statistically significant positive relationship between remittances and financial sector development in the selected countries. Log of FDI also shows a positive correlation but it is statistically insignificant. Inflation and exports have a negative impact on the financial sector development.

**Table 6: Results from the model**

| | Coefficient | Std. Error | t | Sig. |
|---|---|---|---|---|
| (Constant) | -11.742 | 178.130 | -.066 | .948 |
| Log of remittance | 18.976** | 7.983 | 2.377 | .029 |
| Log of GDP | -35.234 | 37.429 | -.941 | .359 |
| Inflation | -0.105 | .208 | -.507 | .618 |
| Log of GDP Percapita | 80.327 | 66.177 | 1.214 | .241 |
| Export to GDP ratio | -0.742*** | .210 | -3.533 | .002 |
| Log of FDI | 4.430 | 3.387 | 1.308 | .207 |

R Square 0.945 Adjusted $R^2$ 0.926

*** Significant at 5% probability level, ***Significant at 1% probability level*

## Conclusion

Financial sector development is one of the necessary conditions to facilitate and maximize remittance inflow. This analysis assesses the extent of association between remittance and financial sector development in the top remittance receiver countries of the world. The selected countries; India, China, Philippines and Mexico receive more than 30% of the world's remittance flow. Financial sector development in the selected countries was measured using a proxy variable of bank credit to GDP ratio. The result from the correlation coefficient indicated that there is high correlation between remittance inflow and financial sector development in the selected countries. Pooled Ordinary Least Square regression was run to estimate financial sector development model. According to the result remittance affects financial sector development positively and significantly.

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# PHILOSOPHY OF SOCIAL COGNITION: A METHOD OF NEURO-CORELATIVE CONSCIOUSNESS

**Vishnu A.S***

**Abstract**

*Social Cognition is an attractive field of philosophy that aims to understand how human consciousness support the brain activities underlying the social behaviour. The 'cognition' means knowing in the widest sense through human perception or intuition. The cognitive science, from the perspective of philosophy, was associated with the idea that we can understand the mind without thinking about its biological frame to maintain a social structure. Neuroscience is an absolutely fundamental part of cognitive science. Social cognitive neuroscience is a burgeoning interdisciplinary field which combines the tools of cognitive neuroscience with theories and questions from various social sciences faculties. Thus there is a need of applying the method of neuro-correlative consciousness for the understanding of social cognition.*

***Key words:*** *Cognition, human situations, consciousness, cognitive science, neuro science, neuro-correlative consciousness.*

A recent definition states that "Social cognition explains the mechanisms of social behaviour using concepts and methods shared with related fields of cognitive psychology and cognitive science" (Strack, 2009. p.49). Social behaviour deals with our family structure, relationships, work environment and life issues. Cognitive psychology is the study of

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mental process such as attention, memory, perception, creativity and thinking. Cognitive science is the study of mental organisation and brain functions. Today, modern sciences declares that mind and brain are intimately connected both anatomically and functionally.

The mind and the brain are two entities linked with our thoughts, feelings, and all other manifestations of the mind seems to be products of the activities of neurons. Human beings are, therefore much more than their brain functions and there is a set of neural processes in the mind and body. The human brain and mind are two different substances that interact with each other according to Cartesian dualism. The brain is the most important factor in shaping individuality, identity, and agency. The brain is not an isolated, self-sustaining organ but an enabling or relational organ that shapes and is shaped by the interaction.

The study of social cognition is concerned with different levels of social organisation and different human disciplines on cognitive science. It deals with processing of information related to an account of how the human mind is organised into different cognitive systems and an account of how information is processed in individual systems. The different cognitive systems associated with physical symbol system hypothesis originally developed by computer scientists. The individual system deals with the language learning, object perception and critical observations. This study has been revitalized in recent years by the emergence of brain imaging techniques leading to the new discipline of social cognitive neuroscience.

**Objectives/Hypotheses**

To introduce the philosophy of cognitive science

To analyze the process of cognition with neuro-science

To explore the significance of social cognition

To understand the method of neuro-correlative consciousness

**Background of Cognition**

Social interaction is an essential aspect of human being. Through communication we form a sense and develop impressions of other people. Individual cognition is a term referring to the mental processes involved in gaining knowledge and comprehension. These processes include thinking, knowing, remembering, judging, and problem-solving. These are higher-level functions of the brain and encompass language, imagination, perception, and planning. Cognition is defined as "mental action or process of acquiring knowledge and understanding through thought, experience, and the senses" (http://www.wikipedia.org/cognition). Usually we think of cognition in third–person terms, in terms of how people acquire, represent, store, and retrieve knowledge about the world outside themselves. This is also true for social cognition, which has to do with how we perceive, remember, and think about other people, their behaviours, and the situations in which we encounter them. When Humans are considered, cognition also turns inward, representing peoples' knowledge about themselves. It is this uniquely human ability, the capacity to experience ourselves.

Humans may be the only living creatures who can reûect upon and represent the character of those experiences precisely and clearly. Having clear insight into the situations that make one feel good or bad allows an individual to much more efûciently seek out or evade similar situations in the future. This insight also allows individuals to communicate their preferences and dislikes to others. Most social interaction is also strongly influenced by our more abstract beliefs about who we are interacting with rather than the actual behaviour or motivational state of the other. When we are interacting with another person, we assume that they have minds like our own and try to predict their behaviour on the basis of the contents of their minds: their beliefs and desires.

This is referred to as having a 'theory of mind', taking an intentional stance, or mentalizing.

The process of mentalizing is a function of imaginative mental activity about others or oneself, namely, perceiving and interpreting human behaviour in terms of intentional mental states (e.g. needs, desires, feelings, beliefs, goals, purposes, and reasons). Mentalizing is the process by which we make sense of each other and ourselves, implicitly and explicitly, in terms of subjective states and mental processes (Widiger,2012). It is a profoundly social construct in the sense that we are attentive to the mental states of those we are with, physically or mentally.

**Power of Scepticism**

Epistemologists debate the limits, or scope, of knowledge. The more restricted we take the limits of knowledge to be, the more sceptical we are. Two influential types of Scepticism are 'knowledge Scepticism' and 'justification Scepticism'. Knowledge Scepticism in its strongest form implies that it is 'impossible' for anyone to know anything. A weaker form would deny the actuality of our having knowledge, but leave open its possibility. Many sceptics have restricted their Scepticism to a particular domain of supposed knowledge. :- Knowledge of external world , knowledge of other minds, knowledge of the past or the future, or knowledge of unperceived items. Such limited Scepticism is more common than unrestricted Scepticism in the history of epistemology.

Just as in epistemology we need to distinguish justification from truth, since either of these might apply to a belief in the absence of other. What is distinctive of justification is then the implied evaluation of the agent. To say that a belief is justified or to say that an action is to justified is to make or imply a judgement on the subject and how he or she has arrived at that action or belief.

Scepticism can be either partial or total, either practical or theoretical, and, theoretical, either moderate or radical, and either of knowledge or of justification. Scepticism is partial if it is restricted to particular fields of beliefs or proportions. Scepticism is total if there is no restrictions. Scepticism is practical if it is an attitude of deliberately withholding both belief and disbelief, accompanied perhaps by commitment to a recommendation for people generally, that they do likewise. Scepticism is theoretical if it is a commitment to the belief that there is no knowledge of a certain kind or of certain kinds. Such theoretical Scepticism comes in several verities. It is moderate if it it holds that there is no certain super knowledge. It is radical if it holds that there isn't even any ordinary knowledge at all. Thus the power of Scepticism would be undermined to the extent that cognitive scientists produced theories and explanations that were productive and successful when judged by the criteria operative in other scientific domains.

**Human Consciousness**

Consciousness is the quality or state of awareness, or, of being aware of an external object or something within oneself. "Consciousness is defined here as a stable information processing system with specific functions and emergent operating properties, all of which are necessary to maintain system stability".( http://www.wikipedia.org/consciousness) In Indian classical philosophy, the Advaita system teaches that the ultimate consciousness appears as modified into subject, object and process of knowledge. We have to say these three as:

Subject - Cognising consciousness which is determined by the internal organ.

Object - Consciousness determined by the object cognised.

Process of Knowledge – The cognitive consciousness determined by the modification of the internal organ.

All of these functions and operating properties are working in human consciousness. Although the ultimate consciousness is one, undivided, pervading all things and enlightening all, it comes to be distinguished into knower, known and knowledge on account of the reflection of internal organ ".Here is by no means exhaustive list: we think; we perceive the external world by means of our senses; we experience pain and other sensations when our bodies are appropriately stimulated; we experience moods such as depression and light-heartedness; we experience emotions such as anger, joy and jealousy; we are conscious both that we think and feel and how we specifically think and feel; we act on the basis of our decisions and intentions, which in turn often reflect how we perceive the world to be, what we think and what we want; when we act we are conscious of what we do without having to rely on our external sense organs; we recollect our past thoughts, actions and experience; we imagine particular scenarios; and so on".(M.J,2016)

The human consciousness looks upon reason as the final arbiter of what is true and good, it insists that reason should fully recognize the emotional side of human beings. But the functions of consciousness are to set free the emotions from cramping and irrational restrictions. Humanistic concept of consciousness is natural as the totality of being and energy which exists independently of any mind. As the facts of science, human consciousness is indivisibly conjoined with the functioning of the brain which is an inseparable unity of body and personality. It is believed that human beings possess the power or potentiality of solving their own problems, through reliance primarily upon reason and scientific method applied with courage and vision. The consciousness which is attained by the individual is for the maintenance of a good social life combining personal satisfactions and continuous self-development with intelligence.

Socrates emphasized the importance of "knowing thyself." (Thilli,1993) We develop our self-knowledge through self-perception. Self-perception is a unique social cognitive process as the self is simultaneously the perceiver and the perceived. Our sense of self relies partially on seeing the difference between knowledge of the self and the knowledge we have about others. The self is a unique cognitive structure with unique mnemonic or organizational elements. In self-perception, the participants tended to select more positive adjectives and fewer negative adjectives as self-descriptive. Self-awareness refers to the extent to which we are currently fixing our attention on our own self-concept. When our self-concept becomes highly accessible, we experience the publicly induced self-awareness known as self-consciousness. Not all aspects of our self-concept are equally accessible at all times, and these long-term differences in the accessibility of the different self-schemas help to create individual differences in terms of our current concerns and interests. Self-consciousness affects people in varying degrees, as some people are constantly self-monitoring or self-involved, while others are completely oblivious about themselves.

Philosophers and cognitive scientists distinguish between two kinds of self-consciousness, private and public. Private self-consciousness is a tendency to self-examine one's inner self and feelings whereas Public self-consciousness is an awareness of the self as it is viewed by other people. A great deal of our waking lives is spent navigating the social world with others people, and many of the processes already reviewed presumably evolved, in part, to facilitate social living. We coordinate our activity with people around us. We use feedback from others to understand ourselves, make sense of others based on our self-theories, and develop personal attitudes about social groups. We also care deeply about being connected to our loved ones, not being rejected, and being treated in a fair and trustworthy manner in our interactions with strangers. Together, these processes contribute to a coherent social world in which individuals continuously make adjustments to conform to the norms of other individuals and society more generally.

**Social Cognition**

Social Cognition deals with how people process, store, and apply information about other people and social situations. It focuses on cognitive processes in our social interactions. The way we think about others plays a major role in how we think, feel, and interact with the world around us. Although social cognition has come to encompass a broad range of mental processes, but in the strictest sense social cognition is about understanding other people. In some ways, other people are like objects that have various physical characteristics. "Unlike objects, other people have minds and experiences that are not directly open to inspection. There are two ways to try to understand the experience and the mind of another. One of these ways is addressed by work on "theories of mind".

Theories of mind research analyses the ability to reason from one's theory of how minds operate and how social situations affect mental states in general, in order to represent the mental state of a particular individual given a particular situation" (Starck,2009). Thus, what mediates these insights is our knowledge of social rules and norms. However, there are also times when our insight feels unmediated, when it feels like we are seeing the world directly through another person's eyes and feeling the world through their visceral reactions. In this case, we feel like we have an insider's perspective on what it is like to be that person. The second way of knowing others is far more embodied than logical and is more appropriately referred to as empathy than as theory of mind. Empathy has been associated with increased helping and social support; however, this consequence of empathy requires the individual to maintain an awareness that the emotional response is an embodied simulation of another person's experience, not to be confused with one's own experience.

A perennial issue in the theories of mind has been the mind-body problem in which, how the mind is related to the body. It is the problem of whether mental phenomena is related physical phenomena. It is the central metaphysical problems in theories of mind. There are other problems including the free will problem, the problem of personal identity and the problem of self-deception. In the mind-body dualism there is the doctrine that the soul is distinct from body. It is found in the philosophy of Plato and is discussed throughout the history of philosophy.

Descartes, the father of modern mind-body problem maintained that the essence of physical is extension in space. Minds are the substances that are not extended in space, and thus are distinct from any physical substances, the essence of a mental substance is to think. This two-fold view is called Cartesian dualism. Descartes was well aware of an intimate relationship between mind and the brain.

**Functionalism**

Functionalism as one of the theories of mind, viewed that mental states are defined by their causes and effects. The mental states considered that the states of thinking and feeling really exists. The nature of mental states distinguished into sensations, perceptions, beliefs, desires, intentions, fears and hopes. Functionalism holds that what make an inner state, mental is its relation to sensory stimulation (input), to other inner states, and to behaviour (output). For example, what makes an inner state a pain is its being a type of state caused by pinpricks, sunburns and so on, a type that causes other mental states (worry) and a type that causes behaviour (saying 'ouch').

Attitudinal states are one of the mental state which include beliefs, desire, intentions, hopes and fears. These are subjects of experience by using statements and are called 'propositional attitude states'. The mental states such as 'fear' are the verbs of the propositional attitude states. It is because each of them is considered to express a particular attitude which a subject may have towards a proposition. For example:

1. John believes that it is raining.
2. Mary hopes that she has an umbrella.
3. Seetha fears that she will get wet.

In each case, the 'that' clause expresses the propositional content of the attitudinal state which is being ascribed.

Propositional attitudes also are identified with the functional states – an inner state is a desire for water partly in virtue of its causing a person to pick up a glass and drink its contents when the person believes that the glass contains water.

Behaviourists maintain that what it is to ascribe a mental state to a person is nothing more nor less than to ascribe to that person some appropriate 'behavioural disposition'. A 'behavioural disposition', in the sense understood here, is a person's tendency or propensity to behave in a certain way in certain specified circumstances. Thus for instance, a logical behaviourist might suggest that to ascribe to John a belief that it is raining is simply to ascribe to him a disposition to do such things as:

1. Take an umbrella with him if he leaves the house
2. Turn on the wind screen wipers if he is driving the car
3. Assert that it is raining if he is asked what the weather is like –and so on. The list must be an open-ended one to solve the problems. There is 'attitudinal states' and 'sensational states', such as pain and nausea.

## Representationalism

Representationalism appeals that there is a world of mind-independent objects (trees stars' people) which cause us to have experience. John Locke, a proponent of empiricism regarded ideas as mental objects and some ideas as being 'representations' of other entities. His own view was that we can think about non-mental entities only by being aware of mental entities that represent those non-mental realities.

The attitudinal states of mental states are contentful because they are 'representational' states. Desires are representational states, although they do not represent the world as 'being' a certain way but, rather represent how their subject would 'like' the world to be. Thus, for example, Johns believe that snow is white represents the world as 'being' a certain way. The difference between beliefs and desires is often described as a difference in their 'direction of fit' with the world. (see further John R Searle "Intentionality" p 7-9).

Let us think in virtue of what does a particular belief represent the world as being a particular way? For example, Consider the way in which the pattern of rungs in a cross-section of a tree-trunk serves to represent the age of the tree in years. It serves to do so because there is a causal relationship between seasonal climatic variations and variations in the organic growth of the tree, which has the consequence that a new ring is laid down during each year of growth. It seems, then, that the trees ring-pattern represents the fact that the tree is a certain number of years old because the tree's being that many years old is the cause of its having that ring-pattern. We might try to extend a causal account of representation of this sort to the case of belief.

## Neuro-philosophy

Neuro-philosophy or philosophy of neuroscience is the interdisciplinary study of neuroscience and philosophy that explores the relevance of neuroscientific studies to the arguments traditionally categorized as philosophy of mind. The philosophy of neuroscience attempts to elucidate neuroscientific methods and results using the conceptual rigor and methods of philosophy of science. Neuro imaging techniques have made it possible to study brain activity at the level of a single neuron. Areas in brains are involved in particular cognitive tasks. The question is 'How they do it?'. Particular types of neurons in particular areas of the brain respond very selectively to a narrow range of stimuli. The neural representation of self is involved in social deficit. The sense of self and how you get to know yourself is primary. Then we investigate how you get to know others. We consider whether learning about others and learning about ourselves are similar process that involve the same neural substrates. Understanding ourselves and other people, however, is only part of successfully navigating of social worlds. We also need to learn social rules and use them to guide our behaviour.

It has been widely speculated that neurons represent a basis for understanding the behaviour, intentions, and experience of others which has not yet been demonstrated empirically. When an individual acts and when the individual observes the same action performed by another, the firing of neurons occurs. One can imitate without understanding and it is associated with the experience of understanding the perspective or experience of another. Based on the earlier section that focused on understanding others, one would expect that if imitation promoted or served as a form of embodied understanding of another's mental states, it would lead to increased activity in the medial front parietal network. Instead, imitation is associated with a lateral front parietal network consistent with externally-focused understanding of physical action but not with internally-focused processes such as mental state representation.

Before the in depth analysis of neurons, scientists believed that our brains use logical thought processes to interpret and predict actions of other people's. Now, many have come to believe that we understand others by feeling not by thinking. For neurons appear to let us "simulate" not just other people's actions, but the intentions and emotions behind those actions. Your neurons for smiling fire up when you see someone smiling which creates a sensation in your own mind of the feeling associated with smiling. You don't have to think about what the other person intends by smiling. You experience the meaning immediately and effortlessly. Mirror neuron research, therefore, is helping scientists reinterpret the neurological underpinning of social interactions. These studies help us to explore the philosophical aspects which leads to:

"Insight into how and why we develop emotions for others."

More knowledge regarding brain disorders characterized by poor social interactions.

**A new theory concerning evolution of language.**

New therapies for helping victims of stroke for regaining their lost movement. etc.

The neuron system appears to allow us to decode (receive and interpret) cognitive stimuli. The better we are at interpreting stimuli, the more active our neuron system becomes. V.S. Ramachandran, one of the prominent neuroscientist has speculated that neurons may provide the neurological basis of human self-awareness. In an essay written for the Edge Foundation in 2009 Ramachandran gave the following explanation of his theory: "... I also speculated that these neurons can not only help simulate other people's behaviour but can be turned 'inward'—as it were—to create second-order representations or meta-representations of your own earlier brain processes. This could be the neural basis of introspection, and of the reciprocity of self-awareness and other awareness. There is obviously a chicken-or-egg question here as to which evolved first, but... The main point is that the two co-evolved, mutually enriching each other to create the mature representation of self that characterizes modern humans" (Ramachandran, 2009).

**Social cognitive neuroscience**

Social cognitive neuroscience is a vibrant new area of research. The amount of research and the number of scientists conducting research at the interface of the social sciences and neuroscience have increased by an order of magnitude since the ûrst review of social cognitive neuroscience. Social cognitive neuroscientists are just beginning to research the neural systems that help us to make decisions. A recent perspective on the problem of how we make decisions using social knowledge comes from a new field called Neuro-Philosophy. Insights into how the brain supports our ability to know ourselves, to know other people, and to make decisions about our social worlds paves the path to a more examined life. Several exciting aspects of social cognitive neuroscience research are providing new discoveries, generating original ideas, and challenging conceptions of existing social science perspectives. This is exactly what interdisciplinary cross fertilization should do.

The distinction between the two types of social cognition, automatic and controlled has long been a contributor to social philosophical research. Identifying the neural bases of this distinction will help social cognitive neuroscience research to draw social processes at their joints, just as it has helped social psychologists in the past. Counter to to automaticity and controlled social cognition, the distinction between internally-focused and externally-focused social cognition has no clear theoretical forerunner in social psychology, but emerges unmistakably from social cognitive neuroscience research. Hopefully, the identiûcation of this core-processing distinction can contribute much to the development and the enrichment of new theories and existing theories within the social sciences, revealing that social cognitive neuroscience can be both a science of new techniques and a science of new ideas.

**Method of Neuro Correlative Consciousness**

The Brain is a part of nervous system. The nervous system is comprised of two systems namely the central nervous system and the peripheral nervous system. The central nervous system consists of the brain and the spinal cord whereas the peripheral nervous system is associated with the nerves that serve to connect the central nervous system with the sense organs. The peripheral nervous system can further be classified into somatic and automatic nervous system. The somatic nervous system is associated with voluntary actions whereas the automatic nervous system is associated with homeostasis. That is the regulation of internal bodily conditions beneath the level of conscious control including control of breathing, digestion, heart rate and so on. Like all the complex biological systems, the brain is also made up of cells. The cells are the basic unit of life. There are various types of cells in the brain, but the type that receives most attention are nerve cells which is most directly involved in cognition. There are approximately 100000 billion neurons in a normal human brain. Each of the neurons are connected with many other neurons which give raise to a network of 100 trillion connections. Considering the colossal amount of these numbers, it is routine for the brain to be described as the most complex structure in the known universe.

There are many type of neurons. We can classify them in relation to their function. The motor neurons carry signals from the central nervous system to the muscles, resulting the body movements. Sensory neurons carry signals from the sensory systems to the central nervous system. Interneurons connect neurons in the central nervous system with other neurons, facilitating communication between them. This variety of functions explains why neurons can differ so much in their shape and size. For example, a neuron that carries signals from the central nervous system to a part of the body, so controlling its movement, might me more than a meter in length, whereas some inter neurons are less than 1 millimetre across. Here is the correlation. All neurons reflect their communicative behaviour. The stimulation is the neurons input and that input is the product of external factors impinging the neuron. A neuron can carry signals of varying strength or significance, as it can generate a range of different patterns of action potential. Action potentials are generally conceived of by neuro scientists as carrying information. There is a rich philosophical literature concerned with explaining how mental representations come to mean what they mean or have the content that they have. Action potentials constitute the neural realisation of at least some mental representations. The neurons in the brain do not form an undifferentiated mass. They are organised into circuits that are in turn grouped into higher levels units. The brain is composed of a number of distinct units that are different from one another in both their appearance and function. These functions are typically characterised in terms of distinct cognitive and behavioural capacities.

The method of neuro correlative consciousness modifies many functions of the brain, mind and the body. These activities involving interactions and exchanges among billions of neurons give shape to the mind. In other words, mental activity is basically brain activity. It is the result of interactions among the billions of neurons in the brain. So like the brain the mind too is an ensemble of different modules or real faculties.

## Conclusion

Exiting insights into how the brain supports our ability to know ourselves, to know other people, and to make decisions about our social worlds have already resulted, though we still have a long way to go. When we try to understand other people, we are faced with the difficult task of trying to reason about their mental states, which are not directly accessible to us. We often contrast self-perception and the perception of other people. These processes are not always completely distinct. The intrinsic relation between these two types of perception is illustrated by their neural commonalities. While understanding ourselves and other people, we need to understand the rules for social interactions and how to make decisions to satisfy the multitude of rules that govern a particular social interaction. The process of making social decisions engages a large network of neural structures. Some of the brain regions are activated in relation to the three main process of social cognition: self-perception, person-perception and social-perception. Knowledge may be tempting to describe these regions as "social brain". The interdisciplinary perspectives of social cognitive neuroscience and neuro-philosophy will help us to explore deeper understanding the reality of the processes that are most fundamental to our social behaviour.

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# ROLE OF CARE IN HEALTHY AGEING

**Johnson M M* & Sobha B Nair****

## Abstract

*Ageing is a natural process. Modern industrial and post industrial culture foreground the validity and energy of the young as against the wisdom and experience of old age. Elderly have been deprived of their traditional role and the new status that has been assigned to them is that of a marginalized life of dependence, isolation, abuse and neglect. One of the biggest challenges that confront the modern society is the inadequancy of effective provisions for care to the aged. Care giving as a phenomenon has increasingly come into focus to keep pace with the demographic developments in the world. The best option could be to strengthen the family and try to motivate the family members to take care of the aged.*

**Key Words:-** Old age, Elderly Problems, Support Systems, Healthy Ageing

The human body is the most wonderful machine which nature has ever produced, but it also wears down with use and time .Ageing is described as a progressive deterioration of the physical and mental functions after the growth period is over. The rise in the proportion of ageing population represents one of the most significant shifts in the history of world population and "Population ageing" is one of the most discussed global phenomena in the present century.

The ageing of the population means an increase not in the number

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but an increase in the proportion of the aged in the total population.

The UN has declared 1999 as the international year of older persons and October 1st is celebrated as Aged people's day every year. The percentage of the older people in the world population is expected to increase rapidly from 9.5 in 1995 to 20.7 in 2050 and to 30.5 in 2150. According to the assessment of United nations , only western Europe in the whole world had a proportion of older people above 15% in 1950. In 2000, all the three regions of Europe except Eastern Europe registered a proportion above 20%. In other words , one fifth of the European population is of the elderly. In the next 50 years the proportion of the aged is expected to grow more rapidly. As of today, Southern Europe has the highest proportion of the elderly people( 21. 5% ) and it is expected to reach 37.2% by 2050. In developing countries one in every 12 is now an older person and the number is expected to grow to one in five by 2050. In developed countries the ratio is already one in five now and it is projected to go up to one in three by 2050.

Two most populous countries (China and India ) will share the major proportion of the world's elderly . Currently, one in ten Chinese is elderly and this ratio is expected to reach one in four by 2050: similarly one in twelve Indians is an elderly and this ratio is likely to be one in five by 2050. In absolute terms, India's elderly population is expected to increase from 76 million in 2000 to 327 million in 2050 and that of China from 127 million to 397 million during the same period.

India is experiencing unprecedented demographic changes in recent times with wide implications for the future. Undoubtedly, such changes will alter the composition of the population in the coming years. The proportion of the elderly is on a rapid increase and will continue to in the future as well. Currently the growth rate of elderly population is three times higher than the overall population clearly implying that ageing of the population will be the major challenge in India for the coming decades. In addition, all the states in the country are currently experiencing rapid fertility changes resulting in fewer and fewer children born in the country. The result from the 2011 census also reveals a decline in the child population. This is for the first time in the country that the number of children in the 0-6 age group has registered negative growth in the independent India. This is expected to alter the age composition significantly in the coming decades.

The data from 2011 census revealed that there are 104 million elderly in the country constituting 8.6 percent of the population. The United Nation Population Division has projected that elderly population will reach 11 percent by 2025 ( Unite nation Population Division, 2013). India is expected to have around 157 million elderly 60 years and above by then.

Kerala is characterized by heavy outmigration and high literacy rate, remarkable achievement in family planning and health education. As a result, the birth rate and the death rate have decreased. According to 2011 census Kerala had 33.40 million persons and 4.18 million above the age of 60 i.e. 12.6 percent of the total population of the state.

Kerala's population is ageing more rapidly than in other Indian states and projected 6.5 million in 2021 9.1 million in 2031 and 11.72 in 2051. Kerala very appropriately fits the situation both of "ageing and the base" and "ageing at the apex". The former occurs when there is a steep fall in the birth rate, decreasing the proportion of children in the population and the later takes place when the mortality at older ages decline, Thus increasing the proportion of the aged in the population.

One of the biggest challenges that confront the modern society today is the provision of adequate and effective care to the aged. Today in the modern society where economic factor is the prime motivating factor and life guiding principle for many, lives and relationships will be sacrificed for one's pleasures, comfort and luxury. The old who have lost all their vigor- physical, mental & economic- can no longer expect respect and dignity. Care giving as a phenomenon has increasingly come into focus to keep pace with the demographic developments in the world. The growing number of older people means increasing demands being made on both informal and formal care. At the macro level, challenges of a growing ageing population has increasingly drawn attention to question about the family's ability to meet the varied needs of older people and the social burden of supporting them. The growing ageing population is likely to affect family structure as well as individual life styles, which, in turn, will influence their conditions. Care and support of older people is an issue of increasing concern in most countries.

Caring for the old is a difficult task. This is because old age is characterised by physical decline, gradual loss of eyesight and hearing power, loss of appetite, chronic illness and pains, all of which demand special medical and personal care. This inevitable situation of looking at old age as nightmare both by the old and by the care takers of the old are the direct outcome of socio-economic transformation of the society.The happy and worthwhile life at the old age will depend on how well a person had anticipated this inevitable stage in his life and had prepared himself to accept and adjust to the hard realities of powerlessness, dependence, and loneliness. It will also depend on the innovative support systems for the elderly offered by the society.

Support system is the major criteria of individual relationship in all the social institutions. During the younger days individual support each other and the resources are plenty with them and as the age increases the support will be withdrawn as the resources are diminished during this time. The old age see withdrawal of support from many direction which will tilt the balance of the person and tend to change their attitudes towards the various pivotal elements of the family. The systems which were giving the supports also changes their attitudes and hence the whole support systems get a reshaping and remoulding during the old age. The support systems can be classified mainly as three. They are a) family, b) community and c) Govt.

**Community Care**

A community is known by the way it treats vulnerable sections of society such as the elderly. Traditionally, in India, it has been a part of our culture, for society and the family to take care of older persons. Senior Citizens are held in high esteem and are given priority and respect in all matters. Old age should be the responsibility not only on the family but also of the community and the state

Apart from the main support systems, there are the other support systems for the elderly namely pear groups, neighborhood, institutionalized religion, kins other than the families or relatives among these neighbourhood, religion and relatives form other important support systems. Pear groups are also one of the support systems of the elderly though there is little contradiction in the responses of the old people regarding other support systems they agree that neighbourhood and religion form two important support systems of the old people. Regarding the relatives they give different answers, in the first instance they did not give much importance to relatives whereas later when relatives where combined with neighbourhood , religion and peer group relatives where placed at high esteem.

**Home Help Service**: The motive of the *Home Help Service* is to provide practical assistance and care in their own homes for the elderly, when their relatives are absent or who have no one else to help them. The easy availability of supplemental home- care services for the elderly is of tremendous values. For example, in dual – carrier households where both husband and wife go to work, assistance from persons who would take care of older dependents in need of continuous care make a great difference to the lives of the caring children. Just as crèches take care of children of working mothers , the frail elderly who are capable of mobility, can be left at the day care centers and can be brought home in the evening.The home help services make possible for the elderly to be their homes and in the environment they are most comfortable with instead of using long term institution based nursing care. It allows people to stay with their loved ones.

**iii) Respite Care:** *Respite care* is another key aspect of caring for the older people. It offers the care for a certain period of time beyond the primary care givers. It enables them to perform their everyday duties. If a daughter has primary responsibility for looking after her elderly parent and needs a break, she can arrange for a care worker to take over her duties for a specified period of time.

**iv) The Govt. of India** adopted The National policy on Older persons ( NPOP) recognize the importance of the NGO sector to complement the Endeavour's of the state in the welfare of older people. The central and state govt. clearly have limitations to promote effective developments at local level, especially in areas involving economic livelihood, health, nutritional status and overall well being. NGOs play a crucial role as their effective partners in the development process that the overburdened Govt. are unable to perform on their own. NGOs are being recognized as catalysts between Govt. and community for carrying out promotional activities for the development of society. NGOs essentially include non-profit, voluntary local or national initiatives such as self Help groups, Community action groups established with the common objective of improving social conditions with in their field of interest experience and interest.

The society could help the old to help themselves; society has to sensitize to the problems of the old and elderly and help them to lead a life of dignity and independence. Alternative living arrangements for the elders could be provided by NGOs

**Old Age Clubs:** Societies and clubs are formed by many active senior citizens in order of carrying their social life to the end. In the 1940's, old age clubs became vehicles of social engineering in many other parts of the world. It reached India by the end of twentieth century. These clubs of Senior Citizens turned out well as it has become a kind in providing social services to deprived citizens. There is no admission fee for any senior citizen. They gather to a place once in every week and share their creativity with everyone. In Kerala the associations of youth such as Nehru Yuva Kendra Sanghatan, National Service Schemes, Youth Federation and Forums and Pain& palliative care centres has been offering comprehensive services to the elderly.

The unavailability of adequate home help services and respite care, have tend to settle the elderly in institutional settings.

**i) Old age Homes** :As and when more and more women, who where supposed to be the traditional care-givers in the family, are now going out to support the family economically reduces the time available to the family to spend together. When modernisation factors and migration has also resulted in the working family members to move away, living older people behind- alone to look after themselves the welfare of older people is gradually shifting from the family to the community and the government. The home environments primarily for those elderly persons who are unable to stay with his or her own family members with one or many reasons. It is an alternative shelter of the house where elderly persons can share their feelings , likings and disliking experiences with each other staying at this type of settlement. Institutional care for the old addresses the question of the feasibility of old age homes as a substitute for traditional family old age security. They live in an institutional set-up following some rules and regulations.

The old person is admitted in the home for the aged and all his needs are met here. His spends his old age in the company of the old, who are similar to him in age, state of health, mental make- up, views of life etc. Old age homes are very useful in the changing context though they are only second best in elderly care.

The establishment of old age homes is a new phenomenon in Indian context. In the background of various problems and structural changes that have taken place in the social set-up of India, old age homes have become important. Old age homes besides providing shelter also help old to lead their last stages of life without any fear of struggling for existence. The establishment of old age homes, in fact, showed a solution to the various problems of aged women in our country. They have actually shouldered the responsibility of taking care of the elderly during old age. Apart from providing shelter and food, old age homes are also imparting training to the healthy and interested old in income generating activities. Homes for the aged in India have been organised mainly by voluntary organizations and philanthropists . Some are supported by the state govt. Traditionally and even now most of them are meant for the poor and discarded. Therefore the approach is generally to provide some service for their survivor. The homes run by the state govt. donot require any contributions from the inmates owing to the pre conditions of their practically having no income.

For certain categories of the old destitute it is inevitable to have such homes for want of care from relations or total absence of near relations. Since such homes are few in number, some destitute and aged infirms, who have no regular means of livelihood, take to begging and often find their way into beggers' homes.

Kerala has the largest number of old age homes in India. Eventhough they admit less than 1% of the old. As per Help Age India directory of the Old age homes published in 1995, Kerala accounted for 93 ( 27%)

out of the 347 homes, and 3386 (22%) out of the 15471 inmates in these homes countrywide. Of late , there has been a spate of old age homes in Kerala. Satistics made available by Help Age India office, Trivandrum, and the Govt. of Kerala's department of social welfare , shows that in 2001, there were 164 old age homes in the state which provided accommodation to around 5200 old persons. 40% of the inmates of these homes were men and 60% Women. Old age homes are of various types- destitute homes, which are totally free of charges to inmates, Pay-and-stay homes and a combination of the two where some optional payments are collected from those who can afford and are willing to pay. 36 homes are for women only and all of them are destitute homes. The Govt. is running old age homes in each districts and Trivandrum has Two. Old age homes are becoming popular in Kerala among both the destitute and the affluent section . In the prevailing context they are necessary and the trend is desirable. There will be needs of more old age homes in the coming decades because of the nuclearisation of families and dwindling of the number of care givers.

**Role of Government**

Old age care should be the responsibility not only on the family but also of the community and the state. The leadership and the integrity role have to be provided by the govt.

The Govt. of India adopted The National policy on Older persons ( NPOP) in January 1999. This policy provides a broad framework for Intersectoral collaboration and co operation, both within the govt. and between the Govt. and Non Govt. organizations. In particular, the policy has identified a number of areas for intervention.ie; Financial security, Health care and nutrition, shelter, education, research, welfare , protection of life and property and role of media.

The government of India though is trying to improve the situation by the welfare measures for the aged, there remains a basic question that how long and how well these welfare measures could solve the problem. The best option could be to strengthen the family and try to motivate the family members to take care of the aged. This would not only help to improve the situation of the aged but also to keep intact our traditional and cultural values. This is very much essential as in many of the developed countries, the problem related to the provision of welfare measures of the aged by the government is prominent.

Though most countries are having national co-ordinating bodies for social services and NGOs are doing laudable services caring for the old people, family care is still considered to be the main source of social protection for the elderly, because the aged expect not only the economic support from the younger generation but more of social and emotional support.

When such a conducive situation prevails, the mental disorders brought about by the fear of death and feelings of dependency, anxiety, boredom, loneliness and helplessness of the elderly will get vanished. So the family members should be made to know about the old people's mental problems.

The feeling of the old that 'I am good for nothing', 'I am not useful to the society' should be removed from their minds. For that one must find out that the possible work that the old people can do and engage them in some productive activities. These should not always be associated with commercial, business or monetary benefits. These could be in the form of social and developmental activities also. This will keep the elders healthy both mentally and physically and by doing so the society will be for old ages also.

Senior Citizens are pillars to our social development. They have worked hard all these years for the development of the nation as well as the community. They possess a vast experience in different walks of life. The youth of today can gain from the experience of the senior citizens in taking the nation to greater heights. Today we need to understand that they want to be bothered. Indian government has made a special cell for senior citizens for providing various benefits through its several schemes.

**Family Care**

There can be no second opinion that home is the best place for the old. It is a place which belongs to him and he belongs to it. All his loved ones, his children and grant children are there to look after him. Any old person would like to spent his old age only in his own home with which he has familiarity, attachment and strong sentimental.

Family is the main source of care giving to all its members. When the need arises, the family settings are more responsible to take care of the elderly people. The care provided by the network of family and friends is called informal care giving. Informal care giving is defined as unpaid care that is provided to a person aged 65 or older, who requires assistance with daily living activities. These activities can fall into one of four broad categories. These categories are: Emotional support, Direct service assistance, liaison with the formal service sector and Financial assistance. Luckily most of the old people today in India are in this normal mode of old age care .

The importance of home is stressed by Bent Kruger Smith. "Home becomes a symbol of security for the old to stay in ones own home is to hold on to selfhood, to maintain identity. For the person growing older giving up a home often symbolizes losing the last hold on independence". Family has been the cradle of human civilization. It is the family which mould and sustains human personality. Family is the abode of human development. Family has been caring all its members including children, disabled, destitute, the aged and the chronically ill. Family bring peace and tranquility, care , rehabilitation and development. Family is the primary group which leads all social processes. Though they prefer to live with their families, for moral support they go to the neighborhood or to their relatives.

Services at the sub-centre, geriatric centre, primary health centre and anganwadis should be easily accessible to the family, so that the family is empowered to cater the needs of elderly like prevention, treatment, and rehabilitation. Similarly poverty alleviation and environmental improvement programmes, social security and social assistance, social work delivery of services, etc., should be available at the door steps of the family to fight all malice and socio economic melodies. Provisions of adequate social work literacy programmes are essential to empower families to undertake their specific role in the care of the elderly.

Although families continue to remain strong and exert major influence on the behavior of individuals and groups, the effectiveness of the family as the most important institution in delivering care is fast reducing, particularly in urban areas where the traditional extended family is slowly disintegrating. The increasing participation of women in the work and performance of young people for nuclear family have further reduced the availability of family support. With radical changes in family composition and inter relation among members, sharing of problems of ageing with the family and community is difficult. Thus, for the elderly, the problems of ageing are increasingly to become an individual affaire. Previously family and public sharing helped to diffuse the "private error" which posed problems to the individual. The perception of the old people is not endorsed (naturally) by the younger people. To them, the older generation appears a liability in terms of responsibilities imposed on their children even more than in terms of finances.

The gradual breakdown of the extended family system has been creating negative psychological effects such as alienation, loneliness and other emotional stress. The attention that the old require increases with the years. Every aspect of modernization emphasizes the gap between the emerging generation and the elder generations. Ours is a patriarchal system where parents are supposed to live with their married sons. When things do not go smooth between daughter in law and old parents, other types of care are sought after. In our tradition parents are not live with their married daughter. Actually this will be a good settings for the old because, women are the major care takers in a home providing for food, nursing etc. this is found only in few cases where son in law is willing to accept. Even if he accepts there may be objections for his own parents and relatives. However economic consideration, dual carriers, migration and individualism have contributed to a decline in the system. Consequently many adult children find it difficult to take adequate care of their parents, which is reflected in their attitude and unwillingness to provide long term care.

The family is still the umbrella of society protecting the elderly, anticipating socialization before retirement would unable the elderly to get adjusted to the society and also to channelize their social activities.

The programme " help at Home' was designed by the ministry of health and welfare with the aim " To encourage the active involvement of the elderly in self health care within their family and social environment and the prevention of social exclusion". " Thus the elderly can avoid admission to an institution that is traumatic for physical and Psychological health". (Ministry of health and welfare 2000). The programme offers:

1) Nursing care provided at home by nurses
2) Social care provided by social workers
3) Home help provided by home aids , and
4) Voluntary help provided by volunteers from the local communities

Priority is given to the elderly who are dependent, live alone and have low income.

Indian society is still family oriented society and therefore the aged prefers family rather than any other institutions. Indian tradition and religious teaching demand that the children would take care of their parents in old age. However, there may be certain factors which force people to opt out of this type of care

## CONCLUSION

Family being the sub-system of society which takes care of aged, traditionally the task of caring for the elders has fallen on women. Women are main source of social, emotional and physical support for the aged and happened to be the first to be looked towards for physical care.

However as the roles of women are changing fast to meet the demands of the present society and the family, it is generally argued that their attention towards the aged is decreasing. Old people do not expect a bombastic way of life but a kind of enquiry from their wards, a consoling voice from their family members, and a comfortable, tension-free life.

The government of India though is trying to improve the situation by the welfare measures for the aged, there remains a basic question that how long and how well these welfare measures could solve the problem. The best option could be to strengthen the family and try to motivate the family members to take care of the aged. This would not only help to improve the situation of the aged but also to keep intact our traditional and cultural values. This is very much essential as in many of the developed countries, the problem related to the provision of welfare measures of the aged by the government is prominent.

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# AMBEDKAR AND MODERNITY: A STUDY BASED ON 'ANNIHILATION OF CASTE'

**Athira Anand*& K S Pavithran****


## Abstract

*Annihilation of Caste portrays caste system as a real threat to Indian Modernity. The segregated Hindu society could not form a nation, even they could not even form a society which needs communication and cooperation even though they live in close proximity. The ideal society for Ambedkar is based on the principles of liberty, equality and fraternity. The caste system dismantle these three core principles of modernity. It could not ensure the basic freedom of an individual-freedom to choose one's own profession, inter-dining, inter-marriage, eating food of choice...etc gets restricted. The lack of communication and mutual cooperation forbids the feeling of fraternity within the society. Caste system is an anti- modern element and the primary task is to annihilate it from the society with a secular outlook.*


"When I first read it I felt as though somebody had walked into a dim room and opened the windows. Reading Dr. Bhimrao Ramji Ambedkar bridges the gap between what most Indians are schooled to believe in and the reality we experience everyday of our lives " (Arundhati Roy 2014:17).

-Yes, a feeling of sudden drift into a world of new revelations is what *Annihilation of caste;* building bridge to the world of modernity. And the text could not be isolated from the author as his core thoughts are expressed through *Annihilation of caste*. When the mainstream political


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parties get derailed from the plights of the downtrodden sections, Ambedkar becomes the most celebrated figure. When his 125th birth anniversary celebrated with great pomp, his thoughts remained safe within the bookshelves. This is the time whereby Ambedkarian modernity through *Annihilation of Caste* is examined through this paper. Even the Hindu fundamentalist forces tries to Hinduize Ambedkar realizing the strength of Ambedkar as an icon or symbol.

The *Annihilation of Caste* assimilate his thoughts against Hindu fundamentalism and it is the perfect choice of work which calls for modernity in Indian society. Ambedkar prefers a Structural theory on origin of caste system which upholds endogamy as the cause of origin of caste system. He discards Racial Theory[1] and Occupational Theory[2] *on* caste system. *Annihilation of Caste* elaborates the irrational existence of caste system in modern India more rationally. The current NDA government is an offshoot of Hindu fundamentalist organization, on one hand it tries to hinduize the Dalits and minorities and on the other hand evoke widespread attack on them. The affinity that they showed towards the OBC sections immediately after getting into power shows their tactical power play for securing stability. They even tried to glorify the image of Ambedkar, especially during his 125th birth anniversary celebrations. On the other side, there is a mass increase in the violence towards Dalits and Minorities

The Ambedkar Periyar Study Circle (APSC) formed by students of IIT Madras was derecognized by the Dean of Students (DoS) on May 22, 2015. The ink attack on Sudindra Kulkarni for organizing the book launch of Pakistan ex-foreign Affairs minister Khurshid Mahmud Kasuri maligned India' status as a secular state. Govind Pansare, Narendra Dhabolkar and Kalburgi were brutally murdered for raising voice against superstition and Hindu fundamentalism. Eminent writers protested by returning back the awards and honours they received. Rohit Vemula, the Hyderabad University student became an icon of atrocities against dalit students for all political parties. This shows even our esteemed higher education field is not devoid of caste prejudice Modernity is something which India claims as itself achieved, but how come a society under the shadow of long held caste inequalities claim that they are living in a modern world. In India, the atrocities against downtrodden sections and minorities undermines its status as a modern society. Never forget the fact that a modern world dreams of endless freedom of every individual. The most serious analysis on caste as a discourse occurs in *Annihilation of Caste.* Contemporary Indian social set-up is moulded within the framework of caste hierarchy. Caste system is tightening its grip over minds and actions of the people. Ambedkar directs to a social revolution which is necessary and inevitable to build up modernity. He also points towards the fact that the necessity of our society is the prominence of social reform prior to a political reform and he points that the failure of the social reform party after independence is its inability to recognize this fact. "That political reform cannot with impunity take precedence over social reform in the sense of the reconstruction of the society, is a thesis which I am sure cannot be controversial" (Ambedkar 2014: 220). By using the word 'social reform' he doesn't mean 'reform of the Hindu family' which constitutes widow remarriage, abolition of child marriage...etc but the 'reorganization of Hindu society' by annihilating caste. *Annihilation of Caste* thereby explains how caste system denounce the status of Hinduism as a religion. Long way to go, even to dream about a revolution that Ambedkar propounds at a time when Hindu fundamentalism is tightening its grips where even our Right to dissent is in chains.

**The colonial legacy**

The history of modern India is marked with the advent of Europeans-Dutch, Italians, Portuguese and English. The English ousted other European powers in establishing their dominion over India which brought immense change in economic, social, political and cultural set-up. Even though British left for their country, the post-independent India preserved the colonial legacy in politics, culture and administration and the only thing that British left untouched is the caste system and the rupture it created in our society.

The British East India Company dominating over all other European trading establishments gained control over administration in India and later handed over to the Great Empire. The colonial forces always foster any existing system which produce division among the subject population. Hence, the segmented caste based feudalistic society was a boon to British administration which prevents further unity among the subject population.

India blindly adopted industrialization introduced by the British administration as a developmental strategy. The indigenous hereditary occupations lost its relevance with the increasing number of large scale industries. They brought with them new technology, modern institutions, beliefs and values. Each caste became heterogeneous in occupation with industrialization. But the benefits of wealth and education was restricted only to the upper caste sections which still gets reflected in contemporary social set-up. M.N Srinivas talks about life style changes due to Technologism. Traditionally Indians ate their meals sitting on the floor and food was served either on leaves or metal plates made of brass, bronze or silver. The technological advance brought chairs, stainless steel utensils, spoons...etc which brought changes in eating practices. (Srinivas 1972 :55). It is worth to mention that even eating being ritualized within castes especially among the upper caste sections.

The missionaries who came along with the colonizers played a great part in transforming Indian society. Christianity as a new way of life emerged in India through the missionaries and they built strong relationship among people by establishing institutions of charity and education. For many of the lower caste sections Christianity became a safe haven to escape from the evils of caste system. A large sections among the lower strata got converted to Christianity. The post-independent India faced a heterogeneous society with Hindu majority (divided on the basis of caste system) and the minority Muslim, Sikh and Christian community.

Capitalism was originated in European landmass and widely transplanted to developing areas such as India. Industrialization was introduced as a stepping stone to capitalist mode of economic system. Market and private property become the determining factors within capitalism where individual freedom is uplifted to preserve private property and market laws. In the case of India the capitalist mode of production could not change the feudalistic elements, especially the deep rooted caste feelings among the people. India adopted parliamentary democracy and adult franchise to impose the principles of equality without any caste, creed or religious consciousness. Article 15(4) and 16(4) of our constitution empower the state to make provision for reservation in jobs for backward classes so as to ensure equality between advanced classes and the weaker sections of the society.

The change in the political and economic structure brought changes within the caste communities. Caste councils were replaced by village panchayats. The caste associations increased solidarity among the lower caste against the upper caste predominance. These associations manage social, economic, educational and political and they were close to voluntary organizations. The caste associations now have direct and indirect influence upon electoral politics. In states of North India caste politics is common especially within states like Bihar, UP, West Bengal...etc. Caste associations mushroomed in different parts of the country and each association claims for socio-economic and political standing. The great fault vested with the colonial administration is their inability to evacuate caste system from Indian soil. The recent

Dalit uprising with a backing from Muslim minority from regions like Gujarat provide new hope to compete against the rising Hindu fundamentalism.

**Core principles and values within *Annihilation of Caste***

*Annihilation of caste* as a text form could not be separated from its author. The whole text reflects the thoughts of Ambedkar assigning him with the title 'claimant on modernity'. Modernity as a concept debted from the west and the core principles within *Annihilation of caste* also adopted from west- Liberty, Equality and Fraternity, the universally accepted principles of modernity.

These three principles originated during the period of French revolution and expanded all over the world. Our Indian constitution also incorporated these universally accepted 'triad' into the preamble, which suggests the objective of our constitution. The impediment in front of contemporary India is the segmental division of caste system. Foundations of modernity can be laid down only in a casteless society. Ambedkar's modernity revolves around the core values of liberty, equality and fraternity which is devoid within a caste system.

Fragmentation of society based on the caste system firstly crack down the principle of fraternity. Endogamy within each caste is preserved with a ban on inter-caste marriage and inter-dining. The feeling of compassion and brotherhood is confined within the margins of caste system. The principle of fraternity is undermined with the division of society; gradation of each society based on its status could not comply with the principle of equality. The title 'upper caste' and 'lower caste' implies this gradation which is deep rooted within the society. Ambedkar supported the policy of reservation by which the 'unequals' improve their social backwardness. Social equity is the first preference which provides a strong foundation for fulfillment of economic and social equality. The third and the most important principle is liberty, especially the liberty of individuals belonging to the lower strata of caste hierarchy which is always being curtailed. The customs and rules within caste system is entitled to be followed by all caste members could not value the individual sentiment and freedom.

Besides these principles Ambedkar also recommends the inclusion of these values into contemporary Indian society as a part of Indian modernity-

A casteless society

Rationality and scientific temper

Individual freedom

Achieved status instead of ascribed status

**On religion**

The *Annihilation of caste* could not reach the intended audience of Jat-Pat-Todak Mandal[3], the Hindu reformist group because it was condemned of its unbearable content. Members within the group expected a speech ridiculing the caste system as their motto is caste eradication, but Ambedkar could not segregate caste system from Hinduism as it is an integral part of Hinduism.Ambedkar didn't give Hinduism the status of a religion which does not mean that he completely disregard the concept of religion. If then he could not show affinity to the religion Buddhism that he preferred later. *Annihilation of caste* can also be considered as a farewell speech of Ambedkar to Hinduism. He could only consider Hinduism as a collection of rules and commands instead of giving it the status of a religion. The chathurvarnya system which gave birth to the caste system have strong backing from the Hindu religious scriptures. Ambedkar clearly states that nothing can be built upon the foundations of caste system.

Ambedkar defends the concept of Religion by quoting Burke who says, 'True religion is the foundation of the society, the basis on which all true civil governments rests, and both their sanctions'. The kind of religion Ambedkar prefer is one which is based on principles rather than rules. He also, clearly distinguishes between a principle and a rule. Rules are rigid in nature whereas principles are guidelines providing scope for experiments and prone to structural changes. The division within chathurvarnya system is based on birth. The religion of Hinduism supports the pollution principle and the ritual superiority of Brahmins over all other castes. The rules and commands within the scriptures of Hinduism could only bring about a segmented society instead of preserving solidarity within the society. Ambedkar stresses that worth but not birth which determines the status of an individual.

**What is to be done?**

Caste system is so rigid because it is part and parcel of Hinduism and it is hard to move away from one's belief system. The relationship between the caste and religion is glued with religious scriptures under the patronship of elite sections. The legitimacy of the caste system will end only when it is detached from the religion, hence to give away the sanctity of scriptures that protect the caste system. Indians in majority are religious in nature and Hinduism majority. Deep rooted segmentation based on caste system differentiates Hinduism from other religions.

The out-caste sections still believe that they are part of Hindu religion but in reality the chathurvarnya system, also the base of Hinduism, excludes these sections. In contemporary India the Hindutva forces are forming grand alliance with the out-caste sections as a political strategy. The earlier Ghar Whapsi incident created a huge furor all over India and this invoke the question of missionary status to Hinduism. Ambedkar could not assign a missionary status to Hinduism because the question arise where to integrate these converts within the caste hierarchy. The priority given to the procedure of birth within caste system become futile here.

Widespread atrocities are threatening the basic human rights of Dalits, Tribals and Minorities in India. Dalit students are facing huge threat to their right to education even from well acclaimed universities in India. Honour killings are taking place even now in contemporary India which makes us vigil about the caste consciousness within us. Education has an important role in the enlightenment of downtrodden sections which many of the lower segments are devoid of. Our educational structure should instill awareness about the dangers of caste system which is to be assured from primary level of education. Objectives of the education is to enhance the secular outlook and hence teachers should be given proper social education.

The need for policy of reservation under the initiative of Ambedkar is today a matter of public debate. But before challenging this policy the purpose or the objective of policy of reservation is to be understood. It is introduced to uplift the downtrodden sections from the extreme adversity in which they used to live and it is not merely for securing jobs in governmental sectors and other positions. The primary target is to lessen the inferiority complex inherent within these communities. How can a system be eliminated without the complete fulfillment of its objectives? Initiative is to be taken as if for the proper implementation of upliftment policies like reservation and in a justiciable manner. Those sections still struggling for reservations in governmental job sector should realise the true essence of this policy.

*Annihilation of Caste* portrays caste system as a real threat to Indian Modernity. The segregated Hindu society could not form a nation, even they could not even form a society which needs communication and cooperation even though they live in close proximity. The ideal society for Ambedkar is based on the principles of liberty, equality and fraternity. The caste system dismantle these three core principles of modernity. The caste system could not ensure the basic freedom of an individual- freedom to choose one's own profession, inter-dining, inter-marriage, eating food of choice...etc gets restricted. The lack of communication and mutual cooperation forbids the feeling of fraternity within the society. The development of man's power based on his own efforts needs unequal treatment and this substantiate the need for reservation policy for weaker sections as protective discrimination. Caste system is an anti- modern element and the primary task is to annihilate it from the society with a secular outlook.

## Notes

1. Racial theory on origin of caste system originated with the development of social anthropology. Race is considered as the reason for the origin of caste system.

2. Occupational theory on caste system portray occupational division as the cause behind the origin of caste system.

3. Jat-Pat Todak Mandal is the Hindu reformist organization which invited Ambedkar to present a speech by which he prepared *Annihilation of Caste.*

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# COMPARATIVE STUDY ON EMOTIONAL STABILITY OF GIRLS UNDERGOING COMBAT SPORTS AND SEDENTARY GROUP

**J.R Arun Raj* and K.K Venu****

## Abstract

*In modern world people want to live comfortably and peacefully without physical work and physical activity. Sedentary life style became the fashion of city life. This life style leads to lot of health problems as well as psychological issues. Life style diseases are the byproducts of this sedentary life style. So change in our life style, food habits and attitudes towards life is very essential. This study refers the emotional stability of those sedentary girls and those who do vigorous training in combat sport. The study is based on statistical analysis of date collected through survey army scleded performens subjects and substanting subjects.; The results of the study can give the importance of physical activity and risks of sedentary life style in Kerala.*

A combat sport, or fighting sport, is a competitive contact sport with one-on-one combat. Determining the winner depends on the particular contest's rules. In many fighting sports, a contestant wins by scoring more points than the opponent or by disabling the opponent. Males have been the gender that will often react, enjoy and seek out combat sports due to being a male dominated sport. For many years combat sports were a male only sport with the first recorded female combat sport event in the United States of America on March 28, 1997[1]

Taekwondo was developed during the 1940s and 1950s by various

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martial artists by incorporating elements of 'Karate' and 'Chinese Martial Arts' with indigenous Korean martial arts traditions such as 'Taekkyeon', 'Subak', and 'Gwonbeop'. The oldest governing body for taekwondo is the 'Korea Taekwondo Association' (KTA). Taekwondo is characterized by its emphasis on head-height kicks, jumping and spinning kicks, and fast kicking techniques.

In fact, World Taekwondo Federation sparring competitions award additional points for strikes that incorporate spinning kicks. To facilitate fast, turning kicks, taekwondo generally adopts stances that are narrower and hence less-stable than the broader, wide stances used by martial arts such as karate. [2]

"Emotional stability" refers to a person's ability to remain calm or even keel when faced with pressure or stress. Someone who is emotionally unstable is more volatile, which means the person faces an increased risk of reacting with violent or harmful behaviors when provoked. Irrational thinking, impulsiveness and certain medications contribute to increased levels or emotional instability. Methods used to moderate emotional responses include religious practices, meditation, exercise, proper nutrition and healthy sleeping habits. A lack of emotional stability means someone feels more emotional highs and emotional lows. [2]

Over the last 35 years, social scientific interest in martial arts and combat sports (MACS) has been expanding, with research articles published across an array of English language journals within the sociology of sport and related disciplines, as well as the publication of several academic books on specific fighting systems, 1 and on MACS in general. 2 Following Columbus and Rice's advocacy of a phenomenological approach to their study, 3 MACS research since the late-1990s has begun to explore the subjective experiences and embodied insights of long-term practitioners, and more recent scholarship has owed much to Wacquant's oft-cited ethnography of boxing in a working-class Chicago gym – a prime example of such empirically rich work. 4 Following this turn to the embodied/subjective aspects of MACS practice, research has sought to understand how practitioners' embodied experiences affect their own lives as well as the wider cultural settings and structures within which they are situated, and in this paper we attempt to provide an overview of this body of knowledge. From the outset, it must be clearly stated that this review is concerned with work on embodiment, which we define as research centered on the living, moving and feeling social experiences of human beings. This approach is different to the sociology of the body, for instance, which primarily sets out to explore and test social theory as applied to the body. Thus, this review highlights studies with a paramount interest in the embodied experiences, sensations and life worlds of MACS practitioners, rather than those aiming to further or critique particular theoretical readings of bodies.[3] These studies of embodiment are not restricted to a particular academic discipline or sub-discipline, as we found original research articles from a broad spectrum of social sciences relevant to this effort, including the sociology of sport, the sociology of the body, cultural and social anthropology, and sports pedagogy, alongside traditions spanning across disciplines, such as phenomenology and narrative approaches. Together with the object of most studies being the thinking, moving and feeling bodies of practitioners this constitutes our current 'field' of scholarly inquiry.[4]

A sedentary lifestyle is a type of lifestyle with no or irregular physical activity. A person who lives a sedentary lifestyle may colloquially be known as a couch potato. It is commonly found in both the developed and developing world. Sedentary activities include sitting, reading, socializing, watching television, playing video games, and computer use for much of the day with little or no vigorous physical exercise. A sedentary lifestyle can contribute too many preventable causes of death. Screen time is the amount of time a person spends watching a screen such as a television, computer monitor, or mobile device. Excessive screen time is linked to negative health consequences.

**Statement of the Problem**

The purpose of the study is to assess the difference in emotional stability of girls undergoing combat sport and sedentary group. All the subjects are taken from Kerala and the study is delimiting to 54 girls only. The study is further delimiting to the Taekwondo event and also the subject chosen for study is delimited to the age group between 10 to 22years. Individual difference and difference in skill acquisition ability of the player may be accepted as a limitation of the study. The difference in training and the coaching pattern and coaching style, which influence performance of the players, would be recognized as another limitation of the study. Life styles and food habits are varies in individual to individual as a limitation of the study.

**Hypothesis**

On the basis of literature available in the area of research, it is hypothesized that there should be a significance difference between combat sport participants and sedentary group in emotional ability. The significant of the study is fulfilling the following points. The human performance is based upon the human organism which consists of a mind and body. Performance of athletes and sports person is bound to improve if adequate attention is paid to physical, mental and physiological abilities.

1. The findings of the study may add to the existing knowledge in this area and will be beneficial for the society especially for players, physical educators and coaches.

2. The study may also keep encouraging the coaches to use specific

competition training technique to develop the emotional stability of combat sport participants.

3. An improved understanding of the emotional stability can provide the information regarding importance and awareness among participants and non participants.

## Materials And Methods

This study describes the Methodology and procedure adopted. Precisely this includes selection of subjects, procedure for administering the test items, collection of data and statistical techniques employed for analysis of data.

### Selection of subjects

For the purpose of this study total of 54 girls which consists of 27 state level performers in taekwondo and 27 sedentary girls were selected randomly. The performers were selected from sports council training centre Trivandrum, Kozhikode, Thallassery and Wayanad. Sedentary group subjects were selected those who do not participate any kind of sport event or physical activity from different parts of the Kerala state.

### Selection of test items and Administration

Big five inventory (BFI) is used for assessing the emotional stability of the individual. The 44-item inventory that measures an individual on Big Five Factors (Dimensions) of personality. Each of the factors is then further divided in to personality facets. Give awareness about the objectives and task to be performed by the subjects. Conducting all the test items for all subjects and collecting data. The tests were administered in the following order: Big five inventory questionnaire consists of 44 statements. The subjects were given their scores to each statement. Emotional stability parameter consists for 40 marks. 0-10 score shows less level of emotional stability, 11-20 score shows average level of emotional stability, 21-30 score shows good level of emotional stability and 31-40 score shows excellent level of emotional stability.

**Statistical Analysis**

Descriptive statistics was used to find the mean and standard deviation of the quantitative variables. Independent sample '*t*' test was used to calculate the significant difference between two groups ('*p*' value < 0.05 was considered statistically significant).

**Results And Discussion**

In the present study 54 girls were participated, of which 27 girls were Taekwondo participants and 27 were belongs to sedentary group. Emotional stability of the individual was assessed by using Big five inventory (BFI) .It contain 44- item inventory that measures an individual on Big Five Factors (Dimensions) of personality.

Taekwondo participants mean score of emotional stability was found to be 17.63 + 4.36.

Classification of participants based on emotional stability score

**Table 1**

| Group | Number (%) |
|---|---|
| Less level of emotional stability (0-10) | Nil |
| Average level of emotional stability (11-20) | 21 (77.8%) |
| Good level of emotional stability (21-30) | 6 (22.2%) |
| Excellent level of emotional stability (31-40) | Nil |
| **Total** | 27 (100%) |

The emotional stability scores of participants shows that majority (77%) of them are comes under the category of average level of emotional stability, ie. score between 11 and 20.

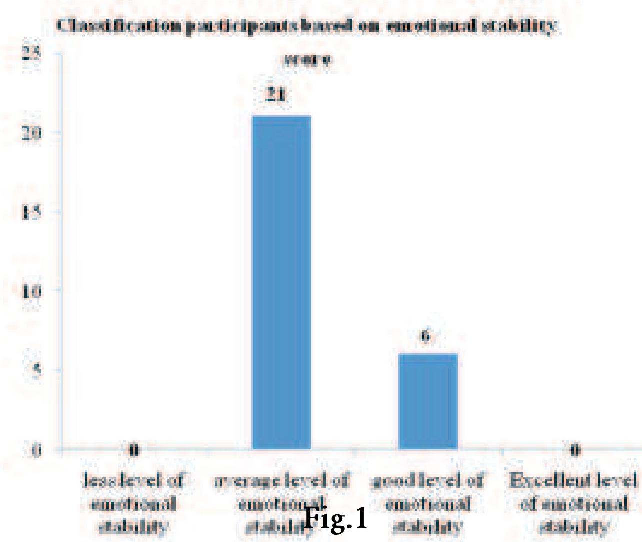


Fig.1

The mean score of emotional stability of sedentary group was found to be 15.93 + 6.88. it shows that the deviation score in this group is higher than the participants group.

Classification of sedentary group based on score

**Table 2**

| group | Number(Percentage) |
|---|---|
| Less level of emotional stability(0-10) | 7(25.9%) |
| Average level of emotional stability(11-20) | 13(48.1%) |
| Good level of emotional stability(21-30) | 7(25.9%) |
| Excellent level of emotional stability(31-40) | 0 |
| | Total =27(100%) |

The emotional stability score of sedentary group shows that 25% of subjects are having very level of score and they are emotionally highly volatile in nature.

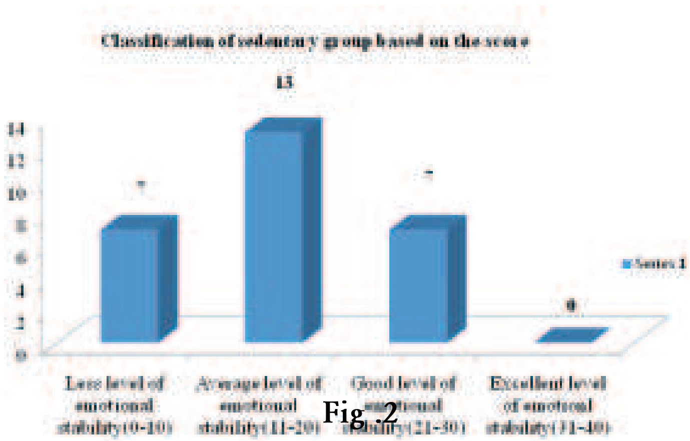


**Fig .2**

From the fig.2 we can clearly saw the number of persons comes in each category of emotional stability. In both the figures none of the subject comes under the category of excellent level of emotional stability. Mean score of emotional stability between taekwondo and sedentary group and the comparison between the score of taekwondo and sedentary group is given in below table.

**Table 3**

| GROUP | MEAN | STANDARD DEVIATION | t value | p value |
|---|---|---|---|---|
| TAEKWONDO | 17.63 | 4.36 | 1.085 | 0.284 |
| SEDENTARY | 15.93 | 6.88 | | |

## Conclusion

The mean score of emotional stability among taekwondo group was found to be 17.63 and that in sedentary group was found to be 15.93. The difference between mean score of these two groups was found to be statistically not significant ($p$ value > 0.05); but in the case of sedentary group there are seven subjects shows less level of emotional stability. That score shoes the warning that sedentary group is highly volatile and they may reacting with violent or harmful behaviors when provoked. So the involvement of girls in combat sport or physical activity can give at least an average level of emotional stability.

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# DEBATES OVER THE RELATIONSHIP BETWEEN WORD AND MEANING: *BHARTRÓHARI vs SANKARA*

**Lekshmi. R* & Priya.O****

## ABSTRACT

*Semantics or theory of meaning constitutes one of the major themes of linguistic studies. The relationship between word and meaning ( sÞabda and artha) is a much debated question by both Indian as well as Western thinkers. While Quine, Chomsky and Derrida have much contributed to the Western philosophical discussions, their Indian counterparts like Bhartròhari and Sankara have made their contributions long time ago. The question whether the relationship between word and meaning is direct or indirect demands logical argumentation and philosophical analysis. The argumentations of Bhartròhari appear in Vakyapadiya through his sphotòa theory while those of Sankara make its profoundity in his Brahmasutra Bhashya. The present study tries to discussion on the issue based on the argumentations of Bhartròhari and Sankara*

***Key words:*** *Vakyapadiya Brahmasutra Sphotòa SÞabda pramana*

In the context of the linguistic philosophies, the relationship between word and meaning is an important theme to be discussed upon. The ancient Indian grammarians, *vedantins* and other philosophers and logicians have thrown much light on the relationship between *sÞabda* and *artha*. Similarly, in the Western context, the themes like word and

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meaning, sense and reference, meaning and reference etc. are of great concern for the 20th century analytical philosophers. Among these, the *sphotòa vada* of the ancient Indian grammarians like *Bhartròhari* is a much significant one. Apart from the grammarians the *Naiyayikas* and the *Mimamsakas* it was *Sankara* who contributed much to'*SÞabda* and *Artha*' while discussing about *sÞabda pramana*.

**Statement of the Problem**

The question, whether meaning is direct or indirect needs much logical argumentation and philosophical analysis. Whereas, the grammarians like *Bhartròòhari* is of the contention that the relation between word and meaning is indirect, the *Vedantins* like *Sankara* holds it as a direct one. In his *Brahmasutra Bhashya* I 3.28, *Sankara* vehemently argues against the *sphotòa vada*. This paper is mainly an exposition based on the above *sutra* unleashed against the background of *sphotòa vada*.

**Review of Literature**

In the analysis of the above discussion the following literature were mainly read and reflected over.

*Vakyapadiya* the extracted work of Bhartròhari

*Brahmasutra Bhashya* a cemantary or Brahmasetro one of the basic texts of vedanta of Sankara

*Indian Logic* by BN Singh

*Indian theories of Meaning* by Kunjunni Raja and

*Six Ways of Knowing* by DM Datta

**Method**

The methodology followed in the preparation of this research article is chiefly analytical . It is also critical as well as descriptive.

**Word and its Meaning**

'*SÞabda* literally signifies sound (*dhvani)* but epistemologically it means a meaningful sound, or a word (*pada) (*Dasgupta 1975:p94). A word is a group of letters. If all the letters are arranged in a fixed order, it means an object. The fixed order assumes reference. So a word arranged in a fixed order becomes referent. It strands for a thing meant. This implies that the essential nature of a word lies in its meaning. The meaning of a word is called *padartha*, which means a thing – meant.(Sastri1981:p241)

There are different ways by which we learn the meaning of words. According to the *Naiyayikas* there are eight well- known methods for learning the relation between a word and its meaning . They include: (1). *Vyakarana* or grammar (2). *Upamana* or comparison (3) *KosÞa* or dictionary (4) *Aptavakya* or trustworthy person (5) *Vyavahara* or common usage of elders. (6) *VakyasÞesòa* or the context (7) *Vivròty* or explanation (8) *sidhapadasannidhya* or the syntactic connection with words already known. (Singh1982: p217-18)

Apart from the above, it can also be said that there are three kinds of meaning of a word: *Abhidha, Paribhasòa* and *Lakshana* as pointed out by the *Naiyayikas* and *Abhida, Lakshana* and *VynòjÞana* as per the rhetorician's views.

(Matilal1990:176)

**The Primary Meaning of a Word**

As far a word is concerned its primary meaning is much important. There are different views about the primary meaning of a word which has been discussed by every school of Indian philosophy. The question is: what is the primary meaning of the word like '*go*' (cow) that a word like 'cow' refers to the animal as such (*vyakti).* Some hold that it signifies the common notion underlying all animals of that class (*jati*).(Mahadevan1968:46) Some hold that a word denotes a particular form *(akròti)*.

The *Samkhyas* hold that a word primarily refers to a particular. The *Naiyayikas* reject the above view of the *Samkhyas*. According to them a word does not mean any and every individual, it means an individual of class. *Jayanta* rightly observes that for all practical purposes reference is made to the individual, but we cannot find an individual without reference to universal.(Satprakashananda 1974:251) Moreover, according to the *Naiyayikas* a word means the particular, the configuration and the universal.

The *Jainas* maintain that a word signifies an image *(akròti)*. The image is perceptible. So if a word means a perceptible object, it is the image of an object. For example, the word 'cow' denotes a perceived object: perception apprehends a configuration only.

The *Mimamsakas* and the *Advaita Vedantins* maintain that a word denotes a genus or class – character (*jati*) and indirectly indicates an individual through a class.(Singh1982:221) *Mimamsakas* establish their theory of class denotation by refuting the particular. So the *Mimamsakas* conclude that the primary meaning of a word is the universal, which belongs to all individual members of that class.

According to the *Vedantins*, a word denotes the generic nature of a thing and not an individual thing. For instance, the term, 'cow' represents 'cowness' or the class 'cow' and not an individual cow. Words exist with the universals prior to the particulars. As the universals are eternal so are the words. (Mahadevan1968:48)

It may be argued: if the primary meaning of the word 'cow' be 'cowness' how does then it apply to an individual cow? In the *Vedantic* view the answer is that a universal cowness is inseparable from an individual cow. While signifying the universal a word signifies the individual. With regard to the universal its significance is direct, with regard to the individual its significance is indirect. Each individual is characterized by the universal that is by the essential attributes of the class to which it belongs. That is why by knowing one cow a person can recognize any other cow. It is said: "the same cognition that comprehends a generic attribute also comprehends the individuals" (Dharmaraja 1930:iv).

**Suggested Solutions to the Problem**

The Grammarian's Theory of *Sphotòa*

The grammarians explain the nature of word by the hypotheses of *sphotòa* or linguistic symbol. They maintain that a word or a sentence is not a concatenation made up of different sound units, but a single meaningful symbol. (Raja1963:97)So the *sphotòa* only bears a meaning and the articulated sound is the means by which the meaning is revealed. *Bhartròhari's* thought may be characterized as part of the *sÞabdadvaita* (word monistic) school of thought, which asserts that cognition and language at an ultimate level are ontologically identical concepts that refer to one supreme reality, *Brahman. Bhartròhari* interprets the notion of the originary word *(sÞabda*) as transcending the bounds of spoken and written language and meaning. Understood as *sÞabda tattva*-the "word principle," this complex idea explains the nature of consciousness, the awareness of all forms of phenomenal appearances, and posits an identity to obtain between these, which is none other than *Brahman*. It is thus language as a fundamentally ontological principle that accounts for how we are able to conceptualize and communicate the awareness of objects. The metaphysical notion of *sÞabda Brahman* posits the unity of all existence as the foundation for all linguistically designated individual phenomena.

The word '*sphotòa'* is derived from the root, '*sphutò*' which means to burst. It can be defined as that from which the meaning bursts forth. The theory of *sphotòa* was established by the Sanskrit grammarian, *Panini*. It was later developed by *Patanjali*. According to him the *sphotòa* is permanent and is not affected by the peculiarities of the individual speakers. The *sphotòa* theory was fully developed by the grammarian – philosopher, *Bhartròhari* in his *Vakyapadiya*. He says that a word or a sentence can be considered under two aspects sound pattern and meaning bearing symbols.(Saroja1997:192) The former relates to the articulated sounds while latter relates to the meaning. The *sphotòa* is the internal aspect attached to the meaning. It is a partless and integral symbol.

The *sphotòa* taken as an integral symbol is revealed by the sounds produced in a fixed order. Each sound helps in manifesting this *sphotòa*, the first one vaguely ,the next one more clearly and so on until the last one reveals it clearly and distinctly. *Bhartròhari* says: "With the last sound the word is grasped in the mind (of the hearer) where the seed has been sown by the sounds and which has been brought to ripeness by telling over in order of the words"(Raja1963:125). The process of revelation of the word by the sounds is from the indeterminate stage to the determinate stage. It begins from complete ignorance, passes through partial knowledge and ends in complete knowledge. It is this unitary *sphotòa* latent in the word, which being evoked as the letters and syllables are successively uttered or heard, produces the cognition of its meaning.

Even though each letter in the word or sentence has the capacity of revealing the same indivisible *sphotòa*, every one of the them is necessary since the complete and distinct manifestation of the word is effected only with the perception of the last latter. According to the grammarians it is the whole individual word that is revealed by sounds, or by the letters indicated by the sound. *Bhartròhari's* contention is that the individual letters in a word or a sentence have no direct connection with the meaning but are merely concerned with the manifestation of the linguistic sign or the *sphotòa* which is the real meaning – bearer.

*Bhartròhari* considers *Brahman*, the basis of reality, to be "without beginning and end" (*anâdi nidhânam*), as a concept that is not subject to the attributes of temporal sequences of events, either externally or in the succession of mental events that form cognitions. The word principle, *sÞabdaBrahman*, is not defined in terms of the temporal nature of our cognitive states, because it functions as the inherent, primordial ground of all cognitions. Thus, against the Hindu logicians, the *Nyâyas,* for whom particular forms of human speech may be expressed in conventional terms for practical purposes, language itself is not something which arises or is created in time by God or humans. As B.K. Matilal states: "To talk of an absolute beginning of language is untenable. Language is continuous and co-terminus with human existence or the existence of any sentient being."(Matilal1992:112)

There has been some scholarly debate regarding the meaning of the term "eternal" or "*akshara"* as *Bhartròhari* applies it to the word-principle. While some interpret this to refer to an all-pervading entity, existing in opposition to the multiplicity of objects in space and time, others see it as *Bhartròhari*'s specialized way of referring to phonemes, the minimal units of meaningful sound. It seems that phonemes understood in this way explain how it is the case that word appears as objects. Eternity is that which appears as objects, and from whom the creation of the world proceeds. Phonemes are thus the eternally possible elements that can be combined in inexhaustible ways to manifest the plurality of nature.

This principle accounts for creation on a number of levels: it is the origin of consciousness, of cognition, sensation, language use, cognitive and experiential aspects of the world. In other words, objects of thought and the relations between them are word-determined, regardless of whether they are objects of perception, inference or any other kind of knowledge. When we perceptually apprehend external reality, we always do so in terms of names, for without names objects are neither identifiable nor knowable.

### *Sankara's* Polemic Against the *Sphotòa* Theory

Though the *sphotòa vada* occupies a central position in the Indian theory of semantics, it has been criticised by many. The *Mimamsakas* and the *Naiyayikas* vehemently refute *sphotòa vada. Kumarilla* criticises *sphotòa vada* and establishes *varnavada.* The *Naiyayikas* also conclude that the doctrine of *sphotòa* is an unnecessary mystification. The most vehement criticism comes from the *vedantin's* side.

*Kumarilla Bhatta* arguing against *Bhartròhari* maintains that the word or *sÞabda* is nothing more than a collection of word sound or spoken letters and it is with this collection alone that the word meaning is associated. When such a collection is brought to the mind of the hearer by the sounds uttered by the speaker, the hearer understands the meaning from the sounds alone. Therefore ,no mystical entity such as *sphotòa* need be postulated at all.(Harold 1980:p90)

*Sankara* engages in a lengthy dispute in his commentary on *Brahmasutrabhashya.* He spares nothing in his critique of the *sphotòa* view. First, he summarises the *sphotòa* doctrine, then gives his own objections to the charges that the word could not be an aggregate of letters as letters are said to disappear no sooner than they are produced. *Sankara's* response is that we do recognize the word qua the letters to be the same each time they are produced anew.If the letters were not the same, he argues, this would not be possible. The same letters are recognized as often as they are produced through an external sound element which does change with different speakers, but the inherent nature of letters do not.(Bilimoria2012:p65)Perhaps,for a certain number of letters, their continuous usage in a fixed succession enables them to be associated with meaning.

While exposing the true import of *sÞabda*, *Sankara* in his *Brahmasutra Bhashya,* I:3.28 turns out to be a polemic against the *sphotòa* theory.

**The sutra is:**

*SÞabda iti chennathaha prabhavatpratyakshanumanaabhyam* (If it be objected that this contradicts the validity of the Vedic words then not so for the universe arises from this which fact is proved by direct revelation and inference).(Gambhirananda1965:p28)

The argument as found in the commentary of this *sutra* can be explained as follows.

The *Vedantin* here asserts that the universe, consisting of gods and others originates verily from the Vedic words. To this the opponent raises the question: if it is so how can it be known that the universe originates from the words?

To this the *Vedantin* replies : From direct revelation and inference. By direct revelation is meant the Vedas since they do not depend on any other means of knowledge for their validity. By inference is meant the *smriti* for it depends on other sources for its validity. Both of them show that creation was preceded by words. The *smriti* also speaks similarly. It is understood that in the case of *Prajapathi*, when He was intent on creation, the Vedic words flashed in his mind before creation and then created the earth according to these. It is said: he uttered the syllable *'bhuh'* and created the earth".(Satprakashananda1974:p254)

The opponent continues his argument with another question. What particular nature of the words is meant when it is asserted that creation comes out of the words? Here he contends that for the grammarians the peculiar nature of the words is the *sphotòa*. If it be held that creation proceeds from the letters (constituting the words), then since the letters have a beginning and an end, the view that the gods spring from the eternal words will have no legs to stand on. It is also not reasonable to hold that the meaning is gathered from the letters, for the letters cannot convey the meaning individually. It may be argued that the last latter, in association with the impressions of the letters uttered earlier in succession will convey the meaning. But that cannot be so, since a word can convey its meaning only when it is itself known in association with the impressions (as having a connection with its meaning like smoke and fire). If it be argued that the last letter, in association with the impressions made known through the effect (comprehension of memory or meaning) resulting from the impressions, will convey the meaning, that also cannot be. For even memory that is produced by the impressions, proceeds in a sequence. Accordingly, (the opponent agreeing with the grammarians) a word is of the nature of *sphotòa*.

To the above argument, the *Vedantin* gives a clear and strong logical reply. As for the objection raised earlier that the letters have a beginning and an end the reply is that it is not so. The peculiarity about the distinction of letters that is perceived can be explained as arising not from their intrinsic difference in the instruments of their expression. The cognition of difference is created by the sound and not by the letter itself. .(Gambhirananda1965:30)

Here the opponent asks: What is this sound and the *Vedantin's* reply is: This sound is that which reaches the ear of a distant hearer without appearing him of any distinction of letters. Besides, in such a case the comprehension of meaning can follow from the letters and it is useless to assume a *sphotòa.*

The opponent continues his argument. "I do not assume, but I directly perceive the *sphotòa*, for it flashes suddenly in the intellect imbued with the impressions of letters occurring successively." To this the *Vedantin* clarifies his position: No, for that comprehension also relates to letters. The single concept, cow arising after the comprehension of letters individually, emerges on the basis of the letters as a whole and not any other thing called *sphotòa*. Even in this comprehension the letters, "c" etc. (of cow) are in evidence, but not the letters "d" etc. For if a *sphotòa* which is different from the letters "c" etc. had formed the content of that comprehension, and then the *sphotòa* would have ruled out "c" etc. Just as it does "d" etc. But facts are otherwise. Accordingly, the idea of identity is based on the memory of the letters alone. (Gambhirananda,1965:p31)

The opponent continues: "did we not say that the letters being many, they cannot form the basis of a single concept?"

The *vedantin* replies: Even many things can be the basis of single concept as is seen in the case of a line, a forest, an army etc. As for the idea that "cow" is a single word, there is only a secondary idea of unity applied to the letters "cow" because of their being related to the same object "cow" as is the case with the ideas of forest, army etc.

Here the opponent raises an interesting question. If the letters along as a group, form the basis of a single concept and became a word, then in such instance as *jara-raja, kapi – pika*, the words should not be comprehended distinctly, since the very same letters appear in different places in a different order. (Satprakashananda1974:p254)

The *Vedantin* gives a conclusive reply to this. Although all the letters in a word are cognized, still like the ants entering into the idea of a line in a definite order, the letters enter into the notion of a word in their definite sequence. That being the case, there is nothing illogical in understanding a particular word arising from a particular arrangement, even though the letters may be the same. At the time of apprehending the meaning of words from the use of them these letters as uttered in a certain sequence, were understood to be related to certain meanings. So at the time of one's own dealings with them the letters apprehended individually, appear in that very sequence in the intellect which groups them together and hence they invariably convey those particular senses.(Gambhirananda1965:p32)

According to the grammarians, it is not possible to convey one sense from many letters and hence they admit an eternal *sphotòa*, which can manifest the letters. As the letters are originated and destroyed, it is not possible to apprehend the sense of them due to the problem of their assemblage. It is our experience that one particular sense is acquired from a particular word. In order to explain their cognizability an eternal *sphotòa* has to be admitted.

The *Advaitins* do not admit the separate existence of *sphotòa* apart from the *Brahman* and hence they are in favour of the identity of *Brahman* with *sphotòa*.(Kantilal 2006:p147).That from which the meaning is manifested is called *sphotòa*. Both the organ of speech manifesting the letters and the word itself are referred to by the word,*vak*. Both of them are revealed by *Brahman*, though *Brahman* itself is not revealed by them .ie; the by organ of speech or words.

In the knowledge process there are three ingredients involved: *Pramatr, Pramana and Prameya*, – the knower, the process of knowing, and the object of knowledge. The knower, or the *Pramatr*, comes in contact with the *Prameya*, or the known object, through the medium called

*Pramana*, or the knowing process. The knowing process is the illuminating link connecting the knower with the object that is known. It has to be an illuminating or illumined process, because knowledge is always illumination. It is a light which is of a peculiar nature, not like others as the sunlight. It is a movement of self consciousness.

With difficulty can one explain what consciousness is. The word is, no doubt, repeated by everyone as if it is very clear. We have to think that it is clear, because there is no other word which can explain it, and everyone knows what consciousness is. It does not call for a commentary on its essential nature. This clarity of one's awareness that one exists is an illustration of what consciousness, or awareness, is, or has to be. If anybody wants to know what consciousness is, he has only to close his eyes for a few seconds, and feel how he knows that he is. This intriguing experience of one's knowing that he is, is consciousness operating. In this consciousness of one's being there is also the root of the urge to know that other things are also there, apart from oneself.

Some idea is already gained of the process of knowing things after one wakes up from sleep. There is, first of all, a self consciousness in everyone, the *Pramatr-Chaitanya*. Consciousness of the knower is called *Pramatr-Chaitanya*. *Chaitanya* is consciousness; *Pramatr* is the knower. The knowing consciousness of the knower as existing in himself, or itself, is *Pramatr-Chaitanya*. It moves in some particular manner, or rather, it appears as if it is moving. No one can fully be sure if it really moves. But it looks as if it is moving. This cautious provision has to be added because it will be told sometimes that consciousness cannot move, and does not move, and need not move, because of its all-pervading nature. It is omnipresent and, so, to say that it moves would be an inaccurate statement. Yet, it looks as if it is moving, for a reason which is to account for the 'externality' of the world of objects.

There is a thing called mind within man. The mind is charged with consciousness, as a copper wire may be charged with electricity: The wire becomes live when it allows the movement of electric energy through it. Likewise, the mind becomes live, and one says 'the mind moves'. The mind knows in the same way as a wire is electricity. The wire is not electricity; even so, the mind is not consciousness. Yet, when one touches the wire, one receives a shock, because the force and the medium cannot be separated from each other. In the same way, we may say, the mind is consciousness. It is not consciousness in one way, and it is consciousness in another way. The process of the enlivening of the mind by the presence of consciousness within is the incentive given to the knowing process. It is as if life is induced into an inanimate object. The mind is an urge within to move outwardly. It is not a thing or a substance. It is a faculty which pushes everyone outside. There is a permanent impulse within everyone to move outside oneself, to go beyond the limitations of one's body, and man is more an object than a subject in the practical field of the world, a reason why he is so much concerned with things outside rather than his own self. Everyone's worries are about the world, and there is no other anxiety. This happens due to the strange impulse from within to move outside, to go out beyond oneself. The mind pushes itself beyond itself. And, so, when consciousness operates through the mind, it looks as if the consciousness is also drawn towards an external something. What moves actually is the mind and not consciousness. This movement of the mind attended with consciousness is called *Pramana,* or the knowing process.

The *Vedanta* psychology holds that the mind assumes the shape of its object. This form which the mind assumes is called a *Vritti.* A *Vritti* is a modification of the mind in terms of a particular object. When a form is known, or an object is contacted, the mind is supposed to envelop that object. This process of the enveloping of the object by the mind is called *Vritti-Vyapti*. *Vyapti* is pervasion. The pervasion by the mind of a particular location called the object is *Vritti-vyapti*.(Mahadevan 1968:p48) However, it is not enough if the mind assumes merely the shape or the form of the object. One has to be aware that the object is there. This awareness that the object is there is due to the presence of consciousness in this moving process called the mind. The illumination of the presence of the form called the object is termed *phala-Vyapti*. So, a twofold activity takes place when an object is known, viz., the mind pervades the form and the consciousness illumines the form. The knowledge of the object is actually the knowledge of a form. The form is made available to perception by the activity of the mind, and the awareness of it arises on account of the consciousness attending upon the mind.

The point is that the object cannot be wholly material. If it is to be material, consciousness cannot illumine it. Consciousness is qualitatively different from the object which is material, supposing that it is material. The *Vedanta* psychology holds that the object cannot be material because consciousness knows that the object is there, and it comes in contact with the object. This is possible only if it has some similarity with the object, which, again, makes one conclude that the principle of consciousness is somehow inherent in the object, also. This is a gradual deduction that is made from the premise that knowledge of the object is possible. The conclusion, therefore, is that consciousness is potentially inherent in the object. The *Vedanta* calls it *Vishaya-Chaitanya*, and not merely *Vishaya*. *Vishaya* is an object; *Vishaya-Chaitanya* is object-consciousness. Here, *Vishaya-Chaitanya* or object-consciousness does not mean consciousness 'of' the object, but object which is itself a phase of consciousness.(Satprakashananda,1974:p278-80)

The studies done earlier must be remembered again, where it was concluded that consciousness is indivisible, and so it has to be infinite. If it is infinite, outside it nothing can be. The idea of infinitude implies that externality is anomalous. If consciousness is infinite, it has to be that, and it cannot be anything else. It cannot be finite, for the very knowledge of the finitude of consciousness would suggest the infinitude of it. It has to be infinite, and, therefore, external to it none can be; no object can exist outside consciousness.Thus, what is called an object turns out to be a phase of consciousness. It is a formation of consciousness itself.

## Conclusion

From the above logical arguments raised by *Sankara*, it becomes obvious that words certainly occur in *buddhi* and they are pronounced only through the mouth.[1] The meaning also exists in the *buddhi*. It may be also said that the meaning comes first and the spoken word later. One may learn the word corresponding to a meaning from the surroundings but the meaning of a sentence which is an ordered collection of words is not learnt newly. One already knows it. This sounds similar to the Western linguist, Noam Chomsky's theory of innateness according to which everyone has an innate knowledge of the principles of universal grammar. There is an inseparable relation between word and its meaning, when the one is cognized the other is recalled through association. The significance of a sentence is the relation among the meanings of the words syntactically conjoined. The apprehension of this relation (*SÞabda – bodha)* means the verbal cognition of the fact or truth. It is valid if uncontradicted by any other means of valid knowledge. The sentence is, in such a case, the *sÞabda pramana* the most authentic source of knowledge.

Thus it may be said that *Sankara* turned out to be a polemic against the *sphotòa vada* mainly because he wanted to establish the supreme authority of *sÞabda* and *sÞabda pramana.*

## Notes

1. Vakyapadiya – the celebrated work of Bhartròhari.
2. Brahmasutra bhashya- a commentary on Brahmasutra, one of the basic texts of Vedanta written by Sankara.
3. Sphotòa- word is considered as an integrated unit of meaning.
4. SÞabda pramana –means of valid knowledge through the authoritativeness of Sruti (Scriptures).
5. Sri Paramananda Bharati expounds this point in a lucid way. The intellect or *Buddhi* here is not to be taken as a physical or bodily aspect.

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# FINANCING INFRASTRUCTURE DEVELOPMENT IN INDIA: ISSUES AND OPTIONS

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## Abstract

*The need of adequate and quality infrastructure is an imperative of economic development of a country. There is a growing consensus among the policy makers to boost the infrastructure investment. Large infrastructure investment during the last decade or so has helped India emerge as one of the fastest growing economies in the world. However, over the past few years, the level of investment in infrastructure was far from satisfactory. It was less than required by the growing demand of the economy. This paper tried to shed lights on the major sources of infrastructure financing- government financing, debt financing, equity financing and their constraints and their future options*

The goods and services usually requiring higher investment, considered essential for the proper functioning of an economy is called the infrastructure of an economy. It is the lifeline of an economy, whichever sector be the prime moving factor of an economy, that is, primary, secondary or tertiary, suitable level of infrastructure is a pre-requisite of growth and development. That is why Government of India (GOI) has always given priority to the development aspects of the sector.

India is one of the fastest growing economies in the world. In fact, estimates suggest that lack of proper infrastructure pull down India's

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GDP growth by 1-2% every year ( Geethanjali,2007). Physical infrastructure has a direct impact on the growth and overall development of an economy. But, the fast growth of the Indian economy in recent years had placed increasing stress on physical infrastructure, such as electricity, railways, ports, roads, airports, irrigation, urban and rural water supply and sanitation, all of which already suffer from substantial deficit. The Union Budget 2005 , opined that, "the most glaring deficit in India is the infrastructure deficit". The goals of inclusive growth and 9 percent growth in GDP can be achieve only if this infrastructure deficit is to be overcome.

The relationship between infrastructure development and economic growth is well established. While infrastructure development facilitates economic growth, economic growth in turn increases demand for higher infrastructure. Thus, development of adequate and quality infrastructure is a necessary condition to maintain growth momentum in an economy. However, infrastructure development is a hectic job for any country as it involves huge investments, long – gestation periods, procedural delays and returns spread over a long period of time. These unique features of infrastructure development raise some issues which are specific to the financing of the infrastructure.

The infrastructure in India was financed almost entirely by the public sector. This is because infrastructure projects are complex, capital-intensive ,long-gestation projects that involve multiple and often unique risks to project financiers. The main feature of an infrastructure project is its non-recourse or limited recourse financing, that is, lenders can only be repaid from the revenues generated by the project. This limited recourse characteristics and the scale of complexity of an infrastructure project makes financing a tough challenge

Traditionally the infrastructure services are often monopolistic in nature, they usually involve high costs and long pay back periods, and investment are typically bulky and lumpy .Due to this constraints governments planned to commercialize the infrastructure projects. A solution to the problems associated with the traditional approach to infrastructure can be thus found in commercializing these projects. These bold new approaches promote improvement in efficiency and service quality. Mohan and Sankar (2010) finds five major factors that all leading economies in the world to consider enhanced commercialization of infrastructure provision are;

1 The massive investment requirement arising from sharply rising economic growth are pushing countries to look for additional sources of financing against the backdrop of fiscal stringency in most countries.

2 The rising awareness of the importance of efficiency in investment and delivery in the context of tight fiscal conditions, is leading to rethinking on the ability of government owned entities to supply infrastructure services in business like manner.

3 Change in technology now make it easier to charge for marginal use of infrastructure services. Such technological changes are making possible the introduction of competition horizontally and unbundling of services vertically.

4 The increasing need for countries to complete in the global market place is putting additional pressure on countries to provide efficient infrastructure services to their business in a cost effective and competitive manner. Higher infrastructure costs in terms of both price and time delays can make the difference between firms being globally competitive or otherwise.

5 The new dynamism and integration of world capital market have vastly increased the possibility of raising large funds for infrastructure investment on a commercial basis whereas earlier, it was governments

which had better access to resources. In many cases, it is now the private sector which has the capability of sourcing large funds internationally.

Thus the commercialization of infrastructure investment had increased rapidly over the last decades, however the role of public sector continue to be important. As a result almost all economies of the world resorted to Public Private Partnership (PPP) models in the infrastructure development .Public Private Partnership thus considered as an attractive off-budget mechanism for delivering infrastructure services.

During the Tenth FYP (2002-07) less than 5% of GDP was invested in infrastructure. It increased to around 8 percent of GDP in the Eleventh plan period. In the Approach paper to the Twelfth FYP, investment requirement in the infrastructure sector is estimated as 45 lakh crores. This implies that infrastructure investment well need to increase from about 8 percent of GDP to 10 percent of GDP in 2016-17. Here lies the problem of financing infrastructure. If we want to invest around 10 percent of GDP for infrastructure in the Twelfth plan, the financing requirement is very huge. At this point, it is legitimate to ask, how do we finance it? What are the major sources and their problems in financing infrastructure? what can be done for improving infrastructure spending? This paper try to shed light on these areas one by one briefly.

## Sources of Infrastructure Financing

### I. Public Sector

The major financier of the infrastructure project in India is the public sector - from government budgetary allocations and internal resources of public sector infrastructure companies. According to the erstwhile planning commission, during the first three years of Eleventh FYP, the central government financed around 45 percent of the total investments in infrastructure projects. But under the fastest growing nature of the Indian economy and the glaring fiscal deficit, financing huge infrastructure projects becomes a hectic job for the government. As the government, being the leading financier to infrastructure projects, fails to finance it, it leads to a serious problem viz. Funding Gap. Moreover, rising fiscal deficit and international economic slowdown may further aggravate funding gap problem.

In order to overcome this major issue and to accelerate high growth in infrastructure sector, GOI has taken several initiatives in the past. They are;

**a) PPP in Infrastructure**

As the government face constraints to finance huge infrastructure project, they invite private sector to invest in the sector and thereby initiated public – private partnership projects in infrastructure development in India. Over the years, due to transparent, fair and competent policies, GOI had succeeded in attracting huge amount of private sector investment in infrastructure. According to the "Private Participation in Infrastructure Database of the World Bank [India](2006) with 1,017 PPPs accounting for an investment of Rs 486,603 crores. India is second only to China in terms of number of PPPs; in terms of investment it is second to Brazil. Transport is the dominant PPP sector in India both by the number of projects and investment, followed by urban development, ports, power etc. Another World Bank study (2007) found that the total value of Public Private Partnership infrastructure projects in India that have achieved financial close during ten years prior to 2007 was about 15.8 billion U. S Dollar. The study also opined that year after year the trend is increasing, during 2004-07 alone, public private partnership infrastructure projects worth 8.2 billion USD had achieved. By the end of March 2014, there were over 1300 projects in the infrastructure sector with a total project cost of Rs 6,94,040 crores(Economic Survey 2013-14).

The main providers of the finance for the public private partnership projects are:

1. Mutinational Agencies( world Bank, ADB, IFC etc)
2. Commercial Banks
3. Project Sponsors
4. Government.

The public private partnership models can be classified into five major categories:

- ❖ Supply and management contracts
- ❖ Turnkey
- ❖ Affermage /Lease
- ❖ Concessions and
- ❖ Private ownership of assets.

Each of the models have sub-variants also. In India, so far we adopted only three models and they are-(a) Build-Own-Transfer(BOT) , (b) Modified design build Turnkey project and (c) Performance based Management/Maintenance Contract.

Despite of huge chunk of private investment in infrastructure. The PPP projects faces severe constraints. The Economic Survey (2008 -09) noted six key hurdles faced by PPPs are: a) policy and regulatory gaps, b) inadequate availability of long – term finance c) inadequate capacity in public institutions and public officials to manage PPP processes, d) inadequate capacity in the private sector and technical manpower e) inadequate shelf of bankable infrastructure projects and f) inadequate advocacy to create greater acceptance of PPP by the stakeholders.

**b) Viability Gap Funding (VGF)**

VGF was introduced in 2006, which provide central government grants upto 20 percent of the total cost to PPP projects undertaken by any central ministry, state government, statutory entity, or local body. The scheme aimed at providing upfront capital grant to PPP projects to enable financing of commercially unviable projects. According to Economic Survey (2013-14)under this scheme, 178 projects have been granted approval with a total project cost of Rs. 88,697 crore and VGF support of Rs. 16,894 crore of which Rs. 1,455 crore has been disbursed.

**c) Special Purpose Vehicle (SPV)**

GOI established a SPV for financing infrastructure project, which faces difficulties in raising resources. SPV was established to finance infrastructure projects in specified sectors such as roads, ports, airports, tourism etc. It helps to lend long term fund directly to the eligible projects to supplement other loans from banks and financial institutions. For 2005-06, the borrowing limit has been fixed at Rs 10,000 crores(World Bank 2006).

Both VGF and SPV are highly sensitive to financial status of the central government. The continuous Fiscal Deficit creates greater uncertainties in working of these programmes.

**d) Support for Project Development of PPP**

The Indian Infrastructure project Development Fund (IIPDF) was launched in 2007 to facilitate quality project development for PPP projects and ensure transparency in procurement of consultants and projects. As per the Economic Survey (2013-14) so for 53 projects have been approved with IIPDF assistance.

**e) Setting up of various committees to smoothen the procedures**

Several committees like Cabinet Committee on Investment, PPP Appraisal committee and Empowerment committee were set up for the speedy and transparent functioning of the infrastructure projects.

**f) Infrastructure Debt Fund (IDF)**

The Union Budget 2011 – 12 announced the setting up of Infrastructure Debt Fund to accelerate the flow of long – term funds to the infrastructure projects. Potential investors under IDF may include off – shore institutional investors, off-shore high Network individuals, and other institutional investors, such as insurance funds, pension fund, sovereign wealth Fund etc. It can be set up either as a trust or as a NBFC. The income of IDFs has been exempted from incomes tax. As on march 2014, there are two IDF – NBFCs and five IDF mutual funds have been operationalised(Economic Survey 2013-14).

**II. Debt Financing**

Another major source of infrastructure financing, after public sector, is debt financing. According to the erstwhile planning commission, during the first three years of Eleventh FYP, 41 percent of total investment in infrastructure is financed through debt financing. Until the mid 2000, there was no major demand from the financial system to fund infrastructure investment, as it was fairly low around 3.5 percent of GDP(Economic Survey 2014). It was in the Eleventh plan period that, the financial system began to finance long – term infrastructure projects. Most of the debt financing came from commercial banks, NBFCs, ECB, followed by Insurance companies.

**a) Commercial Banks**

It is important to note that within the debt financing, commercial banks alone financed around 44 percent in 2011 – 12(Economic Survey2014) . Asa result of increase in credit –deposit ratio, owing to reduction of statutory liquidity ratio investment as as share of deposits from 47.3 percent to 29 percent in 2010-11, credit to infrastructure in gross bank credit increased from 6 percent in march 2007 to 9 percent in march 2009 and to 11 percent in march 2011. Similarly share of infrastructure as non-food credit rose from 8.23 percent in march 2007 to 10.38 percent in march 2009 again to 14.69 percent in march 2011. As a result, it is estimated that banks were able to provide about half the debt finance needs of infrastructure investments(WSGI 2012-17). But the latest data available on gross deployment of bank credit to major infrastructure sector shows that the rate of growth of bank credit moderated from 44.8 percent to 17.7 percent in 2013-14(Economic Survey 2013-14).

Several factors were responsible for such a fall back in infrastructure spending by the banks. The WSGI (2012 – 17) viewed, rapid growth in bank credit to infrastructure has resulted in a larger concentration of risks in banks due to asset- liability mismatch and reaching exposure ceiling. The Report also highlights most of the commercial banks have almost reached prudential caps for all major infrastructure projects like power, road etc. Besides, the failure of 'take – out financing' to finance long – term projects with medium term funds is also responsible for the moderate growth of infrastructure spending of banks in the year 2013 – 14.

**b) Non – Banking Financial Companies (NBFCs)**

As the credit demand for power, telecom and road sector increases, the NBFCs started to finance such infrastructure projects. The key infrastructure Finance Companies (IFCs) are Power Finance Corporation (PFC), Rural Electrification Corporation Limited (REC), The Infrastructure Development Finance Company Limited (IIFCL) and Industrial Finance Corporation of India (IFCI).

The Credit from IFCs to infrastructure sector has increased from Rs 1,10,549 crores in 2008 to 1,81,595 crores in 2010. The Power Finance Corporation and Rural Electrification Company together constituted about 80 percent of the lending by Infrastructure Financing companies(WSGI 2013-14). During 2013-14, the Indian Infrastructure Finance Company Limited(IIFCL) mobilized long – term resources primarily from multilateral and bilateral institutions like ADB, world Bank, aggregating Rs 1,605 crores as compared to Rs 1,080 crores raised during 2012 – 13. In the year, 2013 -14, the IIFCL mobilized Rs 9,840 crores through tax free bonds as against Rs 10,000 crores allocated to the IIFCL(Economic Survey 2013-14).

The Working Sub Group on Infrastructure(WSGI2012-17) had observed that the Non- Banking Finance Companies would further increase their lending capacity in order to cater the growing demand from infrastructure sector during 2011-17. They also opined that the gross credit available from the Infrastructure Financing Companies towards infrastructure sector during financial years 2013-17 is likely to be approximately Rs. 4,00,000 crores.

However, one fact that we keep in mind that the IFCs like PFC and REC are specified NBFCs to fund only power sector. Thus, growth in specified NBFCs lending only favours their specified areas, not for the entire infrastructure projects, which is considered to be a severe constraint for NBFCs as a source of financing infrastructure.

**c) Insurance Companies**

Insurance sector in India had a huge volume of long-term funds. However thy are not a significant player in infrastructure financing. Insurance sector in India was largely dominated by the public sector. By the initiation of New Economic Policy in 1991 and the setting up of Insurance Regulatory and Development Authority (IRDA) , a huge amount of private companies entered into both life and non-life segments of the insurance. As on 31 March 2006 total fund invested by insurance market (both life and non-life) in India was to the tune of USD 97.7(Price-Water Coopers for World Bank,2007) Life Insurance Companies are required to invest 15 percent of their Life Fund in infrastructure and housing. The WSGI (2012-17) viewed, although the Asset under management of Life Insurers in the Life Fund increased at a CAGR of 16.31 percent per annum, the share of Infrastructure investment during the same period increased only marginally from Rs 69,837 Crores to Rs. 72,439 crores, at a CAGR of 1.25 percent. As a result, the share of investment in infrastructure in the life fund has come down to 10 percent in 2011.

The WSGI (2012 – 17) Opined, the insurance penetration is estimated to continue to rise, with the insurance premium growing from the current approximate 4 percent of GDP to 6.4 percent of GDP by the end of the Twelfth FYP.

However, the insurance companies have its own limitation in financing infrastructures. They are constrained by their obligation to invest a substantial portion of their funds in government securities. This prevents them from financing huge infrastructure projects. Besides, they are also prohibited from investing in debt securities rated below very strong i.e, AA. Most of the infrastructure projects are implemented through Special Purpose Vehicle (SPV) route. Hence. Credit rating of a new project is unlikely to get AA or higher rating(World Bank 2007) This limits the direct investment of insurance companies in infrastructure sector.

**D) Overseas Market : ECB**

Another source of infrastructure financing is External Commercial Borrowings (ECBs). The share of infrastructure investment in overall

ECB has gradually coming down. The WSGI (2012 – 17) estimates 10 percent of ECBs are assumed to be channelize towards infrastructure investment for the purpose of 12th FYP. The Report also estimated total ECB at Rs 5,49,574 Crores and the external funds towards infrastructure funding is estimated at 54,957 crores.

Despite the increase in ECB for infrastructure, these funds are inadequate compared to the needs. It is mainly due to a) interest cap on ECBs, which prevents access to different debt or quasi – equity instruments like mezzanine financing, b) lack of a sufficiently deep forward market in foreign exchange etc

### III. Equity Financing / FDI

Raising adequate equity finance tends to be the most challenging aspects of infrastructure projects financing. Equity can be provided by project sponsors or financial investors. According to the erstwhile planning commission, the equity / FDI financing during the first three years of the Eleventh FYP were approximately 14 percent of total investment. The WSGI (2012-17) assuming that the proposed infrastructure spending gets funded in the same ratio, the equity/FDI available in estimated at Rs. 4,55,414 crores.

**Total FDI flow in to the major infrastructure sector(in crores)**

| SECTORS | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|---|
| Power | 127.79 | 1271.77 | 1652.38 | 535.68 | 1066.08 |
| Non-Conventional Energy | 622.52 | 214.40 | 452.17 | 1106.52 | 414.25 |
| Petroleum& Natural Gas | 265.53 | 556.43 | 2029.98 | 214.80 | 112.23 |
| Telecommunication | 2539.36 | 1664.50 | 1997.24 | 303.87 | 1306.95 |
| Air Transport | 23.71 | 136.60 | 31.22 | 15.89 | 45.95 |
| Sea Transport | 285.85 | 300.51 | 129.36 | 64.62 | 20.49 |
| Ports | 65.41 | 10.92 | 0.00 | 0.00 | 0.31 |
| Railways | 34.43 | 70.66 | 42.27 | 29.85 | 236.93 |
| **Grand Total** | **10578.92** | **61,92.73** | **96,90.06** | **3,793.14** | **4,657.20** |

*Sources: Economic Survey 2013-14*

At the same time GOI had made significant changes in the FDI policy. As a result, total FDI flows into major infrastructure sector registered a growth of 22.8 percent in 2013-14 as compared to a contraction of 60.9 percent during 2012-13. Sectors recording positive growth included railway – related components, telecommunication air transport, power etc (Economic Survey 2013-14)

However, equity financing by financial investors faces severe constraints like, a) limited exit option, b) shallow capital market, c) Corporate governance etc.

So far the paper discussed major sources and issues of infrastructure financing in India. Now, I would like to discuss some future options very briefly to enhance the infrastructure financing in India. For that purpose, I would like to project the total funds available from different sources apart from budgetary support for financing infrastructure in Twelfth FYP.

Total Equity and Debt Fund Available to finance Infrastructure during (2012- 17)

| | Sources | Funds Available (in crores) |
|---|---|---|
| | Debt Financing | |
| a) | Commercial banks | 7,43,511 |
| b) | IFCs | 3,84,477 |
| c) | ECBs | 54,957 |
| d) | Insurance Companies | 1,50,766 |
| | **Total Debt Fund** | **13,33,712** |
| | Equity/ FDI | 4,55,414 |
| | **Total Funds** | **17,89,126** |

*Sources: Working Sub Group on Infrastructure: Report of the Infrastructure Funding Requirements and its Sources over 12 Five Year Plan 2012-17.*

The GOI estimates Rs 65 lakh crore for financing the infrastructure project in the 12th FYP. For that the Budget support will be 50 percent of the total amount. The remaining 50 percent must come from other sources. The WSGI calculated, total funds from both debt and equity sector would be Rs 17,89,126 crores. Thus there arises a funding gap of Rs14,60,874 crores. For bridging this gap, several corrective and innovative measures must be undertaken. Here lies the importance of future option in infrastructure financing.

**The Way Ahead**

Several measures were already taken by the GOI and other regulatory bodies for the smooth flow of funds towards infrastructure projects. Apart from that some more options to enhance the fund availability are;

- Infrastructure projects have long-gestation period , so there is an urgent need to facilitate equity financing.
- Encouraging the use of more innovative financing instruments like mezzanine financing and take-out financing in infrastructure investment.
- Improving efficiency of corporate bond market and thereby reduces the undue emphasis on commercial banks for the infrastructure funds.
- Reorient the investment guidelines of institutional investors like insurance companies, provident fund etc and give them more space to invest in infrastructure project.
- Reserve Bank of India must adopt policies for liberalizing and rationalizing External Commercial Borrowings and create a better platform for tapping ECBs for infrastructure projects.
- Government must undertake suitable measures to encouraging

participation by financial institutions like commercial banks, insurance companies, pension funds, mutual funds etc in infrastructure financing.

- Government need to assure future investors that there is an intention to lay out clear policy frame work for each sector and reduce uncertainties arising out of policy implementations and arbitrary actions in contractual commitments of the government.
- There is an urgent need to establish a special unit for handling public private partnership project in the government sector so as to formulate policies and regulatory frameworks for sectors where no frameworks has been articulated and thereby develop quality infrastructure facilities in our count

## Conclusion

As 1 mentioned earlier, infrastructure is lifeline of an economy. No economy can develop without adequate physical infrastructure. By analysing various sources, issues and options of infrastructure financing. I concluded that, within a short span of years by eliminating all its short comings, India will become a leading investment destination in the world owing to its high and quality infrastructure facilities. Hope that, the new government at the centre would act as a catalyst for developing infrastructure sector in India.. Let's hope for the "Ache Din" in infrastructure sector.

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# A CENTRALISED NUCLEAR POLICY IN THE 'DECENTRALISED' DEMOCRACY: THE STUDY OF ANTI- NUCLEAR MOVEMENT IN KOODANKULAM

**Bhawna**[*]

## Abstract

*Today, the issue of energy security looms higher in the agenda of all nation states. It is here that the role of nuclear technology as a means to secure energy becomes important in India. However, protest against the nuclear energy generation in Koodankulam has been growing since a couple of decades. This article seeks to explore as to how the overly centralized nuclear policy of India undermines the foundation of democracy, the principle on which entire Indian Republic is based. This is done after the thorough analyses of the concerns of the people of Koodankulam over the construction of Koodankulam Nuclear Power Plant (KKNPP), their ideology, nature of protest, actors involved in the protest and the reaction of the government towards the movement.*

**Key Words:** Centralization, KKNPP, Democracy, Development, Secrecy.

In today's era of globalization all countries developed and developing needs the continuous and unfettered supply of various energy sources to meet their developmental goals. Just like all other modern nation states India also aims to get self-reliance in terms of securing its energy needs. Tata Energy Research Institute (TERI, 2010) highlights that a

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country becomes energy secure when we can supply lifeline energy to all our citizens irrespective of their ability to pay for it, as well as meet their effective demand for safe and convenient energy to satisfy their various needs at competitive prices, at all times and with a prescribed confidence level considering shocks and disruptions that can be reasonably expected. However, India is currently facing huge energy shortage of 10% in energy terms and 17% in peak demands. (Integrated Energy Policy, 2006). India accounts to produce around 2.4% of world's energy production. However it consumes nearly 3.3% of world's energy sources. (Kanani, 2010). India's current dependence on non – renewable resources like coal and petroleum is insufficient to bridge the gap in the near future. Therefore there is an immense need to diversify the energy sources in India. It is here that the role of nuclear technology becomes important.

Even before independence, our scientists were not unaware of the world of Atoms. Since the discovery of Atoms in 1939, Indian nuclear scientists who were doing their research abroad like Meghnath Saha and Homi Jehangir Bhabha were in fact very curious about nuclear atoms. In 1944, Bhabha wrote a letter to Sir Dorab Tata trust, a Philanthropic organization of the Great Industrial family to which Bhabha was related to through his paternal aunt. (Cockcroft, 1967). As a result, Bhabha got successful in establishing Tata Institute of Fundamental Research in 1945 in Mumbai which has turned up as the primary nuclear research center of India. Very soon scientist's love of atoms transformed into the strong affection of our decision makers towards nuclear technology. It was largely due to the fact that Nehru had a strong affiliation towards science. He viewed science as a tool which could emancipate India from poverty, destitution and hunger. Unlike Gandhian thinkers he viewed science from a realistic perspective.

The model of economic development famously known as Nehru

Mahlanobis model was based on three key features: Heavy Industrialization , Mixed Economy and Planning. In order to make this successful, India needed to be self-reliant in terms of securing its energy needs. Most of Indian energy sources were based upon conventional resources like coal, petroleum, gas etc. and they too India not had in plenty. India required the energy option which could yield maximum energy and could make India self- reliant in the field of nuclear technology. That is why Nehru was very much positive about the nuclear technology. He while addressing the constituent assembly of India opined that if India had to remain abreast in the world as a nation which keeps ahead of things, we must develop the atomic energy. (Constituent Assembly of India Debates, 1948,). Homi Jehangir Bhabha, who is considered as an architect of the Indian nuclear programme, even went to the extent of saying that if nuclear energy is successfully applied for power production in, say, a couple of decades from now, India will not have to look abroad for its experts but will find them ready at hand. *(*Mirchindani, 1968).Together Nehru and Bhabha largely shaped the nuclear destiny of India. This period has been to as the period of the Personalised policy of Bhabha and Nehru.(Sharma, 1983).

Nuclear energy was considered as a synonym to energy security badly required to feed the energy hungry India as the economic model India adopted since independence relying heavily on heavy industries was too much energy intensive. However, the developments in this field were kept as secretive and centralized as was possible. (Sharma, 1983). Democratic India negated democracy in the nuclear field and debates and discussion over nuclear fields were kept limited. However there were people who raised concerns over secrecy and centralisation over the nuclear field. When the deliberations related to the Atomic Energy Act were going on in Parliament of India in 1948, Dr. Pattabhi Sitaramayya pointed out that state monopoly over nuclear energy is unnecessary and overcautious. "Perhaps if it would have been left open to anybody to make research in this new domain it would have served to diminish the chances of war in the world much more than when it is kept a monopoly and a secret... I doubt very much whether, after all, this monopoly and this element of secrecy ... is not destined to promote the war spirit and preparation of war more than of peace."(Constituent Assembly of India, 1948, P.3315) Another Member of Parliament, S.V. Krishnamurthy Rao also pointed out that the proposed Indian Atomic Energy Act is more secretive than that in UK, USA or other western countries. He also raised concerns over the absence of effective checks and balance system in case of nuclear energy. His concern was primarily as to why the scientific communities, strategists, industrial community and public at large cannot be consulted as far as atomic energy for peaceful purposes is concerned.

Nuclear energy sector has been further centralized through various legislative measures. The Atomic Energy Act of 1948 and 1962 has made nuclear sector of India highly secretive and centralized. According to the Atomic Energy Act of 1962 no citizen has the right to ask, or gather or disclose any information about present, past or future or planned atomic plants. Moreover, the central government has the power to decide on the location of nuclear plant irrespective of the choice of the state government. Also the officers responsible for the particular nuclear plant are appointed by and are directly answerable to the central government. (Atomic Energy Act, 1962). The Right to Information Act of 2005 is not bound to disclose any information about Indian nuclear sector. This secrecy and centralization is not only visible in the sphere of militaristic orientation of nuclear technology, but also in the case of civilian nuclear energy sector of India. First of all, all powers are concentrated in the hands of the Prime Minister and the chairman of atomic energy commission. The chairman of Atomic Energy

Commission (AEC) has to report directly to the Prime Minister and does not have to report to the union cabinet of ministers or to the Parliament. He can overrule any member of the Parliament except the Member of Finance. The chairman is also the secretary to the Department of Atomic Energy. The power to make policies and to execute them also lies in the hands of the chairman of the AEC. (Mathai, 2013).

Also, the state government does not have much say in the nuclear energy sector of India. It is the central government which makes and implements nuclear plans.

Secondly, the centralization of nuclear energy sector has been further strengthened by subordinating Atomic Energy Regulatory Board (AERB) to Department of Atomic Energy (DAE) and Nuclear Power Corporation of India Limited (NPCIL), the bodies it is tasked to inspect. The AERB reports to AEC. The head of which is the chairman of DAE. The chairman of Bhabha Atomic Research Centre (BARC) and NPCIL are also members in AEC. However AERB is not the member. This makes the watchdog task mere namesake and formality. AERB also depends upon DAE for funds. It also depends upon DAE for technical and scientific staff. This makes the effective checks and balance system in case of nuclear energy sector futile. Moreover, it is not entitled to carry out the analysis of radiological exposure of workers at DAE facilities. The task is to be done by NPCIL or BARC. Even this namesake powers of AERB are also on the verge of extinction as after the Fukushima nuclear disaster of 2011, the Indian government introduced Nuclear Safety Regulatory Authority (NSRA) bill in parliament, to create a new organization which would eventually replace AERB. However in the draft bill many of the decisions involved in ensuring effective regulation will continue to be controlled by AEC. (Ramana, 2012). This bill if passed will further centralize the nuclear sector. The proposed bill outlines that central government could regulate certain nuclear facilities on its own without any kind of external supervision on it. Even the members of NSRA including the chairman could be removed without a judicial trial. Moreover the decisions of NSRA could be challenged in the Appellate authority which is not a standing body and could be formed by a council as and when a need arises. (The Nuclear Safety Regulatory Authority Bill, 2011). If this bill gets passed it will further snatch away whatever crumbs of power are left with the AERB.

This over centralization of nuclear sector in India gives a detrimental blow to the democratic credentials of Indian polity. In the following section we are going to explore this in further detail by analyzing how the centralized nuclear policy of India is impacting democracy at Koodankulam with reference to the Koodankulam Nuclear Power Plant.

## Koodankulam Nuclear Power Plant – A Brief Introduction

Koodankulam is a small town in the Tirunelveli, Kattabomman district of the Tamil Nadu. Located in the Gulf of Mannar, Koodankulam is 25 km to the north east of Kanyakumari and 35 km from the nearest town, Nagarcoil. (Agarwal, Chauhan, Misra, 2005). Nearly 80% of Koodankulam population is engaged in fishing. The womenfolk make their living by rolling beedi. (Srikant, 2005). According to the census 2001, the population within the radius of 2 to 5 km of the plant is 19,497, within 8-16 km is 86,745 and within 16-32 km is 7,50,499. The nearest residential colony to KKNPP is Tsunami Rehabilitation Colony with 450 houses occupied by 2006. (Anitha, 2012). A project which set up a nuclear power plant in Koodankulam, was formalized on 20$^{th}$ November 1988 when the agreement was formally signed by Indian Prime Minister Rajiv Gandhi and erstwhile USSR President Mikhael Gorbachev. However due to the disintegration of the Soviet Union in 1991, the agreement remained dormant until it was revived in 1997 as it was beneficial to both the successor state Russia and India. The project could benefit Russian economy which had come to a standstill and give a drastic boost to its crippling nuclear sector. For India, the project was important to meet its energy security.

**Brief History of the Opposition to KKNPP**

KKNPP plant is witnessing an opposition to it since its inception in 1989. Just within one year of the signing of the agreement, nearly 15000 fishermen in Koodankulam protested due to the insecurities they were having regarding their livelihood as the discharge of hot water into sea could adversely affect their catch. Farmers also rose to protest as there was a diversion of water from the nearby Pechiparai dam, which could affect the irrigation of their fields. On December 19, 1988 the protest became too troublesome for the state that they decided to postpone the foundation laying ceremony of the plant which was scheduled on that day. (Srikant, 2009). On the same day, an organization named Samathuva Samudaya Iyakkam (Social Equality Movement) organized a massive rally in which people of the three districts namely Tirunelveli, Kanyakumari and Tuticorin participated in significant numbers. The police on the other hand fired on the rally of peaceful protesters led by Father Thomas Kocherry in Kanyakumari. Initially, the protest was limited to a small section of the population as a significant number of people looked forward to job opportunities that the plant would offer. (Anitha, 2012). However, the number of anti-nuclear protesters rose gradually due to the efforts of the activists and organizations in spreading awareness regarding nuclear technology. Between1997 when the project got revived till present, NGO's and activists created awareness through various workshops, Nukad Nataks, rallies etc on issues ranging from the dangers of radiation to displacement of people, to livelihood, to center directed development. Many of the agitators cited the Chernobyl disaster of 1986 as an example which occurred due to the faulty design of the reactor.

## Actors of The Anti-Nuclear Movement in Koodankulam

The anti- nuclear movement in Koodankulam is supported by variety of people including the elites, scientists, economists, professors, students, activists, peasants, fishermen, residents, environmentalists and so on. The issue is not limited to just the people of Tamil Nadu but has spread even outside India gaining support from many international NGO's and activists worldwide. Though there is a broad uniformity in the agenda of these actors, yet differences emerge slightly owing to their differing concern emanating out of construction of the plant. Some are more concerned about the cost, others about the environment and so on. Though the main leadership has been provided by Udaykumar and Pushparayan, yet the contribution of women could not be ignored. Rani Dasan and Thenmozhi Manickam received the Chingari award on behalf of all the women of Idinthakarai by Dr. Vandana Shiva for their contribution in the anti- nuclear movement going on in Koodankulam. It is crucial to note that as early as in 1988, there were number of organizations protesting against the settling of the KKNPP even before the famous PMANE (People Movement Against Nuclear Energy) came into existence. The groups included National Alliance of People's Movement (NAPM), the National Fish Workers Forum (NFF), the Tamil Nadu Fishworkers Union (TNFU), the Social Action Movement (SAM), the Palmyrah Workers' Development Society (PWDS), the Peace Association for Social Action (PASA), Group for a Peaceful Indian Ocean (GPIO), and many others have directly or indirectly opposed the Koodankulam project in various parts of the Tamil Nadu. (Udaykumar, 2004).

## Ideology of the Movement

The Anti- nuclear movement in the Koodankulam has largely remained Gandhian in nature. None of the activist has shown any kind of violence on their part. "The Koodankulam struggle has emerged not merely as the most defining challenge to the nuclear power in the country today but is also one of the strongest demonstrations of the non-violent people's power." (Anitha, 2012).The protestors have used variety of peaceful methods like sea satyagrahas, hunger strike, press conferences, public rallies, meetings, awareness campaigns and so on.

## Impact of Centralised Nuclear Planning on Democracy at Koodankulam

### Democracy and KKNPP

First of all, a true democracy has to be participative in nature. After all, that is why in a democracy we choose our representatives at local, state and central level of government so that we could express our concerns through them. Development of a nation in a democracy should be bottom up rather than being top- down. However, the same does not hold true in case of KKNPP. The people of Koodankulam were never consulted by the government before taking the decision to build up a nuclear power plant there. Many of them were in fact ignorant about the nature of nuclear technology and the pros and cons of it. It was only after the active involvement of NGO's at various levels the people came to know about the nature of nuclear atoms. Thereby the happenings at KKNPP raise a crucial question mark on the nature of participative democracy in India. Before enforcing their own development plan into any region, a democratic government has a duty to crosscheck the plan in terms of needs of the people. Most of the people living in Koodankulam and its surrounding areas lead a very simple life. Around 80% of the population indulges in fishing. Women are also actively indulged in making their living by various occupations like rolling beedis, marketing fishes and prawns caught by their family members to the nearby markets and so on. Their energy needs are very much limited. The electricity generated from KKNPP will be satisfying the energy hunger of big metropolitan cities. (Anitha, 2012). But the cost will be borne by the people of koodankulam and its surrounding areas. This centralization of development planning snatches the liberty of people to develop the development model suitable to the needs of their region. It also undermines the Panchayati Raj system and enforces one side development plan on the region where there is no readiness on the part of people to set up a nuclear power plant in their region. Such a centralization acts against Gandhian dream of Local self - government.

Every development plan should bring about more opportunities for the people, rather than snatching their already available opportunities. We have seen in case of various anti-dam movements that the cost of energy generation many a time has to be borne by the poor people directly dependent upon land by losing their livelihood and their habitat. Same happens in the case of KKNPP. The construction of plant at KKNPP has threatened the livelihood of various people living in the region. Most of the people living in the KKNPP region are fishermen and they don't have any alternative source of livelihood. The discharge of hot water into the sea would adversely affect their catch. Not only will this put the fishermen of the region into greater misery and destitution, but it will also affect the food security of the people of entire Tamil Nadu. The water discharged could be radioactive in nature and its release into the water bodies could affect the health of the people adversely.(Udaykumar, 2012). Even the residents of Tsunami Rehabilitation Colony which is just 900 metres away from the KKNPP are given only the conditional ownership to the buildings. The title deed of their rehabilitation says that in case of an emergency they have to evacuate the place immediately. However the residents are not well informed about how will the evacuation take place in case of an emergency? Some of them don't even know that why is their colony being referred to as the sterilized zone or the evacuation zone. Or where will they be taken in case of an emergency and how will they be compensated for the land taken. When KKNPP was conceptualized many of the villagers were hopeful that it will provide them up with jobs and development, but very soon it proved otherwise. "Look at our lives, how much it has changed since 1988 when news of this development project reached us. We were curious at first to know if it would offer us jobs and also help to develop this region with a much needed roads, bus services, a good hospital and some more schools. But very soon it proved otherwise." (Anitha, 2012). The compensation of only Rs 2000 was given for one acre of land and Rs 100 per cashew and tamarind tree was given. This amount was very insufficient compared to the support these resources used to provide to their possessor. The job opportunities provided by the KKNPP required higher degree of skills and expertise which the people living in the region are lacking at present. Moreover, there is no adequate mechanism to compensate the people aptly in case of a disaster. Russia insists that the secret Inter Governmental Agreement signed between India and Russia in 2008 is still valid, so it does not need to adhere to Nuclear Liability Act passed by the Indian Parliament.

The people of the region suggest for the usage of greener energy modes. The nature has endowed Koodankulam, with high speed wind blowing at major part of the year. The area could be used as a wind mill park. The area also has a long coastline suitable for the generation of tidal energy. Activists seem justified in raising alternative energy sources slogans for supporting their protest against KKNPP like, "KattalYundu, KadalalaYundu, Varsham Muzhuvan surya oliya ennathikinth aannulai inge?" (We have wind and tides. Solar the year long. Why then this nuclear plant here?). "Instead of imposing nuclear power upon unwilling people, India should join the renewables revolution for handsome gains...Renewable energy is growing by leaps and bounds because it is flexible, modular, and increasingly competitive, thanks to rapidly falling costs. It takes only months, often weeks, to install a PV facility or wind turbine, in contrast to 10 to 13 years for nuclear reactors."(Bidwai, 2012).

**Safety of the People, Environment and KKNPP**

A good democracy also has to make sure that its people are living in cleaner and safer environment. The right to life guaranteed by the Article 21 of the constitution of India does not qualify for mere animal existence, but the person has to have a meaningful and decent existence. Under this right people have a right over all the basic necessities which qualify for a decent living like clean water, green and safe environment, right to food and other such rights. But the KKNPP tries to snatch away this fundamental right of people in variety of ways.

First of all, India is the only country in the world which is using all kinds of reactor designs namely BWR (Boiling Water Reactor), PWR(Pressurised Water Reactor), FBR (Fast Breeder Reactor) and PHWR (Pressurised Heavy Water Reactor). When even the most advanced countries of the world are facing difficulty in managing and operating even one type of these reactors, Indian decision to go for all into its bucket reflects a bit of overconfidence on the part of India. (Subbarao, 2010).The reactors at Koodankulam are of VVER type. It has been referred by many people as highly unsafe reactors. Dr. AleyxYablokov, who is the chairman of Russian Federation National Ecological Security Council, stated that the VVER types of reactors are highly unsafe. In fact the reactors built at Koodankulam have no previous prototype in the world. In all of the nuclear plants in western countries we could see vertical steam generators whereas in the Koodankulam it is horizontal.

This poses a risk of primary to secondary system leaks. Moreover, instead of one emergency shutdown system as is there in all other western plants, VVER 1000 type of plant has four different emergency shutdown systems. The issue book of IAEA also points out that VVER 1000 reactors have number of safety problems. Like the control rods are sticking in the control rod guiding tubes rather than inserting properly. Also there is very large number of steam lines closer to emergency feedwater lines and main feedwater lines. The leakage in any steam line could bring a serious catastrophe. (Hallam, 1999). However, governmental agencies like NPCIL refute this claim by saying that Koodankulam Nuclear Power Plant has a number of added safety features like double containment of the plant, Passive heat removal system to provide cooling for removal of heat decay, Higher redundancy for safety systems, larger numbers of control rods, additional shutdown systems for the reactor like second quick-acting shutdown system and quick boron-injection system, advanced instrumentation systems of advanced technology for Reactor System and Balance of Plant as well as for Plant Computer System. It also highlighted some of the additional safety features such as core catcher, Hydrogen management system to mitigate severe accident scenario as witnessed at Fukushima in Japan. (NPCIL, 2016) (Rostaom, 2005) (Bagla, 2011)There are diversities of opinion with reference to safety aspect of the KKNPP and both of the argument raised from the side of protestors as well as government, seems to be equally impressive. However, excessive secrecy with respect to KKNPP plant, documents related to the deal signed by India and USSR and other policy documents like Environment Impact Assessment raises suspicion on the claims of DAE and NPCIL. Even if we ignore the safety aspects of the plant, there still appears an imminent threat to the right to life of the people living there.

Secondly, there is a threat of terrorism on the nuclear power plants of India. On February 4, 2000 around 2000 bombs were seized from the Koothankuzhi village in Koodankulam Police station area. Even if these bombs were not related to the Protests over the KKNPP, the bombs found near the plant site raise serious security concerns.

Thirdly, even in its daily operation, the plant will be emitting iodine 131, 132 and 133, cesium 134, 136, 137, strontium, tritium, tellurium and other radioactive particles into the atmosphere. The region is already having a large degree of natural radiation due to the presence of monazite sand. (Udaykumar, 2004). The radioactivity released in the environment will contaminate the entire food chain. Like Chellamma a resident of Idinthakarai when asked about why they oppose KKNPP, pointed out that we oppose KKNPP because of what it does to the women's bodies. With radioactivity entering food chain women will not be able to give birth to healthy babies. This particular statement reflects people's fear with reference to the radioactive impact of nuclear energy. (Interview with Meldrid, Idinthakarai, 2016)

Fourthly, a good safety plan requires an effective evacuation policy in case of a nuclear meltdown. But in the case of KKNPP there is no effective evacuation scheme. People north and west of Koodankulam could escape northwards. But the people south of Koodankulam would be literally trapped. (Udaykumar, 2012). As against the guidelines issued by AERB more than 1 million people live within the radius of thirty km of the plant. It is literally impossible to effectively evacuate these many people in case the catastrophe takes place. (Transcend, 2011).

Fifthly, KKNPP's site is prone to natural disasters like earthquake and Tsunami. "Besides the industry problems such as storing the spent fuel and final decommissioning of the plant, there are two other major types of safety threats at Koodankulam: Nature made and Human Made... it may be remembered that there was indeed a mild tremor a few years ago in Kanyakumari district with its epicenter in the Indian ocean. Cyclone red alerts have also been declared in the past. Huge monsoons, thunderstorms, unrelenting sea erosion and increasing global warming could also prove to be potential dangers."(Udaykumar, 2004).

**Governmental Response to the Anti Nuclear Movement at Koodankulam**

The government has largely adopted two different strategies against the anti-nuclear protest. On the one hand government began to create public awareness in favor of nuclear energy by dispelling people's doubt. The government tries to create awareness through various campaigns and awareness program, publishing various reports on atomic energy, organizing symposiums, seminars and so on. Every month NPCIL publishes e newsletter on the nuclear technology where the primary purpose is to create awareness. (NPCIL, 2016). It also organizes various on-site and offsite public awareness campaigns where various informative lectures on nuclear energy are given. (NPCIL, 2013). DAE mostly organizes various awareness campaigns in schools and colleges to create technical awareness over the safety aspects of KKNPP. Like on September, 2013 government organized Public outreach Programme where lecture, seminars, workshops and site visit programmes were done by NPCIL. (NPCIL, 2013).

On the other hand, it has adopted various measures aimed at suppressing the anti-nuclear protest. The police brutalities and other repressive measures intensified especially when the construction of the nuclear plant came to completion, a development which coincided with the Fukushima nuclear disaster in Japan in 2011. Since the agitation became widespread in 2012, the governmental response to the protest has also taken more repressive turn. Section 144 was levied on the area for quite a long time. No outsiders were allowed to visit Koodankulam and insiders could not go out without the permission of police authorities. The government authorities alleged that the anti-nuclear movement in Koodankulam is foreign directed and aided. It resulted into their banning the operations and freezing the bank accounts of number of NGO's related directly or indirectly with the anti- nuclear movement. (TOI, 2014). In September, 2014 when Udaykumar was going to attend the United Nations Special Rapporteur on Human Rights Defenders meeting at Kathmandu in Nepal, the immigration authorities detained him from going out due to the lookout notice issued against him by the Tamil Nadu Police. Despite Supreme Court's direction to withdraw all cases against the agitators he was not allowed to go out and his passport was impounded. There were 350 cases including the sedition charges levied against him. (TOI, 2014). Government of India also debarred Ms. Priya Pillai in 2015 who is a senior campaigner of the Greenpeace from leaving the country. The move came after the report from Investigation Bureau which revealed that some NGO were stalling important developmental projects in India with the help of foreign fund. (Russia & India Report, 2012). In their joint investigation the Enforcement Directorate (ED), the Central Bureau of Investigation (CBI), the Serious Fraud Investigation Office (SFIO) and the Income Tax Department discovered there was a money trail by the Sharada group and the anti-nuclear protestors of the south. They pointed out that the Sharada group, involved in a chit fund scam has funded the anti nuclear organizations in the south with five crore rupees. Udaykumar resisted the allegation labeled against him by pointing out that "*not even a single rupee*" was received through Sharada Group. In March 2012, Prime Minister Manmohan Singh alleged that the KKNPP protest going on in Tamil Nadu were inspired and financed by American and Scandivanian countries. Praful Bidwai however reacted sharply against this statement of Prime Minister. He argues that Invoking the "foreign hand" to vilify those who question official projects means denying that Indian citizens have the ability to think for themselves. (Bidwai, 2012)

## Conclusion

Through this discussion it appears that both the government as well as anti-nuclear protestors seems to have their own perspectives regarding the nuclear technology. The government considers the KKNPP as a solution to the energy crises India is facing and according to it the nuclear technology is a promise for the future development of India. The Anti- Nuclear protestors view the nuclear technology as something which is having a devastating impact on environment. They see it as generating radioactivity, entering the food chain of the people and affecting the health of people adversely. They allege that KKNPP reactor is highly unsafe and could bring about serious catastrophe into the world. Whatever side seems to be correct in the conclusion I would like to say that centralized nuclear policy of India is hampering the democratic rights of the people of Koodankulam. In a democratic country, people should have a freedom to choose their own preferred mode of energy generation especially if their lives are affected by the state directed development. In a democracy development planning should never be top down rather than it should be bottom up where the people of the region should have a greater say in designing the development plan for their region. We all can imagine the degree of damage if nuclear catastrophe takes place in Koodankulam compared to the degree of damage in case of catastrophe wind mill or let's say solar plant. Government's repression of peaceful protestors puts a big question mark on Indian democracy. We have witnessed people's objections to state directed development in various anti-dam movements of India like Narmada BachaoAndolan, anti- Dam Movement in Assam and so on. These movements raise a crucial question which challenges the very premise of development. Of course, we all know that the issue of development is controversial. What could be a development for some is seen as an encroachment upon their rights by another community. The development of a nation does not always have to be a zero sum game where profit of one community of people is the loss for the other. It should be a win-win situation for both of the parties. In a democratic country people should be given the chance to decide upon the development of their region. People of a land must be consulted before finalizing energy generation project, be it hydroelectricity, geo-thermal energy, solar energy or a nuclear energy.

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# RELEVANCE OF ETHICAL IMPLICATIONS IN CYBER ADDICTION

**Vishnupriya V S***

**Abstract:**

*Nowadays Cyber technology has become an inevitable part of human life. Cyber technology binds the whole domain under one umbrella. All information is spread from one place to another with a single mouse click. It is beyond doubt that the cyber world can be used to make success in almost every aspects of our day today life. But, it is unfortunate that the unethical use of technology has brought countless philosophical problems in the contemporary world. It is also clear that no one will be exempted from the dangerous drawbacks of unethical use of technology. In this juncture, the impact of cyber ethics is very much significant in the societies that are extra reliant on cyber technology. This paper tries to focus on the implications of ethical and philosophical remedies to face cyber addiction and its vulnerability*

**Key words:** Cyber world, Ethics, Technology, Addiction

Technological development is very drastic and sometimes beyond human's imagination. During the last few decades, there have been enormous changes in science and technology. Technologies are all around us and affect almost every aspect of our daily lives from local to global spears. Nowadays, we know that discoveries in science and technology are not as imaginable as few generations ago. The world of cyber space is very much linked with the day to day activities of human life. They

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bring greater advantages as well as some noticeable disadvantages to the society. Powerful technologies have reflective social consequences too. For example, the impact on the world of agricultural, production, and industrialization, each of these technologies, when first created for, brought about ethical and social revolutions. We cannot exempt Cyber technology from these kind of consequences, cyber technology has its own merits and demerits. Cyber fraud and cyber related human disasters were indicated as a new set of problems arising from this most advancing technology.

Cyber technology stands in a higher position among other technologies in the present world, as it is deeply related to cyber space. Cyber space is a virtual reality, but its impacts in humanity is real in nature which practically changed the face of the earth. There exists confusion at all levels such as individual, social, moral, religious, national and international in the excessive dependence on cyber technology and it's bye products. This paper attempts to analyze the impact of cyber addiction in present scenario and relevance of ethical implications in cyber technology.

## Cyber Addiction

Too much use of anything which is negatively affecting the daily routine of an individual is considered as an addiction. Drug addiction, television addiction, alcohol addiction, internet addiction etc. are some of the typical examples of addiction. The matter of discussion in this paper is cyber addiction and the relevance of ethical implications in the field of cyber technology. Cyber addiction denotes too much use of internet and computer which affects the daily routine of an individual. A person who is too much dependent on computer and internet related things is called a cyber-addict. An addicted person is too much craving towards social networking, online chatting with strangers, spending too much time in playing video games, online gambling and so on.

The objective of the study is to analyze the importance of cyber ethics in the present era and to access the level of cyber addiction in the society. It also tries to draw how to decrease the cyber addiction by the implication of ethics and precautionary actions. To study the proposed problem the researcher has followed historical and analytical methods. Primarily analytical method is used to find out the detailed description of the level of cyber addiction.

**The Positive and Negative Aspects**

Social Media is like a double edged sword since it has positive effect as well as negative impacts on humanity. Progress in this field has brought out a transition in information storage, processing, and distribution from paper to virtual, which are now setting new criteria of speed, competence and correctness in human activities. Computerized databases are extensively used to store all sorts of confidential data of political, social, economic, or personal nature to support human activities and bringing various benefits to the society. Some of the positive impacts of growth of information and communication technology include its role in easy and stress-free public interaction, easy and effective communication between governments and the governed and brought new avenues for active management and prevention of crimes.

On the other side, technological development has led to the development of new forms of high-tech crimes also. It has led to promote unethical use of technology for private interests and vested profit motives. Every technological innovation is being formed for the sake of humanity, but unethical and immoral use of these developments has ultimately lead to various socio-economic and political problems and philosophical issues. Equally important is the unnecessary use and dependence on new technological outcomes like media and communication means. For example, uncontrolled and unethical use of internet has resulted in so many problems such as interpersonal problems, behavioral problems, health problems, physical and psychological problems. The incorrect use of cyber technology has resulted in disturbance to privacy and security of individuals. Misuse of technology through cybercrimes, morphing, phone tapping, stealing fund via computer, cyber pornography gambling, virus attack, intellectual property rights, copy right violation, ATM frauds, mobile phone misuses, cyber addiction etc. are the some of the burning problems contemporary society is faced with.

Cyber technology has brought radical changes in the quality of communication in the world over. These changes triggered greatly the mind of new generations and happened to influence and shape their social and personal lives. Internet can be a good medium for education and entertainments but we must be conscious about the way how we can utilize its benefits for the wellbeing of the general society. Addiction may lead a persons to neglect everything even his family and friends. They consider virtual world as real and forget everything around them. They feel depressed and irritated when they are negated computer and internet facilities and any kind of interruption on their privacy will turn them in violent attitudes. Being addicted with computer and internet, a person feels himself to keep away from social boundaries and responsibilities and gradually become victims of psychological and physical sickness.

According to a Korean study in this disorder, uncontrolled use of the internet results in negative life consequences such as job loss, marriage break down, financial problems, and academic failure. The study shows that the majority of those who met the requirements of internet addiction disorder suffered from interpersonal difficulties and stress and those addicted to online games specifically responded that they hoped to avoid reality.

## Social Media Addictions

Technology has removed geographical limitations of communication through internet. If we use social networking sites positively for our personal happiness and entertainment, it will not negatively affect our daily lives; there is no need to say it is an addiction. Use of social media in a positive and creative manner will be meritorious for easy communication for the public and encourage speedy governance, timely execution of decisions and settlement of public question by assessing adequate empirical data. A healthy and wise use of social media will be a positive attitude for humanity. Media is not only a medium to express one's feelings, opinions and views but also a responsible instrument for building opinions on topics of regional, national and international importance . Any social interaction through internet and associated devices is considered as social media.

Cyber addiction degrades one's attitude towards life and society, harm one's ability to develop intimate relationship and increase objectification of women. Basement of social media should be upon trust. Gender difference influence the reasons for cyber addiction because most of the case studies proves that victims of social media crimes are especially women. Men tend to seek out dominate cyber world. It seems to be a common assumption that men and women categories are not parallel in cyber world.

Through far fewer in number, some of the social media crimes have set alarm bells ringing among police and cyber specialist. Recently investigators probing a fake Facebook profile of two women teachers of a leading public school, that has strictly morphed visuals from porn sites has been discovered that it was the handwork of a 12 year old boy from the same school.

## Major Reasons for cyber addictions.

There are so many factors that youth and others tend to be addicted with internet and social Medias. Most important factors which lead to cyber addiction are given below:

**1. Change in family value set up:** Lack of parental caring is a major issue of cyber addiction. During the early stages families were the backbone of the society. The children in these stages got utmost care and affection by their parents and family members. The children were fully controlled and occupied by their parents. As the change in time and with technological development these family values and social set up have been changed a lot. Without a balanced life of family, our lives become stressful and unsatisfying.

According to a Thailand study about Internet use and its effect on mental wellbeing among high school students explores the family and peer activities, internet use and wellbeing among high school students aged 15-19 years during the 2012 academic year. This analysis shows that family and communication factors significantly affect student's mental wellbeing. Engagement in family activities are more important than other factors in explaining the variations in student's psychological comfort. (P.I., & T.P. 2015, March 30).

**2. Change of life style:** With the development of technology there has been a noticeable life change in our society. With the change of our life style our families became nuclear family and none have enough time to care children. Even the parents also don't have enough time to look after their own children and take care about family matters. Good family background is considered as the fundamental thing for the proper growth and development of the children. An emotional caring should be essential for the healthy growth of adolescence. Lack of physical and emotional caring lead to substance abuse and crime in youth.

Data from Ramajitti institute reported that the average internet usage of students in Kanchanaduri was high while the percentage of students who did not stay with parents and did not have family activities were above the national average. The duration of time spend with their parents are low. Students in this province were experiencing a high level of stress. (Ramajitti Institute, 2010)

**3. Lack of social and peer group organizations:** lack of social and peer group organizations lead to cyber additions. Social groups provide a moral outside of the individual viewpoints. Peer group influences the person's beliefs about social values and conduct. Since teenagers are not getting enough pleasure from their day-to-day activities associated with home and school, they may have a tendency to use internet and social Media to get more entertainment and pleasure and it will raise their use of internet addiction. Moreover, their traditional activities are supposed to be boring and they tend to use social Media in place of it and find more interest in it since it brings a variety of information and lot of new friends and brings lot of new aptitudes. Probably they became addicted to internet and social Medias and this addiction will become a mental and health disorder to youth.

**4. Self-centered parental attitudes:** Parental attitudes are core components of children's identities. Undesirable parental attitudes have deep seated effects on their kids and these effect can continue in their adulthood. Nowadays, most of the parents are self-centered parents. They try to impose their wishes and dreams on their children without considering their interest and aptitudes. This kind of wrong behavior of parents brings children more pressure up to increased competition level in schools and other extra-curricular activities. This kind of parents never support the self-esteem of their children. Gradually, this lead the children more loneliness and seeks more pressure from other media like internet and social media.

A survey of 2,095 college students in five major cities in china was conducted to examine the influence of parental behaviors and self-esteem on internet. Influence of parental attitudes on internet addition was also significant. Parent's behaviors had different impact on their children's lifestyle of being addicted to the internet. Parent's rejection and over protection would increase the risk of cyber addiction. (Yao, M., Z et al., 2014 February 1)

**5. Non- committed and value free educated system:** lack of value oriented and non- committed education system degrade the quality of the students. Value education helps to develop good character and personality among students.

## The philosophical perspective on Technology

Philosophy and technology are two sides of the same coin and it provides the much needed insight into the day to day mental conflicts and dilemma of a man of action. Philosophy may clarify the political, social, economic, financial, psychological, and global impacts of cyber technology. Ethical teaching plays a significant role when the society is in emotional disorder due to extreme pressure, stress and anxiety. If one is confident to handle the situation, there is no anxiety or fear. Therefore the level of stress is caused by one's perception of one's capability to handle with the situation. Philosophically speaking, ethics is concerned with what is morally right and morally wrong in a given field of human activity. (Kiran, 2007)

## Ethical perspective on cyber Technology

Ethics is primarily a part of the quest for truth and the motive for studying the desire for knowledge. In this respect it is more similar to philosophical subjects than the natural sciences were the practical applications are many and attractive.. The chief values of ethics is not in the guidance it gives in particular cases, but in the development of width of outlook and seriousness of purpose in dealing with moral matters generally (Lillie, 1967.p.19).

Most of the philosophical systems are mainly objected to develop good conduct and character of human beings. Morality should be the basic spirit for every human action. Certain rules and regulations are implemented in our society with this objective. The purpose of ethics is to identify and define the rules that should be followed as a guiding principle for human behavior. (Ghosh, 2005, p.14).

Morality refer to the values of limited nature restricted by time and space and regulative of immediate benefits. In contrast ethics is about the values of perfection. Technology should have appropriate ethical value consideration of that particular technology rather than the moral value consideration. In this context it is relevant that, "Good mental health is linked with strong moral and ethical values of life, full professional and personal commitment to responsibilities, commitment about personal possessions and positive attitude towards life and unselfish performance of tasks". (Ghosh, 2005, p.226)

Ethics help us to improve self-confidence by transforming stress into peace and teach how to deal with ourselves and others. Proper psychological training through ethics is a better way to reduce cyber addiction. Ethical awareness is one of the best ways to reduce cyber addiction. Rather than text book knowledge the practical application of ethical values are very important in solving these problems.

All positive and negative outcomes are burst out from human mind. Most of the Indian and Western philosophical teachings are about mind and its management. Through proper ethical teachings most of the psychological problems related to cyber addictions can be cured. Rules and regulation has a duty to protect us from others in certain limits, but not from our self. Right way of life, freedom with responsibility, good social relations and good moral conduct are necessary for the wellbeing of society.

The understanding about mind and its management have been viewed as the central points of improving personal and professional wellbeing. All our skills such as decision making, emotional intelligence, morality and our opinion about life etc. are totally depend upon ethical values. Ethical principles such as autonomy, beneficence, care, love, freedom, justice, right, peace, virtue and privacy are all motivated in individual and social life. Lack of ethical literacy, motivational teachings, sports and group activities are once performed in our society and their setback resulting ethical vacuum in recent decades.

## Importance of Cyber Ethics Today

Cyber ethics is the study of ethical issues involving cyber technology and guidelines that guide behavior of individuals in cyber space. Moral, legal and social issues are examined in cyber ethical implications. It is a branch of applied ethics. Nowadays, issues related to cyber ethics has become a leading topic in many debates, seminars, colloquiums, and articles through various print and visual Medias.

Presently discussions about cyber ethical issues are in an emerging trend. In order to have a good future locally and globally, we all are responsible to promote values of cyber ethics. It examines problems raised from the misuse of cyber technology and learning how to balance benefits and risk of technology in the cyber world. Due to extreme stress and pressure the minds of youth become store houses of multiples of complexes resulting in depression and psychological disorder.

No doubt, recent advances meant in information and communication technology have great role in empowerment and circulating the awareness about human rights violations towards women, children and weaker section of the society. Human rights are those natural fundamental rights to which everybody is entitled since his birth time because of being a human. (Das, 2014, p.19). But, under different circumstances created by the means of improper use of technology these rights are pitilessly violated and misled to obscurity. So, it is very relevant that cognizance of the value and importance of ethics is too significant today than ever before.

**Application of Cyber Ethics**

- Value education is the First and most important way to awareness. Educating teenagers about the hidden dangers in Social Medias. Value education help to develop a clear communication and decision making generation.
- Practice yoga and meditation: Yoga is a physical, mental and spiritual discipline which originated in India. Yoga and ethics are connected with each other. Many people find that practice of meditation leads to peace of mind in an ethical way. Many studies have tried to determine the effectiveness of yoga as a complimentary invention for reducing addiction. Practice of yoga helps to develop self-control, mindset and clear way of thinking. Philosophical origins, current scientific origins and clinical promises of yoga and mindfulness as complimentary theories for addiction. Historically there are eight elements of yoga that together comprise ethical principles and practices for living a meaningful and self- disciplined life. Current findings increasingly support yoga and meditation as promising complimentary therapies for treating and preventing addictive behaviors. ( S.K., & Greeson, J.M , 2013)
- Include cyber ethics as a subject in school curriculum, because what we have learned from our childhood is deeply sketch in our life long and these values are instinctively control our decisions and actions.
- Awareness of ethical values through visual media, print media, seminars, stage dramas and documentaries are very important.
- Computer related courses with professional ethical conduct are very

significant.

- Lessons from cyber ethics may be taught in schools and colleges to liberate our nation with cyber pollution and inculcate values of what is good and what is wrong in life among young minds.
- Ethical awareness increases our individual and social values.
- Promote Yoga and Meditation at regular intervals.
- Try to bring up children with good moral values and ethical teachings.
- Parents have to spent more time with children and discuss with them about their problems and decisions in day to day activities
- Special consideration and caring should be given to teenagers.
- Accept children's weakness and try to promote their abilities.
- Do not over- control and over- criticize children, try to solve their problems with care, love and reason.
- Parents should limits their own internet use in the presence of children
- A heathy computer usage is necessary for a good home
- Computer should be placed in study room or which is visible to all in the family.

## Conclusion

Human behavior is the outcome of the moral system, developed from his home. A persons conduct is mostly explained in relation between how value system is influenced by the situation he exposed to. Ethical education involves teaching of moral rules and regulations accepted by society for the well-being of the society.

Different persons have different objectives and have different morals. Diversity is a nature of human being. We should not imagine all people to balance the equal values in the equal way all the time. Multiplicity of approaches and characters of human individuals are represented. Each and every individual have their own opinion and aptitude. Future generations are also a vital part of our society and Nation. Our autonomy is limited by other individual's autonomy in our society.

It is true that every person's protection will be in his own hands. Everyone should be aware about the hidden traps behind cyber world. Be always conscious about the technological benefits and its risks. In order to have a sustainable future, we need to promote philosophy and cyber ethics in the world of cyber technology. Awareness on both the use and risks should be monitored and debated in a more specific and legal manner. Balance the benefits and risks of technology is a very necessary thing. Lack of awareness about the benefits and drawbacks of internet usage and addiction is the biggest problem in our society. The human mind can never sit idle, it believes in acquisition, nevertheless of the material wealth or knowledges. Hence ethics has great importance in technology and in life. Only a disciplined and trained mind can realize the difference between real and virtual world.

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