



ISSN 2321 - 371X

Commerce Spectrum

Double Blind Peer Reviewed Half Yearly Journal

Volume 2

Number 2

December 2014

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Statement about Ownership and Other Particulars about

Commerce Spectrum

Double Blind Peer Reviewed Half Yearly Journal

FORM IV

1. Place of Pulication : St. Peter's College, Kolenchery, Kerala.
2. Periodicity of Publication : Half Yearly
3. Printer's name : Dr. Thampy Abraham
Nationality : Indian
Address : Principal, St. Peter's College,
Kolenchery, Kerala.
4. Publisher's name : Dr. Thampy Abraham
Nationality : Indian
Address : Principal, St. Peter's College,
Kolenchery, Kerala.
5. Chief Editor's Name : Dr. Santhosh Kumar S.
Nationality : Indian
Address : Associate Professor,
P. G. & Research Department of Commerce,
St. Peter's College, Kolenchery, Kerala.
6. Name and address of the individual
Who own the periodical : Dr. Thampy Abraham
Nationality : Indian
Address : Principal, St. Peter's College,
Kolenchery, Kerala.

I, Dr. Thampy Abraham, hereby declare that the particulars given above are true to the best of my knowledge and belief.

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Influence of Demographic Variables on the Personality Traits of Retail Investors – An Empirical Study

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Abstract

Currently, stock markets are undergoing bearish phase and investors are not enthusiastic about their current expectation and merely adopting 'wait and watch' strategy. So, the individual investors ought to ponder and re-examine their investment blunders. The study confirms that males are more active in the financial market but have the tendency to ride the momentum with increase in their portfolio value. Factor analysis by principal component method has been applied to reduce the number of personality traits into ten meaningful factors respectively. The multiple regression analysis is brought to bear on the problem of establishing the collective influence of socio-demographic variables, financial knowledge, investment objectives, appraisal techniques and strategies, portfolio composition pattern on the personality traits. Results reveal that annual rate of return on equity significantly determines the occurrence of self enhancement bias, illusion of control and performance attribution bias. Time spent for investment analysis influences self enhancement bias and illusion of control. Shares held for speculation in the portfolio of retail investors the occurrence of self enhancement bias. Number of shares traded by the investor determines cognitive dissonance and performance attribution bias of the investors. Investment experience influences illusion of control and performance attribution bias.

Keywords: financial Knowledge, personality traits, performance attribution bias, illusion of control, 'wait and watch' strategy.

I. Introduction

Although India remained unscathed from the global financial crisis, Indian stock markets have not been attractive since then. The knee-jerk reaction left investors with huge losses and setbacks in their portfolio. Especially, individual investors, who constitute a minor segment suffered severe losses, due to their impulsive streak of winning trades and their untiring efforts, not

realizing the inherent danger of peak level exit. Currently, stock markets are undergoing bearish phase and investors are not enthusiastic about their current expectation and merely adopting 'wait and watch' strategy. So, the individual investors ought to ponder and re-examine their investment blunders. Further, they need to articulate the reasons for their underperformance relative to the market return (Barber et al. 2009)



II. Review of Literature

Research studies amply demonstrate that though there is substantial heterogeneity in individual financial portfolios, many individuals do not hold stocks in their portfolio (Campbell, 2006; Haliassos and Bertaut, 1995) which is aptly described as non-participation puzzle (Mankiw and Zeldes, 1991). Typical Indian investor portfolio constitutes Bank Fixed Deposit, risk-free government securities, tax-favoured assets, low-yielding instruments and non-financial asset (e.g. gold) but do not participate in stock markets (RBI report, 2010). Literature evidences that individuals shy away from markets due to lack of awareness of bundle of assets such as stocks and mutual funds, information barriers (Guiso and Jappelli, 2005), transaction and information costs (Vissing-Jorgensen, 2004)

Economic psychology literature identified that household savings are driven for four reasons, namely: Cash management, Precautionary motive (Saving for unexpected expenditure), Down payment motive and wealth management. Katona (1975) found in 1960 that the US individual investors saved towards buffer (sudden expenditures or emergencies), retirement savings, for children and to buy durable goods, house etc. Interestingly, few respondents replied that they saved to earn additional income or leave inheritance. Kotlikoff (1989) found that household savings in US are driven by precautionary motive especially for old age.

Xiao and Noring (1994) observed that families with little resources save primarily for survival but if resources increase, motivation to save for emergencies also increase. At highest level of income, motivation concerning retirement, children and improvement in standard of living gain importance. Warneryd (1995, 1999) reported similar motives and stated that people save for

different reasons at the same time. According to him, at first level, saving is habitual without specific goal, second level is precautionary (towards future uncertainty), the third motive is bequest motive (accumulating wealth for family and inheritance), the fourth level being profit motive, to get additional income from investment in the future. Likewise Canova, Rattazzi and Webley (2005) analysed the goals that motivated Britons to save and framed a hierarchical structure of 15 goals. Buffer for unexpected expenditure, house/vacation were the concrete goals at the bottom of the hierarchy and psychological goals such as self-gratification and self-esteem at higher levels. They also evidenced that savings motives do not entirely depend on socio-economic variables.

While devising investment decisions, securities are evaluated relative to the goals defined by aspiration levels and probability of success. There are separate mental accounts created by the investors and associated aspiration level corresponding to their different goals (Das et al. 2010). Investment goals considered for investment decision making are capital growth, retirement saving, hobby or speculation (Lewellen, Lease and Schlarbaum, 1980). In several studies investor behaviour had been conceptualised as goal-oriented behaviour. It means that investors carry out investment decisions to attain certain goals. Goals are broadly defined as mental representation of desired states (Austin and Vancouver, 1996). The goals of investment have sequence of priority and an order of preference which dominates the behaviour of the investor.

Lease et al. (1974) investigated the oft pursued investment strategies of individual investors in US household survey and found that 42% of the sample respondents followed fundamental approach in evaluating securities for



investment decisions. Further, 23% of the investors effectively combined fundamental and technical approaches and only 4% adopted technical approach for investment decisions. In the study, the investment portfolio of individual investors consist of 41% primarily income securities and 59% primarily capital appreciation securities. In addition, long term capital appreciation is the paramount investment concern, with dividend income and intermediate term gains claiming secondary importance and short term gains the least.

A large empirical literature in finance documents the lack of portfolio diversification by investors. Particularly, literature on household asset allocation decisions, retirement saving decisions of individuals, establish that they tend to under-diversify, under diversify their portfolios or do not hold stocks in their portfolios. It is rather difficult to find whether they conform to rational models of investor behaviour. The substantive literature in finance which document the portfolio choices of individual investors suggest that they hold under-diversified equity portfolios (Lease, Lewellen and Schlarbaum (1974); Blume and Friend (1975); Kelly (1995), Barber and Odean (2000); Goetzman and Kumar (2005); Polkovnichenko (2005)); under-diversified household portfolios in various countries (Guiso, Halioussos and Japelli (2002)), under-diversified retirement and pension accounts (Benartzi (2001), Bernatzi and Thaler (2001), Agnew, Balduzzi and Sunden (2003), Huberman and Sengmueller (2004))

Blume and friend (1975) utilised the tax-filing and survey data to find that household portfolios are grossly under-diversified. Similarly, Kelly (1995) used the data (1993) from survey of consumer Finances to document poor diversification in the U.S households. He found that number median stocks in an investors' portfolio is two and that less than one-third of the

households hold more than ten stocks. Benartzi and Thaler (2001, 2007) studied the defined-contribution saving plans of individuals and found naive diversification strategy of 1/n heuristics in which an individual spreads his contribution evenly among the various assets. Though such strategies seem reasonably good for some investors they lack suitability for all investors due to the difference in age and risk preferences (Brennen and Tourois, 1999). Naive diversification strategy serves as an excellent benchmark for investment portfolio but investors perform poorly due to the errors in estimating mean and co-variances between stocks (De Miguel et al. 2007). Further investors build separate mental compartments for the employer stocks, local stocks, and reputed stocks but perceive risks separately rather than the portfolio risk in totality.

III. Statement of the Problem

Investment decisions are seen as an iterative process of interaction between the investor and the investment environment. This investment process is influenced by a number of interdependent variables and dual mental processes viz. cognitive and affective system. The interplay between these systems contributes to bounded rational behaviour in which investors use various heuristics and exhibit biases.

IV. Research Question for the Study

Can individual differences of retail investor in variables socio-demographic factors, financial knowledge and awareness, objectives and strategy, portfolio composition and personality traits be used to differentiate the nature of psychological biases and to classify the retail investors into stylized biased investor categories?

V. Need for the Study and Scope of the Study

The sample of the study is limited to individual investors because individual investors



constitute an important group in the financial market place and their decision making behaviour is likely to have an impact on the stock market as a whole (De Bondt, 1998). It becomes even more pronounced taking into consideration that even an emerging economy like India already accommodates 2.02 million individual retail investors being largest in the world (PTI, Mumbai, Dec 2012) Further this research demonstrates that primary survey can contribute several important ways to increase one's understanding of investor behaviour.

The main theoretical contribution of this research study is that retail investors are segmented based on the revealed psychological biases and personality traits together with the self-reported trading and investment-related behavioural pattern. The segments, both of the personality dimensions and the psychological biases provide an opportunity for independent financial advisors and brokers to devise well-crafted investment plans for the retail clients. The retail clients can be urged to take up a personality type test to help brokers evaluate and identify their personality, risk tolerance, life-cycle stage and other qualitative information. Thereupon, the financial advisors can create asset allocation and execute investment programmes designed to mitigate a number of behavioural biases of retail investors

VI. Objectives of the Study

To measure the collective influence of demographic variables, financial Knowledge, investment objectives, appraisal techniques and strategies, portfolio composition pattern on the personality traits

VII. Limitations of the Study

The study design comes with a number of limitations. Firstly, the study is not able to gain access to individual investor's actual trading records as such information is considered

commercially sensitive. Moreover, the broking firms are not allowed by the regulatory authorities to divulge these records. As a consequence the researchers were not able to reaffirm the accuracy of information provided by the respondents regarding their investment portfolio, preferences and behaviour by scrutinising their actual share trading decisions.

The study's overall sample size is constrained by limited resource in terms of time and associated cost to carry our elaborate empirical research. The various findings in the study will be more credible and better reflect the retail investor population in India if only the researchers are able to obtain access and subsequently to draw the main investor sample from entire nation through network of branches of various brokerage firms.

The study has been conducted based on the responses of retail investors of share market in Chennai City. Since investor operate in a dynamic and multi period setting, the inferences and findings of the analysis may differ substantially depending upon the time sequence, place, the nature and group of investors. Although the researchers detected the behaviour of retail investors during the bull phase of the stock market viz., 2006-2007, elaborate attempts were made to investigate their behaviour in the post financial crisis period. The stock market was and is undergoing a bear phase with low enthusiasm of investors since then.

VIII. Research Methodology

The methodology of the study is based on primary data collected through well framed and structured questionnaire to elicit the perception of retail investors in the share market. Simple random sampling has been used to collect responses from the retail investors. The study has been conducted in a two stage format with preliminary pre-testing followed by the main study.



VIII (A). Study Area and Period

The study has been conducted among the retail investors of different broking and sub broking firms having several branches in Chennai City. The pilot study was conducted during the period from 1st May 2011 to 15th June 2011 while the main study was conducted during the period from 15th July 2011 to 30th November 2011.

VIII (B). Questionnaire Design

The questionnaire contained one page covering letter signed by the researchers and pre-printed reply envelop. It outlined the intent of the research with an assurance that the information provided by the respondents would be used for academic research only and kept confidential. Studies indicate that factors such as estimation of the time needed to complete the questionnaire and signature of the most senior researchers were found to significantly increase response rates (Hornik, 1981; Brown and Coverly, 1999). Unlike earlier studies, ample time was given to the respondents in our data collection, but with a gentle reminder and frequent follow-up. The questionnaire consisted of 49 questions split into the following parts:

- Part I Elicits the demographic profile of the respondents
- Part II Deals with their financial knowledge and awareness
- Part III Seeks details on their investment objectives, appraisal techniques and strategy
- Part IV Consists questions regarding the portfolio composition and trading performance
- Part V Contains statements relating to psychological biases
- Part VI Contains statements which reflect the personality traits

On gaining a deep insight from different strands of literature in behavioural finance, the researchers drafted the questionnaire for the main study. The questionnaire comprised three different kinds of questions in the form of bipolar type (Yes or No), Multiple choice and Likert's five-point scale type, in order to sustain the interest of the respondents and avert monotony. The questionnaire is divided into six parts, each containing a mix of these questions and a summary of measurement parameters for the study is shown in the table 1 (Appendix)

VIII (C). Selection of Respondents

A heterogeneous sample was adopted to cover a wide variety of demographic group. The prime respondents are the retail investors of share broking firms and sub-broking firms. Since they have numerous branches in Chennai city, care was taken to ensure the selection of retail investors of share market in a fairly proportionate manner. To begin with, the attitude and behaviour of respondents was gauged in the actual trading environment i.e. walk-in retail clients who perform trading operations in the broking firms. But personal visit by the traders to the broking firms for trading had significantly declined in the post global crisis period. Moreover, provision of online trading terminal at convenient locations for the retail clients saw a huge reduction in their personal visit to the broking offices.

Questionnaire was also administered to the retail investor participants in the meetings conducted by the Madras Stock Exchange, Bombay Stock exchange, National Stock exchange and Securities exchange board of India. Further, questionnaire was circulated and collected during the regular meetings conducted by the Tamil Nadu Investors Association. The student traders of B-School Institute for Financial Management and Research, Nungambakkam also responded to the primary survey questionnaire.

**VIII (D). Sample Size**

The retail investor participation in Chennai city is about 1.4 percentage of its population [CDSL Update]. The total sample size of the study is cross verified for representation of the population parameters. Since the researchers focused on personality traits and psychological biases of retail investors, a factor analysis was run separately for personality traits and psychological bias. The results of the analysis revealed twenty five variables of personality traits which are perfectly grouped into six predominant groups. Similarly, in the case of psychological bias thirty two variables except two are perfectly grouped into ten biases. It clearly shows that the variance of the respondents possess less than five per cent admissible errors to represent the population parameters. Therefore, the researchers profoundly concludes that the sample size of 606 is adequate to conduct the research.

VIII (E). Data Collection

Data for this study was primarily collected through a survey in the form of a questionnaire as well as through research based published data concerning retail investor participation. Primary data refers to data, which is collected for specific purpose and which is required in order to complement secondary data (Wiedersheim- Paul & Eriksson, 1997). Secondary data refers to the existing collected and summarized material of the research papers and publications. This data originates from sources such as databases, literature, journals and the internet (Wiedersheim- Paul & Eriksson, 1997).

The primary data was collected from the retail clients of share broking firms in person by the researchers through survey method. For a few respondents who were busy during trading hours and those who experienced difficulty in language, responses were collected orally by the researchers

in a one-to-one interview manner. A mail survey instrument was also chosen as the method of collecting the self-reported data. Despite potential problems with non-response, mail questionnaires are commonly held as the most efficient means of collecting empirical data (Wu and Vosika, 1983). The researchers developed a web page that contained the survey questionnaire and allowed respondents to mail their response to an email account specifically created for this purpose.

Based on the pilot study results, 1200 questionnaires were distributed for the main survey to the respondents in Chennai City. The number of questionnaire collected after sustained follow up was 859. Out of the 859 responses only 606 were complete and suitable for statistical analysis. Out of the total 1200, 341 questionnaires were not returned and 253 were eliminated for inconsistent replies and incomplete answers. Therefore, the exact sample size for this study is 606.

The pilot study was conducted by distributing 150 questionnaires to retail investors of various broking firms in Chennai city but only 100 responses were suitable to be taken up for testing the internal consistency and reliability of the constructs. Cronbach alpha test was used to determine the degree of consistency among the multiple measurements of each factor. It measures the inter-item reliability of a scale generated from a number of items.

Ideally, the reliability coefficient above 0.5 is considered acceptable as a good indicator of construct reliability (Nunnally, 1976), above 0.6 is treated satisfactory (Robinson et.al., 1991), but alpha above 0.7 is considered sufficient (George and Mallery, 2001; Pallant, 2005). The questionnaire responses exhibited Cronbach-Alpha value of 0.806 for items relating to psychological biases and 0.703 for items relating to personality



traits. These alpha values are statistically significant to ensure a smooth normal distribution and to justify the sample statistics for the representation of population parameters. Further, during the pilot study, the respondents expressed difficulty to comprehend certain questions and give responses. Such issues were redressed to make the questionnaire fully refined for the main study.

VIII (F). Data Analysis

The primary data collected through the questionnaire is analysed using the SPSS-V 15 (Statistical Package for Social Sciences) computer packages. The statistical tools used for data analysis based on the data enumerated from the questionnaire are as follows.

1. Factor analysis by principal component method has been applied to reduce the number of personality traits into ten meaningful factors respectively
2. The multiple regression analysis is brought to bear on the problem of establishing the collective influence of socio-demographic variables, financial knowledge, investment objectives, appraisal techniques and strategies, portfolio composition pattern on the personality traits

IX. Factor Analysis of Personality Traits of Retail Investors

The factor analysis of the psychological biases and personality traits is conducted by means of exploratory factor analysis. Factor analysis is used to summarize a set of variables into a smaller set of factors by means of the inter correlation between variables (Pallant, 2007). Within the broad spectrum of factor analysis, this study made use of principal axis factor analysis which rotates the data such that maximum variabilities are projected onto the axes (Pallant, 2007; Tabachnick and Fidell, 2001). In determining

the number of factors to be extracted, the Kaiser Eigenvalues greater than one criterion is considered (Pallant, 2007).

As a first step towards an exploratory factor analysis, a principal component analysis was conducted in order to determine the underlying dimensions of psychological biases and personality traits of retail investors of share market in Chennai City. Seven principal components were constructed out of the personality traits using the Kaiser's varimax rotation technique which explains 54.926 % of the total variance which shown in Table 2 (Appendix).

The eighth factor in Table 2 (Appendix) which consists of third variable viz. "I analyze market action to respond aptly" and eleventh variable "I do not follow diet or exercise program" which has the peculiarity of negative correlation value. This implies that the variable composition is not mixed up with the factors coined by the researchers. Therefore, the researchers appropriately moved third variable to the fifth component factor to give value addition and variances for the fifth factor and deleted the eleventh variable. The seven components resulting from factor analysis of personality traits are described as follows:

The variables in Table 3 (Appendix) relate to individuals who are assertive, energetic, stimulated and excited with people around. They possess positive emotions and are venturesome to accomplish their ambitions (Watson and Clark, 1997). Conversely, individuals scoring low on the above traits are reserved and independent. They perform things at even pace and prefer to remain in their own company (Taylor and de Bruin, 2006). They correspond to the personality trait extroversion in the big five personality inventory (Costa & McCrae, 2006). Hence, factor I is labeled as gregariousness.



The variables in Table 4 (Appendix) relate to individuals who are prone to anxiety; feel unsure and worried about their investments and trading decisions. Such individuals respond emotionally to market events and become easily tensed leading to erratic decisions. Due to their subjective feeling and insecurity, they experience negative emotions and thus enter and exit trade on whims of emotions (Brett.N. Steenbarger, 2003). Additionally, unstable emotions make them less dependable. They correspond to the personality factor high neuroticism of the big five personality inventory (Costa & McCrae, 2006). Hence, factor II is described as Self-consciousness.

The variables in Table 5 (Appendix) indicate that the sample respondents perceive them as risk-averse and risk-avoiders. It shows that investors neither prefer nor have willingness to bear risk to achieve desired outcome in the stock market. They are found to be risk averters as they want to avoid risk and choose the safer option in making the decision. Majority of the investors take risk in order to reap some psychological or material benefit not for the sake of risk itself. This is supported by Olsen (1998) in his studies, in which most people consider themselves to be risk-avoiders rather than risk-takers. Similar results were reported by Audrey Lim Li Chin (2012) in his study where investors tend to be cautious in exercising choice towards investment while judging risk-return relationship. It is expected that their tendency to be risk-averse has exacerbated due to the major losses they had experienced before. Therefore, factor III is labeled as Risk-aversion.

The variables Table 6 (Appendix) deal with individuals who are thoroughly organized, achievement-striving, efficient and adhere to moral precepts (McCrae and John, 1992). They are self-disciplined and persevering. Conversely,

individuals who are low on these variables tend to be hedonistic, distractible in their efforts (Taylor and de Bruin, 2006), careless towards responsibilities and disorganized (Haslam, 2007). They correspond to the personality trait conscientiousness in the big five personality inventory (Costa & McCrae, 2006). Hence, factor IV is named as Diligence.

The variables in Table 7 (Appendix) represent individuals who are emotionally stable. They have good emotional control during stressful conditions of trading and are less prone to irrational ideas. They are generally calm and collective under pressure (Hans Eysenck, 1958), remain even-tempered and composed (Taylor and de Bruin, 2006). They are predisposed to adopt practical approach towards market and not capitulated to temptations and desires. (McCrae and Costa, 2006). They correspond to the personality factor low neuroticism of the big five personality inventory (Costa & McCrae, 2006). Hence, factor V is labeled as Pragmatism.

The variables in Table 8 (Appendix) represent individuals who possess inquiring intellect, vivid imagination resulting in creative ideas. They have broad interest domains and appreciate aesthetics. (Trapnell, 1994). Alternately, individuals low on these traits is conventional and conservative. They have narrow interest and remain comfortable with familiar experience and are unwilling to explore new experience (Taylor and de Bruin, 2006). They relate to the personality trait openness to experience in the big five personality inventory (Costa & McCrae, 2006). Hence, factor VI is labeled as Aesthetic.

The variables in Table 9 (Appendix) stated measure individuals who are empathetic, helpful and considerate (Taylor and de Bruin, 2006). They are concerned with individual's interpersonal orientation. (Pervin and John, 2001).



Conversely, individuals who are low on them are indifferent, hostile (Haslam, 2007; Pervin and John, 2001), manipulative and self centered (Taylor and de Bruin, 2006). They correspond to the personality trait agreeableness in the big five personality inventory (Costa & McCrae, 2006). Hence, factor VII is named as Altruism.

X. Multiple Regression Analysis

Multiple regression analysis is used to predict the variance between the dependent variable and independent variables (Coolican, 2004; Pallant, 2007). Multiple regression permits for multiple predictions in which the influence of each predictor variable is directly proportional to the correlation that exists between the variable and the criterion, and inversely proportional to other predictors (Urbina, 2004). Thus multiple regression analysis explores the interrelationship among variables and the contribution of each predictor to explain the variance in the dependent variable (Pallant, 2007; Urbina, 2004). This method is used to determine how much variance in psychological biases can be explained by personality.

The application of Multiple Regression Analysis is to determine the independent variables influencing the personality traits of an investor. After reviewing national and international literature, the researchers deduced the following independent variables profoundly in the research. These independent variables are segmented into four domains viz. demographic profile, financial knowledge and awareness, investor objectives, appraisal techniques and strategy, portfolio composition and trading performance. Each of these domains possess the following categorical variables such as gender, age, education, discipline, marital status, sources of information, number of trades, investment experience, stock holding period, annual rate of return etc. The dependent variables of personality traits viz. self

consciousness, pragmatism, diligence, risk aversion, aesthetic, altruism and gregariousness are considered to perform multiple regression analysis.

In this analysis, the researchers observed collective impact of independent variables as well as individual influence. While estimating the influence of independent variables on dependent factors, sequential changes are observed for the status of independent variables. In terms of parametric approach, the researchers obtained the factors of personality traits and psychological biases. As far as time t is concerned, the personality traits are acquired first by the investors and then the psychological biases emerge out of set of influencing variables such as demographic profile financial knowledge and awareness, investor objectives, appraisal techniques and strategy, portfolio composition and trading performance and personality traits. Sequence of time plays an important role to test the status of independency and dependency of the variables. A careful examination with respect to time t indicates the existence of domain of regression analysis.

✓ Regression analysis is based on demographic variables, financial knowledge and awareness, investor objectives, appraisal techniques and strategy, portfolio composition and trading performance and personality traits. In this case personality traits are considered as dependent factors.

Influence of Demographic Variables, Financial Knowledge and Awareness, Investor Objectives, Appraisal Techniques and Strategy, Portfolio Composition and Trading Performance on Personality Traits

The regression output consists of three tables viz. model summary to express the amount of variation created by the independent variables followed by analysis of variance to verify the



regression fit and coefficient table to determine the individual influence of independent variables. The results of these two time-wise regression analysis and their results are discussed below.

From Table 10 (Appendix), it is found that R^2 value is 0.250, adjusted R^2 value is 0.184. This shows that the variance ranges from 18.4% to 25%. That is these independent variables are able to create variances on the personality trait self-consciousness. This leads to the subsequent verification of regression model fit in the following ANOVA table.

From Table 11 (Appendix), it is found that the regression fit coefficient $F=3.776$, $p=.000$ are statistically significant at 5% level. Therefore, it can be concluded that the independent variables considered for the regression model are more appropriate to demonstrate the regression model. The following correlation table clearly explains the individual influence of significant variables from the domain of independent variables.

From Table 12 (Appendix), it is found that most of the investors belonging to different age groups ($t=-2.909$, $p=.004$) who rely on financial newspapers ($t=-2.968$, $p=.003$), seek advice from friends ($t=-2.576$, $p=.010$) and spent time to analyse investment decisions ($t=-2.347$, $p=.019$) possess low self-consciousness while a few investors belonging to different age groups who rely on financial newspapers, seek advice from friends and spent time to analyse investment decisions possess high self-consciousness. The mean-wise comparison indicates that most of the investors falling in the three age groups 41-50 years (Mean=3.0033), 51-60 years (Mean= 2.6827), above 60 years (Mean=2.6437) and those who spend 6-10 hours per month (mean=2.9274), 11-20 hours per month (mean=2.9952), 21-30 hours per month (mean=2.8542) for investment analysis possess low self-consciousness while investors

belonging to the age groups up to 20 years (mean=3.4667), 21-30 years (mean=3.2109) and 31-40 years (mean=3.2067) and those who spend less than 3 hours per month for investment analysis (mean=3.1888), 3-5 hours per month (mean=3.1741) exhibit moderate self-consciousness. Notably, investors who possess moderate financial knowledge ($t=2.428$, $p=.015$) and awareness ($t=2.349$, $p=.019$) about the financial websites, those who purchase low-priced scrips ($t=2.659$, $p=.008$) and hold stock from 1 day to week ($t=2.465$, $p=.014$) appear to be self-conscious investor.

From Table 13 (Appendix), it is found that R^2 value is 0.109, adjusted R^2 value is 0.030. This shows that the variance ranges from 3% to 10.9%. That is these independent variables are able to create variances on pragmatism. This leads to the subsequent verification of regression model fit in the following ANOVA table.

From Table 14 (Appendix), it is found that the regression fit coefficient $F=1.383$, $p=.048$ are statistically significant at 5% level. Therefore, it can be concluded that the independent variables considered for the regression model are more appropriate to demonstrate the regression model. The following correlation table clearly explains the individual influence of significant variables from the domain of independent variables.

From Table 15 (Appendix), it can be concluded that investors of either marital status ($t=2.061$, $p=.040$), financially knowledgeable ($t=2.778$, $p=.006$) and those who gather information through tips and rumours ($t=2.030$, $p=.043$) are pragmatic. The mean-wise comparison indicates that married investors (mean=3.3574) and unmarried investors (mean=3.2861) are moderately pragmatic. In addition, most investors who do not follow any specific technique for financial decision making but listen to advices from



friends and family ($t = -3.239$, $p = .001$) are less pragmatic while only a few investors who do so are more pragmatic.

From Table 16 (Appendix), it is found that R^2 value is 0.099, adjusted R^2 value is 0.020. This shows that the variance ranges from 2% to 9.9%. But these independent variables are able to create variances on Diligence. This leads to the subsequent verification of regression model fit in the following ANOVA table.

From Table 17 (Appendix), it is found that the regression fit coefficient $F = 1.249$, $p = .126$ is not statistically significant at 5% level. The regression model fit is not significant but individual influence of independent variables can be ascertained from the coefficient table. The following correlation table clearly explains the individual influence of significant variables from the domain of independent variables

From Table 18 (Appendix), it can be concluded that most investors belonging to either of the gender ($t = -2.137$, $p = .033$) and who hold stock on average for less than a day ($t = -2.259$, $p = .024$) exhibit low diligence while only a few investors either male or female holding stock for less than a day exhibit high diligence. Further investors who specialize in any academic discipline ($t = 2.108$, $p = .035$) and those who earn an annual rate of return above 10% are moderately diligent. The mean-wise comparison indicates that male investors (mean=3.444) or female investors (mean=3.4309) and those who are school educated (mean=3.1404), undergraduate (mean=3.3648), post graduate (mean=3.3657) and technically qualified (mean = 3.3611) are all moderately diligent.

From Table 19 (Appendix), it is found that R^2 value is 0.124, adjusted R^2 value is 0.047. This shows that the variance ranges from 4.7% to 12.4%. That is these independent variables are

able to create variances on the personality trait aesthetic. This leads to the subsequent verification of regression model fit in the following ANOVA table.

From Table 20 (Appendix), it is found that the regression fit coefficient $F = 1.611$, $p = .007$ are statistically significant at 5% level. Therefore, it can be concluded that the independent variables considered for the regression model are more appropriate to demonstrate the regression model. The following correlation table clearly explains the individual influence of significant variables from the domain of independent variables.

From Table 21 (Appendix), it can be concluded that either of the gender ($t = 1.963$, $p = .050$) whereupon the mean-wise comparison indicates that male (mean=2.919), female (mean=3.0730) are moderately aesthetic. Further, most of the investors who hold stock on average for more than 6 months to 1 year ($t = -3.149$, $p = .002$) or more than 2 years ($t = -3.471$, $p = .001$) are low aesthetic. While few investors who hold stock on average for 6 months to 1 year or more than 2 years are high aesthetic.

From Table 22 (Appendix), it is found that R^2 value is 0.204, adjusted R^2 value is 0.134. This shows that the variance ranges from 13.4% to 20.4%. That is these independent variables are able to create variances on risk-aversion. This leads to the subsequent verification of regression model fit in the following ANOVA table.

From Table 23 (Appendix), it is found that the regression fit coefficient $F = 2.913$, $p = .000$ are statistically significant at 5% level. Therefore, it can be concluded that the independent variables considered for the regression model are more appropriate to demonstrate the regression model. The following correlation table clearly explains the individual influence of significant variables from the domain of independent variables.



From Table 24 (Appendix), it can be concluded that most of the investors who are educated ($t=-2.043$, $p=.042$), financially knowledgeable ($t=-2.497$, $p=.013$); with certain income ($t=-2.2774$, $p=.006$), who rely on statistics and other information services ($t=-4.071$, $p=.000$) and financial journals ($t=-1.962$, $p=.050$) and hold stock on average for less than a day ($t=-3.694$, $p=.000$) are less risk-averse. Whereas a few investors who are educated, financially knowledgeable, with income, relying on statistics and information services and financial journals, hold stock on average for less than a day are more risk averse. Additionally, investors whose investment objective is building financial buffer ($t=2.032$, $p=.043$), those who are financially knowledgeable ($t=3.500$, $p=.001$) and are financially aware ($t=2.852$, $p=.005$) exhibit risk-aversion.

The mean-wise comparison indicates that investors who are post graduates (mean=3.0014), professionally qualified (mean=2.9806), technically qualified (mean=2.9259) are less risk averse. While investors who are school educated (mean=3.3158) and undergraduate (mean=3.1242) are moderately risk averse. Investors who do not have income viz. students (mean=2.7051) and investors with income above 5 lakhs (mean=2.6410) are less risk-averse. While investors with income up to 1 lakh (mean=3.2524), 1 lakh-3 lakhs (mean=3.1519) above 3lakhs up to 5 lakhs (mean=3.0726) are all moderately risk averse.

From Table 25 (Appendix), it is found that R^2 value is 0.096, adjusted R^2 value is 0.016. This shows that the variance ranges from 1.6% to 9.6%. But these independent variables are able to create variances on Altruism. This leads to the subsequent verification of regression model fit in the following ANOVA table.

From Table 26 (Appendix), it is found that the regression fit coefficient $F=1.203$, $p=.169$ is not statistically significant at 5% level. The regression model fit is not significant but individual influence of independent variables can be ascertained from the coefficient table. The following correlation table clearly explains the individual influence of significant variables from the domain of independent variables.

From Table 27 (Appendix), it is found that most investors either gender ($t=-2.050$, $p=.041$) male or female relying on financial newspapers ($t=-2.003$, $p=.046$) and holding stock on an average more than 2 years ($t=-2.571$, and $p=.010$) exhibit low altruism. While few investors either male or female, relying on financial newspapers and holding stock on average for more than 2 years exhibit high altruism. In addition, investors who are financially knowledgeable regarding inflation ($t=2.677$, $p=.008$); and who performed specified number of trades per month ($t=1.984$, $p=.048$) are altruistic. The mean-wise comparison indicates that both females (mean=3.3198) and males (mean=3.1573) are moderately altruistic. Further those who do not perform any trade per month and those who perform minimum number of 1-15 trades per month appear moderately altruistic.

From Table 28 (Appendix), it is found that R^2 value is 0.126, adjusted R^2 value is 0.049. This shows that the variance ranges from 4.9% to 12.6%. That is these independent variables are able to create variances on the gregariousness. This leads to the subsequent verification of regression model fit in the following ANOVA table.

From Table 29 (Appendix), it is found that the regression fit coefficient $F=1.642$, $p=.005$ are statistically significant at 5% level. Therefore, it can be concluded that the independent variables considered for the regression model are more



appropriate to demonstrate the regression model. The following correlation table clearly explains the individual influence of significant variables from the domain of independent variables.

From Table 30 (Appendix) it is observed that most investors who do not follow any specific approach but listen to family and friends ($t=-2.298$, $p=.022$) and hold stock for more than 2 years ($t=-2.032$, $p=.043$) appear less gregarious while few investors who do not follow any specific approach but listen to family and friends and hold stock on average for more than 2 years appear more gregarious. Further, investors who rely on statistics and information services ($t=2.751$, $p=.006$) appear gregarious.

XI. Findings and Suggestions

Annual rate of return on equity significantly determines the occurrence of self enhancement bias, illusion of control and performance attribution bias. Time spent for investment analysis influences self enhancement bias and illusion of control. Shares held for speculation in the portfolio of retail investors the occurrence of self enhancement bias. Number of shares traded by the investor determines cognitive dissonance and performance attribution bias of the investors. Investment experience influences illusion of control and performance attribution bias.

Among the personality traits, diligent investors exhibit maximum seven psychological biases viz. self-enhancement bias, ambiguity aversion, illusion of control, extrapolation bias, performance attribution bias, information overload bias and socio conformity bias.

XII. Conclusion

The result of the present study provides a unique contribution to the literature by examining an array of psychological biases and personality traits. In addition to the existing literature on psychological biases, that causes error in judgement and decision making, various

dimensions of retail investors such as demographic profile, financial knowledge and awareness, investor objective, technique and strategy, portfolio composition and trading performance and personality traits impact their investment decision which is the prime focus of this study.

Another important contribution of this thesis is that it uses an interdisciplinary research approach. More specifically, this thesis combined theoretical insights from the behavioural economics, behavioural finance, social psychology, personality psychology and anthropology literature. Moreover, the methodology used in this thesis is a combination of such literature. Survey approach to conduct a research instead of actual portfolio data contributes better understanding of the financial behaviour of individual investors, the motivation underlying their belief, preferences, attitudes and behaviour in smaller and less developed markets. By using the data from primary survey of retail investors in Chennai city, the researchers contributes towards bridging this gap.

The study confirms that males are more active in the financial market but have the tendency to ride the momentum with increase in their portfolio value. Further the sampled investors are not active, motivated to attend and benefit from financial education programmes conducted by SEBI, NSE, BSE and various broking firms. But surprisingly they make use of the internet technology to become informed investors. Chennai retail investors are heterogeneous investor group and most of the investors hold a small and moderately diversified portfolio. They are inclined towards capital growth with long term perspective. Simultaneously, they are also drawn towards rumour-driven speculative share trading and approach investment with a gambling mind set. Further investors in the past have relied more upon strong economic fundamentals to make investment decision whereas the researchers have



identified from this study that majority of the investors do not rely on a single technique rather they combine fundamental, technical and market sentiments in varying degree of importance for selecting stocks. The level of importance depends their investment objectives, investment horizon, investment level, level of sophistication in terms of education etc. The researchers also found that a sizable proportion of the sample respondents do not follow any specific approach or strategy in the financial market.

Self-consciousness is the most dominating personality trait among the survey respondents and it is influenced by all the proposed variables such as Gender, age, marital status, discipline, occupation, income, time spent for analysis, number of trades per month, percentage of shares held for speculation, investment experience and annual rate of return on equity. Consistently, Chennai respondents have exhibited risk aversion which is the second important personality influenced by gender, income, time spent for analysis and annual rate of return on equity. Diligence is the third important personality trait displayed by the respondents which is influenced by time spent for analysis, number of trades performed per month and annual rate of return on equity.

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Appendix

Table 1: Summary of Sources of Key Measurement Scale

Measure	Author	No. of items	Scale range	Scale type
Stock knowledge	Lusardi (2008)	1	Nil	Bipolar
SENSEX	Daniel Tobias Dorn (2003)	1	Nil	Bipolar
Inflation	Grable and Joo (2004)	1	Nil	Bipolar
Financial concepts	Ken Yeoh (2010)	4	0-3	Likert type
Investor objectives	Hoffman, Arvid O.I. et. al., (2010)	5	Nil	Multiple choice
Capital growth	Lease et. al., (1974)	4	1-4	Likert type
Reasons to trade	Barber and Odean (1999)	6	1-5	Likert type
Portfolio classification	Lease et. al., (1974)	3	Nil	Unique choice
Investment appraisal technique	Ken Yeoh (2010)	4	Nil	Multiple choice
Frequency of use of appraisal technique	Abdul Quader et. al., (2007)	3	1-5	Likert type
Usefulness of appraisal technique	Abdul Quader et. al., (2007)	3	1-5	Likert type
Investment satisfaction	X. L. Wang et. al., (2006)	4	Nil	Unique choice
Reinvestment intention	X. L. Wang et. al., (2006)	4	Nil	Unique choice
Personality traits	Mayfield Cliff et. al., (2008)	25	1-5	Likert type
Risk attitude	Richard Thaler (1999)	3	Nil	Unique choice
Psychological bias	Kent Baker and Nofsinger (2002)		1-5	Likert type
	Dorn and Huberman (2005)		1-5	Likert type
	Wood and Zaichkowsky (2004)		1-5	Likert type
	Heath and Tversky (1991)		1-5	Likert type
	Langer E.J. (1975)		1-5	Likert type
	Graham et. al., (2009)		1-5	Likert type
	Shefrin and Statman (1985)		1-5	Likert type

Source: Self-Compiled



Table 2: Rotated Component Matrix for Personality Traits

Components	Eigen value	% of variance explained	Cumulative variance
I	3.376	13.503	13.503
II	2.895	11.581	25.084
III	1.603	6.411	31.495
IV	1.473	5.894	37.389
V	1.268	5.071	42.460
VI	1.075	4.299	46.759
VII	1.023	4.093	50.852
VIII	1.019	4.074	54.926

Source: Computed data

Table 3: Factor I Gregariousness

Variables	Factor Loading
I really enjoy talking to people	.804
I am cheerful and high spirited	.804
I am very active	.715
I avoid social gathering	.411

Source: Computed data

Table 4: Factor II Self- consciousness

Variables	Factor Loading
I am often tensed	.737
When I fail, I consider giving up	.715
Sometimes I am not dependable	.601

Source: Computed data



Table 5: Factor III Risk aversion

Variables	Factor Loading
I do not prefer to take risk	.805
I avoid risk totally	.687
I choose low risk-steady return over high risk high returns	.583

Source: Computed data

Table 6: Factor IV Diligence

Variables	Factor Loading
I approach my task meticulously	.732
I perform each aspect of a job in the best manner	.684
I apologise on failure to do my work	.638

Source: Computed data

Table 7: Factor V Pragmatism

Variables	Factor Loading
I analyse market action to respond aptly	.653
I do not trade by gut feeling	.626
I take market setbacks as cost	.588
Sometimes I feel worthless in trading	.437

Source: Computed data

Table 8: Factor VI Aesthetic

Variables	Factor Loading
I often try new and strange food	.667
I am inquisitive	.612
I seek thrill	.535

Source: Computed data

Table 9: Factor VII Altruism

Variables	Factor Loading
I often argue	.644
People think that I am cold and calculative	.628
I am thoughtful and considerate	.434

Source: Computed data



Dependent Variable: Self- Consciousness

Table 10: Model Summary

Model	R	R square	Adjusted R square	Standard error of the estimate
I	.500	.250	.184	.78790

Source: Computed data

Table 11: ANOVA

Model	Sum of squares	df	Mean square	F	Sig.
Regression	114.863	49	2.334	3.776	.000
Residual	345.154	556	.621		
Total	460.017	605			

Source: Computed data

Table 12: Coefficient Table

Model I	Unstandardised Coefficient		Standardised coefficient	T	Sig.
	B	Standard	Beta error	B	Standard error
Constant	3.974	.282		14.106	.000
Age	-.103	.035	-.166	-2.909	.004
Financial Knowledge	.244	.100	.094	2.428	.015
Financial Awareness	.178	.076	.099	2.349	.019
Financial news papers	-.106	.306	-.120	-2.968	.003
Tips & Rumour	.106	.031	.133	3.359	.001
Advice from friends	-.032	.012	-.108	-2.576	.010
Prefer low priced scrip	.067	.025	.129	2.659	.008
Time spent on analysis	-.062	.026	-.103	-2.347	.019
Stock holding period	.121	.049	.099	2.465	.014

Source: Computed data



Dependent Variable: Pragmatism

Table 13: Model summary

Model	R	R square	Adjusted R square	Standard error of the estimate
I	.330	.109	.030	.59498

Source: Computed data

Table 14: ANOVA

Model	Sum of squares	df	Mean square	F	Sig.
Regression	29.085	49	.594	1.249	.126
Residual	264.197	556	.475		
Total	293.282	605			

Source: Computed data

Table 15: Coefficient Table

Model I	Unstandardised Coefficient		Standardised coefficient	T	Sig.
	B	Standard	Beta error	B	Standard error
Constant	3.202	.213		15.502	.000
Marital status	.141	.068	.110	2.061	.040
Financial knowledge	.210	.076	.117	2.778	.006
Tips & Rumours	.048	.024	.088	2.030	.043
Advice-Friends & Family	-.161	.050	-.154	-3.239	.001

Source: Computed data

Dependent Variable: Diligence

Table 16: Model Summary

Model	R	R square	Adjusted R square	Standard error of the estimate
I	.315	.099	.020	.68933

Source: Computed data

Table 17: ANOVA

Model	Sum of squares	df	Mean square	F	Sig.
Regression	29.085	49		1.249	.126
Residual	264.197	556	.594		
Total	293.282	605	.475		

Source: Computed data



Table 18: Coefficient Table

Model I	Unstandardised Coefficient		Standardised coefficient	T	Sig.
	B	Standard	Beta error	B	Standard error
Constant	3.300	.246		13.389	.000
Gender	-.161	.075	-.093	-2.137	.033
Discipline	.027	.013	.090	2.108	.035
Average stock holding period	-.231	.102	-.104	-2.259	.024
Annual rate of return	.050	.024	.104	2.109	.035

Source: Computed data

Dependent Variable: Aesthetic

Table 19: Model Summary

Model	R	R square	Adjusted R square	Standard error of the estimate
I	.353	.124	.047	.66849

Source: Computed data

Table 20: ANOVA

Model	Sum of squares	df	Mean square	F	Sig
Regression	35.285	49	.720	1.611	.007
Residual	248.467	556	.447		
Total	283.752	605			

Source: Computed data

Table 21: CoefficientTable

Model I	Unstandardised Coefficient		Standardised coefficient	T	Sig.
	B	Standard	Beta error	B	Standard error
Constant	3.099	.239		12.964	.000
Gender	.143	.073	.084	1.963	.050
Average stock holding period(6)	-.039	.012	-.125	-3.149	.002
Average stock holding period(8)	-.038	.011	-.163	-3.471	.001

Source: Computed data



Dependent Variable: Risk-aversion

Table 22: Model Summary

Model	R	R square	Adjusted R square	Standard error of the estimate
I	.452 (a)	204	.134	.82286

Source: Computed data

Table 23: ANOVA

Model	Sum of squares	df	Mean square	F	Sig.
Regression	96.637	49	1.972	2.913	.000(a)
Residual	376.470	556	.677		
Total	473.107	605			

Source: Computed data

Table 24: Coefficient Table

Model I	Unstandardised Coefficient		Standardised coefficient	T	Sig.
	B	Standard	Beta error	B	Standard error
Constant	4.079	.294		13.864	.000
Education	-.077	.038	-.084	-2.043	.042
Income	-.101	.036	-.123	-2.774	.006
Financial knowledge (10)	-.275	.110	-.104	-2.497	.013
Financial knowledge(12)	.358	.102	.143	3.500	.001
Financial awareness	.220	.077	.121	2.852	.005
Building financial buffer	.045	.022	.087	2.032	.043
Stats &Infrmn. Services (4)	-0.88	.022	-.167	-4.071	.000
Financial journals	-.028	.014	-.086	-1.962	.050
Average stock holding pd(1)	-.451	.122	-.160	-3.694	.000

Source: Computed data



Dependent Variable: Altruism

Table 25: Model Summary

Model	R	R square	Adjusted R square	Standard error of the estimate
I	.310	.096	.016	.69593

Source: Computed data

Table 26: ANOVA

Model	Sum of squares	df	Mean square	F	Sig.
Regression	28.544	49	.583	1.203	169 (a)
Residual	269.284	556	.484		
Total	297.828	605			

Source: Computed data

Table 27: Coefficient Table

Model I	Unstandardised Coefficient		Standardised coefficient	T	Sig.
	B	Standard error	Beta	B	Standard error
Constant	3.059	.249		12.293	.000
Gender	-.155	.706	-.089	-2.050	.041
Financial knowledge	.231	.086	.117	2.677	.008
Financial news papers	-.063	.032	-.089	-2.003	.046
Trades per month	.038	.019	.099	1.984	.048
Avg. stock holding pd (8)	-.030	.012	-.122	-2.571	.010

Source: Computed data



Dependent Variable: Gregariousness

Table 28: Model Summary

Model	R	R square	Adjusted R square	Standard error of the estimate
I	.356 (a)	.126	.049	.77128

Source: Computed data

Table 29: ANOVA

Model	Sum of squares	df	Mean square	F	Sig
Regression	47.859	49	.977	1.642	.005 (a)
Residual	330.748	556	.595		
Total	378.607	605			

Source: Computed data

Table 30: Coefficient Table

Model I	Unstandardised Coefficient		Standardised coefficient	T	Sig.
	B	Standard error	Beta	B	Standard error
Constant	3.670	.276		13.307	13.307
Stats & Information services	.056	.020	.118	2.751	2.751
Advice friends & family	-.148	.064	-.108	-2.298	-2.298
Avg. Stock holding pd (8)	-.026	.013	-.095	-2.032	-2.032

Source: Computed data



Service Marketing Elements and Performance Indicators of the LIC: An Application of Canonical Correlation

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Abstract

The impact of marketing mix strategies, resources, activities and programmes on the performance parameters of LIC provides that market share of LIC is greatly affected by its physical evidence strategies and marketing resources and capabilities. At the same time the marketing resources and capabilities, promotional strategies, marketing consensus activities, marketing experience elements, physical evidence strategies, process and product strategies dictate the return on investment of LIC. Further it is found that the sales growth of LIC is influenced by marketing experience elements, people and distribution channel strategies, marketing consensus activities and physical evidence strategies. The cross functional integration activities, physical evidence strategies and promotional strategies reflect the customer retention level of LIC.

Key words: Services of LIC, Performance indicators of LIC

I. Introduction

The major portion of the business of the LIC in its life assurance business is brought by its agency force. Therefore, the perception of agents on the marketing strategies and policies followed by LIC has much importance from the practical point of view. The quality of agency force decides to a great extent the business size of LIC. The perception of agents on the agency profession and the training imparted by LIC reflect their attitude towards the profession. The problems faced by agents in the course of marketing life insurance are multifaceted. The organisation should be able to incorporate measures to overcome such difficulties in the

policy frameworks for marketing. Apart from the knowledge on products and services of the LIC, the agent force should have adequate knowledge of competitors, products and services. It is ultimately their experience and commitment towards the profession that decide success in their career. The promotional strategies of LIC are different from those its competitors. As LIC uses its agency force effectively through imparting short/long-term training course in marketing products and services, the organisation doesn't depend on mass advertising throughout the entire life of product but rather on introduction and closure. In the successful implementation of strategy, the cooperation from



the entire organisational workforce is a prerequisite. The perception of the agents on marketing strategies and resources and capabilities will reflect how far the organisation is able to make their strategies understandable to the practitioners. The perception of agents on the facilitating factors that make the marketing process easy and hassle free will be an eye opener to the organisation as to the effectiveness of its multifaceted programmes. The major areas of objection, the vital factors that influence agents in marketing life insurance products and service, the method of prospecting and criteria followed by agents in recommending policies facilitate modifications in the prevailing marketing policies and strategies. This analysis will be of immense utility to the organisation in the formulation, implementation and evaluation of policies, strategies and programmes as to marketing products. The study is based on a sample survey among 310 Agents of LIC selected at random from 5 divisions of Life Insurance Corporation of India in Kerala.

II. Review of Literature

Garg and Verma (2010), in their article, “An Empirical Analysis of Marketing Mix in the Life Insurance Industry in India”, discuss the problems of marketing mix in the life insurance industry in India. After a thorough analysis through various statistical tools, they comment that the insurance firms should focus on the concept of Marketing Mix and implement the concept. They should quantify the level of expenditure for their mix ingredients, study elasticity of the mix ingredients, carry out careful analysis in order to identify the most effective and economic mix, analyze their competitors’ mix while implementing Marketing Mix, review the whole mix in detail so that each segment gets its

own assemblage of mix components, and review their Marketing Mix on a regular basis.

Rao (2010), in his article “Challenges in Designing Need Based Products in Life Insurance for Inclusive Growth in India”, analyses the challenges faced by the insurers in designing need-based products in insurance for inclusive growth, and concludes that the policies of life insurance companies are still not rural-centric, catering to the specific needs of the people. With a view to popularizing life insurance, he recommends that the consumers need to study the rural market, analyse the specific needs of each segment and design innovative products, to suit the requests of the people to the objective of inclusive growth.

Kutty (2010), in his article “Indian Life Insurance – The Millennial Decade”, elaborates the qualitative development in the Life Insurance Industry during the last decade, both in the global and in the Indian context. In his empirical analysis, he finds that the dominant paradigm in sales has been to build the sales infrastructure. Somehow, the growth would automatically materialize and the selling competence will also be enhanced. But, life insurance, as an industry, is mostly built on trust, protection, preservation and long-term opportunity.

Arulsuresh and Rajamohan (2011), in their research paper, conclude that the LIC of India is a service-oriented industry. It is purely dependent on the development officers. The LIC of India provides physical facilities and better services to the development officers, like good percentage of commission, job enrichment, performance appraisal, good reward, and so on. According to the survey made, a few development officers are not updated in their knowledge of the benefits of many newly introduced policies. It is also revealed that the



important duty of a development officer is to locate markets for life insurance business in the area in which he operates. It is also seen that the development officer works through the agency organization, to achieve the objectives of the LIC of India.

Rao (2011), in his PhD thesis, outlines various practical measures to enhance the volume of life insurance business in the rural area. The objectives of the thesis are to study the expectations of the rural customers, to study the levels of insurance awareness, to unearth the reasons for low insurance coverage in rural areas, to bring out the effects of advertisement and other promotional activities, to identify the factors that influence purchase decisions, to estimate the dimensions of customer satisfaction, to identify the deficiencies in the current marketing techniques and to offer suggestions with the objective of mass rural coverage.

Upadhyaya and Badlani (2011), in their research, attempt to identify the key success factors in the life insurance industry, in terms of customer satisfaction so as to survive intense competition and to increase the market share. The objectives of the study are to identify the factors of customer satisfaction in retail life Insurance in India and to study the importance of technology in fulfilling Customer Satisfaction. Data was collected from 206 insurance customers of the ten public and private sector life insurance companies from the major cities of Rajasthan and Maharashtra state in India. The study concludes that despite high satisfaction levels, there remains a lot to be done by the management of the retail life Insurance companies to maximise their customer satisfaction and improve the quality of service. The satisfaction of the customer with the

services of the Life Insurance Companies was found to be linked with the performance of the service.

Babu (2012), in his thesis, "Insurance sector reforms in India", attempts to provide a comprehensive evaluation of the life insurance sector in India. The study is mainly based on secondary data collected from the records and reports of the IRDA, the LIC, the Life Insurance Council and all 22 private sector insurance companies that cover a period of ten years from 2000 to 2010.

Kumar (2012), in his PhD thesis, "A Contemporary Study of Factors Influencing Urban and Rural Consumers for Buying Different Life Insurance Policies in Haryana", makes an in-depth study of the factors influencing buyer behaviour for buying life insurance policies in Haryana. The survey was conducted in Haryana on 1000 policyholders. The study outlines that the insurance agent was the most influential factor for selecting the life insurance policy among rural and urban policyholders. The other crucial determinants of buying behaviour were also identified such as income, economic status, product attributes, agent attributes, and price. The result indicates that there was a significant difference in the buying behaviours of rural and urban policyholders.

This review makes it clear that many studies have been undertaken on the marketing strategies of the LIC in multiple dimensions emphasising service marketing mix, implications of liberalisation, evaluation of customer satisfaction on products and services, appraisal of functioning and performance of the LIC, formulation and implementation of strategies, marketing problems in life insurance, customer



preferences in life insurance products and services, factors influencing selection of life insurance product, etc. There is no study integrating the marketing mix strategies with the resources, activities and programmes of the LIC covering all major issues related to marketing strategies as measuring level of awareness on life insurance products, evaluation of customer preference of life insurance products with other financial products, examining the factors influencing the selection of life insurance product and organisation, in-depth examination of the seven vital elements of service marketing mix in terms of customer satisfaction, measuring the satisfaction of policyholders with services of agents, and their knowledge of products, customer needs and the organisation, impact of brand factors on customer satisfaction, marketing problems in life insurance, cross evaluation of the performance of the LIC with its marketing mix strategies and resources, activities and programmes and issues of great concern in the marketing of life insurance as a method of handling objection, methods of canvassing prospective investors, etc. A comprehensive evaluation of these multidimensional issues will provide a success mantra to the organisation to survive and grow in the competitive environment, with strategic advantage.

III. Objective and Methodology

The objective of the study is to examine the impact of service marketing elements on the performance indicators of LIC in Kerala. The study is descriptive and analytical in nature. Both primary and secondary data have been

used. Primary data were collected from selected LIC agents working in all the 5 divisions of LIC in Kerala. Canonical correlation analysis was applied for establishing the relation between the service marketing elements and performance indicators of LIC. Canonical Correlation Analysis is a multivariate statistical model that facilitates the study of interrelationships among sets of multiple dependent variables and multiple independent variables. Canonical Correlation Analysis (CCA) is a way of measuring the linear relationship between two multidimensional variables. It finds two bases, one for each variable, that are optimal with respect to correlations and, at the same time, it finds the corresponding correlations. Here, the impact of one set of factors as to marketing strategies, resources, activities and programmes of LIC such as PDTS (Product Strategies), PRSS (Pricing Strategies), PLSS (Promotional Strategies), DCSS (Distribution Channel Strategies), PESS (People Service Strategies), PEFS (Physical Evidence Strategies) and PSSS (Process Strategies) on one set of outcome i.e. the performance of LIC such as MS (Market Share), ROI (Return On Investment), SG (Sales Growth), CR (Customer Retention) and CI (Corporate Image) is estimated by applying the Canonical Correlation Model.

IV. Analysis and Discussion

IV (A). Sample Profile and Business Features

The profile of sample explaining the demographic and occupational features of agents of LIC is presented in the Table 1 given below.



Table 1: Sample Profile

Variable	Categories	Frequency	Per cent	Cumulative Per Cent
Area (Place of Residence)	Rural	217	70	70
	Urban	93	30	100
Gender	Male	186	60	60
	Female	124	40	100
Marital status	Married	279	90	90
	Unmarried	31	10	100
Education	SSLC	64	20.6	20.6
	PDC/+2	112	36.1	56.8
	Degree	98	31.6	88.4
	Post graduate	24	7.7	96.1
	Others	12	4.0	100
Nature of Agency	Agent under DO	295	95.2	95.2
	Direct Agent	15	4.8	100
Nature of Membership	NCM	111	35.8	35.8
	BMC	82	26.5	62.3
	DMC	48	15.5	77.7
	ZMC	25	8.1	85.8
	CMC	28	9.0	94.8
	DAC	14	4.5	99.4
	MDTRC	2	0.6	100
Monthly Income (self) (Rs.)	≤ 5000	30	9.7	9.7
	5001-10000	94	30.3	40
	10001-15000	62	20	60
	15001-20000	38	12.3	72.3
	20001-25000	26	8.4	80.6
	> 25000	60	19.3	100



Age (Years)	≤ 25	13	4.2	4.2
	26-35	59	19.0	23.2
	36-45	124	40.0	63.2
	46-55	84	27.1	90.3
	≤ 56	30	9.7	100
Working Experience(Years)	≤ 5	94	30.3	30.3
	6-10	86	27.7	58.1
	11-15	66	21.3	79.4
	16-20	39	12.6	91.9
	> 20	25	8.1	100
Average number of policies sold p.a	≤ 50	136	44	43.9
	51-100	116	37.4	81.3
	101-150	42	13.5	94.8
	151-200	6	1.9	96.8
	≤ 201	10	3.2	100
Average sum assured of policies sold p.a (Rs. Lakhs)	< 50	126	40.6	40.6
	51-100	100	32.4	72.9
	101-150	64	20.6	93.5
	151-200	10	3.2	96.8
	≤ 201	10	3.2	100

Source: Primary Data

Table 1 exhibits the profile of the sample respondents (Agents) selected for study. As per the Table, while 70 per cent of the respondents belong to rural areas, 30 per cent belong to urban areas. Gender-wise classification shows that out of the 310 selected agents, males constitute 60 per

cent and females 40 per cent. A majority of the respondents are married (90 per cent). Education-wise classification reveals that 36.1 have PDC/+2 qualification, 31.6 per cent are graduates, 20.6 per cent are SSLC qualified, and post-graduates and higher qualified hands are very low coming to 7.7 per cent and 4 per cent respectively. The largest



majority of the sample (95.2 per cent) belong to Agents working under Development Officers. It is also observed that Agents not belonging to any of the clubs come to 35.8 per cent, while it is 26.5 per cent belong to BMC, 15.5 per cent to DMC, and membership in other clubs makes for less than 10 per cent individually. The monthly income status of respondents reveals that 90.3 per cent is having an income above Rs. 10000. Many of the respondents (30.3 per cent) belong to a monthly income range of Rs. 5001 to Rs.10000, followed by 20 per cent and 19.3 per cent belonging to Rs.10001 to Rs.15000 and above Rs. 25000 categories. A majority of the policyholders (86.1 per cent) range between age of 26 to 55. The classification of the sample based on their working experience shows that the majority of the selected agents (79.3 per cent) have experience of less than or equal to 15 years, while those having experience above 20 years come to 8.1 per cent. While going through the status of the average number of policies sold (annually) and the average sum assured, it is clear that 81.4 per cent and 73 per cent of respondents belong to number of policies sold up to 100 and having sum assured up to 100 lakh.

IV (B). Canonical Correlation Analysis on Marketing Strategies with Performance

Considering success factors such as MS (Market Share), ROI (Return On Investment), SG (Sales Growth), CR (Customer Retention) and CI (Corporate Image) as well as strategies such as PDTS (Product Strategies), PRSS (Pricing Strategies), PLSS (Promotional Strategies), DCSS (Distribution Channel Strategies), PESS (People Service Strategies), PEFS (Physical Evidence Strategies) and PSSS (Process Strategies), a natural question will arise relating to the dependence structure between the 2 sets of variables. One way to do this is to provide the usual correlation coefficients and it will not be useful in delineating the more

important dimensions of such relationship. To examine the dimensions of the dependence of 2 sets of variables, canonical correlation is an appropriate tool that can be employed. The dimension reduction with these variables has resulted in 5 dimensions as shown in Table 2.

Among these 5 dimensions, 4 dimensions are statistically significant ($p < 0.05$). In order to identify the dimensions resulting in canonical correlation of 0.60429, 0.50362, 0.26435 and 0.21961, canonical correlation coefficients are used.

Tests of dimensionality for the canonical correlation analysis, as shown in Table 2, indicate that the first four canonical dimensions are statistically significant at .05 level. Dimension 1 has a canonical correlation of 0.60429 between the sets of variables, while dimension 2 has a canonical correlation of 0.50362, dimension 3 has a canonical correlation of 0.26435 and dimension 4 has a much lower canonical correlation of 0.21961.

Table 3 presents the standardized canonical coefficients for the four dimensions across both sets of variables. For the variables, the first canonical dimension is most strongly influenced by PLSS and PSSS (.10765, -.56483) and for the second dimension by DCSS and PESS (.98944, -.72352), while the third dimension is dominated by PDTS and PESS (.60614, -1.45519); PRSS and DCSS (1.28303, -1.04755) influence the fourth dimension. For the covariates, the first dimension comprises SG and CI (.04553 and -.16974). The second dimension includes SG and ROI (.22913 and -.22314). The third dimension consists of MS and CR (.25137, -.27873), and CI and MS (.32060, -.20264) dominate the fourth dimension.

The first dimension relates to the promotional strategies (PLSS) and not to process strategies (PSSS) on the one side, and sales growth (SG) and not corporate image (CI) on the



covariate. In simple terms, promotional (PLSS) and not process strategies (PSSS) are important for sales growth (SG). Also, it is to be noted that Process strategies (PSSS) are to be in such a way as no to affect corporate image (CI).

It is distribution channel strategies (DCSS) and not the people strategies (PESS) on the one side and sales growth (SG) and not return on investment (ROI) on the covariates that are related to the second dimension. It is Distribution channel strategies (DCSS) and not People strategies (PESS) that play an important role in sales growth (SG).

With regard to the third dimension, it is product (PDTS) and not people strategies (PESS) on the one side and market share (MS) and not customer retention (CR) on the covariates that are related. This makes it clear that while product strategies (PDTS) have a great influence on the market share (MS), people strategies (PESS) are to be in tune with ensuring better customer retention (CR).

The pricing strategies (PRSS) and not the distribution channel strategies (DCSS) on the one

Table 2: Dimension Reduction Analysis

Roots	Wilks L.	F	Hypoth. DF	Error DF	Sig.
1	.41638	8.30960	35.00	1256.00	.000*
2	.65589	5.59167	24.00	1044.30	.000*
3	.87879	2.64702	15.00	828.57	.001*
4	.94481	2.16671	8.00	602.00	.028*
5	.99268	0.744201	3.00	302.00	.528

Source: Survey data

Significant at 5 per cent level of significance

Table 3: Standardized Canonical Coefficients - Dimensions

Variable	1	2	3	4
PDTS	-.08783	-.67381	.60614	-.33506
PRSS	-.13565	.08837	-.06022	1.28303
PLSS	.10765	.62950	-.66299	-.25920
DCSS	.05902	.98944	.54868	-1.04755
PESS	-.02373	-.72352	-1.45519	.05997
PEFS	-.44011	-.30077	.36305	-.58085
PSSS	-.56483	.13488	.47693	.70476
Covariate	1	2	3	4
MS	-.01387	-.08081	.25137	-.20264
ROI	-.08137	-.22314	-.09110	.01482
SG	.04553	.22913	.11686	-.12805
CR	-.04618	.04621	-.27873	-.15752
CI	-.16974	.06435	.05089	.32060

Source: Survey data



side and corporate image (CI) and not the market share (MS) on covariates are related to the fourth dimension. This highlights the prominent role of pricing strategies (PRSS) in enhancing corporate image (CI). At the same time, it is to be ensured that distribution channel strategies (DCSS) support growth of market share (MS).

V. Conclusion

The Canonical Correlation Model of the marketing mix strategies with performance variables reveals that the promotional strategies and distribution channel strategies play an important role in determining the sales growth of the LIC and that the product strategies and pricing strategies are closely related to the market share and corporate image of the LIC respectively. This is validated by observing the highest positive coefficients in the four dimensions of the Canonical Correlation Model.

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Economic Empowerment of Women Pourers and Palamitras in Dairying in Chittoor District, Andhra Pradesh

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Abstract

To take advantage of government policy and programme women enter into dairying on a large scale in Chittoor district. The freedom of respondents in spending their income had greatly increased among pourers and palamitras. A good percentage of respondents have declined in the lower option, moved up in the middle option and formed afresh in the higher option in the post dairying period. The number of respondents with no control over income and their classifications on the basis of age, education, caste affiliation, nature of family and level of monthly income has decreased in the post-period. A contrary situation prevails in the case of respondents who have control over income to some extent. Further, none of the respondents have enjoyed control over income to a great extent in the pre-period but they are found afresh across all the variables in the post-period. More than 60 per cent of pourers and 44 per cent of palamitras have saved less than Rs. 3000 per month in the post dairying period. The share of respondents who believe that there was no control over family resources became negligible in the post-period. Evidently, there is an increase in the number of respondents with control over family resources in the post-dairying period. The respondents with 'control over family resources to a great extent' have formed in the after-period only. The respondents who had enjoyed 'no control over resources' have decreased correspondingly increasing the share of respondents who had exercised control over resources to some extent in the post-period. No doubt, dairying has resulted in the economic empowerment of women.

Keywords: Dairying, Empowerment, Palamitras, Women Pourers and Palamitras

I. Introduction

The economic independence of women is viewed as a major component in their empowerment process. It requires 'that women should have access to and control over productive resources like income, savings, assets, credit knowledge, skills and so on. Once economic empowerment is achieved, in turn,

it exercises influence on the overall empowerment of women. But, in India, the ownership of resources is heavily biased in favour of male members of the family. Against this backdrop, an attempt is made to assess the level of economic empowerment attained by women after entering into dairying. Therefore, an ardent



bid is made in this article to analyze the economic empowerment of select women pourers and palamitras, who have taken up dairying in the district. Four variables namely, access to income, control over own income, access to savings and control over family resources are used to measure the extent of economic empowerment among the sample respondents. As a prelude, reasonableness of price, sale of dung, cattle insurance, regularity of payment, expenses incurred deductions and so on, are also discussed. There are so many variables that are likely to influence economic empowerment levels of women. These include age, educational qualification, caste affiliation, nature of family and level of income. Therefore, these are to be taken into account while assigning the place of economic empowerment among the respondents. Before and after approach has been followed to assess how far dairying has resulted in the pace of economic empowerment of women.

To take advantage of remunerative milk prices in the recent past; frequent recurrence of drought prone conditions in Andhra Pradesh (AP) in general, Rayalaseema districts in particular and more such conditions in Chittoor district; avail the benefit of government measures for the spread dairying viz. supply of chaff cutters, animals, medicines, silage making units, milking machines, training programmes etc. at concessional rate/free of cost; establishment of bulk milk chilling units (BMCUs) for women and so on have prompted women to enter into dairying on a large scale in Chittoor district. In recent times, in production and

procurement of milk, the district is in the forefront and ranks first among the districts of AP. In this context, it may be specially noted that the concept of palamitras came into existence from 2005 in AP including Chittoor district.

II. Methodology

For the present study, women engaged in dairying in Chittoor district only constitute the universe. The sample respondents are chosen out of the milk pourers and palamitras in the district. An aggregate of 300 women, 250 pourers and 50 palamitras, are conveniently selected through stratified random sampling technique. The primary data have been collected through a schedule designed for the purpose by personal interview method. The tools employed include percentages, Likert’s three-point scale and chi-square test.

III. Income Generation

In addition to sale of milk, respondents derive income from sale of dung if they do not use it for their agricultural purpose. In the case of pourers, 85.60 per cent have used dung for their agricultural activities. While the rest, 14.40 per cent sold it in the market. With regard to palamitras, 90 per cent used their dung for farm activities and the remaining sell it in the market. It may be said that, the majority of respondents use the dung for their agricultural operations. It is more pronounced among palamitras as compared to pourers. This is because the former own more land than the latter.

Table 1: Classification of Respondents on the Basis of Sale and Own use of Dung

Own use/sale	Category of Respondents		Total
	Pourers	Palamitras	
Own use	214(85.60)	45(90.00)	259(86.33)
Sale	36(14.40)	5(10.00)	41(13.67)
Total	250(100)	50(100)	300(100)

Note: Figures in brackets indicate the percentage to total

Source: Sample survey



Among the pourers, 96 per cent are of the opinion that the milk price is reasonable whereas the remaining 4 per cent felt that it is unreasonable (see Table 2). In the case of palamitras, 92 per cent have perceived that the milk price is

reasonable vis-à-vis the rest, 8 per cent have stated that it is less reasonable. It may be concluded that the price of milk is adequate for most of the respondents in the study area. This is more so in the summer season when compared to the winter.

Table 2: Perceptions of Respondents on the Price of Milk

Opinion on reasonableness of price	Category of Respondents		Total
	Pourers	Palamitras	
Reasonable	240(96.00)	46(92.00)	290(96.67)
Unreasonable	10(4.00)	4(8.00)	10(3.33)
Total	250(100)	50(100)	300(100)

Note: Figures in brackets indicate the percentage to total
Source: Sample survey

Generally, prices are charged at a fixed rate on the basis of solid not fat (SNF) and fat content of milk throughout the season. In summer season, all the milk sold may or may not be good. On certain occasions, milk is procured from several places and pourers/palamitras may spoil it. In such

situations, purchase price of spoiled milk may be deducted from sale proceeds as the case may be. Then the respondents receive less than what is due to them. Therefore, in such situations, difference may arise between what is paid and expected.

Table 3: Opinions of Respondents on Payment of Sale Proceeds of Milk

Status of milk	Category of Respondents		Total
	Pourers	Palamitras	
Quality	186(86.11)	29(76.32)	215(84.65)
Spoiled	30(13.89)	9(23.68)	39(15.35)
Total	216(100)	38(100)	254(100)

Note: Figures in brackets indicate the percentage to total
Source: Sample survey

A look at the Table 3 reveals that, a little over 86 per cent of pourers have reported that they have supplied quality milk and, therefore, payments are usual. The remaining percentage of women have complained that they were paid less on the pretext of spoiled milk. With regard to palamitras, the former and the latter constituted

76.32 per cent and 23.68 per cent respectively. In this context, the researcher is of the opinion that the spoilage occurs in summer while very rarely in winter. Therefore, there is no uniformity in payment throughout the year apart from SNF and fat content of milk. It may be inferred that a greater proportion of palamitras have made a



complaint about differential payment as compared to pourers. The reasons for this are not far to seek. They collect milk from a number of pourers including their own. Hence, the chance of spoilt milk is more and it is frequent among palamitras as against pourers.

The BMCUs make payment to pourers and palamitras once in fifteen days. In the case of pourers, 93.60 per cent stated that they have

received payments regularly for the milk sold as fixed by BMCUs and the rest, 6.40 per cent reported that there is no regularity in payment. Almost a similar situation prevails among palamitras. The former and the latter have constituted 94 per cent and 6 per cent sequentially. It may be concluded that more than 90 per cent of respondents are paid sale proceeds of milk regularly without any sort of delay either by palamitras or BMCUs.

Table 4: Categorization of Respondents by Regularity in the Payment of Sale Proceeds of Milk

Payment	Category of Respondents		Total
	Pourers	Palamitras	
Regular	234(93.60)	47(94.00)	281(93.67)
Irregular	16(6.40)	3(6.00)	19(6.33)
Total	250(100)	50(100)	300(100)

Note: Figures in brackets indicate the percentage to total

Source: Sample survey

Table 5: Relationship between Land Holding Size and Level of Income in the Post-Period

Extent of land holding size (acres)	Upto 4000	Level of monthly income (Rs)				Total
		4000-8000	8000-1200	12000-16000	16000 and more	
Upto 0.5	10	34	15	9	7	75
0.50-1.00	5	16	9	4	2	36
1.00-1.50	2	12	5	6	6	31
1.50-2.00	2	8	3	3	3	19
2.00-2.50	2	10	3	6	2	23
2.50 and above	5	18	22	11	11	67
Total	26	98	57	39	31	251
Pearson's correlation coefficient (r)						0.37
6 Probable error(r)						0.034

Source: Sample survey



It can be observed from the Table 5 that the 'r' works out to 0.37 whereas 6 PE (r) 0.034. The 'r' is positive and highly significant. As the value of 'r' is significant, it implies that, generally, the higher the land holding size, the higher is the income generated by the respondents and the lower the size of land, the lower is the income. It may be concluded that the relationship between the extent of land held by the women and the income derived from it are positively related and highly significant.

A look at the Table 6 reveals that the 'r' is found to be 0.68 whereas 6 PE (r) 0.021. Hence, the 'r' is highly significant. It infers that the greater the number of animals, the greater is the average monthly income and vice-versa. This is based on the fact that the 'r' is positive and highly significant. We may sum up that the income of respondents goes up with the increase in the number of animals.

Table 6: Association between Number of Animals and Level of Income in the Post-Period

Level of income per month (Rs)	Level of monthly income (Rs)					
	1	2	3	4	5 and more	Total
Upto 4000	16	16	2	-	-	34
4000-8000	17	77	23	1	-	118
8000-12000	2	26	35	2	1	66
12000-16000	-	13	25	7	3	48
16000 and more	1	1	7	1	24	34
Total	36	133	92	11	28	300
Pearson's correlation coefficient (r)						0.68
6 Probable error(r)						0.021

Source: Sample survey

It can be observed from the Table 7 that the 'r' is positive and is highly, significant. This is evident from the fact that the r is found to be 0.21 vis-à-vis 6 PE (r) 0.037. As r is significant, it can be inferred that, commonly, the greater the

literacy rate among the respondents, the greater is the income. Lesser the level of education lesser is the level of income. Therefore, we may say that the status of education and level of income of women have improved in the post-period.



Table 7: Relationship between Educational Status and Monthly Income in the Post-Period

Educational status	Level of monthly income (Rs)					Total
	Upto 4000	4000-8000	8000-12000	12000-16000	16000 and more	
Illiterate	15	52	17	17	7	108
Less than SSC	7	36	26	15	11	95
SSC	9	25	15	11	10	70
Intermediate	3	2	6	5	2	18
Undergraduate	0	3	2	0	4	9
Total	34	118	66	48	34	300
Pearson's correlation coefficient (r)						0.21
6 Probable error(r)						0.037

Source: Sample survey

IV. Access to Income

Access to income is a crucial element in the economic empowerment of women. In fact, earning an independent income increases their bargaining power at the household level, enhances their autonomy and may even reduce their traditional seclusion. It may result in an increase in their decision-making power at the household level. Women, especially with low incomes, tend to have less control over household resources, less access to information and health services and less control over their time. A glance at the Table 8 shows that, among the pourers, the highest, 42.80 per cent are in the income level of Rs. 4000-8000, 21.20 per cent in the range of Rs. 8000-12000, 13.60 per cent earn less than

Rs. 4000, 12.80 per cent in the income range of Rs. 12000-16000 and the rest, 9.60 per cent, in the frequency of Rs. 16000 and above. Out of palamitras, none had earned income below Rs.4000. Further, 32 per cent are in the income range of Rs. 12000-16000 followed by 26 per cent in the income range of Rs 8000-12000, 22 per cent in the class interval of Rs. 4000-8000 and the remaining, 20 per cent earn an income of Rs. 16000 and more. It can be concluded that, sample women are distributed over several income groups in varying proportions. The share of respondents in the income range of Rs.4000-8000 and Rs.12000-16000 ranks first among pourers and palamitras respectively. A contrary situation prevails in the share of respondents with an income level of Rs.16000 and more.



Table 8: Income-wise Classification of Respondents during the Post Dairying Period

Level of monthly income (Rs.)	Category of respondents		Total
	Pourers	Palamitras	
Below 4000	34(13.60)	-	34(11.33)
4000- 8000	107(42.80)	11(22.00)	118(39.33)
8000- 12000	53(21.20)	13(26.00)	66(22.00)
12000- 16000	32(12.80)	16(32.00)	48(16.00)
16000 and above	24(9.60)	10(20.00)	34(11.33)
Total	250(100)	50(100)	300(100)

Note: Figures in brackets indicate the percentage to total

Source: Sample survey

V. Control Over Income

Access to income is mainly determined by the ability of women to spend their earnings. Freedom to take decisions regarding the items on which their earnings are spent reflects their real access to income. Women shall not only be income earners but also the decision-makers in spending their income. A three-point scale was employed, marking ‘no

control’, ‘to some extent’ and ‘to a great extent’ to measure the change in this aspect. It is evident from the Table 9 that, in the case of pourers, the proportion of respondents with ‘no control over income’ has declined drastically from 90 per cent in the pre-period to 4.80 per cent in the post-period. As against this, those with ‘control to some extent’ have rapidly increased to 87.60 per cent in the post-period from 10 per cent in the pre-period.

Table 9: Responses on the Extent of Control over Income

Control	Pre			Post		
	Pourers	Palamitras	Total	Pourers	Palamitras	Total
No control	225 (90.00)	39 (78.00)	264 (88.00)	12 (4.80)	2 (4.00)	14 (4.67)
To some extent	25 (10.00)	11 (22.00)	36 (12.00)	219 (87.60)	39 (78.00)	258 (86.00)
To a great extent	-	-	-	19 (7.60)	9 (18.00)	28 (9.33)
Total	250 (100)	50 (100)	300 (100)	250 (100)	50 (100)	300 (100)
χ^2	5.68*			5.33 ^{ns}		

Note: * Indicates significant at one per cent level ns: Not significant

Figures in brackets indicate the percentage to total

Source: Sample survey



However, those with 'control to a great extent' were 7.60 per cent in the post-period and no one had enjoyed 'control over income to a great extent' in the pre-period. With regard to palamitras, respondents with no control over income had decreased from 78 per cent in the pre-period to 4 per cent in the post-period. A contrary situation prevails in the proportion of respondents who had enjoyed control over income to some extent. In other words, their share had shot up from 12 per cent in the pre-period to 78 per cent in the post-period. The palamitras who had enjoyed control over income to a great extent were absent before entering into dairying. Now their proportion stood at 18 per cent. To find out the relationship between category-wise classification of respondents and their opinions on the extent of control over income in the pre and post-periods, chi-square test χ^2 was employed. The calculated value of χ^2 was found to be significant at one per cent level in the pre-period while it was found to be insignificant in the post-period. Therefore, it can be inferred that, the classifications of respondents into pourers and palamitras and their opinions on the extent of control over income in the pre-period are dependent on each other. But in the post-period, they are independent of each other. It may be summed up that, the freedom of respondents in spending their income had greatly increased in both the kinds of respondents. In other words, in the dairying period, a good percentage of respondents have moved to higher options and declined in the lower option. This clearly shows that there is an improvement in the freedom to spend their/family income. It means that dairying

has caused economic empowerment among women.

The views of respondents on the control over income from the angle of age, level of education, caste affiliation, nature of family and monthly income are analyzed. It can be observed from the Table 10 that, the respondents in the monthly income range of less than Rs. 4000, Rs.4000-8000, Rs.8000-12000, Rs.12000-16000 and Rs.16000 or more have substantially declined in the post-period over the pre-period. A converse situation exists in the case of respondents who have enjoyed control over income to some extent. It may be noted that, those in the order of below Rs.4000 are absent in the pre-period while they formed 94.12 per cent in the post-period. The share of respondents who had enjoyed control over income to a great extent were nil in the pre-period. But there are respondents who have enjoyed control over income to a great extent in the post-period. Their share was 12.50 per cent, 11.76 per cent, 10.61 per cent and 9.32 per cent in the class interval of Rs.12000-16000, Rs.16000 and more, Rs.8000-12000 and Rs.4000-8000 respectively. There was no respondent with control over income to a great extent in the income range of less than Rs.4000 after entering into dairying. It can be concluded that the number of respondents with no control over income have declined while those with control to some extent have remarkably increased across the income categories. But respondents with control over income to a great extent formed afresh after the period except those in the income range of below Rs.4000. These are absent the pre and post periods.



Table 10: Characteristic Feature-wise Perceptions of Respondents on the Extent of Control over Income

Characteristic feature		Pre			χ^2	Post			χ^2
		Extent of control				Extent of control			
		N.C	S.E	GE		N.C	S.E	GE	
Age (years)	20-29	39 (88.64)	5 (11.36)	-	1.61- NS	3 (6.82)	38 (86.36)	3 (6.82)	6.26 NS
	30-39	103 (88.79)	13 (11.21)	-		6 (5.17)	97 (83.62)	13 (11.21)	
	40-49	88 (86.28)	14 (13.72)	-		4 (3.92)	89 (87.26)	9 (8.82)	
	50-59	26 (92.86)	2 (7.14)	-		-	27 (96.43)	1 (3.57)	
	60 and above	8 (80.00)	2 (20.00)	-		1 (10.00)	7 (70.00)	2 (20.00)	
Education	Illiterate	100 (92.59)	8 (7.41)	-	9.30- NS	4 (3.70)	98 (90.74)	6 (5.56)	8.40 NS
	Below SSC	79 (83.16)	16 (16.84)	-		4 (4.21)	82 (86.32)	9 (9.47)	
	SSC	64 (91.43)	6 (8.57)	-		3 (4.29)	59 (84.29)	8 (11.42)	
	Intermediate	15 (83.33)	3 (16.67)	-		2 (11.11)	13 (72.22)	3 (16.67)	
	Under- graduate	6 (66.67)	3 (33.33)	-		1 (11.11)	6 (66.67)	2 (22.22)	
Caste	OCs	49 (85.97)	8 (14.03)	-	7.91 NS	5 (8.77)	47 (82.26)	5 (8.77)	26.7 9*
	BCs	88 (87.13)	13 (12.87)	-		5 (4.96)	87 (86.14)	9 (8.90)	
	SCs	118 (92.92)	11 (7.08)	-		4 (3.54)	103 (91.15)	6 (5.31)	



	STs	13 (81.25)	3 (18.75)	-		-	14 (87.50)	2 (12.50)	
	MCs	9 (69.23)	4 (30.77)	-		-	7 (53.39)	6 (46.61)	
Nature of family	Nuclear	173 (92.02)	15 (7.98)	-	7.71*	5 (2.66)	167 (88.83)	16 (8.51)	5.18 NS
	Joint	91 (81.25)	21 (18.75)	-		9 (8.04)	91 (81.25)	12 (10.71)	
Monthly income (Rs.)	Upto 4000	34 (100)	-	-	6.59- NS	2 (5.88)	32 (94.12)	-	9.96 NS
	4000-8000	105 (88.98)	13 (11.02)	-		5 (4.24)	102 (86.44)	11 (9.32)	
	8000-12000	56 (84.85)	10 (15.15)	-		1 (1.52)	58 (87.88)	7 (10.61)	
	12000-16000	40 (83.33)	8 (16.67)	-		2 (4.17)	40 (83.33)	6 (12.50)	
	16000 and above	29 (85.29)	5 (14.71)	-		4 (11.77)	26 (76.47)	4 (11.76)	

Note: * Indicates significant at one percent level

NS: Not significant

NC: No control; SE: To some extent; and GE: To a great extent.

Figures in brackets indicate the percentage to total

Source: Sample survey

The share of respondents marked with no control over income has declined in the post-period in all the age-wise classifications of respondents excluding those in the class interval of 50-59 years. In this category, they have completely disappeared in the post period from 92.86 per cent in the pre-period. Number of respondents with control over income to some extent increased substantially in all the age-wise groups of respondents without any exception after entering into dairying

It may be pointed out that, the respondents with control over income to a great extent exist in

the post-period only. Their proportion was in the range of 3.57 - 20 per cent. These respondents were absent in all the class intervals in the pre-period. The illiterates with no control over income have declined from 92.59 per cent in the pre-period to 3.70 per cent in the post-period. The proportion of educated respondents with no control over income decreased in all the levels of education. A contrary trend prevails in the share of respondents with control over income to some extent in the post-period. There are respondents who have enjoyed control over



income to a great extent in all the classes of education in the post-period alone. Their share varied between 5.56 per cent and 22.22 per cent. They were absent in the pre-period. Respondents with no control over income have decreased in the post-period. Respondents with control over income to some extent have increased and those with control over income to a great extent have formed afresh in the post period only.

The caste- wise analysis shows that, in the pre-period, the percentage of STs and MCs with no control over income was 81.25 per cent and 69.23 per cent respectively whereas it was nil in the post-period. The share of OCs, BCs and SCs had declined in the post-period. Respondents in all the caste groups with control over income to some extent have spectacularly increased in the post-period. The respondents with control over income to a great extent were absent in all the caste groups in the pre-period while these have formed afresh in the post-period. Their proportion varied between 5.31 per cent and 46.61 per cent. In the case of joint and nuclear families, the proportion of respondents with no control over income had declined whereas those with control over income to some extent rose and those with control over income to a great extent constituted afresh in the post-period. The relationship between the classification of respondents on the basis of caste and nature of family of respondents and their views on extent of control over income is significant at one per cent level only in the post and pre-period respectively. It may be concluded that the number of respondents with no control over income and their classification on the basis of age, education, caste affiliation, nature of family and level of income had decreased in the post-period over the pre-period. A contrary situation prevails in the case of respondents who have control over income to some extent in all the aforesaid categories. Further, none of the

respondents have enjoyed control over income to a great extent in the pre-period but they are found afresh across all the variables in the post-period. Across all the demographic features, the percentage of respondents with no control over income had substantially declined as against an increase in the proportion of respondents who had enjoyed control over income to some extent in the post period. At the same time, those with control over income to a great extent were found afresh in the post-period only. It may be inferred that dairying has led to economic empowerment of women measured in terms of control over income with regard to caste affiliation, educational status, age, monthly income and nature of family. The percentage of women in the lower option had declined, in the middle option increased and in the higher option formed afresh in the post-period only.

VI. Access to Savings

Access to savings is one of the important elements of economic empowerment, especially among poor women. Economic activity promotes savings among respondents and enables them to use the pooled savings to meet the emergent needs including consumption. The savings increase accretion to assets and often eliminate debts to money lenders, which directly enhances autonomy. Savings are considered an instrument to overcome poverty. Besides, savings habit provides staying power at times of distress, increases creditworthiness, acts as leverage for accessing internal credit, helps construct a house and educate children and perform their marriage. A glance at the Table 11 reveals that, among the pourers, the highest, 31.20 per cent, have saved income in the level of Rs.1000-2000 followed by 20.40 percent in the order of Rs.2000-3000, 15.20 per cent in the range of less than Rs.1000, 14.80 per cent in the range of Rs.3000-4000 and 9.20 per cent each in the range of Rs.4000-5000 and Rs.5000 and more. In the case of palamitras, 26 per cent were in the range of Rs.5000 and more,



22 per cent each in the frequency of Rs.1000-2000 and Rs. 2000-3000, 18 per cent in the class interval of Rs.4000-5000 and 12 per cent in the income range of Rs. 3000-4000. None of the palamitras have saved less than Rs.1000. It may be summed up that

the proportion of savers is higher among palamitras when compared to pourers. This is in tune with the level of income as shown in Table 8. Generally savings depend on the level of income, other things being equal.

Table 11: Savings-wise Segregation of Respondents after Entering into Dairying

Level of savings (Rs.)	Category of Respondents		Total
	Pourers	Palamitras	
upto 1000	38(15.20)	-	38(12.67)
1000-2000	78(31.20)	11(22.00)	89(29.67)
2000-3000	51(20.40)	11(22.00)	62(20.67)
3000-4000	37(14.80)	6(12.00)	43(14.33)
4000-5000	23(9.20)	9(18.00)	32(10.67)
5000 and more	23(9.20)	13(26.00)	36(12.00)
Total	250(100)	50(100)	300(100)

Note: Figures in brackets indicate the percentage to total

Source: Sample survey

VII. Control Over Resources

Control over resources is a key indicator of economic empowerment of women. Women living in poverty are often denied access to and control over resources like cash, credit, bank balance, landed property and other material goods. The nutritional needs of women are not accorded priority compared to those of men over the years. Women lack sufficient access to education and support services. The participation of women in decision-making at home and community are at the lowest ebb. Here the changes that have occurred in the control over resources between pre and post dairying periods are analyzed. It can be observed from the Table 12 that, of the pourers, 80.40 per cent had no control over family resources and the rest, 19.60 per cent had control to some extent only. No one had control over

resources to a great extent in the pre-period. In the post-period, the former had substantially declined to 2.40 per cent whereas the latter remarkably increased to 82.80 per cent. Those who have enjoyed control over resources to a great extent have newly formed at 14.20 per cent in the post period. It shows the extent of change that has taken place in the percentage of pourers in the extent of control over resources. With regard to palamitras, the respondents with no control were 70 per cent in the pre-period while 2 per cent in the post-period. Those who had control to some extent are 30 per cent and 58 per cent in the former and the latter sequentially. Those who have enjoyed control over resources to a great extent have increased from zero per cent in the pre-period to 40 per cent in the post-period.



Table 12: Category- wise Views of Respondents on the Extent of Control over Family Recourses

Nature of control	Pre		Total	Post		Total
	Pourers	Palamitras		Pourers	Palamitras	
No control	201 (80.40)	35 (70.00)	236 (78.67)	6 (2.40)	1 (2.00)	7 (2.33)
To some extent	49 (19.60)	15 (30.00)	64 (21.33)	207 (82.80)	29 (58.00)	236 (78.67)
To a great extent	-	-	-	37 (14.80)	20 (40.00)	57 (19.00)
Total	250 (100)	50 (100)	300 (100)	250 (100)	50 (100)	300 (100)
χ^2	2.69 NS			17.21*		

Note : * Indicates significant at one per cent level
 NS : Not significant
 Figures in brackets indicate the percentage to total
 Source: Sample survey

The relationship between the classification of respondents and their opinions on the extent of control over resources is insignificant in the pre-period vis-à-vis significant at one per cent level in the post-period. It may be summed up that dairying has a positive impact on the access to control over resources in the post-period. Thus, the share of respondents who believe that there was no control over family resources became negligible in the post-period. On the other hand, there is an increase in the account of respondents with control over family resources in the post-period. The respondents with control over family resources to a great extent have formed in the post-period only.

In the age group of 20-29 years and 60 and above years, the proportion of respondents with no control over family resources had been completely wiped out in the post-period (see Table

13). In the remaining age groups, their proportion had substantially declined. In the case of respondents who had enjoyed control over resources to some extent, their number had significantly increased in the post-period. The respondents with control over resources to a great extent were absent in the pre-period in all the age-wise classifications. It may be noteworthy that there are respondents who had exercised control over resources to a great extent in all the age groups without any exception in the post-period. Their share had varied between 9.52 per cent and 24.51 per cent. The SSC qualified and intermediate respondents with no control over resources have completely disappeared in the post-period. In all the remaining levels of education, the share of respondents with no control over resources had substantially declined in the post-period. A contrary picture exists in the proportion of respondents with



control over resources to some extent in all the levels of education excluding undergraduates. There is no change in them. The representation of women who had enjoyed control over resources to a great extent was absent in the pre-period. The respondents in all the categories of education who had exercised control over resources to a great extent were found in the range of 12.32 - 44.44 per cent in the post- period. These were absent in the pre-period. It can be noted that the percentage of OCs, BCs, SCs, STs and MCs with no control over resources had

remarkably declined in the post-period. As against this, the proportion of the aforesaid with control over resources to some extent had substantially increased. Further, none of the respondents with control over resources to a great extent were present in the pre-period. But respondents in these categories who had enjoyed control over resources to a great extent were found in the post-period only. Their share was in the range of 11.50 - 38.46 per cent. The share of respondents in the monthly income of less than Rs.4000 and Rs.12000-16000 is completely nil in the post-period. The respondents

Table 13: Feature – wise Opinions of Respondents on the Extent of Control over Family Resources

Feature		Pre			χ^2	Post			χ^2
		Extent of control				Extent of control			
		N.C	S.E	GE		N.C	S.E	GE	
Age (years)	20-29	36 (81.81)	8 (19.19)	-	3.70 NS	-	38 (90.48)	6 (9.52)	6.89 NS
	30-39	96 (82.76)	20 (17.24)	-		4 (3.45)	90 (77.59)	22 (18.96)	
	40-49	74 (72.55)	28 (27.45)	-		2 (1.96)	75 (73.53)	25 (24.51)	
	50-59	22 (78.57)	6 (21.43)	-		1 (3.57)	24 (85.71)	3 (10.71)	
	60 and above	8 (80.00)	2 (20.00)	-		-	9 (90.00)	1 (10.00)	
Education	Illiterate	90 (83.33)	18 (16.67)	-	7.07 NS	1 (0.93)	94 (87.04)	13 (12.03)	19.89*
	Below SSC	69 (72.63)	26 (27.37)	-		5 (5.26)	67 (70.53)	23 (24.21)	
	SSC	58 (82.86)	12 (17.14)	-		-	57 (81.43)	13 (18.57)	
	Intermediate	14 (77.78)	4 (22.22)	-		-	14 (77.78)	4 (28.22)	
	Under-graduate	5 (55.56)	4 (44.44)	-		1 (11.11)	4 (44.44)	4 (44.44)	



Caste	OCs	42 (73.68)	15 (26.32)	-	4.45 NS	1 (1.75)	44 (77.19)	12 (21.05)	13.25 NS
	BCs	79 (78.22)	22 (21.78)	-		2 (1.98)	77 (76.24)	22 (21.78)	
	SCs	95 (84.07)	18 (15.93)	-		2 (1.77)	98 (86.73)	13 (11.50)	
	STs	11 (68.75)	5 (31.25)	-		1 (6.25)	10 (62.50)	5 (31.25)	
	MCs	9 (69.23)	4 (30.77)	-		1 (7.69)	7 (53.85)	5 (38.46)	
Nature of family	Nuclear	153 (81.38)	35 (18.62)	-	2.21 NS	3 (1.60)	152 (80.85)	33 (17.55)	2.03 NS
	Joint	83 (74.11)	29 (25.89)	-		4 (3.57)	84 (75.00)	24 (21.43)	
Monthly income (Rs.)	Upto 4000	25 (73.53)	9 (26.47)	-	1.93 Ns	-	29 (85.29)	5 (14.71)	8.24 Ns
	4000-8000	93 (78.81)	25 (21.19)	-		4 (3.39)	98 (83.05)	16 (13.56)	
	8000-12000	55 (83.33)	11 (26.67)	-		2 (3.03)	49 (74.24)	15 (22.72)	
	12000-16000	38 (79.17)	10 (20.83)	-		-	36 (75.00)	12 (25.00)	
	16000 and above	25 (73.53)	9 (26.47)	-		1 (2.94)	24 (70.59)	9 (26.47)	

Notes: * Indicates significant at one per cent level

NS: Not significant

NC: No control; SE: To some extent; and GE: To a great extent.

Figures in brackets indicate the percentage to total

Source: Sample survey

in other levels of income who had enjoyed control over resources to some extent had substantially declined in the post-period. A converse situation emerges in the proportion of respondents who had enjoyed control over resources to some extent in the post-period. The

respondents in all the ranges of income who had exercised control over resources to a great extent were non-existent in the pre-period. Such respondents who have envisaged control over resources to a great extent are found in all the levels of income in the post-period. Their share was in the order of 13.56 - 26.47 percent.



The respondents in the nuclear and joint families with no control over resources had declined as against an increase in the respondents with control over resources to some extent in the post-period. None of the respondents in both the categories of families enjoyed control over resources to a great extent in the pre-period. But some of these respondents had freedom to use resources to a great extent in the post-period only. Their proportion was 17.55 per cent and 21.43 per cent in the nuclear and joint families sequentially. The respondents with different characteristic features who had enjoyed no control over resources has decreased while it increased in the case of respondents who had exercised control over resources to some extent in the post-period. Despite non-existence of respondents who had enjoyed control over resources to a great extent in the pre-period, such respondents emerged in the post-period. The relationship between the classification of respondents on the basis of age, caste affiliation, range of income and nature of family and their perceptions on the extent of control over resources is insignificant. But, it is significant in the level of education in the post-period only. The decrease in the share of respondents in the lower option, growth in the middle option and either increase or emergence in the higher option testifies the fact that dairying has enhanced the economic empowerment of women.

VIII. Conclusion

Eighty-five to ninety per cent of respondents use the by-product of dairying, that is, dung for their farm activities. For more than 90 per cent of respondents, price of milk is reasonable. A greater proportion of palamitras have made a complaint about differential payment between them and pourers. Around 94 per cent of respondents have expressed the view that there is no delay in the payment for milk. The income

of respondents has gone up due to increase in the number of animals. The higher the literacy rate among the respondents, the higher is the income and vice-versa. The share of respondents in the income range of Rs. 4000-8000 and Rs.12000-16000 ranks first among the pourers and palamitras respectively. The freedom of respondents in spending their income had greatly increased among pourers and palamitras. A good percentage of respondents have declined in the lower option, moved up in the middle option and formed afresh in the higher option in the post dairying period. The number of respondents with no control over income and their classifications on the basis of age, education, caste affiliation, nature of family and level of monthly income has decreased in the post-period. A contrary situation prevails in the case of respondents who have control over income to some extent. Further, none of the respondents have enjoyed control over income to a great extent in the pre-period but they are found afresh across all the variables in the post-period.

More than 60 per cent of pourers and 44 per cent of palamitras have saved less than Rs. 3000 per month in the post dairying period. The share of respondents who believe that there was no control over family resources became negligible in the post-period. On the other hand, there is an increase in the number of respondents with control over family resources in the post dairying period. The respondents with control over family resources to a great extent have formed in the after period only. The respondents with different characteristic features who had enjoyed no control over resources has decreased while it increased in the case of respondents who had exercised control over resources to some extent in the post-period. Despite non-existence of respondents who had enjoyed control over resources to a great extent in the pre-period, such



respondents emerged in the post-period. Dairying has enhanced the economic empowerment. This is based on the fact that there is a decrease in the number of those in the lower option, increase in the number of those in the middle option and either increase or existence with those in the higher option. An identical trend is found in the relationship between the segregation of respondents on the basis of age, income, education, nature of family and caste and their views on economic empowerment measured in terms of extent of control over income and family resources between pre and post dairying periods.

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Financial Inclusion Drive by PACSs in Alappuzha, Kerala

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Abstract

This paper highlights the role of Primary Agricultural Credit Societies (PACSs) as a financial intermediary to free the rural poor from the financial morass of perennial indebtedness to the local money lenders. According to the FinScope survey, the main reasons for using informal financial services are affordability, accessibility and customer eligibility. It may be right to point out that these reasons be aggregated and renamed as financial inclusion. PACS still remains true to its original vision and mission in spite of the flaws like low mobilisation of savings, high risk portfolios and lack of professional governance. The researchers aim at measuring the extent of financial service penetration by PACSs in Alappuzha by developing a Financial Inclusion Index modelled after the robust standard measures like CRISIL-Inclusix. The FII comprised of three dimensions namely PACSs penetration, Credit penetration, and Deposit Penetration. The financial inclusion achieved by PACSs is 24% on a scale of 100. Obviously, it is low but is the contribution by a single partner PACS besides the Scheduled commercial banks and Regional Rural Banks. The study has also revealed that all three dimensions equally contribute to the FII.

Keywords: PACSs, Financial inclusion, Financial inclusion index

I. Introduction

'Financial Inclusion is about ensuring five RPs such as right product, right place, right price, right protection and right profit'. Financial Inclusiveness has become the top most concern for the policyholders across the country since 2005-06 with the wake-up call from the mid-term policy of RBI. The Central Bank of the Nation has relentlessly rolled out diverse initiatives commencing from opening the 'no-frill account' to invitation to join in 'Jan Dhan Yojana' was to

upsurge the speed of financial inclusion in the country. It's concerted efforts were focused on the reinforcing areas like fashioning apt business models and products, to exploit the potential of new technologies and to create awareness about the value of being included into the formal banking sector. As the exclusion from the banking system results in a loss of 1% in the country's GDP (CRISIL, 2014), financial inclusion is the remedy accompanied by financial literacy and consumer protection for attaining the financial stability of



the country. Hence, the compelling need of the country to achieve the universal access to formal financial services and to free the poor from the clutches of moneylenders at an early hour.

Appropriate and ideal delivery models are vital for achieving financial inclusion. As the regulators constantly review the strategies and develop innovative financial inclusion models which can offer the entire suite of products to the rural poor, the Primary Agricultural Credit Societies, serving in under-banked areas in Kerala could be an apt model to cater to the low-income group. PACS' aptness is due to the proximity to the people they serve, the thorough knowledge of the customers and their specific needs. The short-term credit structure has an extensive network, comprising of the Kerala State Cooperative banks at the apex level and 14 District Co-operative banks at the district level and 1603 Primary Co-operative banks at the grass root level. Service Co-operative banks form the backbone of the rural credit structure of Kerala. An attempt is made by the researchers to measure the extent of financial inclusion by PACSs in the district of Alappuzha and they be crushed or pushed, in keeping with regional cum global tendencies.

II. Review of Literature

Glimpses of the literature of the yester years offer knowledge about the substantial contribution made by the cooperative movement in the socio-economic development of Kerala since its inception:

Shamika (2003) carried out a study to explore the nature and extent of household demand for credit within a rural economy. She pointed out that Kerala moneylenders enjoy more advantage over formal moneylenders, who monitor cost, nature of collaterals etc. About 70-80 % of the credit needs are met by co-operative societies in Kerala.

Chattopadhyay (2011) The study was focused to measure the extent of financial inclusion in India and West Bengal in particular. He created a financial inclusion index using the methodology of Mandira Sharma (2008). Three states in India ranked under high financial inclusion category, seven states fall under medium financial inclusion category and 14 states come under low financial inclusion category. The study showed the achievement in the area of financial inclusion since 2005-06. This was not significant because about 66.5% of the rural poor depend on the money lenders, and majority households are willing to take loan from the banks but are not aware of the banking products and services. He also opined that financial inclusion is not only socio-political imperative but also an economic one and financial access is the counter part of financial exclusion.

Rabha (2011). has made an attempt to assess the extent financial inclusion in the Udalguri District Assam, by developing a Financial Inclusion Index modelled after Sharma (2010). The dimensions she used were similar to that of Sharma, 2010 who provided a all-inclusive measure -Financial Inclusion Index, taking into account very unique aspects of financial inclusion to identify the extent of financial inclusion across the countries on the globe. The key aspects put forward were -availability of financial services, banking penetration and usage of financial services. It takes the value between 0 and 1, Zero indicating lowest financial inclusion (financial exclusion) and one indicating perfect and complete financial inclusion and Rabha also referred to the study of (Goyal, 2009) which he used to assess the financial inclusion among the North –Eastern states of India

III. Significance of the Study

The challenge faced by RBI, the committed financial regulator is on the one side to 'touch'



(meaningfully) the lives of the low-income group and on the other side to keep nudging the formal financial institution to perceive the financial inclusion agenda as a business opportunity in the long run, seemingly at present an obligation. Desperate searches are on for viable models of financial inclusion by the committees constituted the changing-governments. In this pursuit, the policy makers can ill-afford to ignore the role played by PACSs in Kerala. Acknowledging the significance of Primary Agricultural Credit Societies in Kerala, adorned by the features i.e., easy accessibility, affordability and simplicity prescribed by the M. Narasimham Committee, still provide the extend the financial services to the poor so as to boost the impetus of inclusive growth. And this present study, is an attempt to elaborate and to measure the efforts made by PACSs in the financial inclusion drive in Alappuzha.

IV. Research Problem

Up-scaling of financial inclusion is an imperative to down scale the poverty. RBI, the financial architecture of the nation is exploring suitable models and products to actualise the financial inclusion dream by January 2015 that also with the specific target of making the financial services within the walking distance of fifteen minutes. As we trace the history, financial inclusion commenced with the establishment of cooperative societies in 1904 to cater to the rural poor in their locality. Is the presence of cooperative institutions still relevant to address the needs of the lower strata of the income group in the rural areas of Kerala, with its simplicity and structural viability? Can PACSs be a safe place for the poor households to save, a reliable way to send and receive money, a next door neighbour to borrow money in times of need and to free them from the clutches of money lenders?

V. Objectives of the Study

1. Assess the financial inclusion drive initiated by PACSs in the District of Alappuzha.
2. Examine the various dimensions of financial inclusion drive and to identify the most important dimension of financial inclusion drive.

VI. Hypothesis

There is no significant difference among the different dimensions of financial inclusion drive of PACSs

VII. Methodology & Data

VII. (A) PACSs's Financial Inclusion Index Construction

There are number of financial inclusion assessments with the robust tools at global level and national level which have been undertaken based on the data from 'formal' financial institutions, i.e., Scheduled Commercial Banks and Regional Rural Banks. The scope of the present study is unique and different it attempts to assess the extent of financial inclusion by 188 Primary Cooperative Societies catering to the suburbs of the District of Alappuzha. The district is divided into two revenue divisions, Alappuzha and Chengannur, these are further divided into six Taluks viz, Kuttanad, Karthikapally, Mavelikara, Chengannur, Cherthala and Ambalappuzha. The required data is procured from the Joint Registrars' Office (General) for Cooperative societies, Alappuzha, which maintains the accounts at Taluk level. The collected data is classified and entered into SPSS and also in Microsoft Excel. To reach at a meaningful analysis and inference, statistical and mathematical tools like Percentage, Mean,

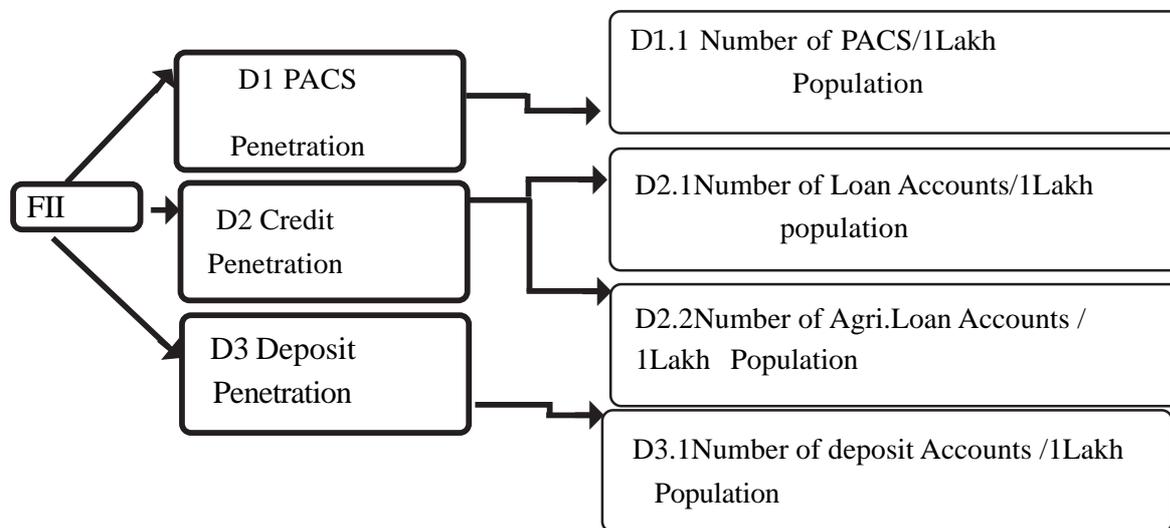


Standard Deviation, and One-way ANOVA are used.

The methodology used in constructing the Financial Inclusion Index of the study region, Alappuzha, is that of UNDP development indices such as Human Development Index, Human Poverty Index and it is more similar to CRISIL-

Inclusix. The present index is comprised of three critical dimensions of financial inclusion. The three vital dimensions aggregated to devise Financial Inclusion Index are ‘PAC Penetration’ (PP) ‘Credit Penetration’ (CP) and ‘Deposit Penetration’ (DP).

VII. (B) Conceptual Framework of Financial Inclusion Index (FII)



VII. (C) Operational Definition of Terms and Concepts

- PAC penetration dimension (PP) measures the ease with which people in a particular taluk can access the societies’ services. It was assessed using ‘Number of PAC Societies per lakh of population’ as the indicator.
- Credit Penetration (CP) measures the extent of access to loan products offered by PACS in a particular taluk. It was determined with the help of two important indicators like ‘Number of loan account per

lakh of population’ and ‘Number of Agricultural Credit per lakh of population’.

- Deposit Penetration (DP) measures the extent of access to savings products offered by PACS in a particular taluk was measured using ‘Number of Deposit Accounts per lakh of population’ as the indicator
- Financial Inclusion Index (FII) is the aggregate of the three financial inclusion dimension indices.



VII. (D) Computation of the Financial Inclusion Index (FII)

In order to compute Financial Inclusion Index, the indicators have to be normalised as the indicators have different units. As a second step dimension index is to be calculated for each dimensions of financial Inclusion. And when there is more than one indicator in a dimension an Indicator Index has to be calculated combining all the indicators. In this study, only Credit Penetration dimension alone has two indicators while PACSs Penetration Dimension and Deposit Penetration have single indicators. The indicator index for the *ith indicator d_i* is computed by the following formula,

$$D_i = W_i = (Actual_i - Minimum) / Maximum_i - Minimum \quad \text{(Form 1)}$$

Where, *W_i* = weightage attached to dimension *i* (0 < *W_i* < *i*)
Actual_i = actual value of dimension *i*
Minimum_i = Minimum value of dimension *i*
Maximum_i = Maximum value of dimension *i*

Formula (1) ensures that $0 \leq d_i \leq w_i$. Higher the value of *d_i* higher is the achievement by a region in financial inclusion dimension *i*. If ‘n’ dimensions of financial inclusion are considered, a district will be represented by a point

$D_i = (d_1, d_2, d_3 \dots d_n)$ on the n-dimensional Cartesian space. In the n-dimensional space, the point O = (0, 0, 0,0) represents the point indicating the complete financial exclusion. And Point I = (1, 1, 1,1) represents the highest achievement in each dimensions, i.e., complete financial inclusion. The financial inclusion index for the district is measured by the normalised inverse Euclidean distance of the point *D_i* from the point I. Statistically it can be expressed as,

$$FII = 1 - \sqrt{(1-d_1)^2 + (1-d_2)^2 + (1-d_3)^2 + \dots + (1-d_n)^2} / \sqrt{n} \quad \text{(Form 2)}$$

In formula(2) the numerator of the second component, i.e., Euclidean distance of the point *D_i* from the ideal point I, is normalised by square root of n and subtracted from ‘1’ to give the inverse normalise distance. The normalisation is done in order to make the value lie between 0 and 1 and the higher value of the FII corresponds to higher financial inclusion.

Accordingly, the three dimensions of the present study- PACs Penetration (PP), Credit Penetration(CP) and Deposit Penetration(DP) represent the District by a point (PP, CP and DP) in the three dimensional Cartesian space that is 0d” PP, CP and DP d” 1 where PP, CP and DP stand for the various dimensions of financial inclusion of the district . In the three dimensional Cartesian space, the point (0,0,0) refer to worst status of financial inclusion and the point(1,1,1) indicate ideal status of financial inclusion. And as a final step, Financial Inclusion of the district is measured by the normalised inverse Euclidean distance of the (PP, CP and DP) from the ideal point (1,1,1).Formally, it can be expressed as;

$$FII = 1 - \sqrt{(1-PP_i)^2 + (1-CP_i)^2 + (1-DP_i)^2} / \sqrt{3}$$

VIII. Result and Discussions

The Alappuzha district is divided into two revenue divisions, Alappuzha and Chengannur. These are further divided into six Taluks viz, Kuttanad, Karthikapally, Mavelikara, Chengannur, Cherthala and Ambalappuzha. The required data is procured from the Joint Registrars’ Office for Cooperative societies, Alappuzha, which maintains the accounts at Taluk level. The various dimension indicators of financial inclusion are cited below in the Table.1



Table 1: Data Base for the Calculation of PACSs Financial Inclusion Index as on 31/03/2013

Sl.No	Taluks in Alappuzha	D1 Number of PACS In Alappuzha	Population In Alappuzha	D2.1 Number of Agri. Credits Accounts	D2.2 Number of Loan Accounts	D3 Number of Deposit Accounts
1)	Kuttanad	35	518555	45587	52562	70638
2)	Karthikapally	38	440792	293333	106667	222730
3)	Mavelikara	26	204319	5125	85468	112318
4)	Chenganoor	17	407281	807	25264	43257
5)	Cherthala	56	205244	90143	539758	493145
6)	Ambalappuzha	16	332969	6971	27698	44131
	Total	188	2109160	441966	837417	986219
	Mean	31.33	351526.67	73661	139569.5	164369.83

Sources: Compiled and calculated from the records of Joint Registrar (General) of Cooperative Societies, Alappuzha and the Department of Statistics, Vikas Bhavan, Tvm.

VIII. (A) D1.PACSs Penetration Index

Access provided to the sources of financial services plays a significant role in ensuring the financial inclusion in a place or to a group. The

PACSs Penetration Dimension or the ease of access to Primary Cooperative societies is calculated on the basis of Number of PACSs per one lakh population. The index of PACSs penetration is presented in Table 2.

Table 2: D1. PACSs Penetration in Alappuzha

Taluk	No. of PACS	PACS/1lakh Population	PACSIndex D1	PACSIndex	Rank
Kuttanad	35	6.749525123	0.111441527	0.111	4
Karthikapally	38	8.620846113	0.192412536	0.192	3
Mavelikara	26	12.72519932	0.370005596	0.370	2
Chenganoor	17	4.174022358	9.67419E-07	0.000	6
Cherthala	56	27.28459784	0.999982599	1.000	1
Ambalappuzha	16	4.805252141	0.027313926	0.027	5

Source: Records of joint Registrar of Cooperative societies, Alappuzha



VIII. (B) D2.PACSS’ Credit Penetration in Alappuzha

Affordable credit to the poor rural households is one of the major objectives of financial inclusion drive. The Credit Penetration

dimension is calculated on the basis of both the number of total number of loan accounts per 1lakh population and the Number of Agricultural loan accounts per 1lakh population. The Table 3 depicts the Credit Penetration by PACSS in Alappuzha.

Table 3: D2 PACS’ Credit Penetration

Taluku in Alleppey	Credit Penetration			Agricultural Credit Penetration			Penetration Index	
Taluk	(Total Cr/Population)*1lakh	D2.1Index	Rank	(Agri.Cr/Population)*1lakh	D2.2 Index	Rank	D2	Rank
Kuttanad	10136.24399	0.015	4	8791.160051	0.13	3	0.071	3
Karthikapally	24198.9419	0.07	3	66546.80666	1.000	1	0.342	2
Mavelikara	41830.66675	0.139	2	2508.332558	0.035	4	0.086	3
Chenganoor	6203.088285	0.000	5	198.1432966	0.000	6	0.000	6
Cherthala	262983.5708	1.000	1	43919.91971	0.659	2	0.759	1
Ambalappuzha	8318.492112	0.008	6	2093.588292	0.029	5	0.018	5

Source: Records of joint Registrar of Cooperative societies, Alappuzha

VIII (B) (a).D2.1 PACSS’ Total Credit Penetration in Alappuzha

The first indicator of credit penetration dimension is calculated based on the number of total number

of loan accounts in each Taluk per 1lakh population.

Table 4: D2.1.PACSS’ Total Credit Penetration in Alappuzha

Taluk	No.of Credits	Total Cr/1lakh Population	Index	Rounded Index	Rank
Kuttanad	52562	10136.24399	0.015317189	0.015	4
Karthikapally	106667	24198.9419	0.070082636	0.070	3
Mavelikara	85468	41830.66675	0.138747219	0.139	2
Chenganoor	25264	6203.088285	-2.00372E-09	0.000	5
Cherthala	539758	262983.5708	0.999999996	1.000	1
Ambalappuzha	27698	8318.492112	0.008238178	0.008	6

Source: Records of Joint Registrar of cooperatives Societies, Alappuzha



VIII (B) (b). D2.2PACSS' Agriculture Credit Penetration in Alappuzha

Agricultural loan accounts in each Taluk per 1lakh population.

The second indicator of credit penetration dimension is calculated based on the number of

Table 5: D2.2PACSS' Agriculture Credit Penetration in Alappuzha

Taluk	No. Agri.Credits	Agri.Cr/*1lkh Population	Index	Rounded Index	Rank
Kuttanad	45587	8791.160051	0.12951304	0.13	3
Karthikapally	293333	66546.80666	0.99999999	1	1
Mavelikara	5125	2508.332558	0.03481893	0.035	4
Chenganoor	807	198.1432966	4.471E-09	0	6
Cherthala	90143	43919.91971	0.65896996	0.659	2
Ambalappuzha	6971	2093.588292	0.02856795	0.029	5

Source: Records of joint Registrar of Cooperative societies, Alappuzha

VIII (C). D3. Deposit Penetration

The Deposit Penetration is calculated based on the total number of deposit accounts per 1 lakh

population. The Deposit Penetration Index is given below in Table 6.

Table 6: D3 PACSS' Deposit Penetration in Alappuzha

Taluku in Alappuzha	No. Deposit	(Dep/pop)* lakh population	Index D3.1	Rounded Index	Rank
Kuttanad	70638	13622.08445	0.013068322	0.013	4
Karthikapally	222730	50529.50144	0.173778772	0.174	3
Mavelikara	112318	54971.8822	0.193122771	0.193	2
Chenganoor	43257	10620.92266	-1.50068E-09	0.000	6
Cherthala	493145	240272.5536	1.000000000	1.000	1
Ambalappuzha	44131	13253.78639	0.011464597	0.011	5

Source: Records of joint Registrar of Cooperative societies, Alappuzha



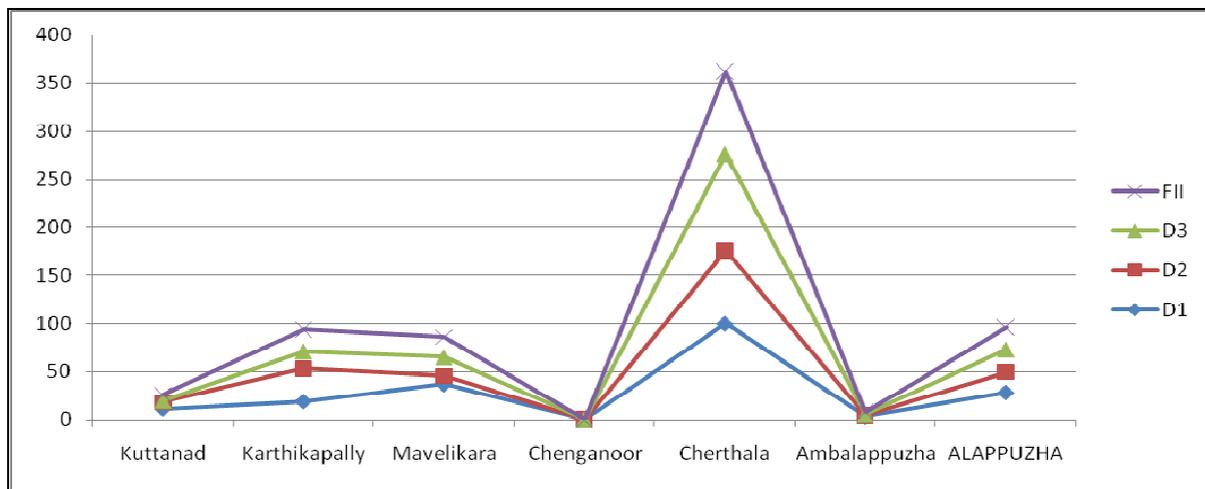
VIII. (D) Financial Inclusion Index of Alappuzha by PACSs

Table 7: Financial Inclusion Index of Alappuzha by PACSs

Taluks in Alappuzha	D1	Rank	D2	Rank	D3	Rank	FII	Rank
Kuttanad	0.111	4	0.071	3	0.013	4	0.064	4
Karthikapally	0.192	3	0.342	2	0.174	3	0.232	2
Mavelikara	0.370	2	0.086	3	0.193	2	0.208	3
Chenganoor	0.000	6	0.000	6	0.000	6	0.000	6
Cherthala	1.000	1	0.759	1	1.000	1	0.861	1
Ambalappuzha	0.027	5	0.018	5	0.011	5	0.019	5

Source: Records of joint Registrar of Cooperative societies, Alappuzha

Figure 1: Financial Inclusion Index of Alappuzha by Primary Cooperative Societies



Financial Inclusion Index values are computed for six Taluks in Alappuzha based on the three dimensions. The taluks are categorised into five levels in terms of their financial inclusiveness.

- 1) $.8 < FII \leq 1$ Very High Financial Inclusion
- 2) $.6 < FII \leq .8$ High Financial Inclusion
- 3) $.4 < FII \leq .6$ Medium Financial Inclusion
- 4) $.2 < FII \leq .4$ Low Financial Inclusion
- 5) $0 < FII \leq .2$ Very low Financial Inclusion



Table 8: Descriptive Statistics

Penetration Index	N	Mean	Std. Error	95% Confidence Interval for Mean		Mini.	Maxi
				Lower Bound	Upper Bound		
PACS	6	28.3333	15.32246	-11.0543	67.7210	.00	100.00
Credit	6	21.3333	12.02128	-9.5683	52.2350	.00	76.00
Deposit	6	23.0000	15.78818	-17.5848	63.5848	.00	100.00
Total	18	24.2222	7.88336	7.5898	40.8547	.00	100.00

Among the different taluks, Cherthala alone fall under the category of Very High financial Inclusion. As the number of PACS, loans advanced and deposit mobilised are high and the number of population served by PACS is low. So, Cherthala taluk clearly depicts very high financial inclusion. Low financial Inclusion can be seen in Karthikapally taluk and Mavelikara taluk. And rest of the taluks, Kuttanad, Ambalappuzha and Chengannur are categorised as very low financially included Taluks. Chengannur taluk's FII value is almost nil as the density of PACS are few, credit advanced and deposit mobilised are meagre in proportion to the population of that taluk.

IX. Hypothesis Testing

The financial Inclusion dimension indices and the overall financial inclusion were computed on a scale of 0 to I. For the calculation and interpretation, the data is converted into 10 to 100 scale. Table.8 presents the summary of the descriptive statistics of the financial inclusion index with three penetration indices. At this juncture it is important to ascertain the mean difference between Societies' penetration, Credit penetration and Deposit penetration. Among all penetration

indices presented in the table, the PACS penetration index is rated with highest mean of (28.33). Credit penetration index mean (21.33) is lowest among the three indices. and Deposit penetration index mean (23.00) ranked the second highest among them with 38.67299. The descriptive statistics has depicted that there is significant variability in all three indices from their mean.

The researchers have observed from the descriptive statistical analysis that calculated financial inclusion dimension penetration indices are different in their mean and standard deviation. But it is important to determine the statistical significance of the difference observed among them. Further, an ANOVA test is conducted to test the mean difference between the three dimensions of financial inclusion dimensions. The indices calculated for each dimension of penetrations which together constitute the overall financial inclusion index in Alappuzha, are used as dependent variables for the test of significance. The table.9 presents the output of One-Way ANOVA. H_0 is accepted, as the key test statistics of ANOVA model, F-value is (.064) with 2 and 15 degrees of freedom and the P-value (0.938)



associated with this value is greater than (0.05). Hence, the analysis supports the null-hypothesis of no difference in dimension means. To be specific, the inference derived from the test is that the impact of three dimensions of financial

inclusion contribute almost equally to the Financial Inclusion Index of Alappuzha by 188 Primary Cooperative Societies spread over six Taluks in Alappuzha.

Table 9: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	160.444	2	80.222	.064	.938
Within Groups	18856.667	15	1257.111		
Total	19017.111	17			

X. Summary of Findings

- Financial Inclusion Index score by PACSs in the District of Alappuzha is calculated based on the three dimensions. In Alappuzha overall financial inclusion score on a scale of 100 is 24%, though the score reflects under penetration of financial services, the achievement by the specialised institution for the rural poor.
- Taluk of Cherthala remains top in the FII with 86.1 score and is included in the very high category. It has the lead in all three dimensions as the PACSs penetration, Credit penetration and Deposit penetration are concentrated in Cherthala Taluk and it has to spread over to other Taluks also.
- Taluk of Chengannur scored least in Financial Inclusion Index score and is rated as very low financial inclusion category, as the PACSs penetration level is low and the agricultural loans granted are very meagre, compared to other taluks.
- Taluks of Kuttanad (6%) and Amalappuzha (2%) are also included in the very low financial inclusion category. In the case of Kuttanad, population is high but the penetration of PACSs is not in

proportion to the population and in the case of Ambalappuzha, the PACSs penetration as well as the other dimensions are low.

- Low financial Inclusion can be observed in Karthikapally taluk (23%) and Mavelikara taluk (21%). Mavelikara has deposits and loans high but agricultural loans are scanty. Karthikapally ranked top in agricultural loan penetration but it has only third rank in other two dimensions.
- The mean difference of dimensions is not significant, so it reveals the fact that all three dimensions have to be enhanced to scale up the overall FII score. One dimension cannot be the substitute for the other.

XI. Conclusion

Financial Inclusion Index of Alappuzha based on the financial service rendered by Primary Agricultural Credit Societies is low compared to the state by CRISIL (84%) measured considering the financial services offered by the Scheduled Commercial Banks and RRBS but the financial inclusion Index score achieved by Taluk of Cherthala is much higher than the state FII score (86%). In essence, the extent of financial inclusion drive carried on by



PACSS in Alappuzha is commendable. The people in the under banked areas of Alappuzha still depend upon their 'neighbourhood institution' for meeting their life-cycle needs and financial emergencies. The researchers propose to turn PACSS in Kerala into the small banks recommended by the Raguram Rajan Committee. As the commercial banks are reluctant to start brick-and-mortar financial service outlets in rural areas, it would be ideal to augment the capital base of PACSS in equipping them to offer a full suite of financial services to the low income strata of the society.

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Rural Self-employment Programmes in India – A Review

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Abstract

Rural unemployment is still an unresolved social problem demanding remedy. Erstwhile self-employment and wage employment programmes were alleged to be underprovided in bringing down the unemployment rate as planned. Irrespective of the number of programmes, effective employment generation through different programmes is important. The paper reviews the self-employment programmes implemented in the country since the Sixth Five-year Plan period.

Keywords: *Unemployment, Self-employment, Self-employment programmes*

I. Introduction

“India lives in its villages”. This statement of Mahatma Gandhi, the Father of the Nation, is relevant even today from the political, social and economic perspectives of India. As per the Census 2011, India's total population is 121.02 crore, of which 68.84 per cent (83.31 crores) live in the rural areas and only 31.16 per cent (37.71 crores) are in the urban area (Registrar General & Census Commissioner, 2012). Rural life in India is characterised by poverty, unemployment, as well as poor and inadequate infrastructure, and these will have a cascading effect on urban centres by causing slums and economic and social tension.

Hence, the development of rural areas received more attention by way of the various schemes designed for the development of Indian economy. The unemployment scenario in the country over the years is quite a substantial evidence of rural backwardness and all sorts of developmental needs. The rise in unemployment has been a silent phenomenon in India. According to the National Sample Survey's 55th round, unemployment as a percentage of labour force rose from 5.99 per cent in 1993-'94 to 7.32 per cent in 1999-2000 (Government of India, 2012). Based on the National Sample Survey, the International Labour Organisation has reported



that the total employment grew by only 1.1 million, from 2004-05 to 2009-10. However, the total employment in India expanded by 13.9 million from 2009-10 to 2011-12. As per the report on the ‘Third Annual Employment and Unemployment Survey, the unemployment rate is estimated to be 4.7 per cent at the all India level (Govt. of India, 2013). Despite relatively low labour force participation rate, the unemployment rate is significantly higher among females as compared to that among males. At the all India level, the female unemployment rate is 7.2 per cent whereas for males, the rate is 4.0 per cent. It should be noted that the unemployment rate is lower (4.4 per cent) in rural areas whereas, in urban areas, the same is 5.7 per cent (Govt. of India, 2013).

To a great extent, the size of employment in a country depends on the level of development. So, when a country makes progress and its production expands, the employment opportunities also grow. In India, during the past three decades,

production has increased in all sectors of the economy, which has led to an increase in the level of employment. As against the GDP growth at an average rate of 6.4 per cent between 1992-93 to 2000-'01, the employment growth declined from 2 per cent to 1 per cent (Sengupta, 2004). Thus, the country has been witnessing a jobless growth in the recent years. This was due to the fact that the rate of economic growth was lower than the targeted rate and so, adequate number of jobs was not created (Puri & Misra, 2008). It is also argued that economic growth in India in the early 2000s had not led to much employment generation (Chandrasekhar, 2004). The overall employment growth story of the country during the last two decades was not appreciable as it declined slightly over the two decades (Raveendran, 2007). This was particularly true for rural areas while urban areas maintained a better annual growth rate (Table 1). The percentage of unemployed to total labour force in the country is given in Table 2.

Table 1: Employment Growth in India

Year	Rural		Urban		Total	
	No. (Mln)	Growth % *	No. (Mln)	Growth % *	No. (Mln)	Growth% #
1972-73	168.65	-	36.10	-	204.75	-
1977-78	171.04	0.28	42.85	3.74	213.88	0.92
1982-83	187.90	1.97	51.59	4.08	239.49	2.08
1993-94	238.75	2.46	75.18	4.16	313.93	2.61
1999-00	251.22	0.87	86.97	2.61	338.19	1.25
2004-05	277.6	2.10	105.2	4.19	382.8	2.62
2009-10	285.4	0.56	115.4	1.94	400.8	0.92

*Simple average of previous years

Growth rate (%) per annum is given over the previous quinquennial round

Source: Planning Commission, Govt. of India.

**Table 2: Unemployment Rate**

Sl. No	Year	Unemployment (% to Labour Force)	Change (+/-)
1	1972-73	8.35	
2	1977-78	8.18	-0.17
3	1982-83	9.22	1.04
4	1993-94	6.06	-3.16
5	1999-00	7.31	1.25
6	2004-05	8.28	0.97
7	2009-10	6.53	-1.75

Source: Planning Commission, Govt. of India.

The Planning Commission of India for the 11th Five Year Plan (2007-12) reported that, at the end of 2004-'05, the rural labour force stood at 303.2 million as against the rural employed work force of 278.1 million, leaving 25 million people unemployed. The Government initiatives during the 10th Five Year plan were successful in generating an additional 26.9 million job opportunities. However, there was an addition of 32.6 million to the work force during the Plan period. Thus, in spite of significant initiatives for employment generation, the rate of increase in labour force had been faster than the rate of increase in employment, leading to a rise in unemployment. The unemployment rate among rural agricultural households increased from 12.3 per cent during the 10th Five year Plan to 15.3 per cent during the 11th Five Year Plan.

In the rural sector, agriculture and allied activities account for most of the employment. A

sector-wise analysis of employment data makes it clear that there was a decline in employment in agriculture from 65.42 per cent in 1983 to 52.06 per cent in 2004-05 (Government of India, 2013). The diversification of employment away from agriculture during the 1980s resulted in an overall growth of rural employment and thereby a decline in the incidence of rural poverty. The main source of employment generation in the rural sector during the period was the Central and State Governments-sponsored employment generation programmes offering increased subsidies. Moreover, as a result of the conscious policy of rural development, about 80 per cent of all new Government jobs created occurred in rural areas (Puri & Misra, 2008). Nowadays, the strategy of rural development focuses mainly on poverty alleviation, better livelihood opportunities and provision of basic infrastructural facilities through innovative programs of wage and self-employment.



II. Employment Programmes in India

“Growth with Social Justice” has been the basic objective of the development planning in India since independence (Planning Commission, 2001). The prevalence of unemployment and poverty was viewed as the most serious concern for development. But the Government did not frame any specific long-term policy for solving the unemployment problem because, for quite some time, it was thought that economic growth would result in increased employment opportunities and that accelerated rate of economic growth would be able to meet substantially the employment requirements of the growing labour force. This, however, did not happen, as the number of unemployed increased from 22 million in 1969 to 42 million in 2004 (Sengupta, 2004). The Government, therefore, laid increased emphasis on taking up schemes for providing additional employment opportunities and various special schemes of employment generation – both self-employment and wage-employment programmes.

III. Self-employment Programmes

As per the 55th round of the National Sample Survey (NSS) on Employment and Unemployment in India 1999-2000, 55 per cent of the employed males and 57 per cent of the employed females in the rural areas were self-employed persons. At the same time, only 9 per cent of the employed males and 3 per cent of employed females were regular employees (Government of India, 2012). The Planning Commission for the 10th Five year Plan had pointed out that about 36 to 40 per cent of the rural population still required casual/wage employment. Obviously, programmes for self-employment of the poor have been an important component of the anti-poverty programmes implemented through government initiatives in

rural India. A review of the various self-employment programmes implemented in the country is done below.

III (A). Integrated Rural Development Programme (IRDP)

IRDP was a centrally sponsored self-employment scheme, which had been in operation in all the Blocks of the country since 1980 during the Sixth Five Year Plan. The scheme was financed on 50:50 basis by the Centre and the States. The Central funds were allocated to the States on the basis of the proportion of rural poor in a State to the total rural poor in the country. The programme aimed at providing self-employment in a variety of activities like sericulture, animal husbandry and land-based activities in the primary sector; weaving, handicrafts, etc. in the secondary sector, service and business activities in the tertiary sector. The acquisition of productive assets or appropriate skills would help the rural poor to generate additional income on a sustainable basis which will enable them to cross the poverty line. The target group consisted largely of small and marginal farmers, agricultural labourers and rural artisans living below the poverty line, Scheduled Castes/Scheduled Tribes families and physically handicapped persons. Within the target group, there was an assured coverage of 50 per cent for Scheduled Castes/Scheduled Tribes, 40 per cent for women and 3 per cent for the physically handicapped. Based on the feedback received from the State governments, suitable changes were made in the guidelines for the IRDP, from time to time.

The total investment under IRDP during the Sixth Five Year Plan was Rs. 4762.78 crore as against the target of Rs. 4500 crore. The number of families benefited during the period was 165.62 lakh, of which 64.64 lakh belonged



to Scheduled Caste/Scheduled Tribe (Planning Commission, 1985). During the Seventh Plan period, the total investment was increased to Rs.8080.56 crore and about 181.77 lakh households were benefited. The sectoral composition indicates that, of all the schemes selected, 44 per cent were in the primary sector, 18.5 per cent in the secondary sector, and 37.5 per cent in the tertiary sector (Planning Commission, 1992). During the Eighth Five Year Plan, the total investment amounted to Rs.11541.06 crore and 10.83 million families were covered against the initial target of 12.6 million families. Of the families covered, 50.06 per cent were from Scheduled Castes/Scheduled Tribes. The coverage of women was only 33.59 per cent which was lower than the target of 40 per cent (Planning Commission, 1998).

In 1993, the RBI appointed a High Power Committee under the Chairmanship of Dr. D.R. Mehta, to make an in-depth study of IRDP and recommend suitable measures for its improvement. Based on the recommendations of the Committee, new initiatives were taken by the Government under IRDP in the Eighth Plan. It was decided to bring the literate unemployed youth (below the poverty line) for IRDP activities by giving them subsidy for projects. Group activities involving at least 5 members were promoted by enhancing the ceiling on subsidy to Rs.1.25 lakh or 50 per cent of the project cost, whichever was less. Even the cut-off line was abolished to enable all families below the poverty line to be assisted under the programme. There had been considerable diversification of IRDP activities since the inception of the programme. Initially, a

majority of the beneficiaries under the programme subscribed to primary sector activities. In 1980-81, IRDP activities were heavily skewed towards the primary sector which accounted for 93.56 per cent, while the shares of the secondary and tertiary sectors were 2.32 per cent and 4.12 per cent respectively. Over the years, the share of the primary sector came down to around 55 per cent, while the shares of the secondary and tertiary sectors increased proportionately to 15 per cent and 30 per cent respectively (Planning Commission, 1998).

In the 10th Plan document, the Planning Commission had stated that 54 million families had been benefited under the IRDP till March 1999, since the inception of the programme. The total investment including subsidy was Rs.33,953 crore. The results of the last Concurrent Evaluation revealed that 14.8 per cent of the beneficiaries assisted under the IRDP could cross the revised poverty line of Rs.11 000/annum (1991-92 prices). Though the programme was successful in reducing poverty in India to a certain extent, many criticisms were raised against the efficiency in the implementation of the programme, particularly about the recovery performance which was only 41 per cent as on March 1996 (Planning Commission, 2002). It was also criticised that the programme badly affected the health of the lending financial institutions due to increasing proportion of non-performing assets and resulting defaults in loan payments. With effect from 1st April 1999, the scheme was merged into Swarnajayanti Gram Swarozgar Yojana (SGSY). The number of families assisted, total investment made, and the sector-wise coverage are given in Table 3.



Table 3: Financial Assistance and Beneficiaries under IRDP

Plans	No. of Families Assisted (in lakh)	Total Investment (Rsin Lakh)			Sector-wise Coverage (%)		
		Subsidy Disbursed	Credit Disbursed	Total	Primary	secondary	Tertiary
Sixth Plan	165.62	166117	310161	476278	71.73	10.53	17.74
Assistance/Family (Rs.)		1003	1872.73	2875.73			
Seventh Plan	181.77	270803	537253	808056	43.68	18.66	37.66
Assistance/Family (Rs.)		1489.81	2955.67	4445.49			
Annual Plan 1990-91	28.98	66815	119003	185818	47.76	18.91	33.33
Assistance/Family (Rs.)		2305.56	4106.38	6411.94			
Annual Plan 1991-92	25.37	65773	114734	180507	49.97	18.67	31.36
Assistance/Family (Rs.)		2592.55	4522.43	7114.98			
Eighth Plan	108.36	397494	756631	1154125	52.87	17	30.13
Assistance/Family (Rs.)		3668.27	6982.57	10650.8			
Ninth Plan 1997-99	33.84	174474	417070	591544	53.63	15.65	30.72
Assistance/Family (Rs.)		5155.85	12324.8	17480.6			
Grand Total	543.94	1141476	2254852	3396328	-	-	-
Average/Family (Rs.) (Under the Scheme)		2098.53	4145.41	6243.94	51.06	17.56	31.38

Source: Planning Commission, Government of India



III(B). The Scheme for Training of Rural Youth for Self-Employment(TRYSEM)

The scheme, Training of Rural Youth for Self-Employment (TRYSEM), was started in August 1979, as an allied programme to strengthen the IRDP. It aimed at training about 2 lakh rural youths every year to enable them to be self-employed. Under this scheme, 40 youths were selected from each Block and, to be eligible for selection, the person should belong to rural families having an income less than Rs. 3500 p.a. It was also prescribed that at least of 1/3 of the rural youths trained were to be women. Against the target of 10.01 lakh youths to be trained during the Sixth Plan, 10.14 lakh youths were actually trained, out of which 4.783 lakh youths were self-employed. Members of SC and ST accounted for 32.9 per cent of the persons trained, while women accounted for 33.8 per cent (Planning Commission, 1985). While reviewing the rural development and

poverty alleviation programmes, the Planning Commission for the 8th Plan reported that during the Seventh Plan, 9.97 lakh youth were trained under TRYSEM, of which 46.5 per cent took up self-employment and 13.13 per cent got wage employment (Planning Commission, 1992). During the Eighth Plan, 15.28 lakh youth were trained under TRYSEM, of whom 34.16 per cent took up self-employment and 15.05 per cent, wage-employment; the remaining 50.79 per cent remained unemployed (Planning Commission, 1998). The report of the Working Group on Rural Poverty Alleviation Programmes for the 10th Five Year Plan states that 45.56 lakh youths had been trained under the TRYSEM from 1980-81 to 1998-99 (Planning Commission, 2001). The TRYSEM was merged into Swarnjayanti Gram Swarozgar Yojana (SGSY) in 1999. The details of the financial assistance and employment generated under TRYSEM are presented Table 4.

Table 4: Financial Assistance and Beneficiaries under TRYSEM

Plans	Total Fund Allotted (Rs. in Lakhs)	Fund Released (Rs. in Lakhs)	No. of Youth Trained (Lakhs)	No. of Youth Employed (Lakhs)	% of Trained Youth Employed
Sixth Plan	387.90	NA	1.146	5.804	57.2
Seventh Plan	12884.71	NA	9.979	5.951	59.6
Annual Plan 1990-91	3260.93	NA	2.361	1.652	70.0
Annual Plan 1991-92	4879.31	NA	3.070	1.674	54.5
Eighth Plan	35563.70	37007.43	15.274	7.522	49.3
Ninth Plan 1997-98 & 19998-99	13284.83	15503.4	4.738	2.18	46.01
Grand Total	70261.379	52560.83	45.568	24.783	54.4
Average/Youth (Rs)(Under the Scheme)	1541.90	1153.46	-	-	-

Source: Planning Commission, Government of India



III(C). Development of Women and Children in Rural Areas (DWCRA)

Another programme, Development of Women and Children in Rural Areas (DWCRA), was introduced in September 1982, in 50 districts on a pilot basis on account of the lesser provision and benefit for women under IRDP during the first three years of the 6th Five Year Plan. The basic objective was to provide necessary support services to enable the women to take up income-generating activities. The scheme aimed at improving the living conditions of women and children by providing opportunities for self-employment and access to basic social services. The main strategy adopted under this programme was to facilitate poor women in the rural areas with employment, skill upgradation, training, credit and other support services so that the DWCRA women can take up income-generating activities for supplementing their incomes. Assistance was to be given either to individual women or to organized groups of women to take up economically viable activities. Under the scheme, women were granted assistance to take up viable economic activities with Rs. 15,000 as a one-time grant to be used as a revolving fund.

Analysing the rural development and poverty alleviation programmes, the Planning Commission for the 7th Plan reported that the outlay for the scheme during the Sixth Plan was Rs. 15.60 crore, which was to be shared equally by the Centre and the States. It was also felt that Government efforts were to be supplemented by voluntary agencies also. Thus, assistance from UNICEF was also made available to the extent

of Rs. 5.40 crore. During the 6th Plan alone, 3308 Groups covering 52170 women beneficiaries were actually organized under the Programme (Planning Commission, 1985). During the Seventh Plan, the scheme was extended to 161 districts and about 28,000 groups were formed during this period against the target of 35,000 with a membership of 4.6 lakh women (Planning Commission, 1992). During the Eighth Plan, the programme was extended to all the districts of the country and the Union Government took several initiatives to strengthen the programme. The revolving fund was increased from Rs.15,000 to Rs.25,000, and the formation of smaller DWCRA groups was permitted in remote areas. The Child Care Activities scheme was introduced in the DWCRA programme in 1995-96 with the objective of providing child care services for the children of DWCRA women. Similarly, the Information, Education and Communication (IEC) component was introduced to generate awareness among rural women about the development programmes implemented for their uplift and welfare. Altogether, 141386 DWCRA groups covering 2268327 women were formed during the 8th Plan, spending 190.74crore (Planning Commission, 1998). The Working group on rural poverty alleviation programmes for the 10th Five Year Plan reported that 2.73 lakh groups were formed with 41.45 lakh members under the DWCRA during 1982-83 to 1998-99 (Planning Commission, 2001). The DWCRA was merged into Swarnjayanti Gram SwarozgarYojana (SGSY) in 1999. The Central assistance released, the expenditure incurred and the number of women benefited under the programmes are depicted in Table 5.



Table 5: Financial Assistance and Beneficiaries under DWCRA

Plans	Central Assistance Released(Rs in Lakhs)	Expenditure (Rs in Lakhs)	% of Expenditure to Fund Allocated	No. of Women Benefited
Sixth Plan	298.53	-	-	52170
Seventh Plan	3663.53	3099.01	84.59	469707
Annual Plan 1990-91	898.00	500.66	55.75	109557
Annual Plan 1991-92	962.72	784.18	81.45	208012
Eighth Plan	19074.17	22453.77	117.72	2268327
Ninth Plan(1997-98 & 1998-99)	14093.22	15411.24	109.35	1036932
Grand Total	38990.17	42248.85	108.36	4144705
Average/ Women (Rs)(Under the Scheme)	940.72	1019.35	-	-

Source: Planning Commission, Government of India.

III(D). Supply of Improved Toolkits to Rural Artisans (SITRA)

Under this programme, improved toolkits were provided to rural artisans (except weavers, tailors, needle workers and beedi workers) all over India at 90 per cent subsidy, to ensure increased income to the beneficiaries, besides achieving improved quality of life, enhanced production and reduction in migration to urban areas. The scheme was launched in July 1992, as a subsidiary scheme of IRDP in selected districts and was then extended to all the districts of the country. The scheme aims at supply of a kit of improved hand tools within a financial ceiling of Rs.2000, for

which the artisans need pay only 10 per cent, while the remaining 90 per cent is the subsidy from the Government of India. The supply of power-driven tool costing Rs.4500 is also permitted under this scheme. Besides this, the artisans were trained under TRYSEM and any additional finance required by the artisans was to be provided through loans under IRDP. Since the inception of this scheme in 1992-93, up to 1998-99, 10.61 lakh toolkits were been distributed to rural artisans at an expenditure of Rs.209.92 crore (Table 6). The scheme was merged into Swarnjayanti Gram Swarozgar Yojana (SGSY) in 1999.



Table 6: Financial Assistance and Beneficiaries under SITRA

Plan	Year	Fund Available (Rs. in crores)	Expenditure (Rs. in crores)	% of Expenditure to Available Fund	Beneficiaries(No. In lakhs)
Eighth Five Year Plan	1992-93	16.85	13.86	82.26	0.83
	1993-94	23.22	18.60	80.10	1.09
	1994-95	29.00	22.91	79.0	1.25
	1995-96	40.00	28.69	71.73	1.54
	1996-97	40.00	36.02	90.05	1.81
Annual Plans	1997-98	30.82	34.27	111.19	1.62
	1998-99	59.50	55.57	93.39	2.47
	Total	239.39	209.92	87.68	10.61
CAGR (%)		16.69	20.86	-	15.84
R ²		0.7725	0.956	-	0.9205

Source: Planning Commission, Government of India.

III(E). Ganga KalyanYojana (GKY)

In order to focus on the irrigation requirements of small and marginal farmers, Ganga KalyanYojana (GKY) was introduced in 1996-97 as a sub-scheme of the IRDP. Though a provision of Rs. 19081.50 lakh was made by the Central Govt. in this direction during 1996-97, the fund was actually released during March 1997, and only Rs 1093.545 lakh was utilized during 1997-98. Altogether, 6142 individuals and 1536 groups were also benefited under the scheme with the provision of wells and tube wells (Planning Commission, 2002). Due to some operational problems in its implementation, the scheme was

discontinued from 1998-99 and the unutilised funds were pooled with the new scheme of Swarnjayanti Gram Swarozgar Yojana (SGSY) with effect from 1.4.1999.

III(F). Million Wells Scheme (MWS)

The Ministry of Rural Areas and Employment launched a Million Wells Scheme (MWS) in 1988-89. The objective of the scheme was to provide open wells, free of cost, to poor SC/ST farmers in the category of small and marginal farmers, and to free bonded labourers. Where such wells were not feasible, the amounts allotted were to be utilised for other schemes of



minor irrigation projects and activities like irrigation tanks, water harvesting structures and also for development of lands of SCs/STs and freed bonded labourers. The beneficiaries had to undertake the construction of wells through their own labour and local labour for which they were

to be paid. Thus, the scheme could help in the creation of employment and capital formation. Till 1998-99, a total of 1308433 wells were constructed under MWS with an expenditure of about Rs. 4976.63 crore (Table 7) (Planning Commission, 2002).

Table 7: Funds Allocated and Wells Constructed under MWS

Plan	Total Fund Allocated (Rs.in crores)	Expenditure (Rs.in crores)	% of Expenditure to Fund Allocated	No. of Wells Constructed
Seventh Plan	271.44	241.15	88.84	137979
Annual Plan 1990-91	524.63	279.74	55.32	56433
Annual Plan 1991-92	524.63	495.19	94.39	172328
Eighth Plan	3727.45	2990.59	80.23	743030
Ninth Plan 1997-99	1120.17	969.96	86.59	198663
Grand Total	6168.32	4976.63	80.68	1308433
Average/Well (Rs)(Under the Scheme)	47142.80	38035.04	-	-

Source: Planning Commission, Government of India.

III (G). The Swarnjayanti Gram Swarozgar Yojana (SGSY)

The SGSY was the major self-employment scheme to bring the assisted rural poor families (swarozgaris) above the poverty line by providing them income-generating assets with the help of bank credit and government subsidy. The scheme was introduced on the assumption that the rural poor had competencies of producing valuable goods and services, if they were given the right support and assistance by the Government. The scheme was launched in April 1999, by restructuring the erstwhile rural development programmes like IRDP and its allied programmes,

namely, TRYSEM, DWCRA, SITRA and GKY besides MWS. The programme covered all aspects of self-employment such as selection of key activities, planning of activity clusters, organization of the poor into Self Help Groups (SHGs) having 10-15 members, and building their capacities through social mobilization, training and skill development, creation of infrastructure, provision of technology and marketing support, etc. The SGSY was implemented by the District Rural Development Agencies (DRDAs) with the active involvement of Panchayati Raj Institutions (PRIs), banks, State government and Non-Government Organizations (NGOs). Key activities selected were to be such as give the Swarozgaris



an income of Rs 2000 per month, net of bank loan repayment. The programme provided special safeguards for the weaker sections and women. It was provided that 50 per cent of the groups formed and 40 per cent of the Swarozgaris assisted should be women. Similarly, SC/STs should constitute 50 per cent, and the disabled should constitute 3 per cent of the Swarozgaris assisted. Further, 15 per cent of the funds under the SGSY was set apart at the national level for special projects, which had self-employment generation potential in rural areas. The fund under the programme was shared between the Centre and the State on 75:25 basis.

As per the guidelines, the SHGs had to open an account in a nearby bank to get the loan from that the bank and also to deposit the fund raised by them in the bank. The SHGs would receive a

revolving fund of Rs. 25,000 from banks as cash credit facility. Of this, Rs. 10,000 would be given to the bank by the DRDA and the banks were to charge interest only on the sum exceeding Rs. 10,000. The subsidy allowed under the programme was uniform at the rate 30 per cent of the project cost, subject to a maximum of Rs. 7500 per individual Swarozgari, 50 per cent of the project cost subject to a maximum of Rs. 10000 in the case of STs & SCs and disabled Swarozgaris, 50 per cent of the cost of the scheme subject to a ceiling of Rs. 1.25 lakh for group projects. The monetary ceiling on subsidy was not applicable to irrigation projects. The funds for the SGSY were shared on 75:25 basis between the Central and State Governments. The details of the programme are given in Table 8.

Table 8: Financial Assistance and Beneficiaries under SGSY

Plan	Year	Total Fund Available (in crores)	Total Fund Utilised (in crores)	% of Fund Utilised to Fund Available	SHGs Formed (in lakhs)	No. of Beneficiaries (in lakhs)
Ninth Plan (Last Three Years)	1999-00	1962.01	959.86	48.92	2.92	933868
	2000-01	1608.18	1117.94	69.52	2.23	1006152
	2001-02	1299.55	970.32	74.67	4.34	937468
Tenth Plan	2002-03	1178.22	921.11	78.18	3.99	826267
	2003-04	1214.88	1043.43	85.89	3.92	896895
	2004-05	1511.2	1290.83	85.42	2.66	1115928
	2005-06	1558.53	1338.78	85.90	2.76	1151116
	2006-07	1724.55	1424.20	82.58	2.46	1691926
Eleventh Plan (First Four Years)	2007-08	2394.17	1965.97	82.12	3.07	1699295
	2008-09	3003.05	2285.39	76.10	5.64	1861875
	2009-10	3495.65	2779.19	79.50	3.89	2085177
	2010-11	3752.21	2804.04	74.73	3.11	2109986
Total		24702.2	18901.0	76.52	37.07	16315953
CAGR (%)		8.6	10.75	-	7.09	11.41
R ²		0.5882	0.8737	-	0.2897	0.8835

Source: Planning Commission, Government of India.



During the last three years of the 9th Plan (1999-2000 to 2001-'02), Rs 4480.85 crore was made available under the programme, of which Rs 2576.09 crore was actually utilized. A total of 742354 SHGs were formed during the period. Total Swarozgaris assisted during the period numbered 24, 44,292, out of whom individual Swarozgaris were 15,74,258 (Planning Commission, 2002). During the 10th Plan, 56,82,132 beneficiaries took advantage of the scheme with a fund utilisation of Rs. 6018.35 crore. Reference to the Draft Approach Paper to the Twelfth Five-year Plan reveals that though the 11th Plan recommended a total outlay of Rs 17803 crore for SGSY, the actual budgetary allocation was only Rs. 12334.3 crore (69.3 per cent). The draft Approach Paper further lays down that during 10 years of implementation of SGSY, 3.6 million SHGs were formed, out of which only 0.08 million SHGs took up economic activities. In spite of the huge investments made by the Government on SGSY, the physical output had not been so impressive. Target-driven SHGs formations, subsidy-driven corruption, obsession with asset formation without proper marketing mechanism, etc., were observed as the major problems by the Demands for Grants of the Ministry of Rural Development (2010-11). Poor administration and management of the scheme and inadequate banking staff, leading to non-repayment of loans, were noted as the major difficulties in the implementation of the scheme.

Since 2011, SGSY has been renamed as National Rural Livelihood Mission (NRLM) along with incorporation of new provisions. NRLM is designed as a demand-driven programme and the State Governments have to formulate their own poverty reduction action plans based on their past experience, resources and skills base. Similarly, NRLM will provide for a professional support structure for implementation at all levels from National to Sub-district level in different streams.

IV. Review Remarks

All of the above-mentioned schemes were instrumental in providing self-employment to the rural community. However, the more or less stagnant 'absolute unemployment' was badly hitting the nation on the economic and social front. The ever mounting population growth along with other economic causes, over years, made the various self-employment programmes underprovided. Though, individually, each programme could achieve its own results, want of programmes or poor coverage of the programmes were deepening the unemployment problems in the country.

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Economics of Paddy Cultivation in Kerala: A Case Study

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Abstract

Decline in the area under paddy cultivation and paddy production is one of the major socio-economic and political problems faced by Kerala. Severe scarcity of farm workers and uneconomical nature of paddy cultivation are the major reasons often quoted to explain this trend. But, mechanisation and modernisation has resulted in reducing the dependence on farm labourers, cost of cultivation and completing farm operations on time. At present paddy cultivation is no more an uneconomical but a profitable endeavour.

Keywords: *Paddy cultivation, Paddy in Kerala, Economics of paddy cultivation*

I. Introduction

Paddy cultivation is an age old and important economic activity of Keralites. Rice accounts for nearly 95 percent of the total amount of food grains produced within the State (The Hindu, 2012). It is extensively cultivated in all districts of Kerala. It has played an active role in shaping the present socio-economic, political and cultural life of Keralites. As a staple food, increase in population and income of people of the State has resulted in increasing demand for rice. But the area under paddy cultivation and paddy production in the State are declining day-by-day. Being the source of staple food for the people, fodder for cattle and raw material for industries, this constant decline in volume and area is a serious threat to the State. The State produces only just 15 percent of its paddy requirements (Economic Review, 2010) and has to depend on imports from other States. Considering the importance of paddy cultivation, the State has taken several steps for promoting and increasing paddy cultivation in the State, but all those steps have become futile.

The experts have put forward several propositions like high cost of cultivation, severe shortage of workers, high wage-cost, conversion of paddy fields for non-farm and commercial activities, marketing and processing problems, small size of holdings, lack of mechanisation and modernisation etc., for such a declining trend in paddy cultivation (Kutty, 2014). However, all the reasons mentioned ultimately profess that paddy cultivation is uneconomical, farmers loath to conduct paddy farming.

Paddy cultivation is an economic activity carried on with the help of men, machines, materials and other inputs for the purpose of earning income or livelihood. A farmer uses his land or land taken on lease and invests his money and efforts for the purpose of raising crops either for sale or for his own consumption or for both. Economic activities involve both costs and revenues. A farmer incurs costs for the purpose of purchasing various inputs like seeds, fertilizers, insecticides, weedicides, herbicides etc., for



payment of wages, rent for machineries and equipments taken on custom hire basis and for land, if taken on lease. Reports show that, the average cost of production of paddy per kilogram is Rs. 22, a farmer incurs a loss of Rs. 5 per kilogram, if he sells his paddy at the support price of Rs. 17 per kilogram fixed by the Government, procured through the SUPPLYCO (Malayala Manorama, 2012).

However, remarkable changes have taken place in the methods and techniques of paddy farming. Adoption of modern technology and methods has resulted in labour cost saving and price support system and paddy procurement by SUPPLYCO have resulted in increasing market price of paddy. In addition to these, the government provides several kinds of subsidies, production incentives, bonus etc. to farmers. All these have helped in reducing the cost of cultivation and increasing earnings of farmers. The study is an enquiry into the facts and figures about the economic aspects of paddy cultivation in Kerala; a state with high wage costs and strong trade unionism among farm workers. This paper argues that mechanisation and modernisation in paddy cultivation has made paddy farming an economical and profitable venture.

II. Statement of the Problem

Within four decades (1975-76 to 2012-2013) total paddy production in Kerala has declined by 63 per cent and area under paddy cultivation by 78 per cent. All measures taken by the then governments in power for increasing paddy production remain ineffective. Both economic and non-economic factors account for such a serious condition. Among the economic factors, profit or surplus is the key factor that affects the decision “whether to undertake and continue an economic activity or not”. Persons concerned with paddy farming claim that paddy

cultivation is uneconomical. However, at present, when most of the farm operations are mechanised, is it right to say that paddy cultivation in Kerala uneconomical? The question remains unanswered. Thus, the crux of the problem is the cost of paddy production in Kerala and its profitability.

III. Scope of the Study

The study is an inquiry into the economic aspects of paddy cultivation in Kerala. The study examines the recent trends in the area under paddy cultivation and paddy production in the State and its profitability as an economic activity of Keralites. It deals with the cost of paddy cultivation and revenue realised thereon. Since, the cost cultivation and revenue derived thereon depend upon the methods farming, different methods of paddy cultivation also come under the scope of the study.

IV. Objectives of the Study

1. To review the recent trends in paddy production and area under paddy cultivation in Kerala.
2. To determine the average cost of different paddy farm operations and inputs and average total cost of paddy cultivation.
3. To determine the average profit per acre of paddy cultivation.

V. Methodology

The study is based on both primary and secondary data. Various reports of the Government of Kerala and past literature formed major part of secondary data. Primary data were collected from 100 farmers in Kerala selected on the basis of multi-stage cluster sampling technique.



For the purpose of primary data collection, firstly two districts - Palakkad district, (occupies highest rank in the State in paddy production) and Malappuram district (considering the increase in the area under paddy cultivation as per the Agricultural Statistics 2011-12) were selected. From these two districts, two development Blocks – Kuzhalmannam in Palakkad district and Perumpadappu in Malappuram district were selected on the basis of area and production. Again, from these development Blocks, two grama panchayats with largest area under paddy cultivation and production were selected. These grama panchayats were the Kuzhalmannam panchayat in Kuzhalmannam development Block and Nannamukku panchayat in Perumpadappu Block. From these grama panchayats, on the basis of information obtained from the respective agricultural offices (*Krishi Bhavan*) five important paddy farming areas were selected. From each of these areas, 10 farmers in total, consisting three farmers who conduct paddy cultivation in less than two acres, three farmers who carry on farming in more than five acres and four farmers who conduct paddy farming in two to five acres of land, were selected for the study. For selection of individual farmers, help of staff in *Krishi Bhavans* (agricultural offices) were also sought for. In addition to the farmers, necessary basic information regarding agricultural practices and methods was collected from the officials of *Krishi Bhavans* of the respective grama panchayats.

For data collection, a structured interview schedules was employed. The study was conducted during the months of October to December 2013.

VI. Data Analysis

The nature and objectives of study warrants only use of simple mathematical and statistical

tools like percentages, averages and ratios. Thus, they are mainly used for analytical purposes.

VII. Literature Review

Several studies relating to different aspects of paddy cultivation have been made both at regional, national and international levels. Some of the studies which explicitly deal with paddy cultivation in Kerala have been reviewed under.

George and Mukhejee, (1986), Thomas (1999), Kannan (2000), Tharamangalam, (2002), Kumari (2012) et al have dealt with different aspects of paddy production in the State and have mentioned that paddy cultivation in the State is uneconomical due to high wage rates, high input cost and low price for paddy. According to them, this has led to generate negative attitude among the farmers towards paddy farming and decline in the area under paddy by either conversion of land for non-paddy cultivation and commercial purposes or keeping the land fallow for longer time. They suggested that, rice production can be increased by making rice farming economical through improved utilisation of irrigational facilities, use of HYV, and consolidation of holdings and price incentives. Pushpangadan (1992) has suggested that for increasing the area under cultivation and paddy production, cost reducing innovation in production technology is essential. Oommen (1993) has accounted gulf emigration and consequent socio-economic impacts for decline in paddy production and according to Pulapre (2002) it is the result of the phenomenon called “Dutch-disease”.

According to Panikar (1981), in Kerala, there is no significant difference between the yields of local varieties and HYV seeds. He opined that it is a paradox of modernisation without commensurate improvement in net returns and thus, fresh efforts are required to breed new varieties, which suit to the local conditions and constraints.



Studies by Jose (1976, 1978, 1980), Francis (1990), Pushpangadan (1992), Kannan (1988, 1998), Nair (1999), Thomas (1999), et al dealt with various aspects of labour and labour relations, trade union movements and its impact upon agricultural production, productivity and wage rates.

Ahamed (1993) and Pillai (2004) have narrated different aspects and constraints of mechanisation in paddy cultivation. According to Kannan (1998), trade unions in Kerala could prevent mechanisation and technological improvement in the existing production milieu to protect the current employment, better working conditions and highest wage rates among the Indian states.

Narayanan (2003), in his study in Kuttanadu, has analysed the political dimensions of “save rice filed agitation” (*vettinirathal samaram*) conducted by trade unions in Kerala and its impact on land use. According to him, the erstwhile conflicting interests of farmer and labour has come to an end due to the socio-economic transformations that have taken place in the society and such struggles have become ‘mostly self-serving agendas for certain political institutions to play-out their historical roles in the society’.

In addition to these specifically mentioned studies several other studies have also tried to analyse the trends in the cropping patterns and to evaluate the reasons for changes in the cropping patterns. All these show that, paddy cultivation has become uneconomical due to several socio-economic conditions, especially, high labour cost and scarcity of labour. Thus, farmers are compelled to shift to more profitable, less labour requiring perennial crops, leading to decline in both land under paddy cultivation and paddy production.

However, several changes have taken place in paddy cultivation in Kerala. Extensive

mechanisation, adoption of modern farm practices, availability of cheap migrant labourers etc. have helped in reducing the cost of farming and procurement of paddy by SUPPLYCO directly from farmers have increased market price of paddy and revenues of farmers. The present study incorporates these changes and tries to answer whether paddy cultivation is economical or not.

VIII. Methods and Seasons of Farming in the Study Areas

Paddy farming is labour intensive; high and escalating wage costs accompanied by scarcity of farm labourers have compelled the farmers to adopt labour saving machineries for farming, whenever and wherever possible. But the level of mechanisation varies from place to place due to the nature of farm land and soil, size of holdings, knowledge of farmers, availability of machineries and several other socio-economic and political factors. Thus, based on the degree of farm mechanisation, for the purpose of this study, three methods of farming have been identified and are considered viz., (a) completely mechanised farming, (b) non-mechanised farming and (c) Partly mechanised farming.

In the study areas ploughing, levelling and other land preparations are completely mechanised. At the same time, sowing and transplanting operations are not mechanised and are still performed manually. Further, farmers extensively use herbicides for weed control and to reduce cost of weeding. Harvesting and post-harvesting operations are also completely mechanised. Thus, in the study areas paddy farming is partly mechanised.

Method of farming adopted is the most important determinant of cost, revenue and profit/loss of farming. In this study, profit and profitability of farming is studied on the basis of the present method of farming. However, for comparative



purpose, profitability of non-mechanised and fully-mechanised farming has also been considered.

In addition to the method of farming, farming season also affect cost and revenues. A unique three-season pattern viz., autumn or Kharif crop (April/May to September/October), winter or Rabi crop (September/October to December/January) and summer crop (December/January to March/April) can be observed in paddy cultivation in the State. However, in the study areas, in Nannamukku Panchayat *Kole Puncha* farming (first/second week of December to March/April)

and in Kuzhalmannam Panchayat *mundakan* farming (September/October to January/February) are more important than other farming seasons.

IX. Results and Discussion

IX (A). Paddy Cultivation and Production in Kerala

Declining internal paddy production and increasing external dependence of food grain is a major challenge and matter of concern in a ‘food deficient’ state like Kerala. The intensity of the decline is explained in Table 1.

Table 1: Area under Paddy, Paddy Production and Productivity in Kerala

Years	Area (Lakh ha)	Production (Lakh tones)	Productivity (Kg)
1960-61	7.90	10.68	1371
1975-76	8.85	13.65	1540
2001-02	3.22	7.03	2182
2010-11	2.13	5.23	2452
2011-12	2.08	5.69	2733
2012-13	1.97	5.08	2577

Source: (1). 1960-61 to 2009-10 Leena Kumari, S. Status Paper on Rice in Kerala, Rice Knowledge Management Portal (RKMP) <http://www.rkmp.co.in>

(2). 2010-11 and 2011-12 and 2012-13 Economic Reviews (Government of Kerala) of various years.

For the period of 1960-61, the area under paddy cultivation in the State was 7.90 lakh hectares and total production was 10.68 lakh tones. During 1975-76, the area under paddy cultivation has increased to 8.85 lakh hectares and production to 13.68 lakh tones, marking an

increase of 12 percent in area and 27 per cent in production. Then, both area under paddy cultivation and total production began to fall. In the year 2001-02, the area under paddy cultivation was only 3.22 lakh hectares and production was only 7.03 lakh tones; showing a decline of 64 per



cent in area and 48 per cent in total production within 25 years. In the year, 2010-11, the area further fell to 2.13 lakh hectares and total production to 5.23 lakh tones. This declining trend continues and in the year 2012-13 the area under paddy cultivation was mere 1.97 lakh hectares – less than one-fourth (22.36 per cent) of the area of 1975-76, and total production was only 5.08 lakh tones - 36 per cent of the production of the year 1975-76. In other words, area under paddy cultivation has declined by 78 per cent and production by 63 per cent within a period of four decades. In fact, Kerala may be the only state that has witnessed such a grave condition in the staple food production. Most of the studies dealing with paddy cultivation account ‘the uneconomical nature of paddy cultivation’ for such a declining trend. However, the productivity per hectare shows an increasing trend over the period. Productivity of paddy in the year 2012 is twice than that of 1975-76 (99.34 percent increase). This is due to adoption of HYV seeds and modern and scientific methods of farming.

IX (B). The Economics of Paddy Cultivation

As mentioned, one of the major reasons for decline in the area under paddy cultivation, paddy production, changes in the cropping patterns and conversion paddy fields for non-paddy and commercial and non-commercial purposes is the uneconomical nature of paddy cultivation. Farmers, labourers, union leaders and everybody concerned with paddy cultivation claim that paddy cultivation is not profitable and farmers suffer huge loss through paddy cultivation. Is it right to say paddy farming is uneconomical? The following paragraphs deal with cost, revenue and profit/loss of paddy cultivation in the study areas. For study

purposes, “mundakan” in Kuzhalmannam and “Kole puncha” in Nannamukku are considered. There can be slight differences in cost and revenues of other cropping seasons- “viripu” and “puncha”. Further, the study considers three alternative methods of paddy farming - fully mechanised, completely manual and the method at present adopted by the farmers, which affect cost and revenues and surplus/deficit. At present farmers adopt partly mechanised method.

The Table 2 shows the average costs of different farming operations, average revenues and average profit/loss (surplus/deficit) of paddy cultivation in Kuzhalmannam panchayat. As per the table, average total cost of cultivating paddy in fully mechanised farms in Kuzhalmannam panchayat (Palakkad district), is Rs. 19656/acre. It will be increased to Rs. 53,673/acre if all the operations are performed manually. However, at present, through partial mechanisation (without mechanising transplanting and weeding operations), farmers incurred an average total cost of Rs. 21,307/acre.

Average yield per acre in this panchayat is 1768 kilograms, and the selling price per kilogram (procurement price paid by SUPPLYCO) is Rs. 17. Through sales proceeds of paddy a farmer earns on an average Rs. 30,056. In addition to this, the farmers also earn money through the sale of hay. It is important to note that hay fetches higher prices, if harvesting and post harvesting operations are performed manually. However, at present in the study areas, almost these operations are mechanised. Thus, proceeds from sale of hay is very small. At the same time, during the year hay-bailer was used for bundling hay. It helped them to get better price for hay also.



Table 2: Average Cost, Production and Profit or Loss per Acre of Paddy Cultivation for the Year 2012-2013 (Kuzhalmannam Panchayat)

Elements of cost	Fully Mechanised	Completely Manual	At Present
1. Seed (cost)	600	1250	1250
2. Seed bed preparation	474	1250	1250
3. Tillage and land preparation	2864	11780	2864
4. Transplanting	2500	3725	3725
5. Fertiliser + labour cost	6500	6500	6500
6. Weeding	2000	6700	1000
7. Plant protection + labour cost	1818	1818	1818
8. Harvesting and post harvesting	2250	12500	2250
9. Transporting	650	8150	650
10. Pumping charge	-	-	-
11. Total cost	19656	53673	21307
12. Average production (kg)	1768	1768	1768
13. Selling price Rs./Kg	17	17	17
14. Total Sales	30056	30056	30056
15. Sales Proceeds of hay	4050	8750	4050
16. Total revenue	34106	38806	34106
17. Profit/Loss	14450	-14867	12799

Source: Survey Data

Thus, average total revenue earned by the farmers from fully mechanised farming from one acre land is Rs. 34106 and that in non-mechanised farming is Rs. 38806. At the same

time, in the year 2013, through partly mechanised farming operations farmers have earned on an average Rs. 34106. The reason for variation in



average total revenue in different methods of farming is the difference in the price of hay.

Comparison of average total cost and average total revenue shows that, through partial mechanisation, farmers have earned on an average Rs. 12799 as profit/acre (surplus) in the year 2013. The surplus would increase to Rs.

14450/acre, if the entire operations are mechanised. At the same time, if all operations are performed manually, on an average, farmers have to incur a loss (deficit) of Rs. 14867 per acre. Thus, at present, through appropriate mechanisation, paddy farming has become profitable and can be said that paddy farming in Kuzhalmannam panchayat is not uneconomical.

Table 3: Average Cost, Production and Profit or Loss per Acre of Paddy Cultivation for the Year 2012-2013 (Nannamukku Panchayat)

Elements of cost	Fully Mechanised	Completely Manual	At Present
1. Seed (cost)	700	1200	1200
2. Seed bed preparation	810	1850	1850
3. Tillage and land preparation	3560	14920	3560
4. Transplanting	2530	3750	3750
5. Fertiliser + labour cost	8750	8750	8750
6. weeding	1500	9610	1310
7. Plant protection + labour cost	2808	2808	2808
8. Harvesting and post harvesting	2970	15960	2970
9. Transporting	750	9650	750
10. Pumping charge	2000	2000	2000
11. Total cost	26378	70498	28948
12. Average production (kg)	2381	2381	2381
13. Selling price Rs./Kg	17	17	17
14. Total sales	40477	40477	40477
15. Sales Proceeds of hay	3250	8500	3250
16. Total revenue	43727	48977	43727
17. Profit/Loss	17349	—21521	14779

Source: Survey Data



Further, the government provides production of bonus of Rs. 1500 per acre of paddy cultivation. The bonus provided by government can also be considered as the income of farmers. In this case, their average income from one acre paddy cultivation increases to Rs. 14229. Thus, their average net earnings (surplus/profit) will be more than to two-third (66.78 per cent) of their total cost.

Similar is the case of Nannamukku panchayat also. In this panchayat, as in the case of Kuzhalmannam panchayat, almost all farming operations, other than transplanting have been mechanised. When compared to Kuzhalmannam panchayat, wage rates of farm workers are higher in Nannamukku panchayat. However, availability of cheap migrant labourer from other states, especially from West Bengal, has helped farmers a lot in reducing the total cost of cultivation, especially cost of transplanting, harvesting and post harvesting operations. Further, average productivity (2381 Kg) per acre is also higher in Nannamukku panchayat.

Table 3 given above shows the average cost of different farming operations, average total cost, revenues and surplus of deficit of paddy farming through different methods of farming in Nannamukku panchayat. At present the paddy farmers in Nannamukku panchayat, on an average, incur a total cost of Rs. 28948/acre. If all the operations are mechanised, the average total cost would fall to Rs. 26378/acre and would increase to Rs. 70498/acre if all the operations are performed manually. In the year, 2013, they have earned, on an average, Rs. 40477 by selling paddy produced from one acre area at the price (Rs. 17) offered by SUPPLYCO. Since, there is no significant difference in the productivity, it is estimated that the same amount will be realised if farming is fully mechanised or completely non-mechanised.

In addition to the sale of paddy, farmers on an average have earned Rs. 3750 from the sale of hay produced from one acre land. In this panchayat also farmers have used hay-bailer, which has helped them to earn better prices for hay. Thus, on an average, a farmer has earned total revenue of Rs. 43727/acre in the year 2013. But, this would have increased to Rs. 48977 if harvesting and post harvesting operations were performed manually.

By matching the average total revenue with the average total cost, it can be understood that, in the year 2013, on an average a farmer has earned a profit or surplus of Rs. 14779 by conducting farming operations in one acre of land. This will be increased to Rs. 17349, if all the operations are mechanised. However, they have to suffer huge loss or deficit (on average Rs. 21521 per acre) if all the operations are performed manually.

Further, farmers in this panchayat have also get production bonus of Rs. 1500 per acre from the government. If this amount is added with the profit of the farmers, their profit would increase to Rs. 18490. This is equal to 64 per cent of the total cost. In other words, through paddy farming a farmer earns nearly two-third of their spent as surplus.

It is also important to note that, farmers need not spend their entire time on paddy cultivation. They can perform other economic activities along with the paddy farming. This shows that paddy farming is one of the most lucrative economic activity, provided that climate is favourable.

X. Suggestion

Increase in paddy cultivation is the need of the hour. The study shows that through appropriate mechanisation, paddy cultivation can be made a profitable activity. Thus, all possible steps should



be taken to mechanise and modernise paddy cultivation, which reduce the hardships of paddy farmers in conducting farming operations on time, reduce dependence on scarce labourers and to reduce the costs of farming. Further, the wrong notion about paddy farming that it is uneconomical should be removed through wide propaganda. This would attract and encourage young people into paddy farming, who can adopt modern and scientific methods of paddy farming, which would help to increase paddy production in the State and can achieve self-sufficiency in food production.

XI. Conclusion

The study shows that paddy cultivation is not an uneconomical activity. Mechanisation and modernisation of paddy cultivation resulted in reducing the cost of cultivation and the procurement policy followed by the Government has resulted in increasing the revenue of farmers. If conditions are normal, a farmer does not incur monetary loss through cultivation of rice. Further, when the subsidies and incentives provided by the government are considered, the net revenue from paddy cultivation increases again. It is one of the lucrative economic activities and helps to earn higher rates of return within a short span of time (a maximum period four months are required to reap the benefits of paddy cultivation).

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Trends in Higher Secondary School Education in Kerala: Statutory Base and Efforts for Time Bound Review and Revamp

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Abstract

In the matter of socio-educational development, the achievement of the state of Kerala is far ahead, in comparison with other Indian states. The Kerala Education Act, 1958 and the Kerala Education rules, 1959 and the amendments to the same from time to time vested regulatory powers upon the state government for a uniform growth of the school education system under the government, private aided and private unaided managements, which also protected and safeguarded the interest of teaching and non-teaching staff and the pupils at large. The ongoing quality manifestations to uplift the academic standards of government, private aided and private unaided schools are totally indebted to the creativity and indulgence of the state in the matter of education. The primary objective of the paper is to study the trends in higher secondary school education in Kerala. The study also intends to review the legal and administrative framework and quality improvement programmes in higher secondary school education in Kerala.

Keywords: Higher Secondary School, Quality Education, Aided School, Government School

I. Introduction

In the matter of socio-educational development, the achievement of the state of Kerala is far ahead, in comparison with other Indian states. Prior to the independence and before the formation of the state of Kerala there was a striking imbalance in the growth of education in the different regions of the state. On the whole, the percentage of enrollment of both boys, as well as, girls was lower in Malabar than in Travancore-Cochin area and there were also differences in the growth in the number of

schools in these two regions (Salim & Nair, 2002). Efforts were made by the Government of Kerala to bring about balanced regional development in education, after the formation of the Kerala state, in 1956. Kerala was declared as a totally literate state on April 18th 1991 with the highest effective literacy rate of 89.81 per cent, and at that time, the literacy in the all India level was only 52.51 per cent. The female literacy rate was 86.17 per cent in Kerala compared to 39.29 per cent at the national level (Kerala Development Report, 2008).



Table 1: Trend in Literacy-India and Kerala

Year	India (per cent)			Kerala (per cent)		
	Total	Male	Female	Total	Male	Female
1901	5.35	9.83	0.60	11.14	19.15	3.15
1911	5.92	10.56	1.05	13.31	22.25	4.43
1921	7.16	12.21	1.81	19.02	27.88	10.26
1931	9.50	15.59	2.93	21.34	30.89	11
1941	16.10	24.90	7.30	N.A	N.A	N.A
1951	16.67	24.95	7.93	40.47	49.79	31.41
1961	24.02	34.44	12.95	56.85	54.97	38.90
1971	29.45	39.45	18.68	60.42	66.62	54.31
1981	36.03	46.62	24.73	70.42	87.74	75.65
1991	52.21	64.13	39.29	89.81	93.62	86.17
2001	64.8	75.3	53.7	90.92	94.2	87.86
2011	74.0	82.1	65.5	93.91	96.02	91.98

Source: Census of India and Kerala, Various Decadal Volumes.N.A. Not Available.

In 2011, the literacy level in Kerala rose to 93.91 per cent. It has a high gender parity index (GPI) of 0.97 in the primary classes, a low level of disparity in literacy among different districts in Kerala (2.6 per cent)¹, a narrow disparity between male and female literacy and lowest school dropout rates among other Indian states (0.81 per cent in 2006-07). The teacher-student ratio has also improved marginally. However, the teacher-student ratio is high

(1:60) in higher secondary schools. The repetition rates of the students are also lower in Kerala due to the all promotion policy (Government of India, 2008). Kerala boasts wider distribution of schools, increasing the accessibility to education, by having schools even in the remotest regions. Thus educational accessibility is equitable, region wise and also gender wise (Kerala Development Report, 2008; Government of Kerala; George & Kumar,

¹Computed from the data on literacy of different districts in Kerala as per 2011 census (censusindia.gov.in/2011, Government of India, Ministry of home affairs.)



1999). The Kerala Education Act, 1958 and the Kerala Education rules, 1959 and the amendments to the same from time to time vested regulatory powers upon the state government for a uniform growth of the school education system under the government, private aided and private unaided managements, which also protected and safeguarded the interest of teaching and non-teaching staff and the pupils at large.

The on going quality manifestations to uplift the academic standards of government, private aided and private unaided schools are totally indebted to the creativity and indulgence of the state in the matter of education. This paper analyses the trends in the higher secondary school education in Kerala and also portrays the efforts taken by the state for qualitative improvements in the higher secondary school education.

II. Framework for the Review

This paper aims at to examine the evolution of higher secondary school education in Kerala and review its legal and administrative framework and the efforts taken by the state for qualitative improvements. The secondary data were mainly collected from the published reports of the Directorate of Higher Secondary Education, the Directorate of Public Instruction, Economic Reviews of various years and other published reports. In order to concise the data percentage analysis is done in appropriate sections of the paper.

III. Results and Discussion

In Kerala, there are higher secondary divisions functioning under government, aided and unaided schools. As per the records of the Directorate of higher secondary education, as

on academic year 2011-12, there are 2,583 batches in the various higher secondary schools in Kerala. The number of students in government schools comes to 1,49,544 and those in aided schools total up to 1,46,629 in 2,431 batches. The total number of teachers in the language group comes to 5,527, in Science comes to 8,982, in humanities group there are 5,778 teachers and in commerce there are 1,657 teachers.

III (A). Growth in Number of Schools

Plus two was introduced in 1990/91 in thirty one government schools, one in each educational district. Later by the year 1997, the number of higher secondary schools in Kerala has increased to, 49 government, 33 aided and 3 unaided schools. It was during the 9th plan, shifting of pre-degree from colleges was accelerated and 842 higher secondary courses were introduced. Therefore by the end of the 9th plan, there were 932 higher secondary schools, showing approximately 19 times increase compared to 1997, with an annual sanctioned strength of 1,74,300 students in 3,486 batches (Government of Kerala, 2003) and the growth in the number of schools was more in the government and aided sectors and there was no change in the number of schools in the unaided sector. A major change in the number of schools, after the period of 2001-02, was in the year 2004-05. This is due to the number of additional schools allowed in the higher secondary level in the government sector. Table 3.2 shows a 68.75 per cent increase over the previous year. There is not much change in the number of aided schools in the same period. However, there is marked difference in the growth rate, in the number of higher secondary schools under government and aided sector on one side and unaided sector on the other.



Table 2: Number of Higher Secondary Schools (HSS) in Kerala

Year	Govt.	Growth (%)	Aided	Growth (%)	Unaided	Growth (%)	Total	Growth (%)
1990-91	31	-	0	-	0	-	31	-
1991-97*	49	58.06	33	-	3	-	85	174.19
1997-98	150	206.12	34	3.03	8	166.67	192	125.88
1998-00	255	70.00	261	667.65	8	0.00	524	172.92
2000-01	416	63.14	508	94.64	8	0.00	932	77.86
2001-02	416	0.00	508	0.00	8	0.00	932	0.00
2002-03	416	0.00	508	0.00	330	4025.00	1254	34.55
2003-04	416	0.00	512	0.79	339	2.73	1267	1.04
2004-05	702	68.75	523	2.15	431	27.14	1656	30.70
2005-06	699	-0.43	524	0.19	441	2.32	1664	0.48
2006-07	729	4.29	529	0.95	439	-0.45	1697	1.98
2007-08	735	0.82	529	0.00	439	0.00	1703	0.35
2008-09	735	0.00	529	0.00	439	0.00	1703	0.00
2009-10	760	3.40	686	29.68	461	5.01	1907	11.98
2010-11	760	0	686	0	461	0	1907	0
CAGR (%)	15.79		17.46		42.91		18.60	

Source: Records of Higher Secondary Directorate.* No change in the number of schools during 1991 to 1997.

Table 2 shows, the year by year growth of higher secondary schools in Kerala, over a period of twenty years. The compounded annual growth rate (CAGR) was calculated from the year 1991 to 2011, for a period of 14 years. On the whole the compounded annual growth rate shows that the growth in the number of unaided schools (42.91 %) was higher than the growth in government (15.79 %) and aided (17.46 %) higher secondary schools. This is a clear indication of the intention of the government in retracing its steps away from the responsibility of providing education and encouraging the private providers of education. Among the districts, Malappuram has the largest number of higher secondary schools (233) in the state followed by Thrissur (190) and Ernakulam (179) respectively, in the year 2010-11 (Government of Kerala, 2011).

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III (B). Number of Higher Secondary School Teachers

In 1994-95, there were 368 teachers (57.68 %), (including both full time and part time), in

government schools and 270 teachers (42.32 %) in aided schools. There was an increase in the number of teachers appointed, as a consequence to the increase in the number of schools under higher secondary education.

Table 3: Number of HSS Teachers in Kerala

Year	Government	Aided	Total
2008-09	9310 (45.81)	11014 (54.19)	20324
2009-10	9310 (45.81)	11014 (54.19)	20324
2010-11	9310 (45.81)	11014 (54.19)	20324
2011-12	9310 (45.81)	11014 (54.19)	20324

Source: Records of Higher Secondary Directorate.*Economic Review, various issues.

Note: Figures in parentheses are percentages to total.

By the end of 2003, there were 16,292 teachers; with 6,883 in government and 9409 in aided higher secondary schools. The increase in the number of teachers is as a result of appointments, and also promotions, from the school level to the higher secondary level, in order to organize a full-fledged higher secondary course in the state. Out of the total 16,292 teachers in the year 2003, majority (58 %) belonged to the aided schools. Table 3 shows that after 2008-09, there is little change in the number of higher secondary school teachers in the years from 2009 to 2012.

Majority of the teachers (54.19 %) belonged to the aided higher secondary schools. The data on the number of teachers under unaided higher secondary schools are not available.

III (C). Classification of Higher Secondary Teachers as per Subject

The total number of higher secondary school teachers in aided and government schools is 20,324. Out of this majority of the teachers are teaching Science subjects (44.19 %), followed by Languages (27.19 %) and Humanities (20.46 %).

Table 4: Subject-wise Classification of HSS Teachers in Kerala

Year	Science	Commerce	Humanities	Languages	Total
2009-10	8982 (44.19)	1657 (8.15)	4158 (20.46)	5527 (27.19)	20324
2010-11	8982 (44.19)	1657 (8.15)	4158 (20.46)	5527 (27.19)	20324
2011-12	8982 (44.19)	1657 (8.15)	4158 (20.46)	5527 (27.19)	20324

Source: Records of Higher Secondary Directorate. Figures in parentheses represent per cent to total.



Table 5: Subject wise Classification of Government HSS Teachers in Kerala

Year	Science	Commerce	Humanities	Languages	Total
2009-10	3970 (42.64)	799 (8.58)	2105 (22.61)	2436 (26.17)	9310
2010-11	3970 (42.64)	799 (8.58)	2105 (22.61)	2436 (26.17)	9310
2011-12	3970 (42.64)	799 (8.58)	2105 (22.61)	2436 (26.17)	9310

Source: Records of Higher Secondary Directorate. Figures in parentheses represent per cent to total.

Table 5 shows the subject wise classification of government higher secondary school teachers. Out of the total 9,310 teachers, majority of the

teachers are teaching Science subjects (42.64 %), followed by Languages (26.17 %) and Humanities (22.61%) subjects.

Table 6: Subject wise Classification of Aided HSS Teachers in Kerala

Year	Science	Commerce	Humanities	Languages	Total
2009-10	5012 (45.51)	858 (7.79)	2053 (18.64)	3091 (28.04)	11014
2010-11	5012 (45.51)	858 (7.79)	2053 (18.64)	3091 (28.04)	11014
2011-12	5012 (45.51)	858 (7.79)	2053 (18.64)	3091 (28.04)	11014

Source: Records of Higher Secondary Directorate. Figures in parentheses represent per cent to total.

In the aided higher secondary schools, there are 11,014 teachers, out of which majority (45.51 %) teach Science. Language teachers are 28.04 per cent and Humanities teachers are 18.64 per cent to the total number of higher secondary teachers in the aided sector. Tables 3, 4, 5 and 6 reveal that there is no major change in the number and subject wise Constitution of higher secondary school teachers in the recent years, from 2009-10 to 2011-12.

III (D). Enrollment in Higher Secondary Schools

In 1990-91 there were 1,748 students enrolled with the plus two stage. Later in 1995-96 the enrollment increased to 10,449 and thereafter to 1,33,399 in 1999-2000, along with the increase in the number of higher secondary schools. In 2006-07, there were a total of 3,48,240 students enrolled in the higher secondary schools. Out of them 1,29,780 (37.27 %) were admitted in government and 1,34,100 (38.51 %) were in aided and 84,360 (24.22 %) were enrolled in unaided higher secondary schools (Government of Kerala, 2010; Government of Kerala, 2011).



Table 7: Enrollment of Students in HSS in Kerala

Year	Government	Aided	Unaided	Total
2008-09	144330 (50.09)	103083 (35.77)	40736 (14.14)	288149
2009-10	140204 (48.12)	117216 (40.23)	33931 (11.65)	291351
2010-11	150231 (46.43)	143665 (44.40)	29664 (9.17)	323560

Source: Economic Review, Various Issues, Statistics for planning 2009, *Department of Economics and Statistics, page 605).

Figures in parentheses represent per cent to total.

In 2011-12, there were 1,49,544 students in government higher secondary schools in 2,583 batches and 1,46,629 students in 2,431 batches in the aided sector (Data excerpted directly from the higher secondary directorate records). The total number of students in unaided sector is not available from a reliable source.

III (E). Higher Secondary Examination Result

Table 8 shows that after the implementation of the new teaching methodology, in 2005, there has been tremendous improvement in the results secured by the students under the higher secondary education. The pass percentages were 55.60, 57.67, 59.04, 59.25, 59.09 and 59.90 per cent respectively from the years 2000 to 2005 (Economic Review, various issues).

Table 8: Examination Results of HSS in Kerala (School Going) (in lakhs)

Year	Appeared			Passed			Percentage of Pass
	Boys	Girls	Total	Boys	Girls	Total	
2005-06	175794	190729	366523	N.A	N.A	217012	59.21
2006-07	112395	130466	242861	N.A	N.A	175742	72.36
2007-08	116457	139452	255909	N.A	N.A	207389	81.05
2008-09	121422	139997	261419	86341	113533	199874	76.46
2009-10	127538	148922	276460	87432	119723	207155	74.93
2010-11	126541	149574	276115	96944	130168	227112	82.25
2011-12**	136613	156499	293112	N.A	N.A	258179	88.08

Source: Economic Review, Various issues. **Records of Directorate of Higher Secondary Education. N.A.: Not Available.



The pass per cent of students in higher secondary courses has increased to 88.08 per cent in 2011-12 from 59.21 per cent in 2005-06. The pass percentages in the subsequent years after the introduction of the activity based curriculum in 2005 show tremendous change. It increased to 72.36 per cent in the year 2007, when the first batch of students exposed to the new system of learning gave their examination. The positive trend in pass percentages continued to 88.08 per cent in 2012.

IV. Evolution of Plus-Two Education in Kerala

India was following varying pattern of school education before 1966. Till the end of the 19th century, schools were under the control of the universities, which conducted the matriculation examination. Most of the states in India followed a pattern of either 10+2+2 or 8+3+3 or 11+3 which indicated the number of years of schooling in different levels (Shah, 2005). Various commissions appointed by the central government recommended for the separation of the pre-degree from higher education. Even though, there were difficulties in the implementation of the recommendations for the common pattern of education structure, both political and financial, some of the states were ready to implement, but some showed reluctance and thus different patterns of education co-existed in India. From 1968 onwards, efforts were made to create uniformity in the pattern of school education by implementing the National Education Policy, 1968, by replacing the existing systems of 10+2+2 and 8+3+3, which were prevailing in many states, with 10+2+3 (Chauhan, 2004). In Kerala, the higher secondary education was a part of the higher education system and the plus two classes were offered as pre-degree courses in arts and science colleges. The pre-degree course was gradually de-linked from the higher education system and was brought under the school system by partial induction

of plus two in vocational higher secondary courses in 19 schools, in 1983-84. Later in 1990, the Kerala Higher Secondary Department was formed with the main objective of imparting best quality education. The government issued a number of orders for the commencement of the higher secondary school education in the state. These orders facilitated the necessary steps to be taken to reorganize secondary and collegiate education in the state in accordance with the National Education Policy. Even in 1990, the pre-degree course continued to be controlled by the universities (Government of India, 1990) and plus-two was introduced only in 31 selected government schools, one in each educational district. At that time science group, comprising of Physics, Chemistry and Mathematics and Biology, was started in 16, humanities group, comprising of History, Geography and Economics with Hindi or Malayalam, in 15 schools. There was only one course and one batch for each school and each batch had a maximum of 60 pupils. NCERT syllabus was followed with suitable modifications to suit local conditions, with English as the medium of instruction. The tuition fees and the examination fees were set as the lowest of the prevailing in the three universities and the general orders regarding fee concessions, lump sum grant, scholarships, stipend etc for pre degree students were extended to higher secondary course also (Government of Kerala). Department of Higher Secondary Schools conducts examinations, for the first year, as well as, for the second year in March.

Even though higher secondary was a part of school education there is a separate identity for its entire academic and co-curricular activities distinct from the high school. The purpose of delineating plus two achieved its purpose of concentrating on the turbulent adolescents in an effective manner paving way for the holistic development of these students and ushering them into higher education/ profession or a vocation effectively.



V. Legal and Administrative Framework

The fundamental rights of the citizens of India are included in Articles 12 to 35 of Part 111 of the Constitution of India and education became a fundamental right when Article 21 A was inserted by the Constitution (86th amendment) Act, 2002, which unequivocally states that the government shall determine and provide free and compulsory education to all children of the age between 6 to 14 years. Supporting this, the Article 24 strengthens the idea by illegitimizing the employment of a child below the age of 14 years. Articles 14, 15, 16 and 17 deals with equality before law and form the basis for framing legislation on education, by both the centre and the state governments. The interest of the minorities is protected through Article 29 of the Constitution, according to which, citizens shall not be denied admission on grounds of religion, race, caste, language and Article 30 deals with the right of linguistic minorities to establish and administer educational institutions. The Constitution contains the subject matters coming under the union list, state list and the concurrent list, and education comes under the concurrent list. This means that, both, the parliament and the legislature of the state, are vested with absolute power for making legislation on education but it has been clarified by Article 251, that if any provision of law made by the legislature of the state is repugnant to any provisions of law made by parliament, then the law made by parliament shall prevail over the law made by the legislature of a state, if there is inconsistency between these two (Pandey, 2006).

Apart from the Constitutional provisions (Articles 12 to 35 of Part 111 of the Constitution of India), the Kerala Education Act, 1958 and amendments in 1959, 1960, 1969, and 1985 provided for the better organization and development of educational institutions in the state. The Act came into effect by repelling the

Travancore Primary Education Act, 1121, the Cochin Free, Compulsory Primary Education Act XI of 1123 and Madras Elementary Educational Act, 1920, which was in force in the then Malabar district. The Act provided for setting up of a State Education Advisory Board, which advises the government on matters pertaining to educational policy and administration (Section 4 of the Kerala Education Act, 1958). The Kerala Education Act, 1958, is included with 39 sections, which defines an aided school, educational agency, existing school, local educational authority, a minority school, a private school, a recognized school, the state (Pandey, 2006). The Act vests powers with the government, to regulate different stages of education, to determine the courses of instructions in government, private aided and private unaided schools, to take necessary steps for providing facilities for general education and special education and training of teachers, and the government is having the power to establish and maintain schools or recognise and permit others to establish and maintain schools (Section 3 of Kerala Education Act, 1958). Accordingly, the Government has established a number of schools in the state, from Aganvadi to Plus Two levels and invests directly in the infrastructural development of government schools and indirectly through grants to the aided schools (Section 5). These maintenance grants are given to the aided schools for the purpose of purchase, improvement, repairs of land, building or equipment. The teachers were appointed through the Public Service Commission of the state till 1960. After 1960 the right of appointment, as per the prescribed qualifications (Section 10, chapter 31 of KSR introduced w.e.f 5/12/1972), in the aided schools were transferred to the managers of aided schools. Originally as per section 11 of the Act, the appointment of teachers of aided schools was to be from among the PSC hands. But the absolute power of appointment of teachers in the



aided schools was transferred to managers through the amendment Act, 35, of 1960, which came into force on 27/12/1960, the effect of which was, dilution of the legislation itself. The Act although provides scope for exercising disciplinary powers of the government over teachers of aided schools, has vehemently protected the interest of teaching and non-teaching staff by including in its section, criteria for appointment, dismissal and other conditions relating to service including proceedings relating to provident fund, age of retirement, pension, etc (Section 12) and payment of salary (section 9) and also for taking over the management of the school with the support of the legislative assembly (section 14). The Act provides for establishing local educational authorities for stimulating local interest in the educational affairs and for the purpose of associating people with the administration of education. The local educational authorities assess the educational needs of the local area and prepare schemes for the development of education, each year and submit the same to the government, supervise the implementation of the scheme of noon day feeding of school children, promote conferences, exhibitions or other measures designed to create interest among the public in education (Section 18). The inspection of the schools and the officers by whom inspection shall be made; the mode of keeping and auditing of the accounts of the schools, the standards of education and the modes of study, also follow provisions of this Act (Hamsa, 2003; Mohanan, 2000; Nair, 2005). In connection with the commencement of the higher secondary school, after delinking the pre-degree course from the colleges, as a part of the National Education Policy 1986, a number of government orders were issued and the spirit of such government orders were later incorporated in chapter 32 of Kerala Service Rules (KER) (in connection with aided higher secondary schools) and special rules for the Kerala higher secondary

school education state service and the special rules for the Kerala higher secondary school education subordinate service. The method of appointment and qualifications of teachers and non-teaching staff in aided higher secondary schools have been well defined as per Chapter 32 of the Kerala Education Rules 1959. A higher secondary school teacher has a workload of 15 or more period per week per subject and a junior teacher has a workload of less than 15 periods per week per subject. Principal of an aided higher secondary school acts as the academic and administrative head of the higher secondary school. A higher secondary school consists of Principal, higher secondary school teachers in 39 subjects from English to electronics, librarian, laboratory assistants, lower division clerk and a menial. Chapter 32 was incorporated in the Kerala Education Rules, 1959 and apart from that a number of government orders and circulars were issued, for defining, regulating and for streamlining the function of higher secondary education, all over the state. Steps were initiated, by the higher secondary department and the government of Kerala, for proper legislation by making proper amendments in the relevant statutes and rules (Hamsa, 2003; Nair, 2005; Mohanan, 2000).

The enactment of the Right to Education (RTE) Act, in 2010 aimed at ensuring free education and the right of quality elementary education to every child in India. The Act provides for free and compulsory education in a neighbourhood school to all children aged 6-14. All schools are to comply with certain infrastructure and teacher norms, like two trained teachers for every 60 students at the primary level. Schools constitute School Management Committees (SMCs), comprising of local officials, parents, guardians and teachers, which in turn will monitor utilization of government grants and the school environment. The programme envisages the teachers to be at the core of implementation



of RTE. The state governments have the role to undertake household school mapping to ensure that all children are sent to school and together with the local bodies have to establish primary schools within 1 km of the neighborhood (Government of India, 1993; Chaube, 1988).

VI. Quality Up-gradation Initiatives

Government of India and the state governments have formulated innumerable schemes for the purpose of quality up gradation of education. Policy measures have been implemented from earlier periods, which have been highly innovative and have hastened the process of expansion of school education, ensuring equity and equality in education. Some of them were compulsory and free education, which is legalized through the amendments in the Constitution of India, direct payment of salaries to private school teachers by the state government, reduction of regional and inter community disparities in school education by including Articles in the Constitution of India for minority protection and promotion of female education. The schemes sponsored by the Union Government, such as DPEP, SSA and RMSA are some of which that have had remarkable impact on school education by achieving access, equality and quality (Kerala Development Report, 2008; Desrochers, 1987; Kamat, 1989; Mathew, 1987; Pandey, 2006; Salim & Nair, 2002). Universalisation of education was achieved, through, programmes like DPEP, which, aimed at reducing the differences in enrollment, school dropout and learning achievement among gender and social groups to less than 5 per cent. DPEP worked under the supervision of 'The National Elementary Education Mission'. A Non Formal Education Programme (NFEP) was also started for children, from 6 to 14 years of age, to include dropouts of formal schools, children who have to remain in house to do chores and also to include

girls. NFEP was under the responsibility of the Village Education Committees and it focused on educationally backward states and also urban slums, hilly, tribal and desert areas in other states. Operation Black Board was another scheme introduced, for qualitative improvement of primary education, since 1987-88, and it stressed on, the minimum infrastructural facilities and minimum number of teachers required in a primary school. The scheme gave priority to rural areas, SC/ ST areas and schools solely for girls.

Another programme was the Minimum Level of Learning (MLL), which, focused on the basic learning that should be secured by the students. MLL strategy has been formulated, so as to secure, quality with equity and that all children irrespective of caste, income and gender have access to education of a comparable standard. MLL programme emphasized the importance of focusing on concept formation. The programme emphasized the fact that burden of non comprehension and overload of content forces the children to resort to rote memorization, and this should be eliminated. Consequent to this, one of the major changes in evaluation methods was avoidance of text book based questions in the examination and focus on creative writing, which has had a detrimental effect on the vocabulary and communication ability of the students. What is argued against rote learning? The concept of learning 'by heart' was misconceived. It only means to learn through your heart - to understand and then learn. However, the MLL programme deprived the children of basic communication skills – the language itself. It is high time the authorities realized that activity oriented learning emphasizing creative writing should only compliment and not replace traditional rote learning.

VI.(A) National Policy on Education

The need for a radical reconstruction of the educational system in the country was brought



about by the first National Policy on Education announced by the Government of India in 1968. The major areas, which, received attention were, examination reforms, minority education, development of science education and research, improving teachers' status, supply of low priced text books, preprimary education etc. The implementation of NPE resulted in providing schooling facility to more than 90 per cent of the rural population, within a radius of one kilo meter. Even though, a review once in every five years was envisaged, further review took place only in 1985 and a new National Policy on Education was formulated in 1986. Some of the highlights of NPE, 1986 were, early childhood care and education, introduction of Navodaya schools meant for providing quality education to be set up in various parts of the country, mainly in rural areas, universal access and enrollment, universal retention up to 14 years of age, and substantial improvement in the quality of education. In 1992, the Programme of Action (PoA) were framed, strictly as per the policy statements made in the EFA (Education For All) summit, which includes basic education for children, improving quality, access and eliminating disparities. NPE 1992 stressed on improving quality at all stages of education, improving science and technology and cultivation of moral values in students. The NPE brought into effect, the National Curriculum Framework (NCF), containing a common core. Accordingly, examination reforms were envisaged through the introduction of evaluation, as an ongoing process (*continuous and comprehensive internal evaluation*), for the purpose of improvement in teaching and learning, and also stressed on the development of professionalism among the teachers, by providing training and education to them (Chaube, 1988; Government of India, 1993).

In 2004, following the "Total Quality" envisaged by the educational authorities, a vision-

mission statement was developed, in a Training Need Analysis (TNA) workshop, and ever since it has been used in the entire official documents (Government of Kerala). The vision envisages, a central agency, of the state government, to promote all round excellence in higher secondary education, by establishing appropriate philosophies, adequate institutional network, effective administrative systems, and well qualified, competent and motivated staff, necessary to carry out academic and administrative responsibilities. The mission provides to serve as a professional institution in formulating and maintaining the standards of higher secondary education and in providing need based timely, effective and sustainable services to the students and teachers (www.kerala.gov.in).

VI.(B) Quality through Technology

On the administration side of the higher secondary school education, the Directorate has introduced a number of e-governance initiatives viz, Single Window Admission Process, Central Admission Registry, Online Teacher Transfer, Electronic Pay roll system - SPARK etc for the purpose of achieving overall efficiency and development. One such initiative is the 'HSCAP' which is a centralized single window admission process system. This system of admission would eliminate corruption and thereby, establish social justice, in the admission process, by introducing transparency and efficiency. Apart from being a centralized allotment process for merit seats, HSCAP, has been functioning as the pivot, around which, many departmental activities like Central Admission Registry, Nominal Roll for Examinations, Staff Fixation etc revolve. The examination wing was computerized, from the year 2001. All activities in the examination branch, from registration of candidates to publication of results are done online, through the department web portal. Another remarkable technological



facilitation was the employee payroll and administrative system, 'Service and Payroll Administrative Repository of Kerala' (SPARK), to manage the employee payroll and administrative activities of all schools and offices under the department. All the staff including gazetted officers of the department generate salary bill through the SPARK. The system received two national awards and one state award, for its unmatched performance: CSI-Nihilent Award 2008-09, National e-governance Award 2009-10 and Kerala State e-governance Award 2009. The IT@school project is being implemented in government, aided and unaided schools including higher secondary for mobilizing resources for IT education and empowerment of the teachers using technology to teach the subjects and languages in classrooms, conduct of IT melas, e-governance initiatives etc. The project has two channels of EDUSAT ViCTERS through which educational programmes are being telecast.

VI.(C) Programmes for All round Development of Students

The department of higher secondary education has initiated a number of programmes for the all-round development of the students. Kalakshethra is one such programme, wherein, special training/coaching in fine arts, music and dance, is given to artistically talented, but, financially backward students on the basis of merit cum means scholarship at a district training centre. In order to motivate meritorious students and also as part of social welfare measures, government has introduced a comprehensive scholarship scheme of the higher secondary level for students, belonging to Below Poverty Level (BPL) families. It was also decided to promote the quality of education at the higher secondary level by providing scholarships to students of government and aided schools. Another programme, introduced was the remedial coaching

for weak students in selected government higher secondary schools, having a pass per cent below 50. One such school was the Model Boys School, Thiruvananthapuram, which has the remedial teaching session called 'Search for Alternative Meaningful Education' (SAME), which is being conducted for students, after regular class hours (Government of Kerala, 2011). An amount of twenty lakh was proposed in the annual plan 2011-12 for the purpose of providing remedial coaching. Directorate of Higher Secondary Education has 400 National Service Scheme (NSS) units with a volunteer strength of 40,000, spread across the state. Leadership practice, life-skill acquisition etc through the NSS programmes help to bring about positive change in social perspective, creative thinking and positive attitude making them self-reliant, self-confident and self-respecting, and builds up personality and character emphasizing the emotional quotient of the youth learner. Various community development programmes and other special programmes are organized, like 'Aaksharam', a literacy programme, 'Krishikootom', an organic farming and food security programme, 'Sahayanam', a socio cultural mix programme, 'Nervazhi', a road safety programme, are being implemented by the NSS cell, through its 400 units across the state during the year.

In order to equip the plus two students emotionally, as well as, to provide proper guidance to choose a suitable career, Career guidance and Counseling units function in higher secondary schools. There are 789 Career Guidance and Counseling Units, in Higher Secondary Schools, throughout the State. These centers aim to help the students to obtain an orientation to the employment sector and develop transferable skills, such as, effective communication, leadership, teamwork and management. Adolescent counseling and health care programmes are also conducted. 'Souhrida clubs' are formed in Higher Secondary Schools,



to improve the physical, academic, social and interpersonal skills of the adolescents and to lead them towards a successful adult-hood, by conducting awareness classes on physical, mental, and social issues, faced by the students. At present, there are 140 'Souhrida Clubs' functioning throughout the state (Government of Kerala, 2000; Government of Kerala). Importance is also given for work oriented education in secondary schools and higher secondary education, with the general aim of helping the students to develop skills for work and regard for manual works. The students and teachers are given training in socially useful productive works, training in, jobs connected with traditional areas. Functioning of school production centers under the scheme of SUPW and formation of work experience clubs in schools, are the major activities, proposed under this scheme in the annual plan 2011-12. Work experience fairs, in sub district, educational district and state level, are conducted along with the state schools science fairs every year (Government of Kerala, 2011).

VI.(D) Quality through Infrastructure

In school education, trust is given on improving the academic standards and sufficient attention is also given on improving the infrastructural facilities. The amount for Rashtriya Madhyamik Shiksha Abhiyan (RMSA) is Rs. 3,500 lakh for the annual plan 2011-12. A proportion of 25 per cent of the project cost has to be met by the state government. Under this programme allocation is proposed for the development of laboratories and libraries in government higher secondary schools, toilets for girls in HSSs, improving vocational competence of the youth, three teacher training institutes for differently abled children, incentive awards to PTAs, and improvement of Pareekshabhavan. Schemes are envisaged to strengthen the heritage schools, which are government schools of more

than 50 years of life, accommodating 2000 students or more. These schools are selected for improvement in both infrastructural and academic activities (Government of Kerala, 2011). An outlay of Rs.1,942 lakhs is set apart for the development of laboratories, libraries, and infrastructure in government higher secondary schools. Most of the government schools do not have enough building to accommodate the students. The condition of labs and libraries, in most of the higher secondary schools, is very poor and it is necessary to strengthen the library and lab to enhance the standard of students. The outlay provide for lab equipments for physics, chemistry, botany and zoology and for setting up of lab for rare subjects like geography, home science, electronics, and geology and for the purchase of library books. The amount is also used for, improving drinking water and toilet facilities in most required government higher secondary schools (Government of Kerala, 2011).

VI.(E) Quality through Faculty Development

Faculty Improvement Programme (FIP), in higher secondary schools, was initiated to impart training to higher secondary school teachers, with a view to improve and update their pedagogical and evaluation skill in 2007, with an outlay of Rs. 200 lakhs. Each year, for the last three years from 2009-10 to 2011-12, Rs. 3 crores have been allotted for FIP and it has been fully utilized according to the Higher Secondary Directorate sources. Under the DPEP and the SSA, teachers get in-service training periodically. But, the teachers in higher secondary level do not have much opportunity for in-service training. Therefore, the government has taken steps to coordinate SCERT and the DIETs in the state, in order to extend training to the teachers of higher secondary schools. The teachers are given training in the application of the new learner centered pedagogy and are given refresher courses in their respective subjects and also in the use of new



technology like ICT based teaching or smart teaching (Government of Kerala, 2011). In the current year, 2012-13, the training programme is envisaged to include both training in management concepts as well as training in technology. The recent scheme of grading, the introduction of continuous internal evaluation of students, together with the introduction of the learner centered, and activity oriented curriculum intends to usher a qualitative up gradation of the academic performance of students. All these pioneering endeavors are catalytic factors in the up gradation of the quality of education in Kerala.

VII. Conclusion

Continuously improving quality of education, based on, vision and revisited mission, to attain and cope-up with changing standards of education world around, are inevitable. The study has found that there has been an increase in the number of schools from the year 1990, and in the provision of adequate faculty. The government also has been quite enthusiastic in bringing about far reaching changes in the administration, faculty training and education, provision of infrastructural facilities and excellent evaluation methods for improved efficiency and effectiveness. However, further studies should be conducted in order to assess the extent of effectiveness of these quality initiatives and how these have been perceived by the public or stake holders of education in Kerala. Quality up gradation in education could be reaped only by efficient implementation of the periodically updated, quality initiatives through the process of effective team work. This would enable the higher secondary school education in Kerala to reap exponential benefits in the long run and it could reach the heights of national and international standards.

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Abstract of Doctoral Dissertation¹

Role of Kerala State Co-operative Consumers' Federation Limited in Retailing

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I. Introduction

Retailing is an emerging field of study because of its impact on the economy, its importance in distribution and due to its dynamic nature. A retailer must learn how best he can serve customers while earning a fair profit. He must stand out a distinctive entity where customers have so many choices. Retailing is not just the sale of tangible goods through a store. However, it includes service aspect, location of store, ambience, assortment of goods, layout of the store, and so on. It is the last stage in a channel of distribution and includes all those involved in the physical movement and transfer of ownership of goods and services to final consumers. Recently, in a big way traditional stores have been replaced by hypermarkets and supermarkets all over the world. In other words, organized retailing formats conquered all sectors of retailing including food, grocery and convenience goods. In the Indian sub-continent also, retailing sector has dynamically changed in the last few years and thousands of

superstores with wide choice of products started functioning by replacing small unorganized retailers. Meanwhile, the lives of low and middle class became more miserable due to sudden rising of prices of essentials in the country. In these circumstances, the functions of the two institutions- Kerala State Civil Supplies Corporation (SUPPLYCO) and Kerala State Co-operative Consumers Federation Limited (CONSUMERFED) have become a consolation to the public to make available consumer goods at reasonable prices. For this purpose, they function a number of supermarkets at many populous places of Kerala. They compete with Private Organized Supermarkets including Margin-Free Markets in most of the places where they operate. These stores along with a number of temporary outlets of the Federation supply essentials and effectively hold the price levels of them during the days of important festivals of the state, which has been recognized to be another major role of CONSUMERFED. Against this backdrop, the

¹The thesis was submitted to the Mahatma Gandhi University, Kottayam, Kerala, in October 2013 for the award of Ph.D. Degree and awarded in September 2014. The work was done under the supervision of Dr.A.M. Viswambharan, Associate Professor & HOD, Department of Commerce and Research Centre, St. Albert's College, Ernakulam, Kerala.



present study is a pioneer one aimed at evaluating the role played by the federation in the essential goods retailing. The researcher reviewed the essential retailing in Kerala controlled by the government and found that about 19242 consumer outlets functions in the state all together with the Ration Retail Shops under PDS, Neethi stores of primary co-operatives, outlets of SUPPLYCO and CONSUMERFED, and consumer stores of district wholesale stores. The study is descriptive one with analytical background. Both primary and secondary data were used in the study.

II. Statement of the Problem

Consumers, who were, dependent on retail outlets of the Kerala State Co-operative Consumers' Federation Ltd., now have different options to get their products and services. New players in the retail trade compete with one another in serving consumers. All retail outlets owned and operated by consumer co-operatives have been put into a new environment and forced to compete with the new private retail players. The competition is not only on products and services but also on quality measures of products and services, price level and promotional parameters. CONSUMERFED, the apex body of consumer co-operatives in Kerala state, is controlled by the Government of Kerala. It has hundreds of retail stores known as 'Triveni Supermarkets' spread over the state to supply essential consumer goods. It performs two major functions namely: a) to retail consumer goods, especially essential commodities with its retail stores and b) to act as a regulator in the essential commodities market with a view to control/hold price levels of these commodities. The undifferentiated marketing strategy is followed by the outlets of CONSUMERFED has been hindering their growth as there is chaos even to their aims. As one of the largest organized chain food and grocery retailers in the state, the

Federation has to understand its customer base. This understanding is essential to plan and implement customer-driven marketing strategies to retain existing customers and to attract new customers. It seems that the firm neither follows modern marketing methods to identify its customer groups nor has proper retail strategies to satisfy them. Likewise, it is also observed that the service quality of Triveni stores is not sufficient to compete with private organized retail players. The Federation claims that they sell a wide range of consumer goods under one roof at low prices and at superior qualities. There are doubts whether the Federation is fulfilling its retailing objectives efficiently with a competitive spirit. It is against this backdrop, the present study is undertaken. Hence, it is necessary to evaluate the perception of customers to ascertain whether the retailing activities of the outlets are satisfactory or not. In addition, it also aims at studying the effectiveness in holding price levels of essentials in Kerala. Moreover, the competitive position of Triveni Supermarkets while comparing Margin-Free Markets and Private Supermarkets are also need to apprehend.

III. Significance of the Study

New formats of retailers employ modern methods and means of customer satisfaction. These organizations slowly replace small traders in the unorganized sector and attempt to capture the consumer market in Kerala through modern customer oriented marketing strategies. CONSUMERFED is now in a situation to compete with internationally acclaimed big retailers adopting professional management techniques to optimize their revenues and the satisfaction level of their customers. This Kerala based retail organization has to adapt to the new situation. There is a need for them to identify consumer expectations and methods of distribution in line with the changing needs of customers. Relatively, Triveni outlets of CONSUMERFED are



small in size compared to the firms in the organized private sector. It has to follow a target marketing either concentrated or micro marketing, which may help to increase its sales. Possibly, there may be the need to re-orient their employees so that the customers are equally satisfied with services provided by big retailers. The modern concept of supplying all goods under one roof or satisfying all product needs at one stop is not pursued efficiently in the Triveni Supermarkets. Every dimension of running a retail store is to be considered in depth to bring in changes needed to maintain the same standards established by big retailers. As in the case of government run organizations there could be some sharp observations relating to efficiency. The concept of operating on traditional lines has to undergo revision to make Triveni retail outlets on par with big retailers. Even though, CONSUMERFED is in the co-operative sector, more than 90 percent of its capital is contributed by the state and so it is equivalent to a government institution. However, no systemic arrangement seems to exist to evaluate the efficiency of a very prominent enterprise like CONSUMERFED.

The study aims at finding out the role played by the Federation in the retail sector of Kerala in holding the price levels of essential goods along with an assessment of consumer satisfaction levels of Triveni Supermarkets and to recommend measures to strengthen it so as to enable it to compete with other established retailers in Kerala. The study also intends to compare the stores of the Federation with those of its competitors namely Margin-Free Markets and Private Supermarkets with selected variables. This is done to identify the gaps, if any, Triveni stores could take advantage of. They should try to enhance their working space and empower themselves to employ modern methods of creating customer experience with a view to retain and attract new customers. The study assesses the satisfaction

level of customers of consumer goods at the retail outlets of the Federation and thereby attempts to understand the customer experience that they are creating through their retail services. No significant studies have been made on CONSUMERFED so far. The study is pertinent since it aims at unearthing the potentials of CONSUMERFED in the field of retailing. This descriptive and analytical exercise will emphasize the centrality of the Federation in maintaining a healthy environment in the retail sector.

IV. Objectives of the Study

The study is to be conducted with the following precise objectives:

- 1) To study briefly the essential consumer goods retailing system controlled by the government in Kerala state.
- 2) To examine the objectives, functions and financial performance of CONSUMERFED.
- 3) To identify the major customer groups of Triveni Stores and assessment of its effectiveness in consumer goods retailing.
- 4) To evaluate the effectiveness of CONSUMERFED outlets in holding the price levels of essential consumer goods in the state.
- 5) To assess the level of satisfaction of the customers of Triveni Supermarkets with selected retail factor variables.
- 6) To compare Triveni Supermarkets with Margin-Free Supermarkets and other Private Supermarkets in consumer goods retailing with selected variables.

V. Hypotheses of the Study

Following hypotheses (alternative) are framed and validated in the study.



V. (A) Effectiveness of Retailing

Effectiveness of retailing considers the view of customers on store preference, duration of relationship with retailers, product preference, type of goods purchased, frequency of visit, and price of goods. Accordingly, the following alternative hypotheses are generated;

- 1) There is association between store preference and the region, area of residence and income levels of customers respectively for the purchase of essential goods.
- 2) There is association between the duration of customer relationship with Triveni stores and their region, area of residence and income levels respectively.
- 3) There is association between merchandise preference from Triveni stores and the region of customers.
- 4) There is association between the type of goods purchased from Triveni stores and the family size of respondents.
- 5) There is association between the frequency of customer visit and the income levels of Triveni customers.
- 6) There is no difference between observed distribution and binomial distribution of consumers' opinion on price of goods in Triveni Supermarkets with parameter 0.50.

V. (B) Holding the Price Levels of Essentials.

Special Triveni stores are also opened by CONSUMERFED during special occasions to maintain the price levels of essentials at different places of the state in addition to Triveni supermarkets. It is interested to see how consumers feel about the price line and availability.

Following research hypotheses (alternative) are generated accordingly:

- 1) There is difference between observed distribution and binomial distribution of consumer opinion on the role of Triveni Supermarkets and special Triveni stores in holding price levels of essentials with parameter 0.50.
- 2) There is difference between observed distribution and binomial distribution of opinion of customers in the supply of sufficient number of goods in regulating price levels of essentials with parameter 0.50.

V. (C) Customer Satisfaction

To assess the level of satisfaction of the customers of CONSUMERFED, twenty variables have been identified and applied by using the five point Likert's scale. These variables are categorized into six retail factors, viz. 1) 'Quality and Attractiveness of Goods', 2) 'Assortment of Goods', 3) 'Service and Staff Dedication', 4) 'Price of Goods' 5) 'Promotion and Customer Education', and 6) 'Cleanliness and Infrastructure'. The observed mean scores of these factors are used to assess the level of customer satisfaction in the study. The central values of the factor variables arrived on the basis of number of variables included in respective factors are meant by their standard values. To test the responses of customers, following alternative hypotheses are generated accordingly.

- 1) There is difference between observed mean of factor variables in the level of customer satisfaction from standard values. (Standard values: 'Quality and Attractiveness of Goods' = 18, 'Assortment of Goods' and 'Service and Staff Dedication' = 6, 'Price of Goods' and 'Promotion and Customer



Education' = 9, and 'Cleanliness and Infrastructure' = 12)

- 2) There is difference in the level of satisfaction related to factor variables among regions, areas of residence and income groups of customers respectively.

V. (D) Comparative Assessment among Triveni, Margin-Free and Private Supermarkets

Six factor variables are used to compare Triveni Supermarkets with Margin-Free Markets and Private Supermarkets. They are 1) Service 2) Availability and Ambience 3) Facilities 4) Quality of Goods 5) Price of Goods and 6) Discount. For evaluating the responses of customers on the three types of outlets, following alternative hypotheses are generated.

- 1) There is difference in the means of factor variables among the three types of retail outlets.
- 2) There is difference in the means of factor variables among regions, area of residence and income groups of customers respectively for the three types of retail outlets.

VI. Research Methodology

'Role of CONSUMERFED in Retailing' is a descriptive and analytical study based on primary and secondary data. CONSUMERFED supermarkets spread throughout the state and compete with Margin-Free Markets and other Private Supermarkets in consumer goods retailing. Most of the customers visit all these three types of consumer outlets for the purchase of various consumer goods. Primary data collected through a structured questionnaire has been statistically tested with the help of the computer software SPSS 17 version (Statistical Package for Social Sciences). A pilot study was conducted to detect the weaknesses of the research design and to test the reliability of the questions used in the interview

schedule. A multi-stage random sampling technique was used to arrive at the respondents.

Statistical tools such as frequencies, cross-tabs, graphs and descriptive statistics such as percentages, arithmetic mean and standard deviation are used to analyze the primary data. The analytical tools used for establishing and analyzing the relation and dependence between variables (for testing hypotheses) include Chi-Square test, One sample t-test, Binomial test, One way ANOVA, Three way ANOVA, Multi-Dimensional Scaling-Alscal, Factor Analysis and Repeated measure MANOVA. For the analysis of secondary data, Percentages, Ratios, Graphs and Compound Annual Growth Rate (CAGR) are resorted.

VII. Major Findings of the Study

The study has the following major findings:

VII. (A) Government Controlled Arrangement for the Distribution of Essential Goods

For essential goods retailing, around 19,242 outlets function in Kerala under the control of the government. They consist of 14,250 ration retail outlets under PDS, 1511 SUPPLYCO retail outlets named 'Mavali stores, Labham Markets, Sabari stores and Peoples bazaars', 1132 CONSUMERFED retail stores called Triveni Supermarkets' and 'NANMA stores', 967 primary consumer co-operative stores, 82 consumer stores of the central consumer co-operatives and 1300 'Neethi stores' run by credit and employees' co-operatives.

VII. (B) Profitability of CONSUMERFED

The average Gross Profit Ratio of CONSUMERFED for the period from 2003-04 to 2010-11 is found to be 4.6 percent. The CAGR of gross profit is recorded at 27.17 per cent during



the period while the CAGR of net sales is recorded at 20.31 per cent.

- 1) The Federation had been incurring heavy losses up to 2005-06 and the growth of the Operating Profit Ratio recorded only an average 0.49 per cent for the period from 2003-04 to 2010-11. The CAGR of the operating profit is recorded at 85.81 per cent during this period.
- 2) CONSUMERFED had been functioning at heavy losses up to the financial year 2006-07 and from the next year onwards at a marginal profit. The average Net Profit Ratio of CONSUMERFED is found to be -1.29 per cent for the period from 2003-04 to 2010-11.
- 3) The average return on assets is observed to be 2.356 per cent for the period from 2003-04 to 20-11, which is considered a very low rate. The CAGR of total assets of the firm is found to be at 23.55 per cent, while Net Profit before Interest and Tax recorded 72.59 per cent during the period, both are considered good rates.
- 4) The average rate of Return on Capital Employed is recorded at 3.41 per cent during the review period, which is also very low. The CAGR of Net Capital Employed is computed as 24.24 per cent, considered to be a good rate.
- 5) The operating cost ratio is found very high during the review period. This shows the poor profitability of the firm due to its huge operating expenses. It is observed that the trading and establishment expense of CONSUMERFED has been increasing at an exorbitant rate, which should be controlled. Low margins and high establishment costs reduce the profitability of the firm.
- 6) Loss due to damage of stock is seen to be increasing every year from 2003-04. The major reasons observed are: a) The stores are not following the principle of 'the first come first sale', b) the storage of goods on wet floors, c) mishandling of merchandise at godowns.
- 7) The Current Ratio is used to assess the liquidity position of CONSUMERFED. The average Current Ratio for the years under study is 3.23. This seems that the Federation keeps current assets more than the ideal level and the liquidity position of the CONSUMERFED seems good. During the years 2003-04, 2008-09 and 2010-11, the ratio shows a higher value than the average.
- 8) The average solvency ratio (total assets/ long term debts to outsiders) for the period from 2003-04 to 2010-11 is found to be 1.53:1. This indicates that the Federation has sufficient assets to cover its long term obligations. The CAGR is recorded at 23.55 per cent in the case of total assets and 21.67 per cent in the case of long term liabilities during the period under study.
- 9) The debt equity ratio of the Federation varied from 27.13 to 105 times during the period of study. The average ratio is 61.12:1. This is too high and shows an unfavorable position from the owners' point of view as it depicts the least claim to the owners on the assets of the firm. The ratio shows a high rate as the total debt of the Federation increased from ₹13462.73 lakh in 2003-04 to 64712.29 lakh in 2010-11.

VII. (C) Effectiveness of Triveni Stores in Consumer Goods Retailing

The effectiveness of Triveni Supermarkets in consumer goods distribution is evaluated on the basis of the consumption pattern of respondents,



assortment of goods in Triveni Supermarkets, price and quality of goods supplied, and their competitive skills.

- 1) Store preference of the respondents were found to be in favour of Triveni stores as 44.9 per cent prefer Triveni stores for the purchase of their daily needs. 40.4 per cent prefer all types of stores, 7.5 prefer to buy from Private Supermarkets, 4.6 per cent like supply co stores and only 2.7 per cent prefer traditional stores.
- 2) Considering region-wise preference, more customers in the northern region prefer Triveni outlets followed by those in the southern region. It was seen that among the customers in the central region, only 16.5 percent prefer Triveni outlets and the rest prefer all types of stores and private Supermarkets. ***There is a high degree of association between store preference and the region of customers in the purchase of essential goods. (value of Chi-Square 56.661 with $p=0.000<0.05$).***
- 3) It is found that urbanites (36.1 per cent) prefer Triveni stores more than rural (32.5 per cent) and semi-urban customers (31.4 per cent). Among those prefer all type of stores, semi-urban customers (36.2 per cent) is the prevalent group whereas urban and rural area customers are tied with each other. Rural customers like traditional stores more compared to urban and semi-urban customers. It was found that more urbanites prefer private supermarkets than other residents. ***The statistical association of store preference and area of customers is found to be not significant by observing the value of Chi-Square (Chi-Square value 13.202 with $p=0.105>0.05$).***
- 4) No association is found between store preference of respondents and their income levels. The income groups between 10000 and 30000 are the major customers of all kinds of outlets, including Triveni outlets. 77.4 percent from among the respondents who prefer Triveni stores, 65 per cent of those who prefer SUPPLYCO; 67 per cent preferring traditional stores; 78 per cent supermarkets and 69.6 per cent all outlets belong to middle income groups. Other income groups also do not show marked variations except low income groups. ***Store preference and income levels of customers are not found associated (Chi-Square value 21.248 with $p=0.169>0.05$).***
- 5) Middle income groups are found to be the largest category among those who prefer Private Supermarkets (78.2 per cent). No low income customers show affinity to private Supermarkets.
- 6) 43.2 per cent of the selected customers reported that they have been using Triveni stores for more than five years. This depicts that CONSUMERFED stores have a fairly good number of loyal customers. The central region has the highest number of loyal customers compared to other regions. The number of customers showing 3-5 year affinity is more in the southern region, while the northern region records a maximum of 1-2 years. ***The association between the duration of customer relationship with Triveni stores and the customer region is found significant by observing the Pearson Chi-Square value 43.823 with $p=0.000<0.05$.***
- 7) It was found that only 3.7 per cent customers have less than one year relation with Triveni stores. This shows that



- Triveni stores could not attract a considerable number of new customers even though, it retains a fair number of old customers.
- 8) There is specific reference to the level of affinity in different areas; urban customers seem to be more associated with Triveni stores in the long run (more than 5 years) while semi-urban consumers show affinity for 3-5 years only. More rural customers are found among new customers. ***There is a high degree of association between the longevity of relationship with Triveni stores and the area of residence of its customers (the Chi-Square test value 68.273, df 6 with $p = 0.000 < 0.05$).***
 - 9) While considering the role of the income of the customers on the longevity of customer relationship with Triveni stores, it was found that no degree of association exists between the two factors ($p=1.00 > 0.05$) as per cent ages of different income groups are almost equally spread across all classes. But, there is specific reference to the duration of affinity based on the income level of the customers; 10000-20000 and 20000-30000 income groups seem to have the longest loyalty with the firm. May be this is due to the outlets serving more middle class population.
 - 10) Among the higher income customers who visit Triveni stores, a high percentage (58) has long term loyalty with the stores. Similarly, low income groups (71 per cent) also show affinity for a fairly long period with these stores. This clearly depicts that Triveni stores have succeeded in retaining their customers at a high rate.
 - 11) Considering the merchandise preference of respondents, the majority of customers (70.4 per cent) prefer to buy all type of goods available in Triveni stores. Among them,

customers from northern region come first and those from southern region follow. Also customers from southern region stand first among those prefer food grains, bakery, baby food and home care items. Customers from central region are seen to use the facilities for their requirements on provisions and groceries more than those from other regions. ***The test of independence provides a chi-Square value 75.974 ($p=0.000 < 0.05$) which shows the high degree of association between merchandise preference from Triveni stores and the region of customers.***

- 12) There is a marked division among family sizes in the relative use of Triveni stores. Medium size families resorted to Triveni stores more than large and small size families for buying all type of essential goods including food provisions and grocery items. Small families buy bakery, baby food and cleaning goods. Large families depend less on these stores, the majority among them preferring to buy all goods offered by the stores. ***There is a high degree of association between the family size of respondents and the type of goods purchased from Triveni stores (Chi-Square value 17.497 with $p=0.008$).***

VII. (D) Customer Satisfaction Level of Triveni Supermarkets

To assess the level of customer satisfaction of Triveni customers, twenty selected retail variables applicable to Triveni Supermarkets have been considered and the customer responses on them were collected on a five point Likert's scale. The mean scores of the twenty variables depict the satisfaction level of customers with respect to the particular aspect of Triveni Supermarkets. But, for assessing the level of customer satisfaction, these twenty variables have been grouped in a



priori factor structure (Confirmatory Factor Analysis Method) in to six groups and the observed mean scores of them are assessed and used. The retail factor variables and the number of variables included them are:

- 1) Quality and Attractiveness of goods (contains 6 variables),
- 2) Assortment of Goods (contains 2 variables),
- 3) Service and Staff Dedication (contains 2 variables),
- 4) Price of Goods (contains 3 variables),
- 5) Promotion and Customer Education (contains 3 variables) and
- 6) Cleanliness and Infrastructure (contains 4 variables)

The mean scores of the factors are drawn by adding the mean scores of variables included in the respective factors (Cumulative means of variables). Based on the mean score of these factors, the level of customer satisfaction of Triveni Supermarkets are measured.

- 1) The customers of Triveni Stores are found to be at a highly satisfied level with respect to the factor variable ‘Quality and Attractiveness of Goods’ (factor mean score 25.986 for six variables). A significant difference has found between the observed mean and the standard value with t- value 76.716, $p=0.000$. Among the six variables considered in this factor, the highest level of satisfaction has been derived from the arrangement of goods (mean value 4.50) followed by attractive display (mean value 4.33), quality of convenience goods (mean value 4.32), freshness of goods (mean value 4.29), package of goods (mean value 4.27) and quality of food and groceries (mean value 4.26).

- 2) A significant difference is found among the southern, the central and the northern regions of Kerala in the level of customer satisfaction on factor ‘Quality and Attractiveness of Goods’. The satisfaction level of customers of the northern region is higher than that in the other two regions. No significant difference is found among areas of residence and different income levels of customers in this regard. This can be found valid in three way ANOVA Post-hoc model with the F values for the observed mean variations as per estimated means tables.
- 3) Regarding the factor ‘Assortment of Goods’ (factor mean score 7.238 for two variables), it is found that the customers are satisfied. A significant variation exists between the standard value and the mean score of the factor with $p=0.000$. In this factor, customers are more satisfied with the range of provisions and grocery than that of personal and home care items in Triveni stores. The assortment of goods in the central region is reported at a low level (mean 6.502) than that of other regions. This may be because of the central customers having more awareness about different products and their availability. Rural people also reported that the size of assortment is not significant in the stores. The major reason may be the smallness of the stores in rural areas.
- 4) Considering the variation in the level of customer satisfaction, significant differences exist among regions and residential areas of customers and the differences are not significant among different income levels of customers. Customers of the southern region are found to be more satisfied than those of other regions, while the semi-urban customers are more satisfied than urban and



rural customers. This is proved valid statistically by using three way ANOVA with Post-hoc model by considering region-wise, area-wise and income level mean variations of the responses of the selected customers in this regard.

- 5) Selected customers are found satisfied with the factor variable 'Service and Staff Dedication' (mean value 7.025). Among the two variables included in the factor, 'Staff responsiveness to customers' has a low mean, which shows ineffective customer service from the staff. It is seen that the level of customer satisfaction is more in the northern region than in other regions. Similarly, a significant difference exists between urban and rural, semi-urban and rural areas in this regard. Based on income levels, the difference in the level of satisfaction is not found to be significant. This can be found valid in three way ANOVA with Post-hoc model showing statistically significant values for observed mean variations as per the estimated means tables for regions and areas.
- 6) Considering the factor 'Price of Goods' in Triveni stores, selected customers are found to be highly satisfied as it scored the highest factor mean value (14.109) considering the number of variables included in it. Among them, 'Price of other convenience goods' scored more (the highest mean value 4.73) than 'Price of personal and home care' (4.71) and 'Price of food and grocery' (4.66). This shows Triveni Stores sell goods at comparatively low prices. Their pricing strategy followed by them is comparatively better and is found accepted by the customers. It is observed that there exists a significant difference in the level of

satisfaction in the factor 'price of goods' between the central and the northern, the northern and the southern regions. However, the customers of the northern region are more satisfied on this factor than those of other regions. No significant variation is found among either area of residence or income levels of customers in this respect. This is found significant as per the F values given by three way ANOVA with Post-hoc model. This is further substantiated by the means tables for the regions, areas and income groups of customers.

- 7) Customers are moderately satisfied with respect to the variables included in the factor 'Promotion and Customer Education' (mean value 8.842 for three variables) measures adopted by Triveni Supermarkets. While considering the variables included in the factor, customers are found to be least satisfied with the higher percentage of discount and the customer education strategies of Triveni stores. No significant variation exists between the observed value and standard value in this respect. A significant variation in the satisfaction level is found among regions, areas of residence and income levels of customers with regard to the factor 'Promotion and Customer Education'. The southern customers are found to be satisfied, while the customers in the central and the northern regions are only moderately satisfied in this respect. The urban customers are comparatively more satisfied than rural and semi-urban customers. Considering the income levels of customers, the low income groups are more satisfied with the promotion measures of Triveni stores. Here also, marginal means of factor 'Promotion and Customer Education' for the three regions, three



areas and five income groups are evaluated and substantiated by the relevant statistical test- three way ANOVA with Post hoc test.

- 8) Regarding the factor 'Cleanliness and Infrastructure', customers are highly satisfied (factor mean score 16.662 for four variables). Among the four variables considered in this factor, 'space layout' has scored more, followed by other indicators like 'support facilities', 'cleanliness in the store' and 'parking facilities' respectively. Considering regional differences, the northern customers are more satisfied than central and the southern customers. Likewise, significant difference exists between urban and semi-urban, urban and rural, semi-urban and rural customers on the level of satisfaction. But the variation is insignificant when the income levels of customers of Triveni stores are considered. This may be statistically valid in the estimated means tables with the highest mean scores and the significant F values having $p=0.000 < 0.05$ in three way ANOVA Post-hoc model.

VII. (E) Comparative and Overall Customer Satisfaction

While comparing all the six retail factors, customers are highly satisfied with the factor 'Price of Goods' (average score 4.70), followed by factors "Quality and Attractiveness of Goods" (average score 4.33), 'Cleanliness and Infrastructure' (4.16). In the case of 'Assortment of Goods' (3.62), 'Service and Staff Dedication' (3.51), customers are found to be satisfied, while they are found to be moderately satisfied with the factor 'Promotion and Customer Education' (2.94). Considering all factor variables together, the customers of Triveni Supermarkets stay at a certain level of satisfaction (3.991).

Triveni Supermarkets, Margin-Free Markets and other Private Supermarkets perform similar kind of activities: satisfying household needs of customers or serving as food and grocery retailers. In most places, they compete with each other. They offer a large assortment of products with wide choice and self service facilities. To compare the Supermarkets with one another, 18 indicators (variables) are used and each variable is rated separately for the three types of outlets by the sample customers at a 7 point scale based on their perception. By using Exploratory Factor Analysis method, these variables are categorized in to six factors and the mean score of the factors are used for comparing three types of Supermarkets. The major findings are reported below.

- 1) Six factors are found to be dominant in the comparison of the performance of the three types of retail outlets as per the Total Variance Explained Table. The first factor is named 'Service', which includes five variables, viz; Space layout of the store, Quality of packing, Parking facilities, Complaint redress mechanism and speediness in billing. The second factor 'Availability and Ambience' carries another five indicators – Customer personal care, Availability of fresh stock, Brands available, Location advantage and attractiveness in display. Another three indicators to assess the outlets, namely, Cleanliness in the shop, facilities for customers and working hours are named 'Facilities' factor. The fourth factor, 'Quality of Goods' includes two variables, viz; Quality of food and grocery and Quality of other convenience goods. Price of food and grocery and price of other convenience goods are categorized into the fifth factor 'Price of Goods' and the sixth factor 'Discount' carries only one variable, viz; discount offers of supermarkets.



- 2) While considering the three outlets individually as separate categories and the region-wise ratings by the respondents, it is found that there is significant difference in the mean scores of all retail factor variables of Private Supermarkets and Triveni Supermarkets among all the three regions, while only one factor (Price of Goods) shows significant variation in the case of Margin-free Markets. This shows that there exist significant regional variations in the perception of customers on the performance of the two outlets. This can be found valid in the One way ANOVA tables for regions with significant F values with $p < 0.05$.
- 3) The mean scores obtained for retail factors except 'Price of Goods' of Margin-Free Markets, are found not significantly varying among regions. The region-wise difference of factor variables is validated by using the One way ANOVA with significant values.
- 4) From the comparison between the three types of outlets, it is found that a statistically significant difference exists among the means of all factor variables for the three types of consumer retail outlets. The findings show that the respondents clearly distinguished the consumer outlets by the performance perceived by them. In considering factor variables, the comparative position of the three types of retail outlets, are shown below:
 - a) Private Supermarkets stay at the top in four retail factors, viz:- 'Service', 'Availability and Ambience', 'Facilities' and 'Quality of Goods' followed by Triveni Supermarkets. Margin- Free Markets scored the least on all the four factors. The mean scores of the four factor variables clearly indicate that in comparison to Private Supermarkets, Triveni Supermarkets and Margin-Free Markets are far behind in the performance of retailing in Kerala.
 - b) Considering factors 'the Price of Goods' and 'Discount', Triveni Supermarkets are found the best, they sell goods at low prices than Margin-Free and Private Supermarkets. They also offer a higher discount to the customers. Margin-Free Markets are perceived by the customers to be the second low pricing outlets and Private Supermarkets charge high prices for the goods and offer low discounts. Therefore, Triveni Supermarkets supplied goods at low prices, which is one of the major objectives of Supermarkets. The findings are found to be valid and statistically significant by observing the retail factor group means tables of the outlets with the highest mean scores and significant 'F' ratios (Pillai's Trace and Wilks' Lambda) with $p = .000 < .05$ in the Repeated measure MANOVA test (Multivariate Test for within-subjects).
- 5) It is found that regional and income level differences of customers interacted with the changes in the mean scores of retail outlets. There is difference among the means of all factor variables for the three types of retail outlets among different regions and income levels of customers. This shows that there is significant difference among three regions as per customer perception in the performance of the three types of outlets. This is the same considering the five income groups of customers. This is also found valid as per region and income- wise group means tables of the three retail outlets and the significant 'F' ratios with significant level ($p > 0.05$) reported in the Repeated measure MANOVA test (Multivariate test for



between subject main effects, regional and income level effects) for region and income levels.

- 6) Considering the opinion of customers on the basis of area of residence, there is significant difference in the performance of outlets perceived by them with regard to the factor indicators 'Service', 'Availability and Ambience', 'Quality of Goods', 'Price of Goods' and 'Discount' ($p < 0.05$). But no significant difference is found in the responses of respondents on the factor 'Facilities' while considering their residential area ($p > 0.05$). This is substantiated by the Test of between Subject Effects under Repeated measure MANOVA with 'F' ratios and significant 'p' values.

VIII. Conclusion

Retailing is the predominant sector in India as well as in most other countries in the world. The retailing sector has recorded a fair growth of more than 5 per cent globally even during the recent financial meltdown. 15 among the largest 100 companies (as per Forbes Magazine) in the world during 2012 were from the retailing sector. But most of them are food retailers including Wal-Mart, world's giant in retailing. Organized retailing is prevalent in most of the developed countries and it accounts for about 50 to 70 per cent of their retail turnover. Indian retailing is considered to be one of the fast growing sectors and it is estimated to grow by US\$ 637 billion by 2015.

The size of Indian food retail is estimated at 60 per cent of the total retailing and it is seen that the rural market grows at double pace to urban Markets in the country. Traditional/mom and pop stores have been prevalent in Indian retailing. But, the format and size has started to change since the beginning of the past two decades. Now large retailers seem to have conquered the market by offering a large number of commodities under one roof. They are either chain or individual retailers and are called organized retailers. Hundreds of supermarkets and hypermarkets started functioning during last few years at various parts of Kerala and they began to replace traditional retailers at a fast rate. These large retailers offer a wide range of products with the facility of self service. Their price level is low when compared to traditional small retailers. Their services to the customers are considered much better than that of small food and grocery retailers. The SUPPLYCO and CONSUMERFED are two prominent organized retailers functioning in the state for supplying essential commodities and they are controlled by the Government. The study concentrates on the retailing activities of CONSUMERFED only. The study intends to identify the major customer groups of Triveni stores, their effectiveness in retailing and the role performed by them in holding the price levels of essentials. It is also aimed at assessing the financial performance of the Federation, and the level of their customer satisfaction in the context of a comparison of Triveni Supermarkets with Private and Margin- Free Supermarkets.