SOCIO-ECONOMIC STATUS OF FISHERMEN COMMUNITY IN KERALA

[1]**Jyothy Mary Mathew**	[1]*Assistant Professor, Department of Commerce, St.Michael's College, Cherthala, Alappuzha Dist. Kerala,*
[2]**Dr Raji Joseph**	[2]*Associate Professor(Retd) & Research Supervisor, St.Xavier's College for Women, Aluva, Ernakulam Dist. Kerala,*

ABSTRACT   Article DOI URL: https://doi.org/10.36713/epra5867

Although the contribution of Fisheries to the revenue of both State and Central Governments are commendable, the social and economic life of fishermen all over India are not satisfactory. In Kerala, the socio-economic status of the fishermen community is still not better, the result of which is that the educational, health, occupational and income status have not been good enough to achieve personal economic well-being. The microfinance industry can play a major role in bringing up the status of fishermen upto a desired level. The objective of the main study is to assess the outcome of microfinance operations for the benefit of fishermen community in Kerala. The main study mainly aims to measure the changes in the socio-economic status towards personal economic well-being of the fishermen community. As a part of the main study, here presents the study relating to the most important aspects of socio-economic status of the fishermen community in Kerala as it is and a classification according to the socio-economic status.

KEY WORDS: *Fishermen, Educational Status, Health, Income, Microfinance*

1. INTRODUCTION

The marine fisheries have been playing an important role for the national economy. It also generates a good source of food and rural coastal employment as per the declaration of Exclusive Economic Zone (EEZ) in 1910. The potential of these resources has become more apparent in successive developmental plans of the Central and State Governments which have emphasized on the importance of increasing fish production and export promotion (Rabi Narayana Misra & Sahu 2011)

The state of Kerala is rich in fisheries wealth with a coastal line of 590 kms. Kerala plays a significant role in the marine Indian economy. The Western coast of India including Kerala is very rich in marine wealth among that Kerala's contributions is very high. One of the major speciality of marine fishing sector of Kerala coast is the formation of mud bank called as 'chakara'. Kerala is the one of the major coastal state of India. The socio economic conditions of fishermen in Kerala is not different from the remaining parts of India. A suitable remedial step became a necessity to save the fishermen from their financial breakdown. An effective and result-oriented mechanism was the need of the hour and it happened in the form of Microfinance (Debadutta Kumar Panda 2009)

2. STATEMENT OF THE PROBLEM

In Kerala the socio economic backwardness is the hallmark of the fisherman community. They are the socially isolated community. The prominent reason for the isolation is the outlook of the society towards the fisherman. Fishing and related activities are universally reserved for low-caste segment of the society. For this pathetic situation of fisherman community, time or place is not at all deciding factor. In a nut shell the general picture of fishing communities in Kerala, exhibits their extreme pathetic living conditions. They always come in the lowest ladder of Kerala society with poor educational status and lack of basic livelihood facilities. The fisher folk are isolated from the mainstream society due to the low level of literacy and undignified mannerisms. Climatic changes and the lack of employment opportunities make their problems too serious. There are so many factors such as low social status, poor economic conditions, illiteracy, heavy indebtedness, low production rate- and income influence the socio economic conditions of fishermen. Thus the problem of the study is to determine the socio-economic conditions of fishermen community in Kerala and to attempt an honest classification of fishermen community into different groups on the basis of their socio-economic status.

3. OBJECTIVE OF THE STUDY

The objective of this study is to examine the socio-economic status of Fishermen Community in the State of Kerala and to classify them into different socio-economic status groups.

4. RESEARCH METHODOLOGY

It is a descriptive study. The study describes the status of the socio-economic conditions of fishermen community in Kerala as it is. Both Primary and Secondary data were collected for the study. Primary data were collected from the selected samples of fishermen households in the study area. The sampling frame was all the fishermen families situated in the study area. The unit of study was one fisherman family in the study area The area of study covered all the 9 coastal districts of Kerala as defined by Kerala State Coastal Area Development Corporation Limited (KSCADC), a state government body. The sample size is 782 which was determined after considering the variability of the population, the confidence attached to the estimate and the allowable error. The sample size was fixed on the basis of Cochran's Sample Size formula According to KSCADC, there are 220 Total Fishing Villages in all the 9 Districts, total Population of Fishermen is 8,35,887 and total Fishing Families are 2,08,973. The total Sample Size 782 is divided among the nine coastal districts in the ratio of number of fishermen families in each district. Two villages each were selected at random from each district. Two villages are fixed to get a minimum of 15 families from each of the selected villages. Sample size of each district was divided among the selected villages in the ratio of number of families in each villages selected. The sample fishermen household families in the selected 18 villages were determined on Non-probability Sampling Method. A questionnaire was developed with reference to certain valid studies in the relevant area, Questionnaire was finalised after a pilot study.Primary data was collected by direct personal investigation. Most of the respondents were approached personally and interviewed in their houses.

## 5. RESULTS AND DISCUSSION

5.1 Family Status

The family status consists of three rudiments. Type of the family (nuclear or joint), the size of the family (i.e the number of members in it) and the number of earning members of the family. Figure 1 & Table 1 show the type of families in the fisherman community surveyed. Evidently nuclear family type dominates with 78.4% of the households being nuclear in nature. 21.6% of the households surveyed were staying with the extended family members making them joint families. Figure 2 and Table 2 show the number of family members. As can be seen from the Figure, most households (68.8%) has 4 to 5 family members while 17.8% of the households have more than 5 members and 13.4% of the households surveyed had up to 3 members.

Table 1. Family Type

	Frequency	Percent	Valid Percent	Cumulative Percent
Nuclear Family	613	78.4	78.4	78.4
Joint Family	169	21.6	21.6	100.0
Total	**782**	**100.0**	**100.0**	

Table 2. Family Size

	Frequency	Percent	Valid Percent	Cumulative Percent
Upto to 3 Members	105	13.4	13.4	13.4
4 to 5 Members	538	68.8	68.8	82.2
Above 5 Members	139	17.8	17.8	100.0
Total	**782**	**100.0**	**100.0**	
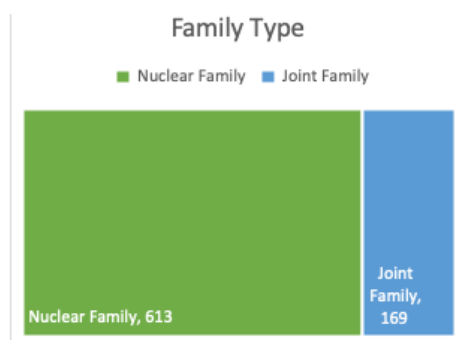
Figure 1
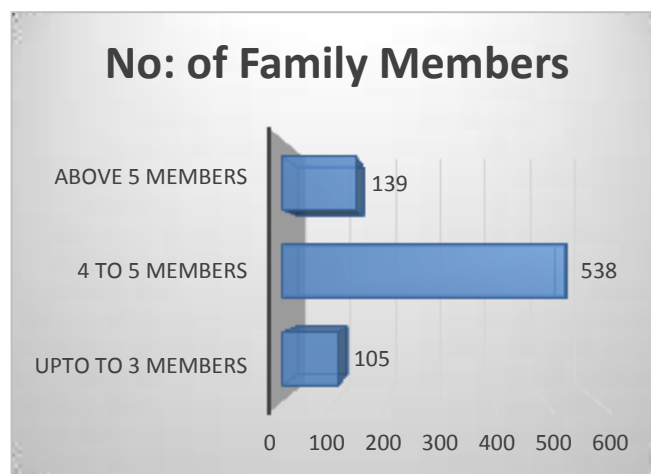
Figure 2

The number of members in the households who are earning was analyzed next as in Figure 3 and Table 3. In about 52.81% of the households i.e. 413 households, up to 3 members contributed to the income of the family. In 300 households (38.36%), 4 to 5 members contributed to the family income. 8.82% (Freq: 69) of the households, had more than 5 members contributing to the total family income.

Table 3. Number of Earning Members

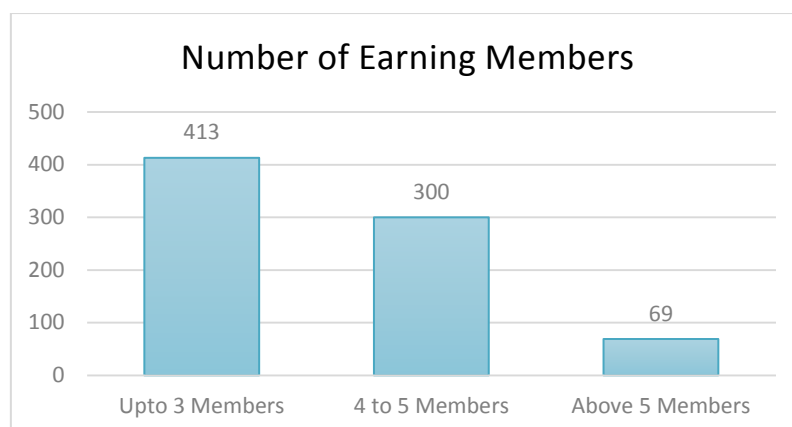|	Frequency	Percent	Valid Percent	Cumulative Percent
Upto 3 Members	413	52.81	52.81	
4 to 5 Members	300	38.36	38.36	91.17
Above 5 Members	69	8.83	8.83	100.0
Total	**782**	**100.0**	**100.0**	

Number of Earning Members

Figure 3

5.2 Education Status

The cumulative education acquired by the members of a household is an important component of its socio economic status. There are two enquiries here. First the education of the respondent who is the head of the family of the household is analyzed, followed by the educational status of the children of the household which is not shown here. As the Figure 4 and Table 4 show, 42.7% of the respondents have completed primary level of education (i.e. till class VIII) and that is the largest category. The second largest category is secondary i.e. till XII class forming 27.9% of the total respondents. About 13.3% of the respondents surveyed have attended and completed collegiate education while 10% of them were illiterate and 6.1% of them are just literate (able to read and write a language).
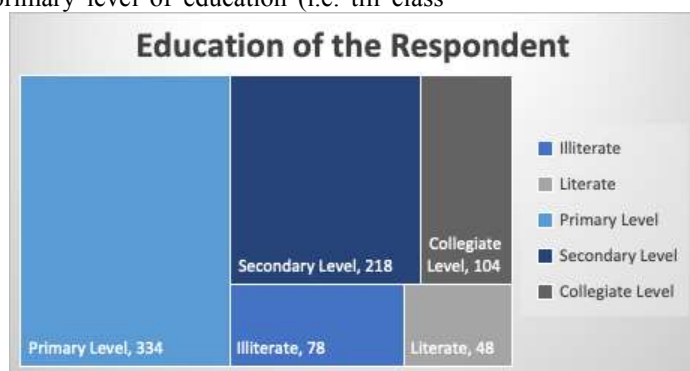

Figure 4

Table 4. Education Status of Fishermen

Educational Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
Illiterate	78	10.0	10.0	10.0
Literate	48	6.1	6.1	16.1
Primary Level	334	42.7	42.7	58.8
Secondary Level	218	27.9	27.9	86.7
Collegiate Level	104	13.3	13.3	100.0
Total	**782**	**100.0**	**100.0**	

To summarize the education status it can be concluded that, 42.7% of respondents had finished their primary education and 62.7% of the children of respondents surveyed were continuing their education and 5.2% of the children dropped out of their education, mostly at the secondary level.

5.3 Health Status

The health status; another important constituent of the socio-economic status of an individual is analyzed in this section. There are 4 parameters that are used to assess the health and allied status of the fisherman community. First, the source of drinking water, an important indicator of good health is found out. Second, the channel/source of the health checkup is assessed. Additionally the average distance to PHC and hospital is found out to understand their ease/difficulty of access to healthcare facilities, and finally the problems in healthcare as ranked by the respondents are explicated.

The source of drinking water is a critical determinant and is highly correlated to the health of individuals. As Figure 5 & Table 5 show the majority 55.8% (Freq: 436) of the respondents have house water connection which functions as the major source of drinking water for them. Public tap is the next common drinking water source (Freq: 174; 22.3%). The fishermen community also use their house water connection and the public tap in combination (Freq:60, 7.7%) and the public well independently (Freq: 57; 7.3%). Other sources include own well (Freq: 35, 4.5%), a combination of own well and public tap (Freq:12, 1.5%) and other sources like tankers (Freq:8, 1.0%)
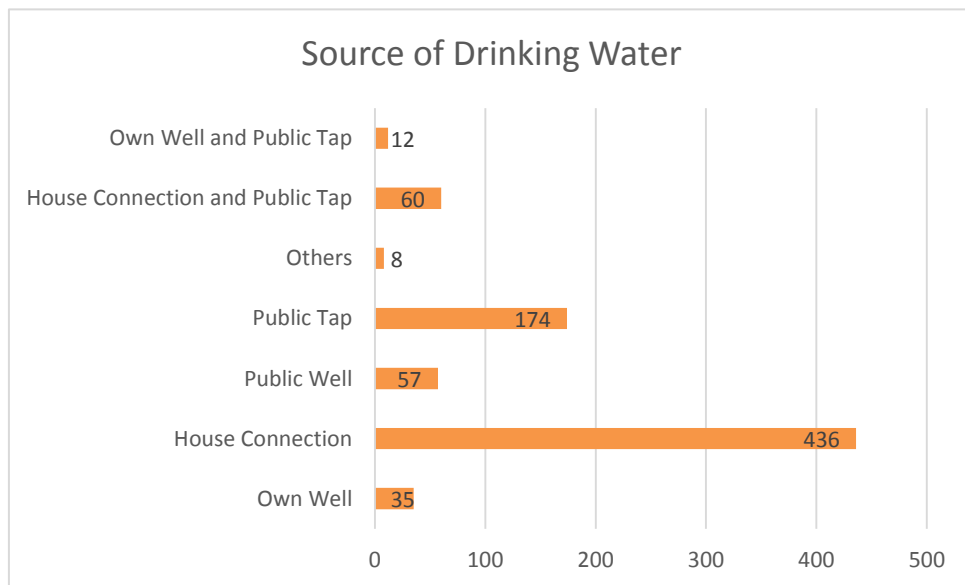

Figure 5

Table 5. Source of Drinking Water

	Frequency	Percent	Valid Percent	Cumulative Percent
Own Well	35	4.5	4.5	4.5
House Connection	436	55.8	55.8	60.3
Public Well	57	7.3	7.3	67.6
Public Tap	174	22.3	22.3	89.9
Others	8	1.0	1.0	90.9
House Connection and Public Tap	60	7.7	7.7	98.6
Own Well and Public Tap	12	1.5	1.5	100.0
Total	**782**	**100.0**	**100.0**	

Next the source/channel of heath check-up adopted by the respondents is assessed. The Table 6 clearly shows that the fisherman community surveyed prefers to visit a Government hospital/doctor for their health check-ups. 500 of the 782 surveyed i.e. 63.9% of them visits a government hospital wholly. A combination of a private doctor and a government hospital/doctor is the next popular means to do a health check-up. 140 respondents i.e. 17.9%, takes this route. Visit to a private doctor (Freq: 62; 7.9%), trying local medicine (Freq: 42; 5.4%) are other ways adopted. The least popular channels being Local Medicine (Freq: 4; 0.5%), local medicine and nursing home (Freq: 8; 1.0%), a combination of private doctor, government and local baba (Freq: 4; 0.5%).

Table 6. Channel of Health Check-up

	Frequency	Percent	Valid Percent	Cumulative Percent
Private Doctor	62	7.9	7.9	7.9
Local Medicine	42	5.4	5.4	13.3
Baba (Local)	4	.5	.5	13.8
Government	500	63.9	63.9	77.7
Nursing Home	6	.8	.8	78.5
Private Doctor and Local Medicine	16	2.0	2.0	80.6
Private Doctor and Government	140	17.9	17.9	98.5
Private Doctor, Government and Local Medical man	4	.5	.5	99.0
Local Medicine and Nursing Home	8	1.0	1.0	100.0
Total	**782**	**100.0**	**100.0**	

The respondents were asked to rank in order of seriousness, the problems in healthcare. Seven problems were listed (i) Cleanliness/Sanitation (ii) Non-availability of Drinking Water (iii) Poor Infrastructure (iv) Difficulty in accessing a hospital due to longer distance (v) Non-availability of Specialists and Paramedics in the Health Centres (vi) Lack of Effective Medicines and (vii) Work-related Stress. The rankings given to each of the 7 problems were collated the rank that the highest frequency for a particular problem, was selected as its rank. No two problems had the same rank. Poor infrastructure was unanimously selected as the number one problem that plagued the healthcare system (Freq: 190). The lack of cleanliness and sanitation was unanimously selected as the number two problem that healthcare faced. The third and the fourth rank was adorned by non-availability of drinking water and difficulty in accessing a hospital due to longer distances. The last three ranks i.e. 5th, 6th and 7th ranks were given to non-availability of specialists and paramedics in the health centres, lack of effective medicines and work-related stress respectively. It can be concluded that system induced issues like poor infrastructure and cleanliness were colossal problems in healthcare, and this opinion of the fishermen community surveyed matched with the general opinion. These details are summarised in Figure 6 and Table 7
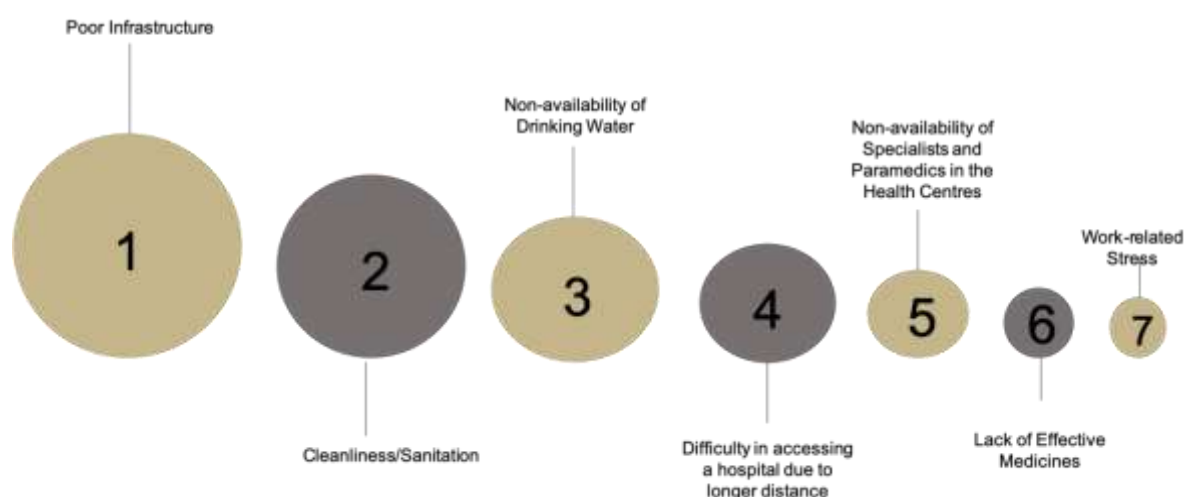
Figure 6   Problems in Health Care

Table 7. Problems in Health Care

Problems Ranks	1	2	3	4	5	6	7
1	**190**	171	37	104	100	97	125
2	104	**189**	178	68	89	111	45
3	160	78	**195**	135	102	75	43
4	158	160	80	**172**	162	86	62
5	114	67	42	160	**198**	72	80
6	22	68	138	76	77	**223**	143
7	34	49	112	67	54	118	**284**
Total	782	782	782	782	782	782	782

Problems 1 – poor Infrastructure: 2 – Cleanliness/Sanitation: 3- Non-availability of Drinking Water: 4 - Difficulty in accessing a hospital due to longer distance: 5- Non-availability of Specialists and Paramedics in the Health Centres: 6 - Lack of Effective Medicines: 7 - Work-related Stress

5.4 Occupational Status of the Family

The occupational status of the family was assessed, inter alia, by the type of occupation. Table 8 shows the frequency distribution of the type of occupation engaged in by the respondents. About 68.5% (Freq: 536) of the respondents was engaged wholly in fishery, while 4.6% (Freq: 36) of them had been engaged in fishery and business, 9.2% (Freq:72) of them had adopted labor services along with fishery and 11.3% (Freq: 88) of them had adopted other services in addition to fishery as their occupation. Agriculture was also adopted as an ancillary job along with fishery by 1.8% (Freq: 14) of the respondents. As standalone occupation labor service, agriculture, business and other service was adopted by 1.9%, 1.2%, 1.0% and 0.5% of the respondents which was negligible.

Table 8. Occupational Status of the Family

	Frequency	Percent	Valid Percent	Cumulative Percent
Fishery	536	68.5	68.5	68.5
Business	8	1.0	1.0	69.6
Agriculture	9	1.2	1.2	70.7
Labour Service	15	1.9	1.9	72.6
Other Service	4	.5	.5	73.1
Fishery and Business	36	4.6	4.6	77.7
Fishery and Agriculture	14	1.8	1.8	79.5
Fishery and Labour Services	72	9.2	9.2	88.7
Fishery and Other Services	88	11.3	11.3	100.0
Total	**782**	**100.0**	**100.0**	

5.5 Economic Status

The economic status of the fishermen is assessed by bringing together the nine critical elements namely; different livelihood sources, individual average monthly livelihood income, income from fishery and other related activities, an assessment of the household expenditures, ownership and possession of land, ownership of residence, nature of the house, assets acquired by them, source of lighting and standard of living. However here only livelihood sources and average monthly income are considered for analysis.

As the first component, the livelihood sources were assessed. As can be seen from the Table 9 the major source of livelihood came from fishery (Freq: 412, 52.7%). The next source of income was from a combination of fishery and other services (Freq: 259, 33.1%). Income from fishery and labour service (Freq: 77, 9.8%) was third source of livelihood and income from fishery and business (Freq: 34, 4.3%) was the fourth source. The last two sources were

however not as substantial as the first two sources of   livelihood.

Table 9. Livelihood Sources of Fishermen

Livelihood Sources	Frequency	Percent	Valid Percent	Cumulative Percent
Income From Fishery	412	52.7	52.7	52.7
Income from Fishery and Other Service	259	33.1	33.1	85.8
Income from Fishery and Labour Service	77	9.8	9.8	95.7
Income from Fishery and Business	34	4.3	4.3	100.0
Total	**782**	**100.0**	**100.0**	

The average monthly income of the fishermen community surveyed is analyzed now. As can be seen from the Figure 7 & Table 10, 50 respondents (6.4%) had the lowest income i.e. below Rs 1500 per month. 186 respondents (23.8%) had a monthly income between Rs 1501-3000. A monthly income between Rs 3001-4500 were the received by 149 respondents i.e. 19.1%. 28.5% of the respondents (Freq:223) had a monthly income between Rs 4501 and 6000. Finally 174 respondents (22.3%) came under the highest income bracket relatively (above Rs 6000). Considering that the per captia income of India published by the government is Rs 11,254 (2019-20) the levels of income of majority of the fishermen is way below the national average. The relevance of microfinance and its intervention becomes highly poignant due to this reason.
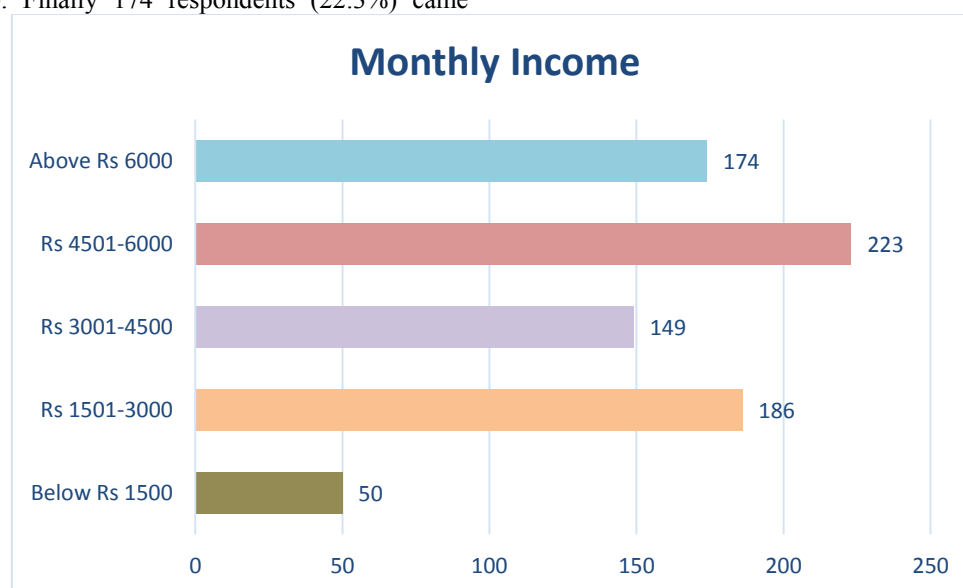
Figure 7

Table 10. Average Monthly Income (Absolute Values)

Absolute Income Levels Per Month	Frequency	Percentage	Cumulative Percentage
Below Rs 1500	50	6.39	
Rs. 1501-3000	186	23.79	30.18
Rs. 3001-4500	149	19.05	49.23
Rs. 4501-6000	223	28.52	77.75
Above Rs. 6000	174	22.25	100.00
Total	**782**	**100**	

6. SOCIO ECONOMIC STATUS DETERMINATION USING PRINCIPAL COMPONENT ANALYSIS

Due to the lack of apposite all-encompassing scale for measuring socio economic status of the fishermen community, the scale used in the study is an amalgamation of multiple scales. This presents a problem in analyzing it directly by assigning weighted established scores, as is the general practice. Currently Principal Component Analysis (PCA) has been used as a solution to arrive at a socio economic status index in the study's specific context. PCA has been used in several previous studies to generate indices, especially socio economic indexes. In relation to the other comparable statistical methods, PCA is easier to administer and is the best suitable for data that collected from household surveys (Jobson 1992); additionally it makes use of all the variables in narrowing down the data dimensionality.

Principal Component Analysis (PCA) is considered to be a close to natural approach in attempting to organise data and reduce its dimensions with minimum loss of information and data in the variation these variables explain (Giri 2004). Here, PCA was run in SPSS, by specifying the conditions of Varimax rotation, correlation matrix (as data was not standardised), eigen values and number of components to be extracted not specified and also by saving factor scores. The PCA was carried out and before the results were explored, the sampling adequacy tests of KMO and Bartlett's Test of Sphericity results were looked at. A value of 0.604, a value above the mandatory minimum of 0.5 was attained for ascertaining the sampling adequacy (Kline, 2013), while the significant value (0.000) was achieved for the Bartlett's test of sphericity which measures the correlation among all the items of the scales and its significance. There were three components extracted which had an eigen value of more than 1. It is however traditionally presupposed that the first principal component is the measure of economic status (Houweling et al. 2003). The first component extracted had an eigen value of 1.382 and explained 27. 641% of the variation in the data, while the three components with eigen values above one, cumulatively explained 70.249% of the variation (see Table 11). A reason for the first component's percentage to be low could be the fact that the each of the variables included may have other determinants other than the SES, leading to a convolution in the correlation of the variables.

Table 11 PCA - Total Variance Explained Table

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.382	27.641	27.641	1.277	25.538	25.538
2	1.115	22.291	49.932	1.203	24.052	49.589
3	1.016	20.317	70.249	1.033	20.659	70.249
4	.818	16.351	86.600			
5	.670	13.400	100.000			

Extraction Method: Principal Component Analysis.

The factor score generated for the first component is selected as the SES score. To ensure comparability and make the scores normally distributed, next the factor scores were standardised with a mean of zero and standard deviation of one. The Table 12 shows the descriptive statistics of the standardised factor scores. In most cases, a positive factor score is associated with higher SES, and a negative factor score is associated with lower SES (Seema Vyas And Lilani Kumaranayake, 2006).

Table 12 Descriptive Statistics of the Standardised Factor Scores

	N	Minimum	Maximum	Mean	Std. Deviation
REGR factor score	782	-3.39397	1.58082	.0000000	1.00000000
Valid N (listwise)	782				

6.1 Classification into SES groups

While categorising households into comprehensive socio economic categories, previous studies have used different cut off points. These points were either data driven or arbitrarily defined (Seema Vyas And Lilani Kumaranayake, 2006). There are studies using three cut off points (Filmer and Pritchett 2001), and some using 5 i.e. quintiles (Gwatkin et al. 2000). In the current study quartiles has been used to divide the households into poor, middle-class lower, middle-class upper and rich categories. The quartile function divided the scores into four quartiles and the maximum and minimum standardised factor scores were 1.58 and -3.39 respectively and the three cut off points, -2.30 (25% percentile), - 0.31 (50%

percentile), 0.34 (75% percentile). The frequency distribution in these categories have been summated and the results can been seen in Table 13 and Figure 8. Majority of the respondents belonged to the relatively rich category with standardised SES scores between 0.34 and 1.58, 352 of them to be specific. Middle Class- Upper (score between -0.31 and 0.34) was the second most populated category with 199 respondents belonging to this category. The relatively lower SES categories had identical number of respondents belonging to it. The poor category (scores between -3.39 and -2.30) had 115 respondents while the middle class lower (scores between -2.30 and -0.31) had 116 respondents. It must be duly noted that the indices arrived at are relative measures of SES, and it cannot be used to measure absolute poverty levels within a community. It can be however used to appraise the inequality between households within a community (McKenzie 2003).

Table 13 Classification of Fishermen Community into SES Groups

Quartile Division	Quartile Points	SES HH Groupings	Distribution in Each Grouping
Min	-3.39		
Q1	-1.21	Poor	115
Q2	-0.31	Middle Class - Lower	116
Q3	0.34	Middle Class - Upper	199
Max	1.58	Rich	352

Figure 8

7. CONCLUSION

The purpose this study is to measure the existing level of socio-economic status of fishermen in Kerala and to classify Fishermen Community into different SES groups. It is necessary to make an assessment of the impact of Microfinance Operations for the fishermen community. The outcome assessment is facilitated by measuring the changes effected in the socio-economic status as a result of microfinance assistance to the various sections of the fishermen community. The basic assessment model calls for the exact measurement of the present socio-economic status prevailing among the fishermen families in Kerala. The classification provides valuable input to the policy-makers.

REFERENCE

1. Debadutta Kumar Panda 2009, *Understanding Microfinance*, Wiley India Pvt. Ltd, New Delhi
2. Filmer, Deon. (2001). Estimating Wealth Effects Without Expenditure Data - or Tears. An Application to Educational Enrollments in States of India. Demography. 38. 115-32. 10.2307/3088292.
3. Gwatkin, Davidson & Rutstein, Shea & Johnson, Kiersten & Suliman, Eldaw & Wagstaff, Adam & Amouzou, Agbessi. (2007). Socio-Economic Differences in Health, Nutrition, and Population MADAGASCAR. Country Reports on HNP and Poverty.
4. Giri N C (2004), Multivariate Statistical Analysis Marcei Dekker Inc, New York, Google Scholar
5. Houweling TAJ, Kunst AE, Mackenbach JP (2003) Measuring health inequality among children in developing countries: does the choice of indicator of economic status matter?. International Journal for Equity in Health. 2: 8-19. 10.1186/1475-9276-2-8
6. Houweling, T. A. J., Kunst, A. E., & Mackenbach, J. P. (2003). Measuring health inequality among children in developing countries: does the choice of the indicator of economic status matter? International Journal for Equity in Health, 2, 8
7. weling, T. A. J., Kunst, A. E., & Mackenbach, J. P. (2003). Measuring health inequality among children in developing countries: does the choice of the indicator of economic status matter? International Journal for Equity in Health, 2, 8
8. Houweling, T. A. J., Kunst, A. E., & Mackenbach, J. P. (2003). Measuring health inequality among children in developing countries: does the choice of the indicator of economic status matter? International Journal for Equity in Health, 2, 8
9. Jobson, John (1992)Applied Multivariate Data Analysis, Volume II: Categorical and Multivariate Methods, Springer-Verlag New York
10. Kline R B (2013)Principles and Practise of Structural Equation Modelling The Guilford Press, Kline New York Google Scholar
11. McKenzie DJ (2003) BREAD working paper No. 042: Measuring inequality with asset indicators. Bureau for Research in Economic Analysis of Development.
12. McKenzie DJ. 2003. Measure inequality with asset indicators.
13. BREAD Working Paper No. 042. Cambridge, MA: Bureau for Research and Economic Analysis of Development, Center for International Development, Harvard University
14. McKenzie DJ. 2003. Measure inequality with asset indicators.

BREAD Working Paper No. 042. Cambridge, MA: Bureau for Research and Economic Analysis of Development, Center for International Development, Harvard University

15. McKenzie DJ. 2003. Measure inequality with asset indicators.

16. BREAD Working Paper No. 042. Cambridge, MA: Bureau for Research and Economic Analysis of Development, Center for International Development, Harvard University

17. Rabi Narayana Misra & I P Sahu 2011, *Microfinance for the Development of Fisherme*n, Discovery Publishing House Pvt. Ltd. New Delhi

18. Vyas, Seema & Lilani Kumaranayake. 2006. "Constructing socio-economic status indices: how to use principal components analysis." *Health Policy and Planning* 21(6):459–468.