APPENDIX -I

MAP OF KOLLAM DISTRICT

- Kollam Corporation
- Ernakulam Panchayat
APPENDIX -II

SAMPLE SIZE

Total sample size is fixed as 200 - 100 from the rural area and 100 from the urban area. The size of the sample depends on confidence level and confidence interval. Here the confidence level is taken as 95% and confidence interval is 10. The sample size is calculated by using the cite; // www.surveystem.com/sscalc.htm//.

\[
\text{Sample size} = \frac{Z^* (P)(1-P)}{C^2}, \text{ where; }
\]

- \(Z\) = z value
- \(P\) = percentage picking a choice
- \(C\) = confidence interval

Correction for finite population

\[
\text{New SS} = \frac{ss}{1 + \frac{ss-1}{PoP}}, \text{ where; }
\]

- \(ss\) = sample size
- \(PoP\) = population
APPENDIX –III

QUESTIONNAIRE

Identification

<table>
<thead>
<tr>
<th>Name of district</th>
<th>House No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Panchayat /Corporation</td>
<td>Head of the family</td>
</tr>
<tr>
<td>Urban/Rural (Urban=1, Rural=2)</td>
<td>Address of household</td>
</tr>
</tbody>
</table>
APPENDIX- IV

SCALING TECHNIQUE

Scaling describes the procedures of assigning numbers to various degrees of opinion, attitudes and other concepts, the level of measurement being a function of the rules under which the numbers are assigned. The most widely used classification of measurement scales is nominal scale, ordinal scale, interval scale and ratio scale. The present study used ordinal scale. The ordinal scale places events in order, but there is no attempt to make the intervals of the scale equal in terms of some rule. That is, the use of an ordinal scale implies a statement of “greater than” or “less than” or “equal to” without being able to state how much greater or less. The technique of developing measurement tools involves a four-stage process, consisting of the following:

1. Concept development
2. Specification of concept dimensions
3. Selection of indicators
4. Formation of index

When there are several dimensions of a concept or different measurements of a dimension we may need to combine them into a single index. One simple way for obtaining an overall index is to provide scale value to the responses and then sum up the corresponding scores. Such an overall index would provide a better measurement tool than a single
indicator (Kothari C R, 1985). In this way we get an overall index for the various concepts concerning the research study.

APPENDIX-V

CHI-SQUARE ($\chi^2$)

It is a statistical measure used in the context of sampling analysis for comparing a variant to a theoretical variant. The technique is used

(a) To test the goodness of fit
(b) To test the significance of association between two attributes
(c) To test the homogeneity or the significance of population variance

In the present study Chi Square is used as a test of independence to test the hypothesis,

1. Socio-economic status and health status are independent.
2. Environmental status and health status are independent i.e., the aim is to explain whether these attributes are associated or not.

For that first we calculate the expected frequencies and then work out the value of Chi Square. If the calculated value of Chi Square is less than the table value at a certain level of significance for given degrees of freedom, then the null hypothesis stands. This implies that the two attributes are independent or not associated. On the other hand, if the calculated value of chi square is greater than its table value, then the inference would be that
null hypothesis does not hold good which means the two attributes are associated and the association is not because of some chance factor but of real state.

**APPENDIX-VI**

**LOGISTIC REGRESSION**

Regression analysis is one of the flexible and widely used techniques of quantitative analysis. Logistic regression is used to establish the association among major variable. Using least square estimation techniques we arrive at prediction equations that allow us to estimate conditional means on the dependent variable. Logistic regression analysis is used in the case of dichotomous dependent variable. The logistic model does not require any distributional assumptions concerning independent variables. The general logistic regression model expresses a qualitative dependent variable as a function of several explanatory variables, both qualitative as well as quantitative.

Logistic regression is suitable for multiple choices especially in the case of unordered choice. Hensher (1986), Mc Fadden (1974) and many other have analysed the travel mode of urban commuters with logistic regression. Sankar Deepa (2005) used logistic regression for finding the choice of systems of medicine by patient. A patient can choose from among different systems of medicine Allopathy, Ayurveda and Homoeopathy.
Unordered choice models can be motivated by a random utility model. For the \( i^{th} \) consumer faced with \( J \) choices, suppose that the utility of choice \( J \) is

\[
U_{ij} = Z_{ij} \beta + \varepsilon_{ij}
\]

If the consumer makes choice \( j \) in particular, then we assume that \( U_{ij} \) is the maximum among the \( J \) utilities. Hence, the statistical model is driven by the probability that choice \( j \) is made which is

\[
\text{Prob} \left( U_{ij} > U_{ik} \right) \text{ for all other } k \neq j. \text{ Thus choice is estimated.}
\]

The odds ratio concept forms the backbone of logistic regression. The odds of an event are defined as the ratio of the probability that an event occurs to the probability that it fails to occur. That is odds \( = \frac{p}{1-p} \), where \( p \) is the proportion of events.

The log odd is just the (natural) logarithm of the odds. Log odds are symmetric. They lie in the range \(-\infty \) to \(+\infty \), they represent the change in log odds of the response per unit change in the predictor. Statistical packages are available to estimate the coefficients and for the present study SPSS computer package was used.

Here logistic regression analysis was used to establish the association among major variables. i.e., the choice of alternative systems of medicine (Ayurveda and Homoeopathy) in comparison with the choice of modern medicine – Allopathy. Then we can find out all those who use
modern medicine and those who use alternative systems of medicines and the factors influencing it.

Variables used for logistic regression analysis:

a) **Dependent variable**

The choice of alternative systems of medicine, coded as Ayurveda and Homoeopathy = 0; Allopathy = 1

b) **Independent variables**

1. Location of the residence: Household’s current place of residence (whether they are living in urban or in rural area) is used for the analysis. Rural area is taken as the reference category.

2. Religion: The three major religions Hindu, Christians and Muslims are found in the sample. For comparison Hindus are taken as the reference category.

3. Caste: For the logistic analysis caste is grouped into two categories, namely SC-ST and others. The reference category is others.

4. Sex: Here male is the reference category.
5. Age: It is classified into three categories; 0-14, 15-59 and 60 and above. Patients in the 0-14 age group are taken as the reference category for analysis.

6. Education: Here the highly educated member in the patient’s family is considered. This is classified into two categories - those who have studied up to 7th standard and high school or more. Those who have studied up to 7th standard are taken as the reference category.

7. Work status of the patient: This is grouped into two categories working and non-working. The reference category is working people.

8. Per capita income: This is classified into two categories; those who have income up to Rs. 10,000/- and more than Rs. 10000/-. Those who have income up to Rs. 10,000/- is considered as reference category.

9. Marital status: The two categories under this variable are married and unmarried and married is the reference category.

10. Physical Disability: This is classified into physically fit and physically unfit. Physically fit are treated as reference category.

11. Nature of disease: For the logistic analysis disease is grouped into two categories, namely chronic illness and acute illness. The reference category is acute illness.
12. Reason for preferring the system: Here the reasons are classified into two categories economy and others. The reference category is others.

13. Distance travelled for treatment: The distance is classified into two, upto 7 kms and more than 7 kms. The former is the reference category.

14. Different indices: The three major indices are socio-economic status, environmental status and health status. For logistic analysis these are classified into two - high and low. The category low is taken as the reference category for all indices.