CHAPTER 4

Research Methodology

4.1.0 Introduction

Methodology chapter presents the scientific process of this study. The study elicits information from grass root level. Identifying needs and formulating policy for the benefit of individuals or community has been the root of fundamental social work philosophy. Health care services are the basic rights and need of population therefore nurturing health increase the momentum of human development. In this research work, Human development index is being used to guide identification of people who enjoy better or lower quality of life.

Health is the prime concern of a sovereign democratic country. The word ‘welfare’ will not get a meaning without focusing on health as a component. Dynamism of the economy and culture of India and Karnataka pose challenges to legislative and executive wings of the government in the process of planning and implementation of complete health care services to rural and urban areas. While urban population enjoys availability, accessibility and affordability, rural and underdeveloped parts of the state have been deprived of basic quality health care service. This discrepancy in health care leads to a barrier in the holistic development of rural society. The present study aims at understanding the health inequalities by comparing health statuses of households in the villages of three urban districts in the Human Development index of Karnataka with that of the health statuses of households in the villages of three rural districts.
Inequalities, throughout human civilization, have been the root cause of many problems that societies have had to face. History is laden with several instances of social, economic and/or political unrests being caused by the existence of oppressive inequalities. It would not be an exaggeration to say, ‘inequalities, have been the root of most of the socio-economic-political problems of the societies in past and would remain the root of the socio-economic-political problems of future societies. Understanding a notion as important as this, is significant for an effective understanding of problem at hand. This would also enable seekers to pose the right questions about socio-economic-political issues arising out of inequalities. Therefore, in the present study an attempt is made to understand this complex notion, its socio-economic-political dimensions, as it relates to welfare and well-being of an individual in society in the context of their health.

4.2.0 Aim of the Study

To understand and compare the nature and the extent of health inequalities prevailing in urban and rural Karnataka.

4.3.0 Statement of the Problem

A social analysis of health inequality is essential to curb social exclusion and inequality that is present in the society. Inequality in the health has been influenced by multiple factors. India’s record of inequalities, even now, when it is the second fastest growing economy in the world – during the post-economic reform period - is rather appalling. Even though, the type of growth that India is witnessing at present is quite heartening to
note, so far, this growth has only accentuated the prevailing inequalities by polarizing development even more (Himanshu, 2007, Dev S Mahendra and Ravi C, 2007). Mahendra and Ravi argue that, total poverty (Urban and rural) declined by 8.9 percentage points in the pre-reform period (1983-1994) and by 7.8 percentage points in the post-reform period (1994 – 2005). The actual amount of decline in the case of the ‘very poor’ category, during the pre reform period was 9.3 per cent while the same for post-reform period is 5.2 percent. There are also indications that it would continue to accentuate the existing inequalities (Deaton and Dreze, 2002). Studies on regional imbalances in the post – reform period (Kar Sabyasachi and saktivel S 2007, Rao Subba KGK, 2007, Ramaswamy K V, 2007) indicate widening regional inequalities and widening wealth inequalities across India. These studies emphasize on polarization taking a very concrete root between rural and urban regions in the country, particularly during the post-reform period. This polarization raises various questions on the type of development that is being presently pursued in India.

On the health front India’s performance is equally appalling, the number of people India has with nutritional deprivation and malnutrition is very high. Many basic illnesses that either have declined or does not exist in the other parts of the developing world, still exist and claim many lives in India, e.g., Measles, Tetanus and Malaria, which have been labeled as pre-transition diseases and are almost inexistent in most of the countries in the world still claim many lives every year (India Health Report 2004). In India, the State is the major provider of health care to the poor people. Here again, the subsidized health care provided by the State is highly skewed in favor of the rich. For instance, the
richest 20 per cent enjoy three times the share of public subsidy for health compared with the poorest quintile.

In Bihar for every ten rupees of subsidized health service that a rich man gets, a poor man gets a rupee of health services subsidized. Similarly in states like, Orissa, Madhya Pradesh, Uttar Pradesh, Rajasthan and Himachal Pradesh a rich man gets at least 5 times the subsidized health care that a poor man gets (India Raising the sights-Better Health Systems for India’s poor, World Bank 1997, awaiting further research in this area). The poorest 20 per cent of Indians have more than double the mortality rates, fertility rates, and under nutritional levels as compared to the richest 20 per cent. The poor suffer disproportionately more from pre-transition diseases such as Malaria and TB. On an average, they spend 12 per cent of their incomes on the health care, as opposed to only 2 per cent by the rich. Another aspect of concern is the disease composition in India. It is projected that the share of non-communicable diseases (NCD) would increase from its present 33% to 57% of the total burden of disease by 2020 (India Health Report, 2004). In the present state of persisting health inequalities, such a shift in the disease composition would make poor all the more vulnerable, as managing to live with NCD call for greater and a continued spending on health care than communicable diseases (CD). This would mean that in the course of treatment, the poor will tend to become poorer and they would be caught up in the cycle of poverty in a more vicious way.

Considering national and regional scenario study has been carried out on specific objectives. Those set of objectives help researcher to be focused while describing this complex social problem of health inequality. The present study is designed to
understand the assessment of State intervention in addressing inequalities in health. In this context the study proceeds with the following objectives

4.4.0 Objectives

- To understand the demographic profile of households in the top three and bottom three districts based on HDI in Karnataka.
- To understand the sickness profile of individual of select households in the top three and bottom three districts based on HDI in Karnataka.
- To understand the borrowing patterns of households and the means of financing treatment of sickness in the top three and bottom three districts based on HDI in Karnataka.
- To assess the nature of health services accessible to households in the top three and bottom three districts based on HDI in Karnataka.
- To assess the health infrastructure in the top three and bottom three districts based on HDI in Karnataka.
- To understand employment status of individuals of select households in the top three and bottom three districts based on HDI in Karnataka.
- To understand the impact of sickness on employment of individuals of select households in the top three and bottom three districts based on HDI in Karnataka.
To understand health inequalities in Karnataka, comparing households in the top three districts in the Human Development Index with that of the bottom three districts.

Comparison between top three districts and bottom three districts in the Human Development Index of Karnataka help to identify disparity in the various factors associated with health.

**4.5.0 Hypothesis**

1. Health inequalities prevail between the top three and the bottom three districts based on Human Development Index of Karnataka.

2. Significant difference exist in the borrowing patterns of households for financing the treatment of sickness between top three and bottom three districts based on Human Development Index of Karnataka.

3. Significant difference exists in the nature of health services accessible to households in the bottom three districts as compared to the top three districts based on Human Development Index of Karnataka.

4. Health infrastructure is inadequate in the bottom three districts compared to the top three districts based on Human Development Index of Karnataka.

5. The impact of sickness on employment is high in the bottom three districts compared to the top three districts based on Human Development Index of Karnataka.
4.6.0 Definitions

- **Health** WHO defines health positively as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity."

- **Health Inequality** The Health Resources and Services Administration define health disparities as "population-specific differences in the presence of disease, health outcomes, or access to health care." (Goldberg, J., Hayes, W., and Huntley, J. "Understanding Health Inequalities." Health Policy Institute of Ohio (November 2004), page 3.)

- **Health Care** It implies more than medical care. It embraces a multitude of "services provided to individuals or communities by agents of the health services or professions, for the purpose of promoting, maintaining, monitoring or restoring health".

- **Health Care Services** Programs offered to improve the health status of the population in terms of morbidity and mortality reduction, increased life expectancy, decrease in population growth, improvement in nutritional status, provision of basic sanitation, The health care services are to be comprehensive, accessible and acceptable, provide scope for community participation and available at a cost that community can afford.

- **Healthcare Systems** The systems of medicines Allopathy, Ayurveda, Homeopathy, Indigenous Medicines and its institutions and centres of health services.
• **Human Development Index** The Human Development Index (HDI) is a summary measure of human development. It measures the average achievements in a country in three basic dimensions of human development a long and healthy life (health), access to knowledge (education) and a decent standard of living (income). Data availability determines HDI country coverage. To enable cross-country comparisons, the HDI is to the extent possible, calculated based on data from leading international data agencies and other credible data sources available at the time of writing. (http://hdr.undp.org/en/statistics/hdi/).

4.6.1 Operational Definitions

• **Health Inequality** Disparities in access, affordability and presence or absence of health infrastructure.

• **Health Status** It is understood as the reflection of the said indicators like morbidity, mortality, disability and nutrition in relation to their living conditions. Health status index is made on the basis of giving weight ages to these indicators.

• **Health Care** Health care means different provisions either from government or private to cater to the health requirements of the population.

• **Health Care Services** The different health care services or programs distributed among these districts through government machineries like Anganawadi, Primary Health Center, Community health center, Private clinics and hospitals.
• **Health Care System** This is the machinery intended to deliver health care services to the public. It operates in the context of the socio economic and political framework of the country which is represented by five major sections or agencies – public health sector, private sector, Indigenous systems of medicine, voluntary health services and national health programs.

4.6.2 Variables Used in the Study

4.6.2a Demographic Variables

Basic demographic variables were considered in study to understand the socio economic background of the participants. Those variables were age, gender, religion, employment, education, marital status, number of members in home and their details. Social work studies give due importance to demographic details which influence quality of life and various problems of society.

4.6.2b Sickness Profile

Sickness profile of population under this study has been studied extensively. Under this main variable sub variables such as major illness, chronic illness, communicable illness, non communicable illnesses were also included.

4.6.2c Borrowing Patterns

Borrowing money is found as influencing factor in health care. Inadequate resources are common barrier to access the treatment in developing countries. Many people take loans from nationalized banks, private banks, money lenders and other unrecognized sources. Such financial burden encourages them either not to seek treatment or to discontinue the course of treatment.
4.6.2d Nature of Health Services

Nature of Health care services is variable in this study. It varies from luxurious five star cares with highly efficient professionals to sub centre with inadequate infrastructure and health care personnel. Most of the people from under developed area struggle to meet health care needs. In this study by this variable has been studied.

4.6.2e Health Infrastructure

Health care centers and facilities are included in this variable. Various such infrastructure facilities have been studied from the receivers’ angle. They are the people to decide how good these services are meeting their health care needs.

4.6.2f Employment Status

This variable is a significant indicator of a person’s socio economic position and purchasing power. Employment status would influence affordability of population to meet their health care needs appropriately. Employment status is varied from unemployment to employed in organized sector. Seasonal employment is another challenge faced by population.

4.7.0 Universe and Sample Selection

4.7.1 Karnataka

Karnataka is a state in South West India. Originally known as the State of Mysore, it was renamed Karnataka in 1973. It is the land of the Kannadigas, Tuluvas, Konkani’s and Kodavas. The capital and largest city is Bangalore, also known
as Bengaluru, which is at the forefront of the rapid economic and technological development that India is experiencing. Karnataka is bordered by the Arabian Sea and the Laccadive Sea to the west, Goa to the north west, Maharashtra to the north, Andhra Pradesh to the east, Tamil Nadu to the south east, and Kerala to the south west.

The state covers an area of 191,976 square kilometers (74,122 sq mi), or 5.83 per cent of the total geographical area of India. It is the eighth largest Indian state by area. With 61,130,704 inhabitants at the 2011 census, Karnataka is the ninth largest state by population, comprising 30 districts. Kannada is the most widely spoken and official language of the state.
Three villages each from the top three urban districts of Karnataka – Bangalore, Mangalore and Udupi i.e., households from 9 villages in these districts’ and households in three villages each from the bottom three rural districts of Karnataka – Chamarajanagara, Gulbarga and Raichur i.e., households from 9 villages in these districts’ were interviewed.

4.7.2 Bangalore District

Bangalore is an urban district of the Indian state of Karnataka. It is surrounded by the Bangalore Rural district on the west, east and north and the Krishnagiri district of Tamil Nadu on the south. Bangalore Urban district came into being in 1986, with the partition of the erstwhile Bangalore district into Bangalore and Bangalore Rural districts.
Bangalore has four taluks Bangalore North, Bangalore East, Bangalore South and Anekal. The city of Bangalore is situated in the Bangalore district. The Bangalore Urban district has 17 hoblis, 668 villages and 9 municipal corporations. This is the most advanced district in Karnataka. It had a population of 6,537,124 of which 88.11% is urban as of 2001. As of Census 2011, its population has increased to 9,588,910, with a sex-ratio of 908 females/males, the lowest in the state and its density is 4,378 people per square km. The district has a population density of 4,378 inhabitants per square kilometer. Its population growth rate over the decade 2001-2011 was 46.68%. Bangalore has a sex ratio of 908 females for every 1000 males, and a literacy rate of 88.48%.

4.7.3 Mangalore (Dakshina Kannada)

Mangalore (Dakshina Kannada) is a coastal district in the state of Karnataka in India. It is bordered by Udupi District to the north, Chikkamagaluru district to the northeast, Hassan District to the east, Kodagu to the southeast, and Kasaragod District in Kerala to the south. The Arabian Sea bounds it on the west. Mangalore is the headquarters and chief city of the district. Dakshina Kannada district has an area 4,866 square kilometers, and a population density of 390 persons per square kilometer.

There are 354 villages in the district. The district is divided into five talukas, Mangalore, Bantwal, Puttur, Sullia, and Belthangady. It used to include three northern talukas, Udupi, Kundapur and Karkal, but these were separated in August 1997 to form Udupi district. According to the 2011 census Dakshina Kannada has a population of 2,083,625. The district has a population density of 457 inhabitants per
square kilometer. Its population growth rate over the decade 2001-2011 was 9.8%. Dakshina Kannada has a sex ratio of 1018 females for every 1000 males, and a literacy rate of 88.62%.

4.7.4 Udupi

Udupi district in the Karnataka state of India was created in August 1997. The three northern taluks, Udupi, Kundapur and Karkal, were separated from Dakshina Kannada District to form Udupi district. Udupi district is surrounded by Utara Kannada district in north, Dakshina Kannada district in southern direction. Shivamogga district borders on north east side and chikamagalur district on east. Arabian Sea is on west of Udupi district. According to the 2011 census Udupi district has a population of 1,177,908. The district has a population density of 304 inhabitants per square kilometre. Its population growth rate over the decade 2001-2011 was 5.9%. Udupi has a sex ratio of 1093 females for every 1000 males, and a literacy rate of 86.29%.

4.7.5 Chamarajanagara

Being the southernmost district of Karnataka, Chamarajanagara district borders the state of Tamil Nadu and Kerala. Specifically, it borders Mysooru district of Karnataka to the west and north, Mandya and Bengalooru districts of Karnataka to the north-east, Dharmapuri district of Tamil Nadu to the east, Salem and Erode districts of Tamil Nadu to the south-east, Nilgiris district of Tamil Nadu to the south and Wayanad district of Kerala to the south-west. Most of the district lies in the leeward region of the Nilgiris and consists of mainly semi-arid rain-dependent flatlands along with forested hills. According to the 2011 census Chamarajanagar district has a population of 1,020,962. The district has a population density of 200 inhabitants per square
kilometers. Its population growth rate over the decade 2001-2011 was 5.75%. Chamarajanagar has a sex ratio of 989 females for every 1000 males, and a literacy rate of 61.12%.

4.7.6 Gulbarga

This district is situated in northern Karnataka covering an area of 10,951 kms. This district is bounded on the west by Bijapur district and Solapur district of Maharashtra state, on the north by Bidar district and Osmanabad district of Maharashtra state, on the south by Yadgir district, and on the east by Ranga Reddy district of Andhra Pradesh state. According to the 2011 census Gulbarga district has a population of 2,564,892. The district has a population density of 233 inhabitants per square kilometer. Its population growth rate over the decade 2001-2011 was 17.94%. Gulbarga has a sex ratio of 962 females for every 1000 males and a literacy rate of 65.65%.

4.7.7 Raichur

Raichur District is an administrative district in the Indian state of Karnataka. It is located in the northeast part of the state and is bounded by Yadgir district in the north, Bijapur and Bagalkot district in the northwest, Koppal district in the west, Bellary district in the south, Mahabubnagar and Kurnool districts of Andhra Pradesh in the east. According to the 2011 census Raichur district has a population of 1,924,773. The district has a population density of 228 inhabitants per square kilometer. Its population growth rate over the decade 2001-2011 was 15.27%. Raichur has a sex ratio of 992 females for every 1000 males and a literacy rate of 60.46%.
Data related to health inequalities was collected from a total of 245 households of the top three districts in the Human Development Index - Bangalore, Mangalore and Udupi and data related to health inequalities from 245 households of the bottom three districts in the Human Development Index - Chamarajanagara, Gulbarga and Raichur has been collected. Hence the scope of the present study is limited to a total sample size of 490 households from 18 villages in the six districts’ of Karnataka.
4.7.8 Robustness of the Sample Size

An important aspect that could be noted comparing the robustness of the data obtained in the present study with that of the data obtained in the Public Report on Basic Education (PROBE) survey conducted in 1999 among four north Indian states. In the PROBE survey – one of the most credible surveys on basic education in India - the sample size is 1221 households over 188 randomly selected villages across four states (Dreze and Sen 2002 p 154 foot note 24). The average spread of household per village in PROBE survey works out to be 6.49 households per village and this survey as mentioned earlier is spread across four states. Extrapolating this average of 6.49 households per village for 18 villages of the present study, a sample of 116.82 households would have been sufficient in the present study. However, in the present study 490 households have been interviewed in the 18 villages of six districts, averaging 26.88 households per village. This implies that the robustness of the present studies’ data is credible for drawing meaningful insights into health inequalities.
### 4.7.9 Universe and Description of the Sample

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Name of the Village</th>
<th>Universe of households in the village (Percent of Sample)</th>
<th>Sample households Interviewed (Percentage of Total Sample)</th>
<th>Districts</th>
<th>Urban / Rural Classification</th>
<th>Rank in Human Development Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hommadevanahalli</td>
<td>290(7.93)</td>
<td>26(5.30)</td>
<td>Bangalore</td>
<td>Urban</td>
<td>01</td>
</tr>
<tr>
<td>2</td>
<td>Bettadasanapura</td>
<td>292(14.38)</td>
<td>42(8.57)</td>
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<tr>
<td>3</td>
<td>Vitasandra</td>
<td>209(11.96)</td>
<td>25(5.10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Badagayakkar</td>
<td>774(2.84)</td>
<td>25(5.10)</td>
<td>Mangalore</td>
<td>Urban</td>
<td>02</td>
</tr>
<tr>
<td>5</td>
<td>Muchur</td>
<td>411(6.08)</td>
<td>25(5.10)</td>
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<td></td>
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</tr>
<tr>
<td>6</td>
<td>Niddodi</td>
<td>442(5.65)</td>
<td>25(5.10)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7</td>
<td>Innanje</td>
<td>610(4.26)</td>
<td>26(5.30)</td>
<td>Udupi</td>
<td></td>
<td>03</td>
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<tr>
<td>8</td>
<td>Santhur</td>
<td>637(4.23)</td>
<td>27(5.51)</td>
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</tr>
<tr>
<td>9</td>
<td>Pilar</td>
<td>824(2.91)</td>
<td>24(4.89)</td>
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<td>Devanapalli</td>
<td>308(8.44)</td>
<td>26(5.30)</td>
<td>Raichur</td>
<td></td>
<td>27</td>
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<tr>
<td>11</td>
<td>Baidoddi</td>
<td>309(7.76)</td>
<td>24(4.89)</td>
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<td>12</td>
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<td>Aurad</td>
<td>473(5.49)</td>
<td>26(5.30)</td>
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<td>14</td>
<td>Mahagaon Cross</td>
<td>1170(1.96)</td>
<td>23(4.69)</td>
<td>Gulbarga</td>
<td>Rural</td>
<td>26</td>
</tr>
<tr>
<td>15</td>
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<td>19(3.87)</td>
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<tr>
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<td>Rachamballi</td>
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<td>30(6.12)</td>
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<td></td>
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<td>Kannegala</td>
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<td>41(8.36)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8099</strong></td>
<td><strong>490(100%)</strong></td>
<td></td>
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</tbody>
</table>
4.7.10 Sample selection Process

To assess health inequalities in Karnataka, in the first phase of the sample selection, Human Development report (HDR) – 2005 was consulted to identify the top three and the bottom three districts on the basis of Human Development Index (HDI). As HDI is a composite index of Health Income and gender inequalities and further that income and gender both affect and are affected by health HDI ranking was considered for comparison between the best and worst three districts. As per HDR – 2005 the top three performing districts are, Bangalore, Mangalore and Udupi and the worst performing three districts are, Raichur, Gulbarga and Chamarajanagar. Three villages each from these six districts were chosen based on the following inclusion and exclusion criteria.

ChartNo – 4.3

Source (http://hdr.undp.org/en/statistics/hdi/). Human development index is variable determined the districts, which were included in this study.
4.7.11 Inclusion Criteria for Sample Selection

It is essential in any research to compare apples with apples and not apples with oranges, in this context in the present study the inclusion criteria to ensure that the villages chosen for health inequality comparison are homogeneous, is as follows. In an effort to identify villages that are homogeneous in certain socio-economic parameters; Census India’s village level amenities directory and primary census abstracts for the six districts were consulted. In the chosen villages’ homogeneity in the socio-economic-demographic parameters such as, number of households, size of population, literacy, absence of primary health center, accessibility to school, accessibility to drinking water, occupation, income and accessibility to medical institution among others were examined. After a careful analysis of the village level amenities data and the primary census abstracts for the homogeneity in the socio-economic-demographic parameters, a small list of around 20 villages were shortlisted. Among these 20 villages, the closest three in proximity were selected as sample villages.

4.7.12 Exclusion Criteria

- Mentally not sound
- Mentally challenged
- A person who were suffering major neurological difficulties
- A person with hearing difficulty

4.7.13 Sampling Procedure

Three villages each for measuring inequality in the space of Health in the six districts; i.e., 18 villages were chosen as detailed in the selection of the sample area. Conveniently households from the selected 18 villages have been chosen as sample units.
From each sample unit the head of the household have been interviewed for responses about Health inequalities of the members of the household including him or herself.

4.7.14 Sampling Method

As homogeneity was sought in the 18 villages in the six districts based on socio-economic-demographic parameters and in selecting the six districts of Karnataka, the performance of the districts’ based on the HDI was the parameter, the sample selection up to the selection of districts and villages is purposive. Within these villages the households were interviewed based on the convenience. Hence, the sampling procedure in selecting the households for the research is convenience sampling. Within these villages the respondent households were selected based on the approval of the head of the household. Therefore the criteria for selection of households were based more on the convenience of the respondent and the researcher which results in unequal probability of selection for units in the population. In other words convenience sampling procedure which is a non probability sampling procedure was used to select the households.

4.8.0 Research Design of the Present Study

Social work research designs are meant to understand social problems in-depth, also sometimes research is meant to measure the efficacy of interventions which aim to solve these social problems. Usually social workers use exploratory, descriptive, explanatory, and experimental research designs. One of the goals of science is description (other goals include prediction and explanation). Descriptive research methods are pretty much as they sound they describe situations. Descriptive research describes in detail social events, situations, social structures etc.
This type of research entails keen observation of the subject of study by the researcher and then his/her description of the given event, institution, structure or whatever the researcher has chosen to study. They do not make accurate predictions, and they do not determine cause and effect.

Descriptive research designs are used to describe a social condition or problem in-depth. In this type design, knowledge level might be higher; already few studies might have been conducted associated field of studies. However understanding about the particular social problem or condition will be limited, thus social workers are motivated to pursue studies to generate more clarity to understand the nature of problem.

The design of present study is descriptive, in seeking to study the Health Inequality and to understand nature and extent of inequalities in the 18 villages the six districts’ of Karnataka. The study would be measuring the extent of health inequalities in the 18 villages of the six districts’ of Karnataka selected for the present study. Descriptive research design has been adopted for this study, after reviewing previous studies on health Inequalities in various villages/districts in India and in the state of Karnataka. Cross sectional survey method has been method has been used to describe health inequality.
4.9.0 Sources of Data

Primary data collection source and the secondary data collection sources comprise total
source for data collection. Primary data source has been collected from the field study
by administering Interview schedule. Secondary data sources were Journals and Reports
which have been mentioned in detail under the secondary data sources head.

4.9.1 Primary Data Sources

Primary data for understanding Health inequalities in the 18 villages the six districts’ of
Karnataka has been collected through an exhaustive and structured Interview Schedule.
The Interview Schedule was constructed on the lines of National Sample Survey
Organizations’ (NSSO) questionnaire employed for conducting employment-
unemployment, Consumer expenditure and levels of living surveys. All the codes for
data collection in the interview Schedule are also, the codes employed in the NSSOs
questionnaire. The codes pertaining to health aspect are created to suit the reporting of
self reported health.

The interview schedule was designed to be administered to the head of the household,
as it is believed that he/she would possess most of the data on health of the family.
Wherever, the head has not been able to recollect the responses to some questions, the
same were administered to other family members for correct responses. To all the
respondents the interview schedule was administered in the vernacular language –
Kannada. A month before the actual interview, a pilot testing of the interview schedule
was done. Consequently some of the questions in the interview schedule and some of
the choices for the questions, were suitably modified.
4.9.2 Secondary Data Sources

At various stages of the present study, different types of secondary data were required and accordingly the sources of secondary data were consulted. Some of the important data sources are as follows:

During the initial phases of the study Books, Journals and Reports were consulted to evolve a conceptual understanding of Inequalities per se and the State of Educational, Health and Income inequalities in India and in Karnataka.

Among other journals, Ethics, Philosophy & Public Affairs, The American Sociological Review, Political Theory, Journal of Economic Literature and Economic and Political Weekly were particularly consulted. To select the sample villages for the study, the following secondary data sources were consulted:

1. Census abstracts, published by Department of census, Government of India.
2. Village amenities data, published by Department of census, Government of India.

Besides, these secondary data sources, at various stages of the present study, reports published by Government of Karnataka, Government of India, United Nations Development Program and various other independent agencies were consulted.

4.10.0 Tools Used for Data Collection

4.10.1 Statistical Software and Statistical Tools Employed

Quantitative data was tabulated and analyzed with support of statistical packages for social sciences (SPSS) software version- (11.5). Descriptive and inferential Statistical
techniques and tests like, frequency tables, cross tabulation, chi-square, ANOVA and t-test have been employed to summarize and analyze the data and arrived at meaningful interpretations.

4.10.2 Chi – Square test for association between variables Select variables are tabulated to test for influence of one variable on the other using Chi-Square \( \chi^2 \) test for independence. The Null hypothesis \([H_0]\) which states that ‘the attributes under study are independent’ is tested against the alternative \([H_1]\) which states that ‘the attributes under study are dependent’. The null hypothesis is rejected when the significance value \([p-value]\) is less than the Level of Significance \([\alpha]\). Using Statistical Package for Social Sciences – SPSS, the tests are conducted to arrive at a conclusion based on the sample data.

4.10.3 t- test for Averages For quantitative variables, to test the equality of TWO averages, t- test is used when the variance is unknown. The null hypothesis \([H_0]\) which states that ‘There is no significant difference between the two averages’ is tested against the alternative \([H_1]\) which states ‘There is significant difference between the two averages’.

The null hypothesis is rejected when the significance value \([p-value]\) is less than the Level of Significance \([\alpha]\). Using Statistical Package for Social Sciences – SPSS, the tests are conducted to arrive at a conclusion based on the sample data.
4.10.4 Analysis of Variance [ANOVA] For quantitative variables, to test the equality of more than two averages, ANOVA is used. The null hypothesis [H₀] which states that ‘There is no significant difference between the averages’ is tested against the alternative [H₁] which states ‘There is significant difference between the averages’. In this procedure where the test statistic is based on F- test, the null hypothesis is rejected when the significance value [p-value] is less than the Level of Significance [α]. Using Statistical Package for Social Sciences – SPSS, the tests are conducted to arrive at a conclusion based on the sample data.

Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data.

Descriptive statistics are typically distinguished from inferential statistics. With descriptive statistics, describing what is or what the data shows. With inferential statistics, researchers are trying to reach conclusions that extend beyond the immediate data alone. For instance, inferential statistics attempt to infer from the sample data what the population might think or use inferential statistics to make judgments of the probability that an observed difference between groups is a dependable one or one that might have happened by chance in this study.

Thus inferential statistics is used to make inferences from our data to more general conditions; descriptive statistics is used simply to describe what's going on in our data.
Descriptive Statistics are used to present quantitative descriptions in a manageable form. In a research study have lots of measures or may measure a large number of people on any measure. Descriptive statistics help to simply large amounts of data in a sensible way. Each descriptive statistic reduces lots of data into a simpler summary.

Inferential statistics is used to reach conclusions that extend beyond the immediate data alone. For instance, inferential statistics can be used to infer from the sample data what the population might think. Inferential statistics can be used to make judgments of the probability that an observed difference between groups is a dependable one or one that might have happened by chance in this study. Thus, use inferential statistics to make inferences from data to more general conditions; descriptive statistics simply to describe what's going on in data.

4.11.0 Data Analysis

Exhaustive data on Health inequalities in the sample villages was collected through interview schedule and analysis has been done with reference to specific variables mentioned in the succeeding paragraph pertaining to Health inequalities.

In Health inequalities broad group of variables such as, type of illness, health infrastructure, and income affecting attributes of illnesses, reproductive health and antenatal health facilities were considered in the study.

These broad variables include specific indicative variables specific to each of them like, type of illnesses is indicated by communicable and non-communicable diseases. Health infrastructure was identified by place of hospitalization and transportation facilities available. Source of income is indicated by type of employment. One of affecting
attributes of ill health was indicated by the amount of money that the sick person had to spend on getting the illness treated, source of obtaining the required finance and the number of days that the sick person had to lose employment. Antenatal health facilities were described through the place of delivery and the amount of money that parents had to spend on the new born baby.

4.12.0 Pre Test

Data collection has been organized after the pre test of questionnaire. In this regard 5 persons from high HDI and 5 persons from low HDI districts were interviewed. Feasibility and administration has been assessed and appropriate modifications have been done prior to administer the tool for main study. An informed consent had been collected even for pre test. Findings of pre test were assessed in the background of objectives and received approval from experts.

4.13.0 Pilot Study

For finalizing the research instrument, the Interview Schedule, the same was tested on a pilot basis among 20 respondents in Bangalore and 20 respondents in Chamarajanagara districts. The Interview schedule was suitably modified. Upon understanding the difficulties for the respondents while answering the schedule, modification were made in the interview schedule. Some of the questions were reworded to reduce ambiguity and few questions were eliminated to reduce the length of the interview schedule.
The wording of the questions was suitably modified to probe the respondents instead of prompting them. These modifications helped the researcher in administrating the instrument and collect relevant data.

4.14.0 Limitations

This study attempted to cover totally 6 districts of Karnataka, geographically reaching each village was a major challenge in data collection. This posed barriers to collect in-depth information.

The following are significant limitations of the present study

1. The study does not attempt to study the interrelations between educational, health and income inequalities.

2. The study does not include the institutional side of health inequalities in a great detail.

3. During the primary data collection processes the head of the household is interviewed on behalf of the household instead of the family members themselves individually.

4.15.0 Ethical Issues

- The respondents were informed about the purpose and objectives of the study before the data collection.

- Informed consent was collected for documenting of interview from respondents.

- Confidentiality has been maintained with regard to the details enumerated from the respondents.
• The information gathered has been used only for the research purpose.

• Identifiable information and hints about participants were avoided from thesis.

4.16.0 Chapter Scheme

• Chapter 1 – Introduction

• Chapter 2 – Review of Literature

• Chapter 3 – Appraisal of Health Inequalities in India and Karnataka

• Chapter 4 – Research Methodology

• Chapter 5 – Analysis of Data

• Chapter 6 – Discussions

• Chapter 7 – Findings and Conclusions