CHAPTER-II
REVIEW OF LITERATURE

2.1 Introduction

Review of related literature besides allowing the research to acquisition with current knowledge in the field or area in which the research is going to conduct a research. The review of related literature enables the researcher to define the research problem. It makes the researcher familiar with the summary of previous research and writing of recognized expert with what is already known, what is still unknown and untested. The first part reviews the studies on the general health related to study, second part reviews the studies on the tribes related to study, and third part reviews the studies on the tribal health care and health status. Thus, it provides a background for the development of the present study and brings the research to proximity of the solution.

2.2 Studies on General Health Status

Ram and Mohanty (1989) examined the nature and linkage between human resources development and demographic parameters at state level. Two indicators of human resource development namely Human Development Index (HDI) and Capability Poverty Measure (CPM) have been constructed at state level. It was found that there was wide variation in human progress and human deprivation across the country. Study found that greater investment in human resources with particular attention to poor states was essential for reducing poverty and population growth of our country. Human development brought together the production and distribution of commodities and expansion and use of human capabilities.

Manonmoney (1991) made a study on “An Economic Analysis of Health Status in Tamil Nadu”. The objectives of the study was to evaluate the health status in Tamil Nadu and to suggest possible lines of approach in the formulation of health policies and programmes that would help promote the health status of the state in future. She has used time series data for Tamil Nadu for ten years between 1981-82 and 1990-91. The determinants of health status of Tamil Nadu state in terms of three indicators, namely, Crude Birth Rate (CBR), Crude Death Rate (CDR) and Infant mortality rate (IMR). She used per capita income and public health expenditure at
constant price; number of hospitals, dispensaries, primary health centers and bed strength per million-population. The result found that the number of primary health center had been the significant variables in reducing the infant mortality rate. The per capita income was also significant to improve the health status of Tamil Nadu.

Rao and Bhat (1991) analyzed the “Estimation of a Community Health Status Index on the basic of MIMIC Model”. This study covered cross-section data on health indicators and health causes separately for the years 1971 and 1981. Empirical results the aforementioned algorithm has been used to estimate the CHSI of 15 states of India for which reliable and broad based data was available for the years 1971 and 1981. Three indicators of health viz., expectation of life at birth, estimated annual death rate, and infant mortality rate, and five cause variables viz., percentage rate of literacy, per capita net domestic product per capita public expenditure on health, average population served by a primary health centre, and population doctor ratio, have been used to estimate the chi-square. A study of these values for different states showed that in 1971 the states like Kerala, Haryana, Punjab, Gujarat and Maharashtra were better off in terms of health status whereas states like Bihar, U.P. and Orissa logged behind. The situation did not change in 1981 and the same set of five states remained in the forefront and states like U.P. and Bihar continued. They concluded that the marginal impact of literacy rate, per capita and public expenditure on health on expectation of life at birth has increased whereas that of population-doctor ratio and population-PHCs ratio has declined.

Soman Krishna (1992) studied about the family dynamic of women’s health and illness and their interaction with the larger social processes. For this study the completed census of the socio economic status of household was conducted. The sample was taken of 272 households. There were 971 individuals in the specified age group of 15 and above and 456 were women. The study found out that women continued to stay within the boundaries households, performed labour without actively participation in decision making process. Estimates of annual reported illness of women showed direct differentials in socio-economic categories. For illness, women were dependent upon the private practitioners in the village who did not have any medical qualification. Women in the poorer section mostly used government services
for immunization and iron supplementation. The reasons for women’s restraint in seeking medical treatment were their perceptions of men. At the larger level, it was the balance of power within the matrilineal structure of the society that kept women away from the quality health.

Reddy and Selvaraju (1994) made a study on “Determinants of Health Status of India: an Empirical Investigation”. The objective of the study was to analyse the in terms of Life Expectancy at Birth by using the data for 15 major states in India for 1990-1991. They hypothesized that LEB was associated with per capita income, per capita health care expenditure, female literacy and percentage of people below the poverty line. Using stepwise regression data was analyzed. The findings of the study were to the effect of income and female literacy on health were positive and significant and health care expenditure and income distribution did not have significant influence on health status.

Krishnan (1996) revealed that household economic status in one of the major determinants of health status. Though the public health system in able to provide basic health facilities especially in rural areas through the PHC, due to inefficiency as well as, insufficiency in the system it might not be able to fulfil the complete health needs of the people. In poverty stricken households, fulfilling day-to-day food requirement itself is a through task and considerable allocation for health is distant dream. It has been proved and well established that health and poverty are closely related. Indian health system is very regressive where the distribution of the burden of treatment is unfavorable to poor and it contributes to the aggravation of poverty of especially in rural India.

Laxmi Devi (1998) studied “Reproductive right and Reproductive Health”. She concluded that reproductive health care in the context of primary health care should, inter alia, includes; family planning counseling, information, education communication and services for prenatal care safe delivery, and post-natal, especially breast feeding, infant and women’s health care, prevention and appropriate treatment of infertility.

Bhat and Ramesh (1999) discussed about the policy initiatives by state governments of Punjab, Rajasthan, Tamil Nadu, West Bengal and Maharashtra to
develop relationship between public and private sector. Secondary data was used for the study. This study had concluded that in our country the public-private initiatives were in premature state. While designing a PPP venture, the government should pay attention on following aspects: information, public goal and private initiative, coordination and monitoring, market subsidy and incentives, institution and Organization. The study had emphasized on the importance of PPP as a form of privatization. If these measures were implemented properly, the ventures could provide an efficient and equitable option of healthcare delivery.

Benjamin G. Druss et al. (2001) compared the National Economic Burden of Five Chronic Conditions using a nationally representative sample of 23,230 U.S. residents and examined the patterns of economic burden across five chronic conditions: mood disorders, diabetes, heart disease, asthma, and hypertension. Almost half of U.S. health care costs in 1996 were borne by persons with one or more of these five conditions; of that spending amount, only about one-quarter was spent on treating the conditions themselves and the remainder on coexistent illnesses. Each condition demonstrated substantial economic burden but also unique characteristics and patterns of service use driving those costs. The findings of this study highlighted the differing challenges involved in understanding needs and improving care across particular chronic conditions. This study used a nationally representative sample of the U.S. population to compare demographic characteristics and costs and patterns of service use across five prevalent, costly and disabling chronic conditions: mood disorders diabetes, heart disease, hypertension and asthma. The researcher hypothesized that while all would entail substantial economic burden, each would also have unique features resulting in distinct clinical and health policy challenges.

Nobuhide (2001) studied that education and health were regarded as a necessary source of productivity because it could be a proxy of labour quality. Health could be an investment for future economic return and this positive impact of health on economy has been tested in many micro studies. The author demonstrated that health measured by life expectancy at birth has a positive impact on economic growth. Health status also has indirect impact on economic through its influence on education. The author stated that particularly in developing countries, economic factors were very
relevant in determining the state of health. He analysed the health care status of Kerala with comparison to other Indian states as well as at disaggregated district level. He concluded see that Kerala's position is the highest among other Indian states with regard to health and demographic indicators and Kerala has achieved advanced health care facilities.

**Indrayan et al. (2002)** studied about the years of life lost due to the top nine causes of death in rural areas of major states in India in 1995, using cause of death data for 13 states for different age groups. The Global Burden of Disease (1996) study methodology was used to calculate the life lost according to the standard life table, which was weighted and discounted. Non-communicable diseases like cancer, heart attacks and paralysis featured as top causes of death in rural India. The years of life lost (YLL) due to heart attacks varied from a low of 5.5 in Maharashtra to a high of 18 years in Tamil Nadu. Four out of the thirteen states (AP, Kerala, Punjab and TN) had heart attacks as the most important cause of death. In India as a whole it was the fourth major cause of death.

**Raddy (2002)** in his study has considered health indicator and determinants of health status of people for 21 states of India for the year 1951-1981. He studied the relationship between percentage of literacy and expectation of life in India. The correlation coefficient in case of males came out to be 0.97 and in case of females 0.93. Of the eight determinants, female literacy turned out to be the most important determinant of health status. Hence, it was pointed out that the spread of literacy must be paid due attention for the enhancement of health status.

**Soman and Krishna (2002)** conducted a study on “The Health care Sector in the Primarily Agricultural District of West Bengal”. In this district, new privatization initiatives were being undertaken by the government in collaboration with external funding agencies. In addition to public health care facilities, a range of private sector providers existed, practicing different systems of medicines (Homeopathy Allopathic Ayurveda and other traditional systems) with different ownership types profit not for profit. Many practitioners engaged in informal, holistic practices combined traditional healing with homeopathy and allopathic medicine. For a range of cultural reasons, a
substantial portion of villagers (estimated at over a third) preferred such services often run out of practitioner’s homes, grocery shops or even door-to-door to formal health institutions.

**Florentino and Carral (2003)** studied about the increased hospital expenditures in diabetic patients hospitalized for cardiovascular diseases. Compared with the non-diabetic population, macro vascular disease is more diffuse, severe and lethal in patients with diabetes mellitus. Together with the risk factors found in the general population, those of special interest are those derived from diabetes itself, such as hyperglycaemia, coagulation disorders, and hyperinsulinemia or insulin resistance. They emphasized the necessity of achieving better glycemic control of diabetic patients admitted in the hospitals, and mainly in patients hospitalized for cardiovascular disease.

**Radhakrishna and Ravi (2004)** in their study analyzed the trend in malnutrition over the past two decades and showed that improvement in health status have not kept pace with the reduction in poverty. About half of the population particularly children and women the most vulnerable groups suffered from various forms of malnutrition. This is seriously retarding improvement in human development and further reduction of mortality. The study showed that malnutrition uneven across states. Some middle-income states such as Tamil Nadu and Kerala had comparatively better nutritional achievements than higher income states like Gujarat and Maharashtra. North-eastern states were comparatively better performing states and some of them have even out performed Kerala. Concentrated efforts were needed to break the vicious circle of malnutrition among the poor. Improvement in incomes of the poor and the support of health services are the among term solutions to eradication of malnutrition.

**Sankar and Kathuria (2004)** analyzed the performance of rural public health system of sixteen major states in India. They concluded that investment in the health sector alone would not result in better health indicators efficient management of investments is required. The analysis of variation across states in the health systems in the rural suggested that there were two critical ways to improve health outcomes. The first was to enhance the efficiency of health sector. The second was to create more infrastructures and thus provide better health access to rural people and make more
physicians available in rural areas. So, in order to cure what ails the health systems in many Indian states, efforts need to be made in the direction not only of proving more infrastructures but also using them in the most efficient way. This demonstrated that states should not only increase their investments in the health sector, but should also manage more efficiently in order to achieve better health outcomes.

Upadhyan (2004) made a study on “An Analysis of the Primary Health care System in India with Focus on Reproductive Health care Services”. The objective of the study was to check productivity and efficiency aspects of the primary health care system and other factor- elastic ties of output by estimating Cobb-Douglas type log – liner function. The results suggested that qualitative factors also privacy maintained while doing medical examination, average time at the health centers, time spent by a staff with a client. Otherwise primary health care system in India would lose its credibility even among poor rural people who are not is a position to attend private health care facilities.

Reddy, et al. (2004) examined the relationship among body composition, measures of self-rated health and activities of daily living in a group of free living poor elderly aged above 60 years with a sample size of 147 respondents 82 males, 65 females from Tirupati suburbs of Andhra Pradesh, India. The subjects were divided into three age groups i.e. 60-69, 70-79 and above 80 years for comparison. Mean height, weight, circumferences of Waist and Hip and Raist hip ratio (WHR) were higher in males than females with no difference in Body Mass Index (BMI). However, none of the anthropometric variables showed significant association with age. The majority of the subjects rated themselves as 'poor' or 'fair' self-rated health and this corresponds well with the lower mean values of as well as activities of daily living, well-being and memory and cognitive function, impaired health aids and in general health, Purpose analysis of logistic regression analysis of were used. Results that the a maximum of 55 percent of males and 47per cent of females were below 19 units of BMI, which was reflected in the increase in odds ratio of 1.361 in males and 1.134 in females between good as poor health ratings. The findings revealed that well-being and BMI have related to self-reported health status.
**Bhatt and Jain (2005)** explained about public expenditures on health using state level public health expenditure data. Their findings suggested that state level government have target of allocating only about 0.43 percent of state gross domestic product to health and medical care. This did not include the allocations received under central sponsored programmed such as family welfare. Given this level of spending at current levels and fiscal position of state governments the goal of spending 2 to 3 percent of GDP on health looked very ambitious task. The analysis also found out the elasticity of health expenditure in states and revealed that for every one percent increase in state per capita income, the per capita health care expenditure increased by around 0.68 percent.

**Singh et al (2005)** made a study on “Utilization of Indigenous Systems of Medicine and Homeopathy in India”. The objective of the study was to estimate the utilization of different Indigenous systems of medicine in the country along with the reasons for preferences as well as the cost of treatment. The data were collected on the health seeking behaviour of persons who were sick (with common or serious ailments) in the last three months before survey including at the time of survey. The results about 45,000 sick persons from 33,666 households from 35 districts of the country were covered. The preference of ISM&H for common ailment was about 33 per cent while only 18 per cent preferred to use these systems in case of serious ailments in the country. The sick persons actually availing ISM &H treatment were about 14 per cent. Of those who preferred ISM & H, the reasons were mainly ‘no side effect’ and low cost of treatment. The main reason for not preferring the indigenous systems, the conclusion that about 14 percent sick persons utilizing indigenous system of medicine, and non-availability of practitioners were the main reasons for not preferring the ISM & H treatment.

**Purushothaman (2005)** identified alternate land-use and management strategies to strengthen the livelihood base of poor marginal farmers in the dry forest peripheries of India. Land alienation, soil degradation, wild animal attacks, and declining access to forests have debilitated the livelihood base of this tribal community. Benefit cost analyses and stakeholder discussions revealed that millet-based dry farming with adoption of soil conservation or growing perennials on field bunds were
economically efficient relative to current practices and enjoyed stakeholder acceptance. Some other economically superior alternate land-uses were not acceptable locally, indicating the care with which tribal development policies need to be made.

**Kaushik (2006)** examined the relationship between health status, expenditure on health and education and per capita income in respect of the state of Himachal Pradesh, for the period 1971-2001. The results suggested that the health expenditure – health status relationship was different from the health expenditure – income relationship, as there was a lack of causality in the better relationship. The further observed that causality that flowed from per capita expenditure on education to infant mortality rate was stronger than impact of real per capita income on health status. Thus, the implication of his study was that increasing public expenditures on health was a necessary policy intervention for accelerating the economy’s health status of the state’s population. The remarked that the health expenditures was an important determinant of better health status and was, therefore, a key tool available to policy makers.

**Susmita Bharati et al (2007)** studied the status of literacy of mothers and standard of living of the family for improving the obstetric health care practices. The study indicated that the educated women with high standards of living had an emphasized role in the practice of more maternal health care. The study shows that rural antenatal care was still mostly based on Indian traditional system. There were women who need to be educated and must be made aware about the importance of the health care for ensuring healthy pregnancy and safe delivery.

**Anant Kumar (2007)** reviewed the scope and limitations of self-help group in improving women’s health, focusing on their implantation in the state of Bihar in India. It critically assessed the extent to which SHG’s could be involved in attaining better health for women and children by exploring the crucial role of caste and class in access to health services. His study concluded that SHG’s failed to capture local structural contexts such as caste and class, and as a result, develop approaches that produced equitable health services provision to marginalized and poor people.

**Gupta (2007)** have assessed that India have relatively poor health outcomes despite having a well development administrative system, good technical skills in
many fields and an extensive network of public health institutions for research and training. He suggested that health system misdirecting its efforts, or was poorly designed. To explore this, the author used instruments developed to assess the performance of public health systems. Their data indicated that the reported strengths of the system lie in having the capacity to carry out most of the public health functions. Its reported weaknesses lie in three broad areas: it has overlooked some fundamental public health functions such as public health regulations and their enforcement; deep management flaws hindered effective use of resources, the central government functions too much in isolation and need to work more closely with others, especially with sub-national governments, as well as, with private actors. He concluded that with some reassessment of priorities and better management practices, health outcomes and be substantially improved.

Simkhada et al (2008) found in their study that the factors affecting antenatal care uptake: maternal education, husband's education, marital status, availability, cost, household income, women's employment, media exposure and having a history of obstetric complications. Cultural beliefs and ideas about pregnancy also had an influence on antenatal care use. Parity had a statistically significant negative effect on adequate attendance.

Husain (2009) discussed important issues for tribal development based on these three (health, education and income) determinants of development. Very serious efforts were needed for future development and welfare of tribal. He highlighted equal focus to all weaker sections of society in general, and tribes in particular, to the national region. They constituted more than eight percent of nation population but 40 percent of displaced persons due to developmental projects were tribal, without any rehabilitation programs.

Metgud, Katti, Mallapur and Wantamutte (2009) discussed about “Utilization Patterns of Neonatal Services among Pregnant Women: A Longitudinal Study in Rural Area of North Karnataka”. The objectives of the study to the antenatal care received (ii) to know the factors influencing the utilization. The data was collected from both primary and secondary sources. They Adopted stratified random sampling
technique for 130 pregnant women. For the purpose of analysis the proportions and
Chi-square the test were used. Most of the pregnant women (92.3 percent) were
registered for antenatal care, but only 30.00 percent of them were registered in the 1st
trimester of pregnancy. As regards to TT immunization, 71 per cent of the pregnant
women had received 2 doses or 1 booster dose. Iron and Folic Acid supplementation
was taken by 60 per cent of the pregnant women. Nearly 39.5 per cent of pregnant
women were provided with full antenatal care. The main antenatal care provider for
pregnant women was doctor (64.52 per cent). The provision of full antenatal care
package was found to be significantly higher among the pregnant women belonging to
social classes I and II and in those who have studied above SSLC. They concluded that
study showed early and wide spread use of antenatal care, but it also revealed that the
antenatal visits occured late in the pregnancy. The literacy of women had significant
bearing on utilization of antenatal care by the pregnant women.

**Brijesh C Purohi (2010)** made a study on “Efficiency Variation at the Sub-
State Level: The Healthcare System in Karnataka”. Thus, analyses the efficiency
variations in health system performances in Karnataka. By using the stochastic frontier
technique and district level panel data. Carried out in two stages of estimation, it
indicated that the efficiency of the public health delivery system in Karnataka remained
low. Considerable disparities across districts in per capita availability as well as
utilization of hospitals, beds and manpower inputs hamper improvements in life
expectancy in the state. Results from the second stage of estimation suggested that in
rural areas particularly, improvements in infrastructure facilities like safe drinking
water supply, toilets and electricity as well as better co-ordination between social
sector and economic policies, especially at the district level, might also help the state to
improve life expectancy speedily and more equitably in the deficient districts.

**Digambar et. al (2011)** made a study on “Factors Influencing the Utilization of
Maternal Health care Services in Uttarakhand”. The objectives of the study were(i) to
study the level and differentials in the use of antenatal, delivery and post- natal care
services in Uttarakhand ii) to identify the major determinants of the utilization of
maternal care services. The data was collected from National Family Health Survey III.
Both bivariate and multivariate analyses have been carried out for the study by taking
ante-natal care and delivery care as dependent variables. The result revealed that the education level of the women, birth order and wealth index were significant predictors in explaining ante-natal and delivery care controlling the effect of other variable, the predictive power of women’s education level, wealth index have been positively associated with antenatal care and also delivery care.

**Harini Narayanan (2011)** conducted a study on “Women’s Health, Population Control and Collective Action”. In the area of women’s health the situation is further complicated by the fact that policy processes have to straddle a treacherous fault line between target-driven population-control goals on the one hand, and issues of individual reproductive rights and general well-being on the other. Further the study argued that the trajectory of change has never been simple or linear. Policy shifts over time reflected the greater or lesser influences of a range of actors—including international donor agencies and pharmaceutical companies as well as the health and women’s movement—apart from the ideological aims of the party in power.

**Radhakrishnan (2012)** discussed about “A Study on Health Care Problems in India”. Women’s poor productive health in India is affected by the variety of socio-cultural factors. Underling poor reproductive health among Indian women is poor in one hand and inadequate delivery system on the other. The women’s health status in general and reproductive health in particular is determined in women’s power to make a choice in the equality of available health care services life style women’s position in the society. It is thus important while aiming at improving the reproductive health standards of the women. Further this study analyzed to assess and evaluate the women health care system. This study suggested the improving women’s health requires a strong and sustained government commitment.

**Gupta et al. (2012)** made a study on “Impact of Janani Suraksha Yojana on Institutional Delivery Rate and Maternal Morbidity and Mortality: An Observational Study in India”. An observational study was conducted in a tertiary-care hospital of Madhya Pradesh, India, before and after implementation of JSY, with a sample of women presenting for institutional delivery. The objectives of this study were to: (i) determine the total number of institutional deliveries before and after implementation
of JSY, (ii) determine the MMR, and (iii) compare factors associated with maternal mortality and morbidity. The data were analyzed for two years before implementation of JSY (2003-2005) and compared with two years following implementation of JSY (2005-2007). Overall, institutional deliveries increased by 42.6 per cent after implementation, including those among rural, illiterate and primary-literate persons of lower socioeconomic strata. The main causes of maternal mortality were eclampsia, pre-eclampsia and severe anemia both before and after implementation of JSY. Anemia was the most common morbidity factor observed in this study. Among those who had institutional deliveries, there were significant increases in cases of eclampsia, pre-eclampsia, polyhydramnios, oligohydramnios, and ante partum hemorrhage (APH), postpartum hemorrhage (PPH), and malaria after implementation of JSY. The scheme appeared to increase institutional delivery by at-risk mothers, which has the potential to reduce maternal morbidity and mortality, improve child survival, and ensure equity in maternal healthcare in India.

Patel (2014) made a study on “A Health Status of India”. The objective of study are to (i) study the health study indicators of India, (ii) study the India health structure (iii) study the progress of health indicators of India. Secondary data has been used for the study. For the demographic and health status indicators have shown significant improvements after independence, the development of health care industry in the country has enabled to a significant extent in reducing the mortality rate and increasing the expectation of life at birth. Demographic and health indicators like Crude Birth Rate, Crude Death Rate and Life Expectancy at Birth.

Bhavani and Lalitha Ramaswamy (2015), made a study on “Socio Economic Status, Dietary Pattern and Nutritional Status of Teenage Pregnant Girls are belonging to Rural Areas of Vellore and Dharmapuri Districts”. A community based descriptive and cross sectional study was designed to assess the socio economic status, dietary pattern and nutritional status of teenage pregnant girls. This study was conducted in rural areas of Vellore and Dharmapuri districts in the state of Tamil Nadu, India. Convenient sampling method was used to select 139 subjects in their third trimester of pregnancy. Subjects who had registered in Primary Health Centers, Government Hospitals and private hospitals in these areas were selected. Information pertaining to
general aspects, anthropometric measurements, nutrient intake, food taboos, special foods consumed during pregnancy was collected by direct interview method using the pro-forma. The data so collected was statistically analyzed. The findings suggested that most of the participants belonged to low socio economic status. Nutrient intake and anthropometric measurements of the subjects were very low when compared with standards. These results indicated low potential birth outcomes in relation to maternal nutrition.

2.3 Studies related to Tribal

Sujatha (1990) studied on disparities in education among the different tribal groups and within the tribes between male female in the Andhra Pradesh state, which has the lowest tribal literacy (7.86 percent) in the country. The highest and the lowest literacy range between 19.37 percent and 1.26 percent found among the Valmiki and Khands respectively. In fact, except Yerukulas all the other 5 major tribes (Lambada, Yenadi, Koya, Kondakapu and Gonda) had literacy rate below the state average tribal literacy.

Kanani et al. (1992) studied deals about tribal population of Gujarat. They were 14 percent of the total population in the state with about 72 percent concentrated in 8 districts. The economy of the tribal farmers mainly based on agriculture and other subsidiary occupation such as wood cutting, handicrafts, cottage industries, etc. The training needs of tribal farmers in relation to maize crops in Dohab taluka in Panchmahals district, where extensive cultivation was practiced. Resulted showed that tribal farmers gave maximum priority to fertilizers, plant protection measures and institutional credit. The majority of respondents demanded training in their own villages. Education, size of holding and annual income were significantly related to training needs, while age and social participation were not significantly related to training needs.

Ramankutty and Paniker (1995) conducted an in depth study on the pattern and intensity of the reaction of the government health sector in Kerala to the current fiscal crisis. This study reported that public sector health services played an important role to have an exemplary health status attained by Kerala in the early period. But of
late, the importance of public sector in the health services in the state has wanted greatly due to fiscal crisis.

Mahadeva (1998) in his study revealed that by and large, government intervention, through targeted Programmes, had not been able to bring the desirable extent of change in the socio-economic condition of the tribes in the study. More particularly government efforts failed to meet the total requirements of the tribal community on both economic and social counts. Thus, in order to ensure any improvement in tribal society, there was need to re-emphasize government’s commitment to bringing the tribes into the mainstream of development.

Mishra (2001) highlighted that initially tribals were self sufficient. Their needs were limited and whatever they used to earn from their work, they used to spend for themselves. The families were joint families and the old, disabled people were accommodated easily. However, later the situation was changing now. Joint families were breaking and due to infiltration of non tribal and exposure of tribals to the glittering world have increased their needs. The main occupations of various tribals were gathering food from forests and agriculture on limited land (not so fertile). They were also collecting the forest resources and selling to the traders in raw condition at a meager price. In all the works done by the tribals, It has been found that the disable people can play very little role. As a result they were generally unemployed and have to depend on others charity.

Bokil (2002) studied the important issue before the tribal communities in India today i.e how to earn and sustain livelihoods. The issue has become critical because access to and control over the surrounding natural resources have been endangered. He found that tribal communities could make optimal utilization of local natural resources and secure decent and sustainable livelihoods.

Nath et al., (2003) conducted a survey about Khasia tribe in Sylhet district of Bangladesh to investigate their socio-economic conditions, hill farming practices and impacts on rural livelihood and forest conservation. The lives of Khasia people are centered on the hills and hill resources. Their economy was being basically forest based, using simple traditional technology. Their principal occupation and sources of
livelihood was being betel leaf based hill farming. Besides providing income and employment opportunities, this type of farming plays an important role in the conservation of forest and its flora diversity. A buoyant market for betel, ease of establishment and maintenance and the regulation of different age classes make it a sustainable production system that assists in conserving biodiversity and might be adapted for use elsewhere.

Jayaswal, et.al, (2003) examined the role of parental support on academic achievement of tribal school students. The study selected a sample of 10 schools of Ranchi town having classes I, VI and XI randomly making a total of 300 children. The parents of 30 high achievers and 30 low achievers were selected as the parental sample. The tools used in the study were personal data questionnaire, academic achievement test, and parental support scale. The study found that the parents of high achievers exerted significantly more support in their children’s studies than the parents of low achievers students. The parents of high achievers had greater work commitment concern with the quality of performance and inclination to learn lessons from others, more interest in children’s educational success and were liberal. On the other hand the parents of low achievers were not strongly ambitious of children’s upward mobility and were more fatalistic, lacking a role model and having low self-confidence and initiative for guiding their children.

Vinoba Gautam (2003) focused on education of tribal children in India and the issue of medium of instruction through a joint programme. The responses of the stakeholders have been gathered through a survey carried out recently in fifteen Janshala blocks of five states. The paper also presented a statistical analysis of the responses of parents, children and teachers on the issue of using the mother tongue as medium of instruction in schools and other language issues. “Janshala” for the universalisation of primary education among educationally underserved communities. The programme was being implemented in nine Indian states. Records collected in schools in the Janshala Programme areas indicated continuing high “dropout” rates among tribal children. A major reason for this was that in most states the medium of instruction was regional language. Most tribal children did not understand the textbooks, which were generally in the regional language. The appointment of non-
tribal teachers in tribal childrens schools was another problem, the teachers could not know the language the children speak and children could not understand the teachers language. The issue of language was being debated in the context of tribal education. While some researchers argued for a uniform policy with respect to language use in schools, others perceived it as a constraint in the process of schooling. This study examined the current policy framework of the participating states with regard to the medium of instruction in government schools in tribal areas and meeting the needs of sound education of tribal children in terms of the posting of teachers, development of textbooks and curricula, training of teachers, etc.

**Shah (2003)** highlighted that the distinguish nature of tribal development constraints which how different shifts in approaches have taken up to build-up effective tribal development planning and it has resulted in remarkable change in the right direction. However, the process of development was being still far from its final stage where “Tribes” would not need any special assistance as they got their place in the mainstream of Indian economic strategy.

**Patil (2006)** had conducted a study on poverty alleviation among tribals through horticulture. He related that irregular rains their rice yields were very low, with the result they had to undergo semi starvation for part of the year. There were a widespread poverty among tribals of this area. Lack of gainful employment was the main reason for their poverty. It had been seen that if horticultural crops like sapotas and vegetables introduce on their lands it would generate gainful employment. He concluded necessary steps to be introduced the horticultural crops on lands of every tribal farmer in accordance with the agro-climatic condition of the region.

**Vasudevachary (2006)** had conducted a study on tribal development in Andhra Pradesh which revealed that for educational development in the tribal areas, government has implemented several educational programmes in the plan period. Of all the educational institutions, majority institutions were located in the scheduled areas only. The enrolment of schools is remarkable and due to certain reasons dropouts were also there but girl dropouts were more than that of the boys. The impact of the different educational programmes on their educational development was appreciable.
Lakshmi (2007) conducted a study in the six districts where concentration of tribes was high and the sample chosen for this study was 290. Study revealed that more illiterate beneficiaries had lesser number of children. Five out of seven beneficiaries had only one child. But this was not the case with illiterate beneficiaries as larger proportion of them had more than one child. While 290 beneficiaries’ (76.30 percent) were not sending even one child to Anganwadies and another 23 percent (87 percent of the sample beneficiary’s families) were sending just one child. It was surprising to note that even though a larger proportion of the beneficiary’s family had a good opinion about the Anganwadies, still only a smaller proportion of them were sending these children to these institutions because they had less percent of the eligible children between 3-6 years.

Aparna and Mitra (2007) analyzed about the status of women the scheduled tribes in India. Theory and empirical data are Frequent comparisons will be made to the social and cultural practices of the scheduled tribes, mainstream Hindus, as well as the scheduled casted population. They followed that distinctiveness of the tribal cultural and the fact that many women from the scheduled tribes faced less discrimination than Hindu women and those from scheduled coasted.

Vikram et al. (2011) The present carried out a study to identify the beneficiary level factors of utilization of JSY scheme in urban slums and resettlement colonies of trans-Yamuna area of Delhi. The study method for cross-sectional community based survey was done of mothers of infants in the selected areas of the two districts by stratified random sampling on a population proportionate basis. Socio-demographic factors, antenatal services availed and distance of nearest health facility was studied. Outcome variable, a beneficiary, was a woman who had ever interacted with the ASHA of her area during the antenatal period of previous pregnancy and had child birth in an institution. Descriptive tables were drawn univariate analysis followed by multiple logistic regressions was applied for identifying the predictors for availing the benefits. Therefore results of the 469 mothers interviewed, 333 (71 per cent) had institutional delivery, 128 (27.3 per cent) had benefited from JSY scheme and 68 (14.5per cent) had received cash benefits of JSY. Belonging to Hindu religion and having had more than 6 antenatal check-ups were the significant predictors of availing the benefits of JSY.
They concluded that there was a need to improve the awareness among urban slum population about the utilization of JSY scheme targeting.

**Parimalavalli (2012)** observed the socio-economic and nutritional status of the Tribal children. Tribes were at risk of under nutrition due to poverty and improper health seeking behaviour. A total of 149 tribal children were included for the study. Questionnaire was used to collect data on socio-economic, anthropometric measurements, food intake, clinical signs and symptoms. The results revealed that most of the Velala tribal lived in small size families, belonged to Low Income Group and they were illiterates. Mean height, weight and food intake of the selected tribal children were found to be significantly less than reference values. Their food intake was lacked in many nutrients. Disorders were seen between 16 and 18 years. The magnitude of tribal children was suffered from the maladies of malnutrition.

**Nagaraja and Pallavi (2013)** made a study on “Socio-Economic Status of Tribal Women: A Case Study in Karnataka”. They to analysed the socio-economic background of the Tribal women and to understand the pattern of relationship between Tribal women and local environment. In Indian society, caste and kinship has been influencing on the social life and acute disparity in terms of standard of living and sub-culture among various groups and regions exist. The study was based on primary data and survey conducted in Chitradurga district of Karnataka state. It was observed that socio-economic profile, educational and political background of the leaders would also enable to anticipate as to the capacity of Tribal women to discharge the responsibilities which are assigned to them.

**Shankar and Manimaran (2013)** conducted a study entitled as “Socio – Economic Conditions of Pachamalai Tribes”. The tribal population is identified as the aboriginal inhabitants of our country. For centuries, they have been living a simple life based on the natural environment and have developed cultural patterns congenial to their physical and social environment. Self-prepared questionnaire was used to assess the socio- Economic conditions of the tribal people. The economic, health, nutrition and medico-genetic problems of diverse tribal groups have been found to be unique and
presented a formidable challenge for which appropriate solutions have to be found out by planning.

Pujasree Chatterjee (2014) made a study on “Social and Economic status of tribal women in India – The challenges and the Road Ahead”. The objectives of this study were to: (i) find out the social and economic status of tribal women in India, (ii) analyze the challenges faced by tribal women, (iii) to suggest some strategies for handling the challenges faced by tribal women in India. The secondary data used were collected from international and national journals, books and other related materials. He concluded that the health status of the tribal was explored to assess their awareness regarding their health. Thus, sometimes they lacked the essential nutrients. Many times they suffered from various diseases as there was a lack of health and hygiene awareness. Thus increasing the literacy rate and providing opportunities for gainful employment for tribal women would be instrumental in bringing about a change in the status of tribal women in India and to handle to challenges successfully.

Godwin Prsingh and Prajina (2014) made a study on “Socio-economic status of tribes with special reference to the Tribal students of Kannur District Kerala”. They found that socio-economic development of Kerala did reflect completely in their life. For centuries, they have been living a simple life based on the natural environment and have developed.

Shrabanti Maity et al. (2014) studied on “Socio-economic Status of Kuki Tribal Women: A Case Study Churachandpur District, Manipur”. The socio-economic status of women played a very vital role in both individual and community life. The Kuki tribes the one of the major tribal groups in Manipur. The study was based on primary data taking some prominent factors to highlight the socio-economic condition of the Kuki women. The study used a self-developed composite socio-economic index which is the combination of three indices namely, Health Index, Educational Index and Income Index. And finally a logit regression model was fitted to find out the major factors influencing the socio-economic status of women.

Anil Kumar and Surya Prabha (2015) studied the “Tribal Living and Socio-Economic Conditions among East Godavari District”. They observed that the Indian
tribes are a heterogeneous group; most of them remain at the lowest stratum of the society due to various factors like geographical and cultural isolation, the health and educational background of tribes in India showed in a pathetic condition. The study analysed the nature of living conditions area and provided a basis for enriching the existing theories of inter tribal and intra-tribal pattern of living and environmental conditions detail with the inter tribe relations between the different tribes of Andhra Pradesh especially in the coastal agency area.

2.4 Studies on Tribes Health Status

Saraswathi swain (1994) explored the health problems and perspectives of tribal people in Orissa. Orissa has the highest concentration of tribal population. The objective of this study was to give an overview of the health status of tribal population of the state and to suggest measures for improving their situation. Health status depended on food production and consumption, socio-economic factors including poverty, ignorance and illiteracy. The relationship between food, nutrition and health were highly related on the health of tribal than non-tribal population in the study area.

Ranjana Ray (1993) studied health status among tribal women. They examined the nutritional patterns of women in different tribes. The tribes who were lived in deep interiors were quite healthy even in the absence of modern health care facilities, probably because of their clean and undisturbed environment which also provide a cure to their diseases. They made a suggestion that health status studies should take consideration of anthropometric measurements and conducting dietary surveys as a part of the study on the health status of tribal women, evaluation and retaining the indigenous system of medicine as an alternative health care system.

Basu (1993) has discussed the health status tribal women in Indian. The health status of tribal women was analyzed in relation to sex ration age at marriage, fertility, morbidity, life expectancy, nutritional status, maternal and child health care practices, STD and genetic, disorders. Author has pointed out health related studies (among the tribal population) found to be limited. For most of the available studies fragmentary in nature without an adequate sample size and standard methodology. The author has studied different tribal groups in Madhya Pradesh, Uttar Pradesh and Orissa. While
scanning threw the available literature on health status, the author observed that a comprehensive area, specific health related studies, where isolated in nature and did cover the various dimension of health affecting status of women. He has suggested that in order to improve the health status of tribal women, the health care delivery system should be designed for each group in such a way, cater to the their specific needs and problems by ensuring the personal environment.

**Chatterjee (1993)** depicted the health status of tribal women. The author made an attempt to study the health status of tribal women in following econ-zone (i) forest – based areas, (ii) denuded forest areas and (iii) industrially polluted areas. The results of the study shown that those who lived in remote forest based areas had relatively good health because of minimum environmental pollution, availability of nutritive food articles from the forest in abundance and the existing traditional health care system. The congenial eco-surrounding helped to maintain their psychological health. In the industrially polluted areas, the tribal were victims of diseases caused by eco-degradation. The burning problems of tribal women identified by the author were tuberculosis, filariasis, malaria, viral encephalitis and chronic anemia.

**Jagga Rajamma (1996)** undertaken a study among the tribal living in Buttayaguden Mandal consisting of 53 villages in west Godavari district of Andhra Pradesh to study their Health Seeking Behavior, Acceptability of Available Health Facility and Knowledge about Tuberculosis. Information was also obtained on their practices to get relief from illness and type of health facilities used. In all, 429 households belonging to 34 villages were selected at random and the heads of these households of the next responsible persons were interviewed. A total of 189 (44 per cent) had heard of tuberculosis and of these, 72 (38 per cent) attributed it to tubercle bacilli. Majorities of the tribal were in favor of modern medicines and accepted the available health facilities.

**Sujata Rao (1999)** made a study on “Health Care Services in Tribal Areas of Andhra Pradesh: A Public Policy Perspective”. Tribal development strategies would need to more Human-Centre with health at its Centre. The conventional, bureaucratized approach of looking at health issues for tribal in a sectoral, compartmentalized manner
could have little impact on achieving health goals. Strategies to reduce morbidities and mortality among tribal would need to contain specific directions for establishing interconnectivity between income, food security, female literacy and good health right down to the PHC level.

**Sathiya Suman** and **Gopala Krishnan Asari (2001)** examined the reproductive health care of women in rural areas: an exploratory study in Tamil Nadu. Two logistic regression models have been used to estimate the influence of socio economic and demographic factors on ante-natal care and post – natal care, which are treated as dependent variables. These variables were provided as dichotomous variable. The results showed that the minimum health care programme provided by the rural health centers such as ante – natal and post-natal care are important factors both among tribal and not-tribal women in mainstreaming good health during pregnancy and child. Tribal women responded better to the programmes than non-tribal women. Some socio-economic factors such as income, better living condition like house with electricity, safe drinking water, and family planning practices were important factors for better reproductive health practices.

**Sain and Ruby (2005)** made a study on “State of Nutrition – A Case Study of the Santal Tribe of Bengal”. The study presented a review of research on the malnutrition and under- nutrition among the Santhals of west Bengal constitute a serious hazard to the growth and development of people, particularly children. According to their, redesigning child and mother’s care for survival, growth and development was urgently required through primary health care movements which not only develop socio-economic basic living condition i.e. clean water, sanitation and nutrition but also to be improved or tackled poor health of future generations in an integrated manner.

**Richa Chandraker and Suman Chakrabarty (2009)** made a study on “Reproductive and Child Health among the Dhurgond Tribal Community of Mahasamund District, Chhattisgarh, India”. Cross-sectional study was conducted to understand the pregnancy related women reproductive health, infant and child morality and also to assess the nutritional status of mother and under five children among Dhur
Gond tribal community of Mahasamund district of Chhattisgarh, India. 174 ever married women and 68 under five children were selected. Pre-structured schedule was used to collect socio-economic, demographic, reproductive health including ante-natal care, delivery practices etc. Weight of fewer than five children and height and weight of mother were measured by standard techniques. Weight for age was calculated for assessing child nutritional status using NCHS standard, body mass index (BMI) was used to assess for mother nutritional status. Results revealed that high percentages of mother had not taken ante-natal check-up 51.72 percent, tetanus injection 41.38 percent and iron and folic acid tablets 56.32 percent during pregnancies. 94.83 percent deliveries performed at home and 57.47 percent birth was done mainly by untrained (traditional birth attendants). Infant and child mortality rate was 5.92 and 4.28 per 100 live births respectively. 47.12 percent of mothers were undernourished (BMI <18.5 kg/m2) and all the children were suffered from malnutrition. Grades II and III malnutrition were higher among girls compared to boys. Poor health status during child bearing periods, low ante-natal care, high deliveries at home along with high prevalence of under nutrition of under five children and mothers. These were mainly due to low socio-economic conditions, high illiteracy, and lack of awareness among Dhur Gond tribal community.

Prakasa Rao (2008) studied the “Health care and health services”. He observed that the tribal people were suffering with many diseases like viral fevers, malaria, and etc. The rural and tribal health services in the country were with shortage of trained manpower. He suggested that there should be proper provisions of preventive and basic curative services for the tribal people, and also for the protected water supply. The government should subsidize and help general practitioners and doctors, who deliver essential clinical services to the tribal people. Community based schemes should be prepared on the basis of their felt needs, specifically for the isolated, relatively backward and primitive tribal communities.

Thiagarajan (2009) made a study on “Women and Child Health Services by Primary Health Centre at Nagapattinam District”. The objective of this study was to examine women and children health care services by primary health center at Nagapattinam District. The study analyzed infant and maternal mortality registered in
the Primary Health Centre and extent of family planning measures implemented at the primary health center selected and examined the impact of working of Primary Health Centre from beneficiaries’ point of view. The main problem of in this study the aim of the health policy in India has been to secure a change in the health status of its population. Generally women and children in rural area too much worry about their health. Data collected of the sample of 50 children and 150 women respondents were randomly selected from one of the primary health center. The statistical tools such as percentage, average were used interpret the secondary data collected to assess the functioning of Primary Health Centre. The primary data thus collected to assess the effectiveness of Primary Health Centre working from the beneficiaries’ point of view and correlation, regression analysis also have been used for the purpose of analyzing and interpreting the data collected. The study suggested to the awareness towards for health improvement and immunization programmes, proper antenatal care and awareness need to arrest maternal death through spread of knowledge and health programmes.

**Suman Pamecha (2010)** analyzed the various facets of health issues of the tribal people of Rajasthan. This is a direction towards understanding complex web of ecosystems of human settlements and specific cultural processes which play explicit part in sickness and health. This study also tribal response to health problems which reveal a multiple and simultaneous usage of home remedies and multiple therapy and how they were in congruity/incongruity with existing medical system in the country.

**Ravendra and Sharma (2010)** demonstrated that utilization of maternal and child health services are very poor among the tribes of central India. Clinically acceptable maternal and newborn care practices for delivery, cord cutting and care, bathing of mother and newborn and skin massage are uncommon. Therefore, newborns remained at high risk of hypothermia, sepsis and other infections. Prelacteals, supplementary feeding Practices and delay in breast feeding were very common, although colostrum was less frequently discarded. Malnutrition was a severe problem among tribes and many tribal children and women were severely malnourished as well as anemia in the study area.
Reena Shah (2011) made a study on “Socio-economic Correlates of Utilization of Maternal Health Services by Tribal Women in India”. Based on two waves of the National Family Health Surveys of India, she studied the effect of maternal characteristics on women’s likelihood of using prenatal and delivery healthcare services among two groups of tribal women. Results showed that tribal women in the north-eastern states of India were more likely to utilize maternal healthcare facilities compared to those in the central states of the country.

Nilanjan and Ghoswami (2012) made a study on “Consciousness about Literacy, Health and Hygiene within the Socially Backward Class and Caste, Special Reference to Tribal Women and Children – A case Study in Daharpur Village” with the objective of concentrated on economic, dietary composition and access to health facilities by tribal women and children. The study was based on primary data collected from 50 respondents. The situation was particularly serious in view of the fact that both rural and tribal women had a heavy work load and anemia had a profound effected working capacity under condition of stress and increased susceptibility to other diseases.

Pulla Rao (2012), examined the food and health status of scheduled tribes in Andhra Pradesh. A multi – stage random sampling technique was employed to select the sample households. It concluded that more than 59 percent of the sample household’s intake of calories was less than the stipulated level in our study area. The average intake of food items in the sample population was not up to the suggested level. This malnutrition might be one of the causes for the high disease prevalence in the study area. That was for every 100 females in the society of scheduled tribes 28 were affected with diseases. Most of the scheduled tribes do not agree for modern medicine, and they are reluctant to accept it. Most of the women did not consult a doctor when necessary. The tribal households were approaching the private unqualified doctors when they were sick.

Babu (2012) made a study on “Socio-Economic and Health Conditions of Some Major Tribes in Andhra Pradesh”, Despite number of initiatives for improving living conditions of the tribal, the progress was not up to the mark. The forests were
depleting at faster rate, though the government records do not reflect the reality at ground level. These forests were in no way sustaining food requirements of forest dwellers through their traditional means of hunting and gathering. Mostly they were depending on agriculture either as cultivators or agriculture labour. They were malnourished, poor, and largely illiterate and rank miserably low in all sorts of health indicators despite of their wealth of traditional knowledge of keeping healthy. Their literacy levels are not adequate to compete with the general population and at the same time they decline to do any work in their native places.

Rajagobal (2012) made a study on “Tribal Health care Services – Anecdotal Evidence of ‘Health Trap’ in Selected Areas: A Case Study”. The study based on both primary and secondary data which are collected from 300 respondents a tribal community of seven tribal divisions. He concluded that there was a health care system for tribal areas is the need of earlier, involving people in the process of health care services would be a ‘new experience’.

Arun Kumar et.al., (2013) made a study on “A Study on Assess the Level of Living and Awareness and Practices Regarding MCH Care in a Remote Tribal Village of Udaipur District”. The objective of the study was to assess the level of living with emphasis on awareness and prevalent practices regarding Maternal and Child Health care among the tribal population of a remote village. Family based community health survey was done in a tribal village Bakhel of Udaipur. Data was collected by observation on a pre designed and pre structured interview schedule of mostly female heads of all the families consented. Results depicted that only 20 per cent of male heads are literate and female literacy much lower, 60 per cent families preferred to deliver at home, 62 per cent of families had no knowledge about child immunization, 61 per cent of children found to have some grade of malnutrition. They Concluded that most of the tribal villagers were Illiterate, had poor awareness regarding availability of MCH services, routine immunization and family planning methods.

Umesh and Samuel (2013) made a study on “The Health Status of Elderly Irular Tribal Women in Kanchipuram District”. The data were collected from pre-tested interview schedule. Around 66 per cent of the women belonged to the age group of 60-
69 years old. A majority of them had health problems such as hypertension followed by arthritis, diabetes, constipation etc. The objectives of the study were (i) to study the socio-demographic characteristics of the elderly Irular women (ii) to identify the health problems of the elderly Irular women (iii) to find out the problems faced in accessibility of health services by these women iv) to highlight the role of the social worker in creating awareness of the various health services available from the government for these women. The results of the study showed that there was a need for geriatric clinics that could take care of their physical and psychological needs. It further stressed accessibility of health services as a main reason for the elderly not availing the health care services. The study also suggested provision of mobile clinic to cater to the needs of the community every month on a selected date on a regular basis.

Ramana and Usharani (2014) examined the Reproductive Health care Issues and Concerns of Tribal Women, Demographic profile of women in Reproductive age (15-49) and children (under 15 years) consisting 60 per cent of the Indian population. In this population assumes that two thirds of our population are vulnerable to ill health and death while being in the Reproductive cycle of Natal- Antenatal and Post-natal care period of survival and development. The study focused on to assess and understand the Reproductive Health Status of Tribal Women. The study was carried out in the state of Andhra Pradesh one each from the three regions of Andhra Pradesh namely Andhra, Telangana and Rayalseema were selected for the study. Adopting stratified random sampling technique 400 tribal women were selected from each region, totalling a sample of 1200. Data were collected from both primary and secondary sources. Examination of reproductive health concerns of Tribal women was useful in assessing the extent to which populations enjoy the human rights to maximize their opportunity to enhance reproduction in the study area.

Babita Das (2015) discussed about the Health Status of Tribal People in Gajapati District of Odisha. The objective of the study were (i) identify the health problems of tribal people ii) to find out the reasons responsible for their ill health iii) to study economic characteristics of the tribal people. The data were collected from primary and secondary sources. So far as the health status of tribal people in Gajapati district of Odisha was concerned tribal people were in ill condition. The health status of
tribal people was poor because of the isolation, remoteness and being largely unaffected by the developmental process going on in India. Most of the respondents are not conscious about the health programmes as they are less educated and are suffering diseases due to their poor socioeconomic conditions. Thus, it concluded that Tribal people in general are highly disease prone. Good health of tribal people would take a great change not only in their community but also the society.

2.5 Conclusion

From the earlier studies, it is evident that maximum numbers of studies are concentrated on general health like health facilities, health expenditure, determination of health, malnutrition and rural health. Some of the studies are related to tribal community education, poverty, hills farming, employment opportunity and nutrition livelihood. Only few studies are related to tribal health, reproductive health, women health and health awareness. Further a very few studies are concentrated on Kolli Hills where more tribal people are living. Hence there is need of a study about tribal health studies in Kolli Hills.
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