The rise of European powers in Andhra Desa paved the way for far-reaching consequences in the village economy since the onset of 18th century. The European style of industrialization changed the village economy and introduced the market economy with the establishment of industries at different parts of Andhra. Till 18th century the mills and factories were quite unknown to the masses. A majority of the people were agriculturists and sustaining on cottage industries which were fulfilling the food requirements of the people. Although the society was deep into four-fold caste system, every caste had its own functions to perform and although, the serfdom existed, people were at harmony within their own sphere of existence. During this period women had no social freedom. Their entire life was confirmed to the four walls of the house and this has made women more and more traditional and superstitious. The traditional diseases such as fevers, stomach problems, quite often cholera, dysentery on account of insanitation and water borne diseases and arthropod borne diseases were very common to people and the indigenous and Ayurvedic medical practices were commonly used by the people to combat the traditional diseases successfully.

But the emergence of mills and factories and consequent resultant market economy in Andhradesa has brought about several changes. The greed of territorial expansion between the French and English powers gave rise for the new changes in the socio-economic and cultural life of people. The rapid industrial development on account of establishment of more mills and factories in Andhra resulted in problems such as over consumption of resources and goods, enormous amounts of garbage and pollution of Air, water and soil which threatened the
living organisms including human beings and as a consequence there was a rise in the new diseases such as cancer, hypertension, vascular diseases, etc., for which no remedy was available in the tradition medical practices in Andhra such as Ayurveda, Unani, etc.

A. CAUSES FOR THE SPREAD OF DISEASES:

Much of ill-health in India/Andhra Desa is due to the poor environmental sanitation that is, unsafe water, polluted soil, unhygienic disposal of human excreta and refuse, poor housing, and insects and rodents. Air pollution was also a growing concern. The high death rate, infant mortality rate, sickness rate and poor standards of health were largely due to defective environmental sanitation.\(^1\) Since more than 74 percent of the population was in the area under consideration live in rural areas, the problem is more attributed to rural sanitation.

A.1. Water Pollution:

The major reason was the neglect of protective drinking water supplies. This was most endemic in the coastal regions of Andhra. The irrigation channels and distributaries that transacted the Godavari, Krishna and Pennar rivers were used to provide water for drinking, washing, cooking and other allied activities including agriculture. Through industrial waste, and fertilizers that were used in agricultural activity defecation along the banks, washing contaminated clothes, cleaning the domestic animals and vessels, the water borne vibrio was

\(^1\) Gordon Mackenzie, op. cit., p. 190.
readily transmitted downstream from one village to another.\textsuperscript{2} The high density of population and the rural settlements in such irrigated areas and the separate tanks and wells to the upper caste people and untouchable communities increased contamination of water and resulted in rise of several diseases.\textsuperscript{3}

The highest water related diseases being the diarrhea diseases where as the other diseases include viral diseases such as viral hepatitis A, Hepatitis E and Poliomyelitis; Bacterial diseases such as typhoid, dysentery and cholera; Protozoal diseases such as amoebiasis and Helminthic diseases such as round worm, thread worm and hook worm, etc.\textsuperscript{4}

The exceptional condition caused by famines was also a contributory cause for the spread of different diseases. The dry conditions that prevailed during famines of 1830, 1876-78, 1900, etc., in Andhra Desa were normally inimical to the survival of the endemic diseases and certain aspects of the famine situation and of the human response to it helped favor the fatal juncture. Famine had its effects on the Andhra region due to which thousands of villagers from drought regions were removed to the deltaic regions in search of food and relief. This was one factor in the high incidence of the spread of a variety of diseases in coastal Andhra during those years.\textsuperscript{5}


A.2. Air Pollution:

Air is part of man’s environment. It is the basis for all forms of life. Apart from supplying life giving oxygen, air serves many other functions. The special senses of hearing and smell are mediated through air borne stimuli. However, the modern methods of market economy and industrial growth are contaminating the air to a larger extent. Some disease agents are also carried by air and Lead is one of the major pollutants released in the air by combustion of gasoline used as a fuel in automobiles and industries. Enhanced lead levels affect the nervous and respiratory systems in human beings. They are also responsible for cardiac problems and high blood pressure. Increased presence of mercury and sulphur dioxide in the air causes vision problems, muscular problems, paralysis, and respiratory diseases such as mostly asthma, tuberculosis, bronchitis, etc.

A.3. Soil Pollution:

Soil pollution is defined as the contamination of soil with excess use of chemicals, fertilizers, insecticides, herbicides, etc. Soil pollution or degradation which results in the decrease of quality of soil, decrease in plant nutrients or soil micro-organisms, excess or deficit of moisture content or high fluctuation of temperature. Soil pollution severely affects human beings as well as animals as it results in decreased agricultural production. The use of chemical fertilizers and pesticides that are used for increase of agricultural production not only degrade

7 Ibid., pp. 126-127.
the soil but also enter food chain and affect the health of the people the W.H.O is of the opinion that many of the third world diseases are caused by soil pollution.  

A.4. Arthropods and Public Health:

There are numerous arthropods in the environment. Many of them are of no significance. But there are a few which bite or infest man and transmit diseases. The relevant arthropods of medical importance are a). Mosquitoes, b). Houseflies, c). Sand Flies, 4d). Rat fleas etc. All the anthropods do not transmit disease the same way. Broadly there are three ways arthropods transmit disease such as direct contact, mechanical transmission and biological transmission.  

A.5. Mosquitoes:

Mosquitoes are found all over the world. There are two main species of mosquitoes in India such as Anopheles and Culex Andes. The male mosquitoes do not bite. Only the females bit because they need blood for laying eggs. The mosquitoes are more abundant during rainy seasons as the polluted water provides ample opportunities for breeding eggs and multiplication. The Anopheles species cause malarial fever, whereas the Culex species cause Fileria, Encephalitis, etc. The Andes species cause dengue fever and Haemorrhagic fever.  

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9 Ibid., p. 112
10 K. Park, op. cit., p. 76.
11 Ibid, pp. 76-79.
A.6. House Flies and Rat Fleas:

The housefly is the commonest and most familiar of all insects which live close to man. It is associated with filth and is rightly regarded as an index of insanitation. The body of housefly is covered with numerous short hairs which secrete a sticky substance. It carries infection on its feet, body and hairy legs. Besides this, the fly has an ugly habit of vomiting frequently and has the habit of constant defecation. Thus it spreads diseases such as Diarrhoea, Dysentry, Typhoid, Cholera, Amoebiasis and Conjunctivitis.\(^{12}\) Different kinds of fleas infest different animals. The rat fleas have acquired great importance because they transmit the dreaded disease plague.\(^{13}\)

A.7. Hindu Religious Beliefs:

A Hindu belief in the sacredness of animal life seriously affects India’s food problem and diet. They cannot eat eggs because they believe that egg contains life. A few Hindu castes do eat fish; but most of them do not. Christian converts who wish to do so, and who live separately from Hindus do improve their diet, but when living among Hindus the raising of chickens is not tolerated and the eating of eggs is frowned upon. One also finds that these food-taboos breed much hypocrisy.\(^{14}\) A few Priests are known to live on the fines levied on Hindus who dare to partake of forbidden food. Spies supply them with the necessary evidence.

\(^{12}\) Ibid, pp. 80-81.
\(^{13}\) Ibid, p. 84
The religious belief that the soul of a dying person may transmigrate into a bird or animal is a great hindrance to the use of animal food as well as to economic improvement. The elimination of useless cows in order to make more adequate provision for feeding the reminder and so to increase the yield of milk is made impossible by this belief. The average milk-yield per cow in India is only 600 pounds, whereas in Holland it is over 7,000 pounds. The insufficiency of wholesome food is a contributing factory to the reduction of the expectation of life which in this country is only 27 years whereas in the United States it is more than twice as high.\textsuperscript{15}

The fact is that most babies get insufficient milk and that more than half the cows are useless. This information form Gandhi’s weekly paper sounds pathetic, when he writes, “India worships the cow, and cow’s milk is unprocurable in the majority of our villages.”\textsuperscript{16} “With Hindus cows slaughter is the greatest sin one can commit,” proclaimed the President of the Hindu Mahasabha when protesting against the elimination of cows not producing milk. The Hindu Editor of a Weekly confesses saying, “I have no convinced belief in the theory of the rat being the chief cause or agency in the dissemination of plague,”\textsuperscript{17} and this in spite of the fact that the responsibility of the rat has been well established by scientific proof. The real fact is that that the rat is the Chief Carrier of Lord Ganesa, who is one of the main in the Pantheon of Hindu gods, and therefore, the traditional

\textsuperscript{15} Ibid., p. 233.
\textsuperscript{16} \textit{Harijan}, March 7\textsuperscript{th}, 1936.
\textsuperscript{17} \textit{Indian Social Reformer}, October 18, 1939, p. 45.
Hindus opposed the killing of rats during the rise of plague in different parts of India.

Being miles away from any kind of efficient medical service, countless people resort to the use of opium to bring relief from pain. They also give it to babies to keep them quiet while the mothers are at work in the fields or the factory. Able to point to the excellent health of their own children who were not given opium, the Missionaries and converts had an easier task of discouraging the custom that others who may be suspected of giving it to their children in the society.\textsuperscript{18}

Climate is one of the handicaps for the spread of diseases. Apathy, superstition, fear, bad housing, overcrowding, inadequate and unsuitable diet, and many social usages and social customs inimical to the growth of a healthy public life held up in all directions the efforts of government departments, medical organizations, doctors, educational agencies and courageous voluntary workers in towns and villages to bring down a fall of preventable diseases to less appalling figures.

The prevalence of epidemics at the beginning of the year is also ascribed to the consumption of new grain, lentils and roots that are generally gathered at that season.\textsuperscript{19} To these causes should be added the culpable indifference and folly of the victims, who do not seek any timely aid from proper quarters during the epidemics and even tried to conceal the fact of it owing to fear of official interference.

\textsuperscript{18} Fishman, A.T., \textit{The Culture Change}, p. 45.
A.8. Superstitious Beliefs:

As popularly believed by the Andhras, the prevalence of epidemics such as cholera, small pox and chicken pox are the signs of disorder caused by the divine wrath. The village gods were deemed to be the guardian deities that protected the people of the respective villages from contagious diseases. Cholera was occasionally thought to be the visitation of goddesses Ankalamma, whereas smallpox and chickenpox were caused respectively by Polermma and Nukalamma. Whitehead writes, “When calamity overtakes the village, it is to the village deity that the whole body of villagers turns for protection. They propitiate the village deity to avert her wrath.” The onset of the disaster causes the special worship or a festival of the goddess. There were regional variations in these rites. These rites were often accompanied by the sacrifice of buffaloes, goats, pigs, pigeons, etc. A blood sacrifice was thought to withdraw the goddess of her anger symbolized as the heat of the disease. There are also instances of human sacrifices at a couple of places and one such incident was recorded in 1816 in the Jeypore region of Vizagapatnam district. The virulence of the epidemic drove people to seek help in religious ceremonies rather than opting for medical remedies. So too, were the Hindu festivals and pilgrimages by which the epidemics spread. Fairs

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20 Nellore Gazetteer, op. cit., p. 102
and festivals also increased the spread of endemic diseases on account of the unsatisfactory sanitary arrangement and crowd control.\(^{23}\)

Very serious mortality occurred in *Pushkarams* of Krishna and Godavari districts celebrated at Vijayawada, Rajahmundry and other areas near those rivers.\(^{24}\) The reason is that *Puskaram* to these rivers occur at an interval of 12 years for each of these rivers and taking a holy dip during the *Puskar* period is auspicious. Hence, lakhs of people gather near the rivers for holy dip during *Puskar* period which is one of the root-causes for the spread of several diseases including skin diseases. The unsatisfactory sanitation conditions during that times near the cities and rivers is also another contributory factor for spread of deadly diseases such as Cholera, Typhoid, etc.

A few districts of Andhra generally became the focus of the epidemic due to the vicinity of the road and railway junctions. The districts became susceptible to cholera and other epidemics because of the railway junction there. There have been five epidemics in the districts between the years 1927-28 and 1935-36 resulting in 1,758 deaths on an average on each occasion.\(^ {25}\)

The established fact is that that due to popular beliefs and superstitions there is much unnecessary suffering and many deaths which are preventable. The Hindu pantheistic conception of a god who pervades everything and the resulting belief in the unity of all life combined with the belief in the sacredness of animals,


\(^{24}\) Ibid., pp. 189-96.

and the sinfulness of killing them, are all definite obstacles in carrying on medical work. During the past 50 years flea-carrying rats have been prominent agents in causing 11 million bubonic plague deaths. Mad dogs and jackals cause many deaths by rabies and sentiments. But however, these animals are rarely killed by the people in the name of Hindu religious sentiments. Even while carrying on the ordinary rules of hygiene one meets with religious beliefs.\textsuperscript{26}

\textbf{A.9. Construction of Houses:}

In the house construction, people on account of caste and social practices adopted different methods which were not also hygienic in the standpoint of health. Conglomeration of houses knit very closely without proper ventilation, drainage and sanitation facilities was a common feature. People are very poor and as such they keep the cattle, sheep and other domestic animals within the house where they live on were a common feature. Although they clean the animal excreta, dust and dirt quite as well as the bad smell often causes lot of inconvenience to the inmates and at times diseases as well.\textsuperscript{27} Further, many of the houses in big villages were constructed without windows as the people afraid of having them for fear of thieves. This led to dark rooms without proper ventilation. The adverse effects of poor housing and improper ventilation caused respiratory infections such as common cold, tuberculosis, diphtheria, bronchitis, influenza and skin infections such as scabies ringworm, leprosy, etc.

Further, the houses were not commonly considered safe enough from contamination to justify doing away with dust and drawing vessels. Separate

\textsuperscript{26} Fishman, A.T., op. cit. Pp. 63-64.
\textsuperscript{27} Ibid., p. 62.
colonies for each caste in a small village, also led to unilateral practices and hindered the cosmopolitan outlook among the people especially, the women.  

A dung heap or a pool of water was a common sight before almost all of the houses. Naturally, cholera or small-pox breaks out as an epidemic form in some parts of the area under consideration almost every year. People, instead of taking the necessary precautions for combating the epidemic, believe that some evil goddess has brought on the epidemic, and so they begin to perform Jatara, a form of festival for the goddess. This Jatara consists of waking up during the night, drinking and eating unhealthy foods, offering eatables to the deity and so on, which instead of decreasing the epidemic, increases it.

A.10. Night Soil:

The native practice of promiscuous defecation spreads filth-born disease and washes way valuable fertilizer. In some areas, the houses of the well-to-do were equipped with bucket latrines, but even in such cases, the night-soil is largely lost to agriculture. The scavengers are socially degraded because of the stigma that attaches to the handling of human excreta. Obviously, to people who handle their food with fingers instead of with forks or chop-sticks and had inadequate facilities for cleaning contaminated hands and fingers, there was some good purpose served by the pollution taboo.

A.10.1. Open-air Defecation:

29 Kuglar, A.S., op.cit., pp. 54-55.
The open-air defecation is a common practice in India in general and Andhra Desa in particular. People usually carry a small tumbler full of water for cleaning purpose. Such people usually use open places such as road side and open spaces that are not far off from their houses. On some occasions, people use canals, ponds for the defecation and cleaning purposes. Since the night-soil is open to the sky for several hours, it is prone for germination of insects and flies which usually reach the household articles including food if it is not properly covered and thus spread contamination to the articles.\footnote{Francis, W., \textit{Vizagapatam District Gazetteer}, Madras: Asian Educational Services, 1907. P. 23.} At times, the defecation is also used by pigs and dogs as food. This way the open-air defecation practice by the illiterate, downtrodden poor people cause concern for spreading of the airborne and waterborne diseases.

The inter-marriages among communities, due to caste, creed and custom results too often in weakness of the body and mind and thus the sins of the fathers are visited upon the children up to the third and fourth generations as revealed long before Mendel’s day. Insanity and mental deficiencies of all grades account for much suffering and economic loss also in Andhra as elsewhere in India.

Carelessness and ignorance regarding the care of the eyes are largely responsible for the fact that India has 6,00,000 blind and three times as many who are partially blind. Institutions to care for them, or to train the young blind, are pathetically few. Believing that it is their ‘fate’ India is largely apathetic, almost merciless, towards them. Malnutrition is no less a contributing cause to impaired
vision. Again in the work of restoring sight to blind, the Church had done pioneering service. Dr. Wanless of Miraj alone had performed 10,000 cataract operations during the 30 years between 1889-1928, serving the poor as well as those who were able to pay. In rural Bengal and Bihar, Dr. Macphai has 5,000 eye operations a year of which 2,000 were for cataract.\textsuperscript{32} To these figures one may add many thousands more of the contributions of Christian Hospitals where various eye diseases were treated and people were taught to use clean bandages and not to apply grease from the hubs of dusty carts as an ointment.

The women of coastal Andhra were more conservative than men. The women were very much influenced by the priests and the native doctors and it was not in the interest of these men to encourage Foreign Doctors. Often the men of the family would want to call a Missionary doctor, but instigated by the priests, the women would oppose the doctor’s entry into the house because it was considered unceremonious. The native doctors or priests give the impression that if a patient was suffering with acute mania, it was believed that the patient was possessed by a devil, and the devil-doctors popularly known as \textit{bhutavaidyulu} in vernacular Telugu were called. The practices of these men were often very cruel. They beat the patient vigorously with broomsticks or with tamarind branches to drive away the devil. At times, they contended to beat themselves and beating on the walls while playing their tom-toms and repeating \textit{mantrams}.\textsuperscript{33} If their incantations were all in vain, they were dismissed and the Missionary doctors

\textsuperscript{32} Ibid.,
were again called. In those days, the doctors charged small fees and that to in-patients only. As the patients improved under the more intelligent and milder treatment, there began a friendship that continued through for many years between the Medical missionaries and the patient and their relatives.

A.11. Maternity Issues:

More than the diseases, pregnancy and childbirth used to be the factors of a high rate of mortality among rural women. Pregnancy was considered a Gift of God, but delivery of the child was an ordeal, and many a time resulting in the loss in life of the child or the mother, or at times both. Even if there was comparatively an easy delivery, the post-natal care was another event of danger which leads many a time, to the death of mothers.34

The maternity patients are brought to the Hospital as a last resort after having tried other crude methods of relief. Most of them when they arrived had been badly treated or were very late in reaching the Hospital. It was a common experience to get a call very late at night to attend to a maternity case, several miles away, and on reaching there to witness the plight of the mother who had been roughly and stupidly handled by the ignorant mantrasanis, who were wrongly called as nurses.35 Then the patient was rushed to the hospital in the ambulance, and in spite of the best aid the doctors could give, her life may or may not be saved mostly because of rude handling by the Mantrasani – the rural nurse.

35 Kuglar, A.S., op. cit., pp. 54-55
The *Indian Medical Review* for the year 1939 points out that nearly three million women in India are disabled temporarily or permanently every year as a result of pregnancy or labour, and the maternal mortality was very high. The tragedy was that 80 percent of these deaths were preventable.\(^{36}\)

Besides these, there were several other reasons for this havoc. It was estimated that 2,00,000 mothers die at child birth annually from preventable causes. One of the reasons for this appalling death toll was the custom of keeping girls and mothers in *purdah*, indoor isolation, away from fresh air and sunshine.\(^{37}\) Again 33% of stillbirths and child deaths and maternity deaths of mothers were due to untrained and unintelligent midwives, most of who were from among the low caste groups.\(^{38}\) For the 17,10,00,000 female population of India there were only 600 qualified lady doctors and 199 Christian Indian lady doctors. One medical report states that “in a land of 25 million women there cannot be found even 2,500 trained nurses. In 1941 there were 308 foreign trained nurses and 1,038 Indian Christian trained nurses.”\(^{39}\) Very slowly Hindu and Muslim young women, especially widows were entering the nursing profession after the Church had done the pioneer work.

**B. INDIGENOUS PRACTICES:**

**B.1. Food Practices:**

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\(^{36}\) *Indian Medical Review*, 1939, P. 57.


\(^{38}\) Ibid.

There are several indigenous practices were existing prior to the arrival of the Allopathic medicine into Andhra Desa. These practices continued to exist even during 19th and 20th centuries on account of the economy and firmly rooted practices largely exposed by religious or deep-seated social sanctions. These include,

1. The cleaning of teeth with a green morgosa twig or with ashes or with charcoal was a common practice. This practice may be economical, convenient, sanitary but not all satisfactory from the stand point of oral hygiene.

2. Providing mother’s milk to the new born babies for several years was another common practice in Andhra. Although, this seemingly odd to a Westerner, it provides only the accessible source of milk for millions of new born babies in India. Further, it was not expensive and delays the next pregnancy.

3. Eating food with fingers was another common feature of the people. The use of right hand fingers for eating purpose is sanitary if the fingers and hand is properly washed.

4. The use of left hand for ablutions following defecation and keeping it away for use of eating food is another common practice.

5. The eating the meat of dead animal by dalits and tribals everywhere and poor backward communities at certain places was another common

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practice. It was very cheap and affordable for them. The scientific experiments proved beyond doubt that the meat of the dead animal is not physically harmful if the meat is collected immediately after the death of the animal either by accident or other means but not on account of any disease.

These factors were recognized by some of the early Missionaries, as shown by Newcomb’s remarks in a case in Cumbum Taluq. According to him, “After thirty years, the majority of the people of Checheria and Papial eat carrion. They swallowed R’s buffalo carcase with ease … Not a bone was left. Well what of it? They are awfully hungry.”

B.2. Water:

Water is also a frequent carrier of disease because of ignorance, carelessness, caste taboos, poverty and social practices. The people were ignorant of the connection between germs and diseases and do not understand the problems that arises on account of the contamination of water. Some of the common features of the use of water are,

1. The people are careless in taking bath at wells and ponds and even at times in irrigation canals. This is a good old practice and may not cause immediate effect but at times it becomes fatal for the weak bodies.

2. People were also careless in washing clothes in and around unprotected wells and ponds.

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3. People were careless in defecation near wells and ponds and wash their hands in the waters of wells, ponds and irrigation canals.

4. Caste rules make separate wells to the communities even in a small village and thus make it difficult to have a provision of protection to the wells.

5. Poverty of resources limits the ability of the groups to have a protected wells and inadequate fuel supply of boiled drink method of protection.

Another difficulty was that although according to customs wells might be used by all, for the caste population of a village, two separate wells would be necessary even to the smallest groups of outcastes – the Malas and Madigas as per the caste distinctions among themselves.\textsuperscript{42}

C. THE SEASONAL EFFECTS:

Health of coastal Andhra was, to a certain extent, affected by seasons. On the setting in of the rainy weather and during the rains, rheumatism and chest afflictions were more common that during the hot weather and in the cold weather the inhabitants of the area suffer from fever and diseases of the kidneys.\textsuperscript{43}

Fever was the most prevalent disease in Andhra and during certain occasions result in greater mortality. It was endemic, but is always worse during the cold weather and more especially during the months of December and January.

\textsuperscript{42} Fishman, A.T., op.cit., pp. 63-64.
\textsuperscript{43} Francis, W., \textit{Vizagapatam Gazetteer}, p. 23
when cold winds blow from the north-east over the jungly hills. It was induced by the habit of the natives sleeping outside their houses and exposing themselves to the influence of the wind and it aggravates by their practice of treating it by starvation. When attacked, by fevers the people starve for several days at a time, each period of starvation being called in Telugu *lankhanam*, and the disease had all the more power over them when they were thus weakened and reduced.

The healthiest season is during the hot weather, which is the very reverse of the case. The setting in of the rains brings out malaria from the decayed vegetation, and renders the whole tract of jungle unhealthy. The prevalence of fever in the plains was not so regular and constant. Some seasons were worse than others. At the end of 1869 and the beginning of 1870, it was very bad. In the following year, the late Assistant Surgeon Wright, in whose early death, the Government ordered to proceed to the Andhra and to make a thorough investigation into the reasons of the outbreak.

The investigation brought to light that it was entirely caused by the malarial winds which prevailed during the north-east monsoon. The following were the conclusions to which the Sanitary Commissioner arrived after the perusal of Mr. Wright’s Report on the subject which reads,

> My conviction is that the periodical accessions of fever in the coastal districts are due to the geographical position of that area in respect to

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malarious lands to the north and west and that the fever is due to the northerly winds of the north east monsoon sweeping over the malarious jungles of the hill tracts of the Northern Circars before they reach the Godavary and Krishna Districts and further South and that the Taluks which are the most open to influences from the sea have the least fever.\textsuperscript{46}

The results of five years registration, i.e., between 1866 and 1873 demonstrated in a very clear manner that the intensity of fever in any Taluk has no relation to the extent of irrigation of the land, but was solely due to its geographical position and its exposure to malarious winds during the north-east monsoon. In coastal Andhra, Malaria prevailed throughout the cold season in the whole of agency tracts of Northern Coastal Andhra. The next season for its prevalence was November up to the first thunderstorm of April. If the people ever contracted the disease, they took no medicine, but fasted and offered sacrifices to the local deity, beginning with fowls and going upwards through pigs, goats and ultimately to buffaloes, until such time the fever left them or they realized that it’s their fate and bear it.\textsuperscript{47}

One of the principal diseases of coastal Andhra was beriberi. The Telugu name for this disease is \textit{ubbu vayuvu} or rheumatism, with dropsically swelling. Though endemic in many situations, it is frequently epidemic after the setting in of the rains. It has the same origin as fever namely the malarious exhalation from rank vegetation. Natives suffer form it much more than Europeans, and indeed it is very rare to hear of the latter being attacked by it; and

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\textsuperscript{46} ibid., p. 84.
\textsuperscript{47} Francis, W., op. cit., p. 157.
\end{flushright}
It is more prevalent on the coast than in the inland. It is a disease of middle life, and is peculiar to males, never having been observed in females. It is both chronic and acute; the acute form is usually attended by intermittent fever; and the chronic form is more frequently the sequel of rheumatism and fever.

Cholera and smallpox were sometimes very prevalent. The former was merely an epidemic, visiting the area under consideration from time to time with fearful virulence, and chiefly invading it from the north, west, throughout other parts of coastal districts. The latter was more or less endemic. Cholera very frequently succeeds by a severe outbreak of smallpox. The sanitary conditions of the houses and of the villages render these diseases more widespread and obstinate than they would be if they had not these predisposing circumstances to lay hold of.

In coastal Andhra, cholera had usually been most severe when the seasons were most adverse and the Visakhapatnam District Gazetteer records that the death rate on account of malaria in 1866 itself was numbered 11,695 in 1877, 6,923 in 1878, 4,456 in 1889, 7,065 in 1892, 3,229 in 1897 and -5,103 in 1906. On the other hand, though the season was good, the disease was particularly virulent and 9,685 deaths were recorded up to the end of August. No proper medicine was administered and the villagers had been known to propose the

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imprisonment of neighboring Wizard as the only method of checking the epidemic.\footnote{Francis, W., op. cit., p. 158.}

Besides these diseases, elephantiasis was very common in East Godavari and Vizagapatnam districts and the Beriberi was very rampant on all along the marshy lands and the coast. The black water fever was very common among the European residents.\footnote{Ibid., p. 157.} Mortality from small-pox, as elsewhere, fluctuated violently not in accordance with very obvious principles. Vaccination was the only method adopted for checking the disease.

The climate of the coastal districts was not healthy for cattle either. So much of land in all the Delta Taluks was taken up for cultivation that very little was reserved for pasturage. The ryots in these Taluks made it a practice to send their cattle during the cultivating season to graze in the inner and upland Taluks, where there was a much greater abundance of fodder for them. The grass which grows on the banks of the canals in the Delta was very prejudicial to the health of cattle. This grass, being grown on land watered from the Anicut, becomes very rank, and causes the cattle that feed on it to contract a disease called in Telugu 
\textit{Jelagarogam}, which generally proves fatal. Leeches were bred in the stomach of the animal and eat into its intestines as consequence death being occasioned by haemorrhage. The mortality among the cattle in the Andhra desa was
consequently very high. Inflammation of the throat was also another dangerous
disease to which the cattle were peculiarly liable.\textsuperscript{51}

Thus instead of steps to prevent their incidence and spread, by means
of improving hygienic conditions and medical treatments, the people were always
kept in false notions. Further, various festivals were celebrated to propitiate the
goddesses, so as to drive away their evil effects which the people believed that
cause diseases.

Some types of psychical ailments, such as hysteria were considered as
the effects of ghosts possessing the unfortunate victims and thus there was
frequent recourse to Sorcerer or Ghostbuster locally called \textit{bhutavaidyudu}. The
treatment of Ghostbusters varied from person to person, depending on the age of
the victim and the severity of the affliction. Children were given a talisman, but
grownups had to undergo a very harsh and even inhuman treatment and the
treatment caused more suffering than relief. This practice was mostly prevalent
everywhere especially among the women-folk. Kandukuri Viresalingam,\textsuperscript{52} the
great pioneer of Social Reform Movement in coastal Andhra in the 19\textsuperscript{th} century,
referred to the fact that his mother used to visit such Ghostbusters for relief at
times of ill-health.

Besides these unhealthy practices prevailing in coastal Andhra, rumors
that were spread in different parts of the country about the Colonial Rule also
enhanced the suffering of people. A rumor that was spread at Delhi in 1861 and

\textsuperscript{51} Henri Morris, op. cit., p. 85.
\textsuperscript{52} Ibid., p. 12.
spread to the remaining parts of the country shows that when the vaccinators were hindered by the traditional Hindus and local practitioners that children were being “tested” with sharp instrument to discover whether or not they were “born foes of the government”. If they were shown to be foes, the rumour said they would be blead to death.53 Further the ignorance and caste-ridden traditional social system which was prevailing in the country in those days did not encourage scientific discoveries in Medicine that was floated by the Western medicine. The indigenous medical practices such as Ayurveda, Yunani-Tibu could combat the newly growing diseases which were erupted on account of industrialization and growing population.

The Andhra country, till the end of the 18th century, had no system of public health organized by the Government.54 There were frequent eruptions of deadly epidemics such as Cholera, Malaria and Smallpox, besides many a type of seasonal diseases on large scale. These diseases claimed lives in hundreds every year including a few Missionaries who were although very careful and even followed Western medicines. There was no doubt that there was the prevalence of native systems of medicine, the Ayurveda and Yunanai55 in the country, but the services of the physicians who practiced those systems were available only to a few wealthy and influential people in some urban centers and not to the rural poor.

and downtrodden. Further, these medical systems were not updated by researches and thus their efficiency was uncertain in most of the cases.

Rural masses of the time depended mostly on the conventional usage of herbs and drugs, sometimes administered by a special class of drug physicians called mandulavallu in vernacular Telugu, meaning medicine-men. They were a primitive tribe of the country, whose expertise in the use of drugs was a hereditary affair. Their social status was also of a very low esteem in the society.\textsuperscript{56}

\textbf{D. THE GROWTH OF MEDICAL FACILITIES IN INDIA:}

Since ancient period the medical systems such as Aurveda and Siddha are truly Indian in origin and development.\textsuperscript{57} Ayurveda is practiced throughout India but the Siddha system is practiced only in Tamil Nadu\textsuperscript{58} and its adjoining areas in South Andhra, though these systems differ very little in theory and practice. The origin of Ayurveda is traced back to Vedic times and attributed to the authors Atreya, Cheraka, Susrutha and Veghabhata.\textsuperscript{59} The \textit{Susrauta Samhita} though mainly devoted to surgery, also includes medicine, pathology, anatomy, midwifery, ophthalmology, etc. It is also believed that the early Indians set fractures, performed amputations, excised tumours, repaired hernia, excelled in cataracts, etc.\textsuperscript{60}

\textsuperscript{58} Ibid., p. 15.
\textsuperscript{59} Ibid., pp. 16-20.
Ayurveda believes in ‘Tridorha theory of disease’ such as *Vata* (wind), *Pitta* (gall) and *Kapha* (mucus). Disease was explained as a disturbance in the equilibrium of the three humors and when they were in perfect balance and harmony, a person is said to be healthy.\(^{61}\)

Three important drug substances are used in Ayurvedic medicine, that is, vegetable products such as leaves, roots, agricultural and dairy products such as oils, ginger, sugar, areco nut, palm leaves; and animal substances like bones, urine, hair marrow, semen, horns, nails, hoops, etc.; and mineral products like gold, silver, copper dust, iron dust, mercury, lead, mercury, etc.\(^{62}\) The mineral drugs are placed in high esteem because they would not perish or spoil so easily and quickly as those of herbal drugs or animal products.\(^{63}\)

The Reddi and the Vijayanagara kings of Andhra desa patronized many medical scholars and encouraged them to compose works on the sciences of Ayurveda. Hence, they took up research and invented many new things. Previously diagnosis was made on the basis of the five particulars relating to the inducing causes (*nidana*), premonitory indications (*puvarupa*), symptoms (*rupa*), applicability of medicine, diet, course of conduct (*upasaya*), and the beginning of the disease (*samprapati*).\(^{64}\) Around A.D 1300, the method of *astasthanaparika* in diagnosis was introduced by the Andhra scholars. It marked a milestone in the

\(^{62}\) Jaggi, O.P., op. cit., p. 84.
\(^{64}\) Ibid., pp. 48-53.
history of indigenous medicine in India. With this achievement, revolutionary changes started taking place in the development of the medical sciences.

The Physicians of the period collected drug substances from the hilly regions such as Indra-Kiladri, Srisailam, Nuzividu, Kondapalli, Kondaividu, Tirupathi, etc., and the Kings and the Feudal lords donated garden lands to the temples for the cultivation of herbs and appointed vanapalas (Gardeners) for their supervision.65

The Physicians also collected drug substances from the backyard of their homes or in the surroundings of their villages. That was the reason for why people did not suffer due to lack of purchasing capacity or due to the scarcity of things.

The Andhra medical scholars tried their best to propagate the knowledge about the emateria medica among the common people through nursery rhymes and folk songs. They translated many medical lexicons from Sanskrit into Telugu and propagated them with their names in usage.66

Not only the herbal drugs but also the mineral and rasa medicines were in great demand in those days. The Physicians of Andhra Desa acquired proficiency in preparing the new drugs such as Purnacandrodaya and

Makaradhwaja. They also prepared the araqs by borrowing the pharmacological methods from the Unani system and administered them in their practice.⁶⁷

In the field of ophthalmology, a significant development was found both in diagnostic and therapeutic methods. Cataract operations were very much common and glasses were prescribed in case of eye-sight defects. Dental surgery was also developed. Fixing caps on the broken teeth was another contribution of these Physicians.⁶⁸

Surgery continued as an important branch in the indigenous medicine. Fighting in the wars and being wounded was a common thing in those days. The Physicians who were experts in the Salya and Salakya tantras accompanied the troops and treated them in war camps.⁶⁹ Since the chopping of noses and cutting of ears continued to be the punishments in Criminal Procedure Code, the art of plastic surgery continued to be a flourishing branch. Some mutts appointed surgeons in their Hospitals and nurses were well acquainted with the most difficult operations in case of abnormal delivery. After the first half of the Seventeenth century, the unfortunate atmosphere prevailed and resulted in the gradual fall of complex surgical methods into decay.⁷⁰ The simple operations in case of piles, cataract, etc., continued as usual.

Two types of Physicians were known from the records i.e., Royal Physicians and native Physicians. The Royal Physicians were more educated and

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⁷⁰ Hymavathi, P., op. cit., p. 179.
mostly used in harems and palaces and were people of medical training in various fields of medicines. However, the native Physicians were used for local people whose medical training was usually a hereditary affair, and led to the raise of untrained physicians from the Sudra and panchama castes in the later half of medieval period. The modern period, which led the dangerous effects on material medica of India including Andhra Desa, resulted in the raise of quack doctors in large numbers whose medical knowledge was absolutely nothing except the fact that they can impress the patients with soothsaying words.\textsuperscript{71}

It is a common practice among families to use the simple home remedies that were prepared by the people especially housewives themselves and other compound drugs by the expert Ayurvedic physicians with the help of their assistants. In this process, many instruments were used. The common drugs that were prepared by the trained Ayurveda and Siddha physicians include \textit{Churman} (powder), \textit{Kashayas} (decoctions), \textit{Svarsas}, \textit{Asavas} (liquids), \textit{Gulikas} (pills), \textit{Tailas} (Medicinal Oils), \textit{dravakas} (distilled mineral oils), \textit{Anjanas} (ointments), and \textit{Bhasmas} (Ashes). These medicines were prepared with high proficiency to suit the ailments of patients.\textsuperscript{72}

The physicians of medieval Andhra desa stressed much on the Swasthavrtta to avoid disease and propagated the importance of the up-keep of health and personal hygiene. They wrote works on \textit{dinacarya} and \textit{rutucarya} and

\textsuperscript{71} Ibid., pp. 161-166.
\textsuperscript{72} Ibid., p. 296.
on dietetics. They explained the preparation of many tasty recipes conducive to good health and also of many cosmetics and other things for the upkeep of beauty and charm. Thus cookery and cosmeticology also prospered as allied subjects in medicine.

In the case of epidemic disease, it was to be observed that people worshipped village deities for averting their wrath. Though people observed some traditional propitiatory rites, they definitely followed prescriptions of the physicians such as dhupas, decoctions, medicinal stones etc., and the dietetic regulations. The prevalence of the cult of worshipping village deities such as Poleramma, Anakalamma, etc., by the common people indicates the immense faith of the people in that cult. It reveals the fact that it was capable of giving psychological relief and courage to them to face the epidemics.

In this connection, it may be observed that that was also an age of confusion and ignorance in the context of the common man’s life in the villages. There were several causes for this contradiction. Especially, it was a period which witnessed a wide gulf between the intellectual upper castes and the illiterate low caste people. Many irrational practices had developed in the field of medicine due to lack of proper understanding of the customs and traditions. It was at this time that some scholars and saints started demonstration against evil practices in this field. Among them mention may be made of Vemana who travelled throughout Andhradesa and observed the social customs and traditions of the people. He

73 Ibid., p. 136.
74 Whitehead, op. cit., p. 123.
advocated that the diagnosis and the treatment should be done in a scientific way. He also preached that the miraculous powers were impossible to be achieved and should be regarded as mere superstitions which would cause harm to the science of medicine and to the society.\textsuperscript{75}

On the whole it can be seen during medieval period a definite development in the diagnostic, pharmaceutical and therapeutic methods in the Science of indigenous medicine. The direct and the indirect patronage by the kings, the reform movement which took place in the medical field during this period, the speedy spread of knowledge pertaining to the drugs, the adaptable nature of the physicians according to the foreign influences reveals the healthy atmosphere that prevailed for the development of the medical science. The liquidation of the patrons of the practitioners at the local level, the new developments in the western medicine, especially in the surgical and the pharmaceutical methods, the mispropagation by the Europeans against the indigenous medical system from the closing period of seventeenth century led to the stagnation of the indigenous medicine in Andhradesa from the eighteenth century onwards, though it did not lose its popularity completely in the society.\textsuperscript{76}

D.1. The Medieval Period:

The period between 1000 and 1600 A.D is generally known as middle ages. The fall of Hindu kingdoms and the rise of Muslim rule marked important

\textsuperscript{75} Hymavathi, P., op. cit., p. 201.
\textsuperscript{76} Ibid.,
Besides the Ayurveda and Siddha medicines the period witnessed the rise of other medical namely Unani-Tibb and Homoeopathy, whose origin was traced to the ancient Greek medicine. These were introduced into India by the Muslim rulers and by the 13th century, the Unani system of medicine was firmly entrenched by Muslim rulers in certain towns and cities notably, Delhi, Aligarh, Lucknow and Hyderabad. It enjoyed State support under successive Muslim rulers in India, till the advent of the British in the 18th century.

With the fall of the Hindu rulers the Medical Schools established in Hindu times also disappeared. India was ravaged by disease and pestilence, plague, smallpox leprosy and tuberculosis. The practice of medicine reverted back to primitive medicine dominated by superstition and dogma. Rejection of the body and glorification of the spirit became the accepted pattern of behavior. It was regarded as immoral to see one’s own body and consequently, people seldom bathed. Dissection of the human body was prohibited. As a result, there was no progress of medicine during this period.

When Europe was passing through the dark ages, the Arabs stole march over the rest of the civilization. They translated the Graeco - Roman medical literature into Arabic and developed their own system of medicine known as the Unani system of medicine. They founded schools of medicine and hospitals in different Muslim capitals. The greatest contribution of Arabs, in

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78 Banerji, J.N., op. cit., p. 79.
79 Ibid., pp. 171-173.
general was in the field of pharmacology. Seeking the “elixir of life”, they developed pharmaceutical chemistry, introducing a large number of drugs, both herbal and chemical. Pioneers in pharmacology, they invented the art of writing prescriptions, an art inherited by modern Pharmacists. They introduced a wide range of syrups, oils, poultices, plasters, pills, powders, alcoholates and aromatic waters. The words drug, alcohol, syrup, and sugar are all Arabian. The golden age of Arabic medicine was between 800-1600 A.D.

During the turbulent middle ages, Christianity exerted a wholesome influence. The spread of Christianity led to the establishment of hospitals. Early medieval hospitals rarely specialized in treatment of the sick. Usually the sick were received for the purpose of supplying their bodily wants and catering to their spiritual needs. During the middle ages, religious institutions known as “monasteries” headed by monks, saints and Abbotts also came up. These monasteries admitted men and women from all ranks including Kings and Queens. They not only helped preserve the ancient knowledge but also rendered active medical and nursing care to the sick.

D.2. The Modern Period:

The period following 1500 A.D was marked by revolutionary changes including industrial and medical fields. The industrial revolution in the West brought great benefits leading to an improvement in the standard of living among

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people. With the advancing degrees of civilization, modern medicine much different from earlier types had also evolved.  

In Europe, the 17th and 18th centuries witnessed substantial discoveries in the field of medicine such as Harvey’s discovery of the Circulation of Blood (1628), Leeuwenhoek’s Microscope (1670), and Jenner’s Vaccination against Smallpox (1796). However, the progress in medicine as well as surgery, during the 19th century would not have been possible but for Morgagni (1682-1771) who founded a new branch of medical science, Pathologic Anatomy.

The dichotomy of modern medicine is basically based on two branches of study namely curative medicine, and public health/preventive medicine and the same was evident at the close of the 18th century. These studies acquired more importance in various aspects on account of industrialization and growth of population. After 1900, medicine moved faster towards specialization and a rational, scientific approach to diseases as the pattern of disease began to change. With the control of acute infectious diseases, the so-called modern diseases such as cancer, diabetes, cardiovascular diseases, mental illness and accidents came into prominence and have become the leading causes of death due to industrialization.

D.2.1. The Curative Medicine:

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84 Ibid., p. 4.
The primitive objective of curative medicine is the removal of disease from the patient (rather than from the mass). It employs various modalities to accomplish this objective, such as diagnostic techniques, treatment, etc. In the middle of the 20th century a profound revolution was brought in “allopathic medicine” which has been defined as “treatment of disease by the use of a drug which produces a reaction that itself neutralizes the disease” by the introduction of antibacterial and antibiotic agents. This has led to the use of specialties based on clearly defined skills such as surgery, radiology, and anesthesia; and some based on parts of the body such as ENT, ophthalmology, cardiology, gynecology and some based on particular age or sex groups such as pediatrics, geriatrics and obstetrics.

Specialization has no doubt raised the standards of medical care, but has escalated the cost of medical care and placed specialist medical care beyond the means of an average citizen, without outside aid or charity. It has infringed upon the basic tenets of socialism and paved the way to varying degrees of social control over medicine. Specialization has also contributed to the decline of general practice and the isolation of medical practitioners at the periphery of the medical care system.87

D.2.2. The Preventive Medicine:

87 John Noble, op. cit., p. 89.
Preventive medicine is developed as a branch of medicine. By definition, preventive medicine is applied to “healthy” people and its primary objective is prevention of disease and promotion of health.  

The discovery of sulpha drugs, anti-malarial, antibiotics, and tuberculosis and anti-leprosy drugs have all enriched preventive medicine. Chemoprophylaxis and mass drug treatment have become important tools of preventive medicine. The pattern of disease in the community began to change with improved control of infectious diseases through both prevention and treatment. Further, the preventive medicine has brought into focus a new concept of disease eradication that began to take shape. This concept found ready application in the eradication of smallpox, polio, measles, tetanus, guinea worm, etc.  

Modern medicine is no longer solely an art and science for the diagnosis and treatment of diseases. It is also the science for the prevention of disease and the promotion of health. The scope of medicine has expanded during the last century to include not only health problems of individuals, but those of communities as well.

E. MADRAS PRESIDENCY AND HEALTH CARE:

In the Madras Presidency, Public Health Department was started as early as 1864 when a Sanitary Commission was formed in the Presidencies of Madras, Bombay.

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89 Ibid.,
and Bengal.\textsuperscript{90} In 1869 the Sanitary Commissioner took over the functions of the Commission. Vaccination was the first public health work undertaken by this new Organization. Later this work was entrusted to the Revenue and Medical Departments by turns and in 1922 after several experiments it was handed over to the Public Health Department. Registration of Births and Deaths became compulsory in the erstwhile Madras Presidency under the Births and Deaths Registration Act of 1889 and the Madras Municipalities Act. From 1895 to 1914 various courses of training were organized and several batches of Sanitary Inspectors were trained. In 1915 a “Pilgrims Committee” on fairs and festivals was formed and this Committee submitted proposals on the sanitary arrangements needed in future. The health education drive was also organized in the State in the same year with a great deal of success.\textsuperscript{91}

In 1911, Malaria Board was constituted and towards the close of 1920 it was amalgamated with the Sanitary Board forming the “Public Health Board” with the Minister for Health as President and the Sanitary Commissioner, the Sanitary Engineer and the Secretary to Government in the Public Health Department as Members. The Sanitary Commissioner later on became the Director Of Public health assisted by a few Assistant Directors of Public Health, each in charge of subjects like vaccination, epidemiology, vital statistics, etc.\textsuperscript{92} In 1919, Public Health became a transferred subject with the main responsibility

\textsuperscript{90} Arnold, op. cit., pp. 180-181.
\textsuperscript{91} Census Report of Krishna District, 1961, XXV. P. 32
\textsuperscript{92} Ibid., p. 38.
relating to public health administration resting with the Local Bodies under the Local Boards Act and the District Municipalities Act.

In 1912 an epidemic of cholera caused great anxiety in northern coastal Andhra. Anti-cholera measures, both preventive and curative, proved ineffective in controlling and combating this epidemic. This unsatisfactory state of sanitary administration prompted the Government to constitute the “District Health Scheme” in 1922. Under this scheme Assistant Health Officers were employed by the local bodies to work as District Health Officers in the urban areas. Health Offices were also attached to municipalities. The Director of public health was to supervise the working of district health schemes relating to vaccination, epidemics, fairs and festivals, vital statistics, maternity and child health, malaria, etc., with the assistance of the Assistant Directors of Public Health each in charge of subjects.

In April 1924, the Government provincialized and gazetted the post of Health Officers. The District Health Officer was charged with the duties prescribed in the Health Code Volume I of the Madras Public Health Code and he was made responsible to the Director of Public health and to the President of the District Board. The Municipal Health Officer performed duties prescribed in the Public Health Act which came into force and revolutionized the whole setup of health and hygienic conditions. Under sections 8 and 9, the Government was to appoint Health Officers who were to work under the local bodies. These officers

94 Mackenzie, Manual of Kistna District, p. 112
were vested with various responsibilities with statutory powers under the Public Health Act. The Director of Public Health was to exercise his powers through the Health Officers.

E.1. Sanitation:

The Madras Local Funds Act IV of 1871 and the Madras Towns Improvement Act III of 1871 were the earliest enactments in the erstwhile Madras Presidency regarding sanitation in the rural and urban areas respectively. These acts were later replaced by the Madras Local Boards’ Act of 1884 and the Madras District Municipalities Act of 1884. Under these enactments, sanitation was made the exclusive responsibility of the Local Bodies. The Madras Public Health Act 1939 embodied most of the provisions essential for the improvement of public health. Apart from these legislative measures, steps were also taken by the Government to establish a well-organized Department of Public Health in the erstwhile Madras Presidency.

In the course of time, District Health Officers were appointed to attend to the public health matters in the district in accordance with the district health scheme. The Bhore Committee of 1945 highlighted the need for the implementation of a health program along with the provision of medical relief. During the plan periods, a number of primary Health Centers providing preventive and curative treatment were set up in the districts.

96 Ibid.
E.2. Drinking Water:

The supply of safe drinking water was also taken care of in the area under consideration. People generally depend on irrigation canals and tanks, supplemented here and there by draw-wells and bore-wells, to procure their daily supply of drinking water. At some places on the seacoast, where only brackish water can be tapped, people suffer acutely when the irrigation canals and tanks dry up in summer. In the hilly tracts and the upland areas, people depend mainly on springs and streams. They scoop *chelamas* (water holes) in the bed of the streams to procure water for their daily requirements. 97

The responsibility of providing drinking water in the rural as well as urban areas developed on the local bodies in the second half of the 20th century, but they could do no more than merely deepening on a few wells, construct a small number of new wells and convert a few step-wells into draw-wells. Greater attention began to be bestowed form about 1913 by the Government on the question of water-supply.98 This was largely motivated to check the outbreak of epidemics, but this suffered a set-back in the years following 1921-1922. The government, however, contributed their share to the rural water supply schemes of the local boards which received the approval of the sanitary and engineering authorities. The period between 1925 and 1936 was marked by two important developments, namely, 1) sanction of grants to the District Boards in 1925 for implementation of the water supply schemes and 2) Sanction of liberal grants by

the Central Government in 1936 to facilitate the development of rural areas, which included improvement of water-supply as well in this district. The distribution of grants to local boards was however given up in 1938 and a ten year rural water supply program was drawn for the district in the same year. This was replaced by an annual scheme prepared by the District Collector in 1941.99

F. Christian Medical Missions And Health Care:

Christian Medical Missions had more than 450 years of history of medical services to the people of India.100 The role and contributions of Christian Medical Institutions may not be significant if one juxtaposes them with the health needs of the entire country and they may not be evenly distributed across the states. Probably the first Hospital in India was built by the Roman Catholics during the mid-sixteenth century.101 Various Protestant Missionaries also provided remarkable medical services at a later date. They include Church Missionary Society, Church of Scotland Mission, Danish Lutheran Mission, Free Church of Scotland Mission, Leipzig Lutheran Mission, London Missionary Society, Society for the Propagation of Gospel and Wesleyan Missionary Society, as well as some American Societies like the Pennsylvanian Mission, etc.102 Besides these, the American Baptist Mission, Canadian Baptist Mission, Lutheran, Seventh Day Adventist Mission, Salvation Army, Godavari Delta Mission also contributed to

99 Ibid., p. 211
100 Joseph Thekkaedath, History of Christianity in India: From the Middle of the Sixteenth Century to the End of Seventeenth Century, 1542-1700, Bangalore: Theological Publications in India, 1982. Pp. 126-128
the medical care of Andhra by establishing hospitals, dispensaries, etc., especially in Andhra desa.

**F.1. Roman Catholic Church’s Medical Care:**

It does not appear that the Jesuits sent out qualified doctors to act as Medical Missionaries, but it often happened that some of their Missionaries possessed a serviceable knowledge of medicine which they used to good effect. Joseph Thekkedath gives us some insights into the nature of the earlier Jesuit efforts in the field of health care.

As early as the year 1550, Fr. Henriques set up a hospital for the benefit of the poor. Rodrigues Coutinho, the Portuguese Captain of the Pearl Fishery Coast at that time, was very helpful towards this project. Initially the hospital was maintained by the alms of Christians and the fines which were imposed on various offenders. Since the amount collected from alms and fines was not always enough for the upkeep of the hospital, Fr. Henriques ordered that a collection should be made once a week for the expenses of the hospital.\(^{103}\)

Later, more hospitals were established on the fishery coast. The money for the expense was furnished by Christians. At each pearl-fishing, a contribution was made in proportion to the number of boats which took part in the fishing operations. This money was deposited with a reliable person who spent it in accordance with the instructions of the Jesuit Fathers. He had to keep an exact account of the amount spent. In the years of scarcity, the Jesuits who looked after

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the Hospital administration, borrowed money from elsewhere for the upkeep of the hospitals. This was done on the understanding that the Chief of the paravas would repay the loan at the next successful pearl fishing. 104

These hospitals took care not only of Christians but also of Hindus from the interior parts of the country. When members of the confraternity of charity met together every week for their conference, two persons were chosen to serve the hospital during that week and this method worked out very well.

F.2. Protestant Missionary Medical Care:

The arrival of the Protestant Medical Missionaries ushered in a new feature in Christian work in India in general and Andhra Desa in particular. No doubt, attempts of a non-professional kind were in practice from the beginning of the 19th century, which took a concrete shape by the later part of 19th century. This medical ministry in the course of time has become boon to the sick and diseased and relieved the masses from their endless suffering to a great extent. The Healing Ministry in the course of time achieved great success and thus laid the foundation for modern medical science in India. It was in 1783, that Dr. John Thomas 105 came to India as a surgeon for the ship crew and 10 years later joined English Baptist Missionary service as William Carrey’s colleague. He was very much moved by the appalling condition of tropical diseases in the villages around Calcutta. He also translated part of the New Testament in Bengali. In the course of time, the American Board started sending Medical Missionaries to the Indian

104 Ibid., p. 94.
subcontinent and the first among these was John Scudder, who arrived to Ceylon in 1819 and later travelled to Madras (from Ceylon) in 1836.\textsuperscript{106} In 1851, his eldest son, Henry Scudder who was also a Medical Evangelist joined him. Henry was the first missionary to start Arcot Medical Mission with which his family had intimate contacts. Meanwhile from 1837 onwards, other Medical Evangelists were at work in Madura, where the American Board had begun its Mission in 1834. The London Mission started medical work at Neyyoor in South Travancore by Mr. M. A. Ramsay, a layman in 1838 which in the course of time became famous hospital in Cobalt Therapy for Cancer.\textsuperscript{107} From 1840, the American Baptists had two Medical Evangelists working in southern Bengal and the first doctor came to Ludhiana in Punjab in 1842.

After the Sepoy Mutiny in 1857, the Protestant Missions began to give more attention to medical work. The Medical Evangelists from (Scottish) United Presbyterian Mission such as Shoolbred and Valentine started their work in 1860 in the villages of Rajasthan. They combined vaccinations and other medical treatments with the preaching of the Gospel. This led to the establishment of dispensaries, and then hospitals at Beawar, Ajmer, etc.

Similarly the Free Church of Scotland Mission, between 1857 and 1903 gradually established hospitals at all its principal stations.\textsuperscript{108} Similarly, the Basel Mission in 1885 setup hospitals on the West Coast and in North Karnataka at Calicut, Betgeri and Udipi. The American Presbyterians developed an important

\begin{thebibliography}{99}
\bibitem{106} Ibid., p. 135.
\bibitem{107} Firth, C.B., \textit{op. cit.}, p. 200.
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Medical Centre at Miraj in 1889 in the Western Deccan. In short, during the second half of the Nineteenth century medical work became a recognized branch of service in most of the Mission Centres and attained faster development. This is corroborated by the fact that there were only seven Medical Missionaries in India at that time and in 1882 there were 28; but in 1895 the number had risen to 140 and in 1905 to 280. The Indian Doctors were also increased during the period under consideration and as per the statistics there were 168 doctors in 1895.109

F.3. Women Medical Missionaries:

One particular reason that contributed to the growth of healing ministry was the women missionaries and their helpers. They visited sick women in their homes and brought to light their special needs for medical aid. A further step was taken by American Methodists who sent out a fully qualified lady doctor, Clara Swain in 1870 to work at Bareilly in Uttar Pradesh where she opened a Women’s Hospital in 1874 on the land donated by the Nawab of Rampur.110 Another American lady doctor, Sara Seward, sent by the American Presbyterian Mission, arrived at Allahabad in 1871. The Church of England’s Zenana Mission had built hospitals for women and children in widely separated parts of India from Amristar to Krishnagar and from Benares to Bangalore. The British Methodists took up medical work for women and children at Mysore and Hassan in 1906.111

111 Julius Richter, op. cit., p. 352.
Another contributory factor of Medical Missions was their work among the Muslims of North-West and in Kashmir. The Medical Mission of the Church Missionary Society (CMS) established its hospital with the help of Dr. Elmslic at Srinagar in 1864 and in some other places in eastern and western Punjab and thus became one of the most notable Societies in India. Other Missionaries that worked in that region include those of the American Presbyterians and the Church of Scotland, which gave prominence to medical work and built hospitals, with several of them for women and children.112

At the opposite end of the land, Dr. Elmslie began work for the C.M.S in Kashmir. The Moravians pushed on 24 miles further to Leh in Ladah, which is still only accessible by a trail, and their chief institution has been a hospital.113 Since 1889, there came into being large medical centers at the interior – Miraj, Ludhiana and Vellore, and all started to conduct Medical Schools. The enormous clinic at Ranaghat in Bengal was started by a retired Collector of the Indian Civil Service and was later taken over by the Church Missionary Society. The solid buildings are gradually replaced by the original huts.114

F.4. Medical Training Schools and Colleges:

Since medical work requires trained doctors, nurses and compounders, all Medical Missions were obliged to make some arrangements for training Indian assistants. As a first step, this was done by individual Missionaries, who formed

112 Ibid.,
113 Ibid.,
classes of the available people, generally Christians from Mission Orphanages and Boarding Schools, and taught them as best as they could in their own hospitals. Some excellent work was done in this way, with regard to the nurses and compounders; but need was felt for trained doctors, as the Government insisted on certain academic standards for medical practitioners. Consequently, Christian medical schools were formed in certain centers, to train doctors in line with the prescribed standards of Government examinations.

The first effort in this direction was the Agra Medical Mission Training Institute, begun in 1881 by Dr. Valentine of the United Presbyterian Mission. A more ambitious project was the North India School of Medicine for Christian women, founded at Ludhiana by Dr. Edith Brown and Miss. Greenfield in 1894, a full-fledged Medical School for women doctors, compounders and nurses, which became affiliated to the Punjab University. In the Deccan, a Christian Medical School was established at a training school for men. In South India, a Medical School for women was founded at Vellore under Dr. Ida. S. Scudder of the American Arcot Mission, which in the course of time became a union institution with the co-operation of ten other Missions. All these Bachelor of Medicine (M.B) training institutes were upgraded as M.B.B.S institutes after they introduced Bachelor of Surgery (B.S) courses in due course of time, as per the Government regulations.

115 Firth, C.B., op. cit., p. 207.
In the early days, nursing was universally regarded as a menial work and hence, parents belonging to the upper caste communities did not prefer to send their children for nursing. As a result, for many years Anglo-Indians and Indian Christians provided almost all candidates for the entire nursing profession in India. During the beginning of the Second World War it was estimated that about ninety percent of all the nurses in the country, male and female were Christians and that about eighty percent of these had been trained in Mission Hospitals. Thus the Christian Medical Missions led the way in this important matter, and even to date, it still seems to be the fact that Christian hospitals usually make better provision for nursing their patients than that of the government hospitals.

F.5. Tuberculosis Sanatoriums:

The premier Tuberculosis Sanatorium in India was started by the Union Mission Tuberculosis Sanatorium, Arogyavaram, near the southern border of Andhra Desa. Founded in 1915 as a co-operative venture shared by fourteen Missions, it rapidly achieved a leading position both in treatment and research. The first superintendent was Dr. C. Frimedt Moeller of the Danish mission, and his successor was Dr. P. V. Benjamin. Besides Arogyavaram, the Visranthipuram Tuberculosis Sanatorium at Rajahmundry is in the area of the present study.

F.6. Leprosy Asylums:

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118 Firth, C.B., op. cit., p. 208.
119 Dolbeer, M.L., Jr., The Andhra Evangelical Lutheran Church – A Brief History, Rajahmundry: Andhra Evangelical Lutheran Church, 1951. P. 129.
Ever since William Carey, among his other activities was instrumental in founding an asylum for lepers in Calcutta, the care of those suffering from leprosy has been a special field of Christian service. At first, it was a question of providing a refuge for advanced cases, where the patients might be housed and made a little more comfortable. Many such leper homes were founded in the nineteenth century, some of them by individuals (missionaries or others) moved to compassion by the plight of the lepers, others by Missions as such quite often the founders were not medical men.

One such was Wellesley Bailey, a layman who laid foundation for the Mission to Lepers, an international and inter-denominational society entirely devoted to providing and maintaining homes for sufferers from this disease. Most of the leper settlements in India are maintained either under its own auspices or with the help of grants-in-aid. At the present time, it has 26 institutions of its own in this country including Ramachandrapuram, Vijayanagaram and Salur leper homes in Northern Coastal Andhra and assists some 34 other homes and clinics. These leper asylums besides providing food, shelter and medical attention, have large farms and dairies worked by the patients and carry out well organized programs of occupational therapy and educational and social activities. Besides these, the deformities are being corrected in these hospitals through physiotherapy.

120 Firth, C.B., op. cit., 135.
121 John Mackenzie, op. cit., p. 135.
and reconstructive surgery. In all this work, Christian Missions had played and are still playing a leading role.\textsuperscript{122}

A recent development since the Second World War has been the initiation of Christian Institutions for the treatment of mental illness, the need for which had been felt. Psychiatric clinics at Lucknow, Miraj and Vellore have made a beginning in this work.\textsuperscript{123}

The Missionaries were the first people to save the life and give redress to the people who were in distress. Even though the early converts to Christianity in India were depressed communities, they never lacked the spirit of service to the people of their castes who appreciated them for their medical service but they never obliged to come into the Christian religion. The missionaries left them to their own choice of choosing Christianity or not. Of course, it was the strong Missionary principle that their business was to preach the Gospel and leave the result to God. The Missionaries recognized the total curses of famine and epidemics destined to Indian people in addition to their poverty and illiteracy. They wanted to give organized medical care in the hospital for various diseases and systematized personal involvement in the medical relief during the disastrous epidemics. Even when their own people feared to approach the epidemic patients, the Missionaries and their staff approached them personally and treated them whole-heartedly. Many patients on the verge of death and hopelessness were miraculously cured. Many people who came to the hospital half-dead left the

\textsuperscript{123} Firth, C.B., op. cit., p. 209.
hospitals with smiling faces. They valued Christian service and the medicines more than that the native medical services and even the government medical outfits could offer.\textsuperscript{124}

As seen in this Chapter, the personal touch of the Missionaries through their Medical Mission contributed to the wholesome welfare and healing of the people who were affected both physically and spiritually. One cannot deny the fact that this was a memorable and historical contribution of the Church in India, and hence, examining though briefly, the advent of Christianity in Andhra Desa is essential and the same in dealt in the next chapter.

\textsuperscript{124} The Statesman (Daily News Paper, January 12, 1944)