CHAPTER III

PHYSICAL FACTORS AND PERSONAL HYGIENE
Wissing (1985) wrote that traditional societies adapt well to their environment and enjoy good levels of health and nutrition. Traditional societies have long-lasting and stable relationships with their surroundings. When these traditional societies are acculturated, several changes ensue and gradually lose advantages of good health and nutrition.

This chapter examines various physical factors such as geographical features, geographical isolation, ecosystem complexity, size of the population, settlement pattern, nomadism, dietary diversity, personal hygiene etc. in order to understand the health benefits/losses for the Chenchus on account of the factors mentioned above.

THE GEOGRAPHICAL FEATURES

The Nallamalai is located in a semi-arid region of Andhra Pradesh. The climate is generally hot. The forest is deciduous type. In summer season, most of the trees drop leaves. The barrenness gets clearly visible. The area is full of hills and hillocks and deep valleys. Level grounds are limited.

From the tip of the Northern most point in Palnadu basin of Guntur district, the Nallamalai extends upto the Tirupati hills (Seshachalam hills). The length of Nallamalai is 430 Km; the average width is 30 Km and the elevation ranges from 275 to 915 metres. The hill ranges extend to Iahaboobnagar and Nalgonda on the Northern side and to Cuddapah in the
southern side. The dense forests are, however, confined to the adjoining areas of Kurnool, Prakasam and Mahaboobnagar districts and surrounding the Shrine of Srisailam of Lord Mallikarjuna and Bramaramba. The Chencils are mostly seen in this area of the Nallamalai. Geographically the study area (Nallamalai of Kurnool and Prakasam) roughly lies between 15-10' and 16-18' North latitude and between 78-45' and 79-34' East longitude.

The Nallamalai have continuous range of unbroken, rugged and fairly steep hills in Kurnool and Prakasam districts. The hills fall gradually towards North and widen into the plateau of Pecheruvu, Sivapuram and Srisailam and descend abruptly into a valley through which the river Krishna flows towards south. The Pecheruvu plateau has an elevation of 640 meters consisting of a maze of rolling hills and flat valleys with a big tank. The Sivapuram and Srisailam Plateau consist of somewhat broken but fairly steep hills. To the west of Pecheruvu plateau is another valley extending up to the plain lands of vast terrains of rich forest growth called the Nandyal valley. From Pecheruvu plateau towards east, another maze of hills extends toward Dornala and 'erragondapalem (small budding townships and Mandal headquarters) of Prakasam district. These hills are partly the extension of the Nallamalai range (in Dornala and partly in Yerrangonda Palem) and partly of the eligondas which extends further towards Guntur. Located in these steep ills, within the Nallamalai ranges is the basin of Peddamanthanal
within the adjoining portion of the Veligondas is the plateau of Palilla. The Chenchu gudemus are embedded in these terai areas, valleys, plateaux or basins.

Generally speaking, the Nullamalai offers a hospitable environment. Industrial pollution is absent, though vehicular pollution is increasing in the recent past.

SOILS

Several type of soils are found in the Nullamalai region of Kunool and Prakasam districts. Black cotton soils occur to a limited extent and mostly confined to the terai portion in the forest and around the river or tank basins. Alluvial soil also occur in a limited extent confining to the banks of river and rivulets. The red-brown loamy soils occur fairly extensively in valleys, plateaux, foot hills and hill slopes. These soils also occur in terai portion of the forest. Apart from their suitability to agriculture, these soils support fairly luxuriant growth of vegetation and grass. Soils derived from calcareous shales with high lime content also occur. Suitable soils for cultivation are found in discontinuous patches. Marshy lands occur sporadically and mostly confined to the banks of rivulets and streams. Soil porosity is high. Decomposition of waste material including feces is very fast. Due to the soil nature, the land is generally dry.
CLIMATE

The Nallamalai hill ranges are in arid zone of Andhra Pradesh. However, the climate within the Nallamalai is generally pleasant despite the marked seasonal variation. During March through May, the temperature fluctuates around 40°C. Temperature starts falling by June and reaches a minimum temperature of 20°C during day time in November and starts increasing from February. During November to the beginning of February, the nights are cool and fogs invade the area till 9.00 a.m. The region receives South-West monsoon during July-September with an average rainfall of about 85 cm. North-East monsoon is active in October and November. Rains also occur during the pre-monsoon periods and in the early summer. Throughout the year, rains occur intermittently here and there in the region. The environmental conditions of the region divide the annual cycle into three distinctive periods: rainy season (July to October); cold season (November to February); and summer season (March to June). Weather is one of the very significant variable that influences the health of the Chenchus. Knowledge about the environmental and seasonally available resources along with their probable implications for the health is an essential endowment which a few people possess. Eating certain forest food, drinking water from the forest streams during specific times, exposure to certain places are believed to result in illhealth.
Rainy and winter are the difficult seasons for the *Chenchus*. Rain greatly restricts their movement and availability of food is rather difficult. Swarms of mosquitoes invade the *Chenchu* settlements and standing water bodies. The latter also get polluted due to inflow of dirt, organic matter etc. Children are susceptible to various infections. During winter, the *Chenchu* sleep in the hut around a smouldering log which emit smoke to keep away mosquitoes. The smoke is inhaled by the people and thus are prone to respiratory problems. The *Chenchu* huts have an effective adaptive value against the marked seasonality of summer, rainy and winter.

**FOREST AREA AND RESOURCES**

The total forest area of the *Nallamalai* hill ranges is 5,161 Sq. Km with 39 percent of the forest occurring in flat and generally rolling hills and 61 percent in hill ranges (Partha Sarathy, 1978). The Forest Department recognizes four types of forest in this area viz. (1) Submountaine forests; (2) Forests on the hill slopes; (3) Plateau forests; and (4) hill forests. Apart from this, the Department also classifies the forest based on the type of dominant floral species such as teak, bamboo, *Nallamaddi* (*Terminalia tomentosa*), *Yepi* (*Hardwickia binata*) and some inferior deciduous species. Basing on the class of vegetation, scrubby, dry deciduous and moist deciduous types of forests are also identified (Ellis, 1982).
The high attitude zones support superior deciduous forests composed of trees of nallamaddi (Terminalis tomentosa), tapsi (Sterculia urens), pedda egri (Pterocarpus marsupium), tirumanu (Anogeissus latifolia), ippa (Bassia latifolia), darsanam (Albizziis Lebbek), tella moduga (Ougenia dalbergioides), rose wood, teak mixed with dense stands of tall bamboo. Some of the commonly occurring other tree crops are: puki thumma (Acacia latronum), vepi (Hardwickia binata), tella bilgu (Chloroxylon swistemia), tunki (Diosprios melanoxylon), illinda (Dispyros Chloroxylon), sonu (Soymid tebritura) and different varieties of grass. The forest yields several types of Non-Timber forest produce (NTFP). The Nallamalai forests are inhabited by a great variety of animals, such as tigers, panthers, bears, hyenas, wild dogs and cats, different types of rodents, deer, sambhur, wild goat, nilgai, wild pigs, porcupines, monkeys, different types of snakes, peacocks, jungle fowl, pigeons, and different types of fish, crocodiles, turtles etc.

In broad terms the Chenchus classify the forest into the following types: Chiru adavi (thin forest), karadavi (dense forest), mundlu adavi (thorny forest), bayahu adavi (forest in plateau), chelina (forest in basin), bodu or kurava (forest in rocky place), valu adavi (forests in hills slopes), mydanam (bushy forest on plain ground), chamadavi (forest in valley).
The Chenchus divide the floral resources into Kayalu (green fruits and vegetables), pandhu (ripe fruits), dinusulu (roots and tubers), akakura (green edible leaves), ginjalu (seeds and nuts) and puvalu (flowers). Besides these edible resource, the Chenchus also recognize medicinal floral species, and other floral species which are put to non-edible domestic or general use such as house building, making implements, rope etc.

Honey is another important source of food item having economic value. The Chenchus also collect nearly 20 varieties of minor forest produce which they sell or exchange with the peasants, local merchants or the Girijan Cooperative Society. Chenchus have their own perception of the forest. They view the forest in terms of specific spaces (zones) in the context of seasonality. To them the term forest is not a single block of green vegetation. The forests is categorized basing on finer differences. The bases for this differentiation include soil type, nature of terrain, resource distribution (dispersed or concentrated floral species), availability of water sources, lairs, predatory/browsing grounds, sacred objects/places etc. Resource distribution is one crucial factor in the physical lay-out of the Nallamalai. Some species tend to spatially aggregate whereas few other segregate. Some localities have rich quality species whereas the same species may be of poor quality in some other localities.
Each settlement traditionally owns a catchment territory, the boundaries of which are demarcated by certain known natural landmarks or objects such as hillocks, trees, streams, valleys, gorges, etc. Each catchment territory is again sub-divided into zones which are known by names and are characterized by the availability or presence of certain dominant resources such as wild tamarind or mango trees and other fruit bearing trees, roots and tubers, and places which are regularly visited by animals either for rest, browse or water or for salt-licking, and *serris* (honey deposits in ravines or gorges).

**ENVIRONMENT AS A DIMENSION OF HEALTH**

The Chenchus have specific ideas about the physical environment and its implications for health. At the outset they hold the view that hill environment is essential for their well-being i.e. health and survival. They feel that their *manugada* (self-perceived identity and life-styles) is safeguarded as long as they reside on hill tops or amidst forest. Once they descend the forest hills, it is held, they will loose their *manugada* and face hardships. Underlying these statements, is the consciousness of the Chenchus regarding suitability of environment to their health and their plight to cope up with the plains environment and most importantly the risk of their health. They explicitly stated that their health would be alright if they roam in the forest, eat the forest food, drink water running in streams and rest under the shade of tree. When asked what happens if they migrate to plains, they
answered that they might suffer from headache, body pains, skin diseases and indigestion. To them, forest environment bestow pleasant health. The Chenchu recognize certain environmental forces as agents that have some influence on their health. In their view sun-light, rain, wind, water, soil, places, plants and animals influence the health of individuals. Head is considered to be the most vulnerable part in the body to the influence of environmental agents. If the head is not properly guarded from exposition to sunlight, rain and wind, the health of the individual get affected. Hence the Chenchus usually wear a piece of cloth called savakam (towel) or hem of the saree around the head covering the skull, ears and occipital ridges. Heat, cold and wind are supposed to affect body temperature. Certain places in the forest are considered to have ill effect on the body.

The present day forest cover of the Mallamalai is different from what it used to be in the past (approximately 50 years back). There is a growing pressure from the outsiders and the demand for the forest resources is increasing. Some of the main factors responsible for disturbance of the environment are given below:

a. Encroachment of agricultural caste communities into the fringe areas of forest resulting in the reduction of the forest area and transformation of the same into either agricultural fields or degraded bushy area;
b. Illegal exploitation of forest resources by the contractors;

c. Establishment of industries in the district headquarters which receive raw materials from the Nallamalai forests;

d. Poaching by outsiders to collect minor forest resources. Especially collection of gum has caused extensive damage to the trees;

e. The afforestation and deforestation activities of the Forest Department has disrupted the floral diversity and resulted in the decay of various plants and trees. Besides the policy of growing mono-crops has prevented the secondary growth of various creepers, climbers and a variety of herbs and shrubs;

f. For a very long time, probably since the British took over the forests, licensed hunters, and poachers, especially from the nearby plain areas and towns, used to hunt different types of animals. It is only in the last 10 years, the game rules have become relatively stringent and hunting is now strictly forbidden due to the establishment of tiger reserve and wild-life protection.

g. The Chenchus however were never a tribe of regular and successful hunters. Albeit, the bow and arrow are carried along with them wherever they roam, their hunting success and aptitude for hunting seems to be minimal or at best periodical. Writing about the economy of the Chenchu's, Turin (1999) has observed that "The Chenchus
practice little hunting ..... meat does not form a regular part of their
diet..... Hunting is mainly a personal or small - group effort lasting a
few days and is a source of neither ritual celebration nor income" (P
253). Hunting technology is very simple. Bow and arrow are the sole
hunting implements and ambush is the main hunting technique. Nets,
traps, chasing etc were not recorded among the Chenchus by Furer-
Haimendorf (1943). Even today, the technology has not changed
except for using torch light.

It may be appropriate here to mention that the enormous amount of
research produced in recent times on hunting gathering communities reveal
that in many of these communities, hunting is not a major source of livelihood
and its success is reported to be minimal. On the other hand gathering of food
plays a major role than hunting and so much so suggestion was made that the
label hunter gathers may be reversed to gatherer-hunter (Burch, Jr. and

According to the elderly Chenchus that in the past though they went
hunting frequently the success rate was very less. Many times they returned
empty handed after wasting all the day. On the other hand when they and
their wives went for gathering vegetable food, in one hour or two they
returned home with sufficient food for two or three days. In the following
pages, a few aspects of environment are discussed.

99
GEOGRAPHICAL ISOLATION

The Chenchus inhabiting the Nallamalai forests are geographically isolated. However, it is not true to say that they are totally cut-off from the wider society. In fact in the past 100 years the Chenchu country has been gradually connected to the wider society by means of a network of forest roads, and a state highway that passes through the Chenchu country. In ancient times, the pilgrims used to visit Srisailam on the festival day of Sivarathri. These pilgrims were escorted by the Chenchus through the forest paths. There were four main entrances : (1) on the western side namely Mannanoor, (2) on the northern side namely Dornala and (3) Yerragondapalem and (4) on the southern side namely Atmakur. Each one of these entrances lead to Srisailam through a series of Chenchu gudens.

The expansion of agricultural communities seem to have begun during the Vijayanagara period (Thurston; 1909). The kings of Vijayanagara have encouraged the agricultural communities to bring more and more forest land into agricultural fields. The agricultural expansion seem to have pushed the Chenchu further into the hills. With the coming of the British raj this expansion was drastically reduced. However clandestine occupation of the fringe area has continued. Presently the Chenchu country is restricted to the space in the Nallamalai surrounded by Dornala, Atmakur, Yerragondapalem and Mannanoor and Vinukonda. The presence of non-tribal plains people is
almost negligible in this region but for those employees working in various
government departments like Forest Department, Tribal Welfare, Integrated
Child and Women Development, Health Department, Giriyan Cooperative
Corporation, Education Department etc. These employees are seen mostly in
some central location and not in each and every Chenchu gudem. In the
fringe areas of the Chenchu country, very few agricultural villages are seen.
The distance between such villages and the nearest Chenchu gudems range
from 5 km to 25 km.

The state highway connects some Chenchu gudem whereas many others are located deep inside the forest which can be reached either by foot
paths or forest metal roads.

The Chenchu territory also has a different history as far as infiltration
of outsiders into the tribal area is concerned. Godavari, Srikakulam tribal
areas are characterized by the presence of non-tribal settlers. In the Chenchu
area non-tribal settlers are negligible if not totally absent. A few Sugalis -
a tribal population, are seen residing along with the Chenchu gudems or
separately, in independent villages within the Nallamalai.

The absence of non-tribal settlers may be attributed to the inhospitable
difficult terrain of the Chenchu country; absence of suitable lands for
agriculture; lack of irrigation facilities; nomadic hunting - gathering life-style
of the Chenchus. Besides, the Chenchu dependence on outsiders for loans is also not significant. The Chenchu culture, unlike other adivasis in Godavari or Srikakulam agency area, demanded very little expenditure for conducting various rituals/ceremonies etc. Thus, the Chenchu dependence on non-tribal shawakars was almost non-existent or at the most negligible. Further the Chenchu area was under the direct control of the British Administration, unlike the Godavari, Visakha and Srikakulam agency area which were mostly controlled by local chiefs (Eg. mutadars) who paid tribute to the British Raj. The ryots could not find an easy access to the land in the Chenchu territory. In spite of these unfavourable conditions very small number of villages have come up along the road side in between Atmakur and Domala and Acharnpeta and Mannanoor. However the Chenchus and the villagers have not established any institutionalized interaction, but for occasional barter of forest produce to cloths, salt, iron or grains. Culturally also the Chenchus and the caste communities were different. The villagers do not prefer to engage the Chenchus as agricultural labourers owing to the fact that the Chenchu do not conform to the work habits of the agriculturists. Separate identities were maintained by the Chenchus as well as the caste - agricultural communities. The former were treated as low castes by the Kapus and other agricultural castes. In essence, the linkages between the Chenchus and the neighbouring agricultural communities are neither institutionalized nor non-existent. A
best, these linkages are of ad hoc in nature. The need and necessity bring these two categories of people into a field of interaction.

The interactions are mostly economic in nature. These are largely formal or contractual and exist only for the duration of interaction. Beyond that, the Chenchus rarely exhibit any inclination to sustain the relationship. There are virtually no social or ritual occasions during which the Chenchus and the caste agricultural villagers meet for socio-religious or political interaction. The Chenchus exhibit a propensity to live separately away from the agricultural communities. The location, terrain, landscape of the Chenchu territory is quite distinct from that of the plain areas. The distinctive outlook of the Chenchu country become apparent soon after crossing any of the four entrances mentioned earlier in route Srisailam. However, a prolonged period of contact has also resulted in various changes particularly in the field of religion, especially in the adoption of deities from the peasant communities. Thus, the Chenchus are relatively isolated from the neighbouring peasant communities and maintain separate identity though some social cultural elements from the peasant communities are incorporated into their culture. Geographical isolation from that of peasant communities is quite conspicuous.

Within the Chenchu country, individual gudem and huts within the gudem are considerably separated from each other. It is rarely that gudem are situated within a distance of 2 km. Usually an average of 5 km distance
between any two gudem is observed. Long stretches of forest, big hills, river and rivulets, valleys separate the gudem from each other. There is variation in the altitudes of gudem. They are located either on plateau, foot hills, basin, hill top, level grounds in the forest, gentle slope grounds etc. The Chenchu gudem traditionally were located in places that are quite far away from water resources to avoid visiting wild animals. It has been pointed out that the hunting-gathering communities do not generally line close by water resources (Lee and Devore, 1968). This is mainly due to sharing of the same resource by the wild animals and the hunter-gatherers and hence spatial separation is maintained. In the sample gudem none except two is closeby to the water services. Such Peddamanthanala and Marripallem, the ponds are separated by two furlongs from the habitation site. So is the case with Pechheruvu (not included in the sample) which also has a big pond and is distinctly separated from the habitation. Even in the cases, human activity spots are distinguished from the spots visited by animals. Thus there is ecological separation between humans and animals. Usually the gudem are cleanly swept without damp patches.

ECOSYSTEM COMPLEXITY

Wirsing (1985) says that ecosystem complexity has epidemiological significance. The forest ecosystem provides biotic isolation between a variety of species. If the ecosystem complexity is high, several ecological
niches emerge, each is inhabited by a specific species. Bionomic isolation separates infectious agents, vectors, and animal reservoirs of vector-borne zoonoses from ground-dwelling man (UNESCO 1978). It limits the transmission of these diseases in that many of their vectors often do not feed on man and/or are confined to an ecological niche not invaded by humans.

In the present study, no attempt is made to measure ecological complexity. It is also beyond the purview of this study to analyse bionomic isolation of various organisms in the study area. During several trips to the forest along with the Chenchus informants, the researcher made a rough assessment regarding the ecological complexity. Particularly, attention was paid to gain qualitative understanding of the distribution of species in a given area, floral density, height of the floral species, human intervention mechanisms and their effect on ecological complexity.

**DISTRIBUTION OF FLORAL AND FAUNAL SPECIES**

Several floral zones or habitats can be identified in the study area: bushy zones, closed canopy zones, open canopy zones, monocrop plantations, orchards (tamarind and mango), bamboo groves, etc. The Chenchus identify several micro-zones in the forest:

1. Matta or Mada: A large patch of thick forest growth is referred to as matta or mada. The canopy is usually closed. These patches occur sporadically.
Madugu: *Madugu* is an open patch of thick forest with dense tree population.

Sarava: The term *sarava* is applied to any plain land devoid of trees. The patch may contain thick strands of grass.

Baraka: The lands without trees is called *baraka*. *Baraka* can be distinguished from *sarava* by the presence of small bushes and herbs.

Bayalu: *Bayalu* is a patch of moderately open undulated forest with sparse tree coverage and scanty grass. This term is also used to those forests devoid of crown formation.

Bodu / Katava: Grounds with rocky beds or small pebbles are known as *Bodu* or *Katava*.

Thopu: *Thopu* means an orchard or a grove. Tamarind and mango orchards are seen in many *Chenchu* settlements. Further bamboo groves are also extensively distributed in the Nallamalai. Undergrowth is usually absent in the tamarind and bamboo groves.

Plantation: The Forest Department has been undertaking plantation activity. Mostly teak, bamboo, casurina, eucalyptus are the plants cultivated in plantations. The plantations exclusively comprise monocrop. The *Chenchus* use the English word plantation to these patches.
It is estimated that the Nallamalai forest harbors 742 taxa spread over 109 families (Ellis 1982). In one particular study the Chenchus could identify 284 species (Subba Reddy, 2001). The species found in the Nallamalai can be grouped under different floral classes: trees, shrubs, herbs, climbers, creepers, grass, fungi and aquatic plants.

Observation of floral distribution in the Nallamalai revealed that the plants are not evenly distributed. Though a certain number of species are widely distributed, many species tend to be confined to specific locations in accordance with the agroclimatic variables. In a given patch of land, several species, each represented by a few members are seen. However, the number of species observed in a given locality did not exceed 25. In some patches, single variety of grass species dominate interspersed by other grasses, plants and climbers. Within the Nallamalai, plantation sites have low species diversity and the matta has highest number of species. Comparatively speaking this diversity is less compared to tropical forests in Amazon or in South-East Asian regions like Sarawak, East Kalimantan, Malaysia etc.,

The cognition of various zones in the forest helps in decision-making concerning the place to which visits can be made depending upon season and the resources to be collected. Hence, visits to the forest becomes more schematic and haphazard, randomized roaming is reduced. In other words, only certain places are (regularly or seasonally or occasionally or as and when
necessity arises) visited thereby leaving other places untouched. Thus some kind of isolation which is both spatial and temporal is maintained.

HEIGHT OF THE FLORAL SPECIES

Height of the floral species in the Nainamalai considerably varies. There are tall plants such as teak, mango (wild variety), buruga (Bombax malabaricum), yedu (Bambusa arundinacea), yepi (Hardwickia binata) which grow up to a height of 40-100 feet. On the other hand there are several medium and short trees. A good number of shrubs and herbs are also seen. On the whole, medium height species dominate compared to tall trees. The Chenchus usually avoid climbing tall trees and entering into the bush. However they climb many trees of medium height for collection of honey, fruits, seeds etc. Insects, bugs and ants are driven away by means of smoking. Enough care is taken not to come in bodily touch with the tree trunk, leaves etc. except with feet and hands. A bamboo ladder is used to climb trees. They also take enough care not to disturb the entire tree. These practices may prevent the contact with the organisms living on the trees.

FLORAL DENSITY

Depending upon altitude, soil type and moisture, and terrain, the floral density varies. Dense stands are seen along the hill slopes and in valleys. Floral density is less on mountain tops. Plain level grounds harbour modest densities. Secondary forests are almost devoid of dense stands.
The above account indicates that ecosystem diversity is rather complex. Different zonations, different heights of the plants, and varying densities create a situation of bionomial isolation. In fact, the *Chenchus* explicitly recognize certain zones as prohibited owing to the fear of suffering a malignant risk. Aquatic resources like ponds, streams etc are utilized only at certain specific sites for washing, bathing and collection of drinking water. The *Chenchu* life-styles tend to cause minimum disturbance to the ecosystem. Food-gathering and MFP collection are conducted with utmost care in order that the plants are not degraded and denuded. The *Chenchus* also exercise selective retention of many floral species. They are expert bamboo-cutters and famous for their skill in cutting in such a manner that would ensure regeneration of bamboo. The *Chenchus* traditionally were very careful in the exploitation of forest resources. They cause little disturbance to the ecosystem and floral diversity, thereby safeguard the microbial niches in the ecosystem.

**POPULATION DENSITY**

Comparatively speaking, the population of *Chenchu gudem* is small. Many of the peasant villages adjacent to the *Chenchu* country are quite big. The population size for the sample settlements ranges between 42 and 400. Many other *Chenchu gudem* are much smaller in size. For instance, Appapur, Boramcheruvu, in Mahbubnagar district, Nakkanti, Panthanala, Ponnalabayalu, Alatam, Chinnamanthanala in Prakasam district and
Abbarajukunta, Potharajupenta in Kurnool district comprise less than 10 households each. There are few other gudem inhabited by single household.

The area belonging to the Chenchu of each gudem is perceived by the people in terms of haddula (boundaries). This may be termed as a catchment area. This area is basically a forest zone, but comprises certain chief resources such as serri (rocky plates in the ravines/gorges for honey deposition), hunting and food collection ground, various flora yielding commercially valuable minor forest produce, streams, ponds, rivulets for fishing, salt licks, browsing grounds and several other microzones.

The area of catchment territory of each sample settlement was estimated by using the maps available with the Forest Department. The Table 3.1 presents the population density of the sample settlements.

The population density of the Chenchu settlements ranges between 0.77 and 6.15 persons per square kilometre. Compared to other food gathering and hunting peoples of Australia and Africa, the population density of the Chenchu is very high. For the Kung Bushman, the population density was one person per four square kilometer. Even then population density of the Chenchu is substantially low in comparison with the peasant communities in the neighbouring region.
Table-3.1
Population Density of the Sample gudems

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of the Settlement</th>
<th>Area of the Catchment Territory (Sq. Km)</th>
<th>Total Population</th>
<th>Population Density (Persons / Sq. Km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bailooni gudem</td>
<td>69</td>
<td>56</td>
<td>0.81</td>
</tr>
<tr>
<td>2</td>
<td>Billagundi Penta</td>
<td>62</td>
<td>166</td>
<td>2.67</td>
</tr>
<tr>
<td>3</td>
<td>Chilakacherla</td>
<td>54</td>
<td>42</td>
<td>0.77</td>
</tr>
<tr>
<td>4</td>
<td>Chintala</td>
<td>59</td>
<td>182</td>
<td>3.08</td>
</tr>
<tr>
<td>5</td>
<td>Hanumanthu Chenchu gudem</td>
<td>72</td>
<td>101</td>
<td>1.40</td>
</tr>
<tr>
<td>6</td>
<td>Korrapolu</td>
<td>28</td>
<td>83</td>
<td>2.96</td>
</tr>
<tr>
<td>7</td>
<td>Marripalem</td>
<td>65</td>
<td>400</td>
<td>6.15</td>
</tr>
<tr>
<td>8</td>
<td>Murikinalla</td>
<td>54</td>
<td>92</td>
<td>1.70</td>
</tr>
<tr>
<td>9</td>
<td>Peddamanthanala</td>
<td>53</td>
<td>213</td>
<td>4.01</td>
</tr>
<tr>
<td>10</td>
<td>Thummalabayalu</td>
<td>38</td>
<td>230</td>
<td>6.05</td>
</tr>
<tr>
<td></td>
<td>All gudems Total</td>
<td>574</td>
<td>1565</td>
<td>2.72</td>
</tr>
</tbody>
</table>

Source: Area of catchment territory is calculated from the maps in the working plan.

The present day Chenchus are not pure hunters and gatherers. A mixed economy is under operation comprising several occupations, and market / monetary as well non-monetary exchange systems. The catchment area is exploited not only for subsistence (immediate consumption), but also for commercial purposes and production of food grains and cultivation of commercial crops. Though these pursuits are meant for meeting subsistence needs, the inability to survive through a pure hunting - gathering is evident. Apart from shrinking of the forest area and resource depletion over years due
to agricultural expansion and afforestation and deforestation, the stringent forest rules and the contact with agricultural communities are responsible for the change in the economy. Besides, the population of the Chenchus in gudem has also increased mainly due to amalgamation of various small groups.

Now-a-days, cultural practices relating to birth control among the Chenchus are getting waned. Spacing by means of post-partum sex-taboo and prolonged post-partum amenorrhoea due to prolonged nursing has declined. Each women is giving birth to more and more children compared to the elderly women. In one study (Gangadharam, 1999) among the Chenchus the Total Fertility of women in reproductive age groups is (4.3) same as that of women crossed reproductive age (4.6). The inter birth interval for women crossed reproductive age was 53.8 months. The young women on the other hand are giving birth to children in close intervals for every one year or two years. Because of this there are several children in Chenchu gudem (who are exposed to mortality risk factors).

In spite of these developments, the periodic residential shifts and daily visits (movement) are continuing which disperse people from the permanent gudem. The diversity of the Nallamalai forest with large number of different plants and animals and the small number and dispersion of individuals per
species per unit area, necessitates extensive foraging which in turn call forth movement and residential shift.

It is only during the rainy seasons/days, the gudems are seen full of its residents. On the normal days, the gudems are deserted - the children themselves are out leaving the frail and the aged behind.

Even in the changed circumstances, movement and residential shifts have become a necessity. MFP Collection and forestry works require a great deal of mobility and pitching camps, if the sites are located far off. Many families shift the residence to agricultural fields for crop watching from the wild animals, the duration of which ranges from a fortnight to three months. Even after harvest the stay continues till the threshing operations are completed. Thus during the peak agricultural seasons, many households leave the gudem and each household is separated from one another by considerable distance.

Increased population density has health effects. Firstly the children get easily exposed to infectious diseases. The vectors also increased along with the live-stock population and opening of hostels for school children. The latter generates a good amount of garbage and housefly population is considerable in these places. Defecation by children is less dispersed and children are prone to contact with contaminated soil. Women also suffer most
because of repeated pregnancies coupled with lack of nutritious food and increased hours of work. Because of crowding, respiratory infections can also be transmitted. Adults are not easily affected by the fecal- orally transmitted infections and soil-transmitted helminths.

SETTLEMENT PATTERN

The Chenchu villages are recorded as forest villages in the records of the government and are thus, distinguished from the Revenue villages. The Chenchus call their villages as gudems. Each gudem comprise several huts erected in a wide area. When compared to the extent of area of the gudem, the number of huts easily appears to be small. The first galance of a gudem leaves an impression that the huts are dispersed.

Usually the Chenchu gudems are situated in groves of tamarind, pongamia, neredu (Eugenia, Jambolana), Yepi (Hardwickia binata). Narrow ravines, places of high gradient, and ridges and places of hard soil or rocky nature with sporadic plants and inferior vegetation are avoided for habitation. The settlement itself contain several large trees. These places are probably selected in order to avoid the radiation and heat waves. The Chenchus prefer cool places and environment. Certain places in the forest are known as rest places which are used during the trips of hunting, food-gathering, grazing or forest work.
As already pointed out the *Chevchu* settlements are relatively small and isolated. Usually the *gudem* are divided territorially into two or three locales which may have specific names. The following table shows the localities within each of the sample *gudem*:

Newbold (1846) has recorded that the *Chevchu* *gudem* consisted of beehive shaped huts huddled together in a cleared spot, cleanly swept and surrounded by jungle. Furer-Haimendorf (1943) recorded the peoples memory of the days during which their ancestors roamed in the jungle who were living under trees or rock shelters without any huts.

### Table - 3.2
**Names of Localities within the sample *gudem***

<table>
<thead>
<tr>
<th>Name of the Sample <em>gudem</em></th>
<th>No. of Localities</th>
<th>Names of the Localities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Baileooti <em>gudem</em></td>
<td>3</td>
<td>Bayanna <em>gudem</em>, Chanthalagudem, Nimmatoli <em>gudem</em></td>
</tr>
<tr>
<td>2. Billagondi <em>peeta</em></td>
<td>2</td>
<td>Donapavu <em>gudem</em>, Baineni <em>gudem</em></td>
</tr>
<tr>
<td>3. Chilaka <em>Charla</em></td>
<td>2</td>
<td>Dune <em>gudem</em>, Pollimuru <em>gudem</em></td>
</tr>
<tr>
<td>4. Chinthala</td>
<td>2</td>
<td>Mando <em>gudem</em>, Kona <em>gudem</em></td>
</tr>
<tr>
<td>5. Hanumanthu <em>Cheenka</em> <em>gudem</em></td>
<td>2</td>
<td>Lo sorava <em>gudem</em>, Py sorava <em>gudem</em></td>
</tr>
<tr>
<td>6. Korapolu</td>
<td>Nil</td>
<td>---</td>
</tr>
<tr>
<td>7. Marripalem</td>
<td>4</td>
<td>Thota<em>gudem</em>, Dunda <em>gudem</em>, Sooragadala <em>gudem</em>, Dunda <em>gudem</em></td>
</tr>
<tr>
<td>8. Murkimallin</td>
<td>3</td>
<td>Gondrati <em>gudem</em>, Mendli <em>gudem</em></td>
</tr>
<tr>
<td>9. Peddamanthanalala</td>
<td>3</td>
<td>Mita <em>gudem</em>, Katta kaada <em>gudem</em></td>
</tr>
<tr>
<td>10. Thunnala <em>bryaha</em></td>
<td>3</td>
<td>Javukula <em>gudem</em>, Nadirai <em>gudem</em>, Banda pyna <em>gudem</em></td>
</tr>
</tbody>
</table>
Though the make-shift bee-hive type of huts are seen even today in a few gudem, the present day Chenchu mostly live in permanent sites comprising solidly built thatched, round or rectangular huts made of bamboo wattle walls. Each hut has a courtyard enclosed by a fence. The courtyard is kept clean by sweeping regularly or by and smearing cow-dung. The traditional bee-hive type of huts are seen in Hanumanthu Chenchu Gudem, Bairooti gudem, Chilaka cherla. Bee-hive shaped huts are now seen in temporary camps. Traditionally, there seem to have existed a considerable space between huts. In several Chenchu settlements, the huts are widely dispersed. But in a majority of the gudem, the huts form into groups separated widely from each other. Within each group, the huts are clearly spaced. The huts in each group are built in a rough semi-circular or circular pattern. This situation holds good even today in case of Chenchu gudem where no housing programmes were implemented. The following table shows the present gudem pattern of the sample gudem under two types namely traditional and colony pattern. The latter is an arrangement of tiled tenement type dwelling or concrete roofed single or double compartment dwellings in a linear fashion.
### Table - 3.3

Settlement Pattern in Sample Gudem

<table>
<thead>
<tr>
<th>Settlement Types</th>
<th>Name of Gudem</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Traditional</strong></td>
<td></td>
</tr>
<tr>
<td>a. Dispersed Huts</td>
<td>Hunumanthu Chenchu gudem, Chinthala, Chilaka Cherla,</td>
</tr>
<tr>
<td>b. Huddled huts in dispersed groups</td>
<td>Korrapolu, Murikimalla, Peddamanthanal Thummalabayalu</td>
</tr>
<tr>
<td>c. Semi-traditional</td>
<td>Bairlooti gudem</td>
</tr>
<tr>
<td><strong>2. Colony</strong></td>
<td></td>
</tr>
<tr>
<td>a. Tiled dwellings</td>
<td>Billagondi penta</td>
</tr>
<tr>
<td>b. R.C. dwellings</td>
<td>Marripalem</td>
</tr>
</tbody>
</table>

Camps usually comprise small number of huts (about 5) moderately spaced from each other. The settlement pattern of the Chenchu gudem prevent crowding. Dispersion of huts decreases human contact with each other. In such circumstances, spread of infectious diseases become restricted.

**SEMI-NOMADISM AND RESIDENTIAL SHIFTS**

Another important feature of the Chenchu settlement is the impermanence of the residents as well as residential huts. The Chenchus have a tendency to shift the place of the hut or entire habitation, if repeated sickness
afflict individuals in the habitation. The group may break into small units or
an individual may choose to change the site of his residence within the
settlement or to outside. This fission is almost unceasing though transitory,
to be reverted to the areas of original place only to repeat a move-out
sometime later. A slight disturbance in social relations, a few more minutes of
hard work/trek or addition of a few new members to the group are the
enough reasons for individual(s) to set out to a more convenient place. It is
not unusual to find out a couple with small children living all by themselves in
the forest, under the shade of tree, sleeping during nights by the side of
glowing embers for about a period of fortnight.

The traditional nomadic life of the Chenchus seems to have become
almost obsolete. A majority of the Chenchus have attained the highest
stability of residence in the sense that they now have permanent gudens.
Nevertheless for subsistence, the people still exhibit a varying degree of
movement.

Daily trips to the forest constitute the most prominent type of
movement. Such movements are usually seasonal and do not last longer than
a fortnight. Collection of food resources, commercially valued forest produce,
daily wage labour in the forestry are some of the activities that require this
kind of movement.
The second type of movement is temporary stay for two or three days in the forest, living under trees and returning to the permanent gudem. These trips are undertaken specially on hunting expeditions or bamboo/firewood cutting works or collection of minor forest produce (MFP).

The third type of movement is residential shift wherein a temporary camp is established usually in summer season. This type of movement is reported by Furer-Haimendorf (1943) in his study on the Chenchus of Mahaboobnagar District. These temporary camps are made in certain named localities for collecting food material besides organizing intermittent small hunting expeditions. These camps are organized in the absence of any gainful employment.

Forest is the chief source of livelihood to the people. Seasonal variation, differential availability of food resources force the people to move from place to place. In certain gudem (for example Peddamanthanala) within its catchment territory, food resources are rich. In other gudem (for example Billagondipenta) the resource availability is very poor.

Movement and residential shifts observed among the Chenchu are also influenced by the distribution pattern of ecological zones within the catchment territory in terms of number of zones, distance of their location from the gudem, richness and regenerative properties of the biota, the characteristic
features of physiography and the type of resources yielding in each zone. To illustrate the above statement, the Chenchu gudem of Marripalem is examined.

This gudem is characterised by the presence of the following ecological zones.

1. Pond  Fishing, Collection of roots of waterlily plants.
2. Pond bank  Grazing
3. Pond terrace  Cultivation
4. Bush  Gazing and firewood collection
5. Plantations  Participating as wage labourers in afforestation and deforestation activities executed by the forest department.
6. Sub-mountain forest  Food collection, hunting and MFP collection.

Exploitation of zones 1 to 5 does not involve any residential shift because the zones are located within the vicinity of the gudem. In case of zones, 6-8, food collection, exploitation of MFP or honey and hunting involve considerable movement and temporary stay at these zones is made for a few days. Sometimes when plantations are situated quite far away, the Chenchus
erect temporary huts. Thus movement is still an important aspect in the life of Chenchus.

Social fusion along kinship lines (Neel and Salzano 1967) also occur among the Chenchu. Usually the Chenchu gudens are in an unceasing state of flux. The individuals visit relatives in other gudens for various reasons: to lend a helping hand in hut construction, collection of material for hut construction, various agricultural operations and giving assistance to a sick person etc. Though the number of people who move on account of the above reason is small at any given point of time, such residential shifts are quite frequent.

The membership in the gumpu is also quite fluid and subjected to fission and fusion. Disputes and lack of enough economic opportunities force the gumpu members to separate and join other groups mostly in other gudens. Hunting, honey collection from serri also involve camping in the forest.

In order to secure food, the Chenchus have to roam over a wide range of area. Movement and residential shifts are the adaptive responses to seasonal availability of food and other resources, migration of animals, dispersed resources and lower productivity due to resource depletion. Such a life-style is feasible only when the group size is small. Wirsing (1985) writes that the available evidence suggests that they (unacculturated traditional
were once free of many diseases common to Africa and Europe—malaria, yellow fever, small pox, measles and tuberculosis. Furer-Haimendorf (1943) has observed that the Chenchus were not affected by many disease like skin diseases or contagious diseases.

**DIETARY DIVERSITY**

The Chenchus used to depend upon a wide variety of vegetable food collected from the forest. Presently they eat rice, ragi, and other millets and pulses which are mostly purchased. They cultivate certain millets like Korrulu (Setaria italicac) Samalu (Panicum miliare) Jonna (Jowar), Saddalu (Pennisetum typhoidicum) arika (Paspalum frumentacecum) which are used for domestic consumption. The millets would usually last for a month because of meagre crop productivity. Once this produce is exhausted, they start purchasing rice from the GCC or open market. Rice is eaten for most part of the year and it is the staple food. Rice (and other millet) is usually supplemented with chili paste or a vegetable dish (stew or gravy soup), gram dish (red gram, horse gram, bengal gram) or rasam (seasoned tamarind water) or butter milk. Usually one supplement and occasionally an additional one is cooked.

Regular dependence on the wild food is gradually declining, though, the Chenchus show considerable interest in its collection and consumption. In the past, the Chenchus used to eat wild food at the place of collection and
bring additional produce to be eaten for a day or two or to be shared with relatives. Presently several food items are eaten on the spot of collection. Almost all green leaves and a few tubers and seeds are brought home. Fruits are eaten on the spot of collection. Madapa (Bauhinia vahlii) seeds are stored for the rainy day for consumption after roasting. Ippa (Bassia latifolia) flower is also stored for making liquor.

The following table gives the number of forest food (by the name of the part) eaten by the Chenchus.

Table-3.4

<table>
<thead>
<tr>
<th>Part Eaten</th>
<th>No. of Species</th>
<th>No. of Species Presently eaten</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuber</td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td>Fruits</td>
<td>35</td>
<td>15</td>
</tr>
<tr>
<td>Flowers</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Green leaves</td>
<td>28</td>
<td>14</td>
</tr>
<tr>
<td>Seeds and Nuts</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>105</strong></td>
<td><strong>45</strong></td>
</tr>
</tbody>
</table>

Of the total 105 floral species, presently the Chenchus rely upon only 45 varieties. The rest 60 species are almost abandoned mostly because of prolonged process of curing, tedious process of repeated soaking and boiling lack of taste, problem of digestion etc. Some of the species are not easily
available and some have become extinct. The plantation activities, clear-felling for firewood have contributed to the depletion of many food plants. After getting used to rice and other millet, the younger generation finds it difficult to eat some forest food. The faunal species are also quite a few in number (51) and they are eaten as and when available.

The following table shows the cross-cultural comparative picture of number of plant and animal species consumed.

Table-3.5
Cross-cultural Comparison of wild food species

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Society</th>
<th>No. of Plants Species</th>
<th>No. of animal species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dobe Kung</td>
<td>85</td>
<td>54</td>
<td>(Truswell 1977)</td>
</tr>
<tr>
<td>2</td>
<td>Tasaday (Philippines)</td>
<td>52</td>
<td>Uncounted</td>
<td>(Wirsing 1985)</td>
</tr>
<tr>
<td>3</td>
<td>Acculturating Jivaro (Peruvian Amazona)</td>
<td>46</td>
<td>NA</td>
<td>(Berlin and Markoll, 1977)</td>
</tr>
<tr>
<td>4</td>
<td>Tiruya (Philippines)</td>
<td>100*</td>
<td>NA</td>
<td>(Schelgel and Guthric, 1973)</td>
</tr>
<tr>
<td></td>
<td>Traditional Accultured</td>
<td>40*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>The Chenchu</td>
<td>105 (45)</td>
<td>51</td>
<td>(Present study)</td>
</tr>
</tbody>
</table>

Note: *NA = None available

*Both wild and domesticated. *Figure in the parenthesis is the number of species actually collected.

124
It can be seen from the table, the dietary diversity among the Chenchu is quite high.

The researcher could not conduct a dietary survey for want of enough time and also due to the difficulty of maintaining the dietary records owing to three factors: (1) most of the forest food is eaten at the place of collection and rarely the food is brought home; (2) residential shifts and temporary movement of the individuals and (3) diet intake varies according to season and hence necessitates an year long survey. A qualitative assessment and socio-cultural factors concerning the food habits were made in order to seek an understanding of the adequacy of the diet.

A normal adult - male and female, usually eat all types of food and no restrictions are in vogue. Children aged 3 year and above are fed in small quantities with almost all types of food, made into a paste. Infants aged below one year are breastfed and wild food comprising carbohydrates are given in small quantities from the age of 7 months. These infants are also given various types of fruits. Now-a-days, rice feeding is very common.

The diet is predominantly vegetarian though meat is very much relished. Most of forest food is eaten raw as in case of fruits and some seeds; boiled as in case of tubers and roasted as in case of some seeds and tubers. Meat is eaten either cooked as curry or roasted. Usually salt or chili are not
used unless cooked in home. Salt is also used sparingly in cooking green leaves or meat.

However salt is adequately added while cooking vegetables and gram. The informants said that to eat rice or millet by mixing with vegetable curry or gram gravy, enough salt and chili are essential. Otherwise, eating rice becomes very difficult. Further eating saddi (rice soaked in water over night) or ambali (boiled ragi and rice mixed in water) invariably requires salt. On the whole eating rice and millets, domesticated or purchased vegetables and gram has resulted in increasing use of salt and chilli.

The culinary process is very simple. Most of the forest based food produce is boiled or roasted. Roasting is done by first making a shallow pit into which the raw produce is placed and covered with sand. Later a fire is lit on this spot. After sometime the fire and the sand covering the food are removed and tubers are eaten. One culinary practice involves adding ashes of green twigs of tamarind to tamarind fruit before consumption. This practice not only decreases the acidic content but also enriches tamarind with calcium and iron. Calloway, Gianque and Costa (1974) report a similar practice of adding ashes of green plants to various corn foods among the Hopi which is said to enhance the mineral content.
Another important food habit of the *Chenchu* is consuming the fresh food. Usually all the forest food barring a few are consumed on the day of collection. Soon after food is secured it is eaten without much delay. Usually food is eaten in a relaxed manner outside one's hut without undue secrecy. The researcher has seen that *Chenchus* are moderate eaters in comparison to agricultural labourers in his native village of Kandala Varipalli, Cuddapah District of Andhra Pradesh. In case of the latter, an adult can consume half a Kg rice where as the same quantity is eaten by a *Chenchu* couple and a child of 10 year age. However the *Chenchu* seem to eat several times a day in little quantities. They are very conscious that food should be shared. As the food is shared one may not get enough. As many informants affirm that “half-stomach is always healthy and make the person active”. These habits have health significance.

Availability of forest food is declining due to large scale deforestation and afforestation. The *Chenchus* are now eating less number of forest food items compared to their ancestors. On the other hand, dependence on purchased food is increasing. Purchased food lack diversity and poor in nutritional value. The Forest Department also discourages the people's dependence on foraging. These trends will have nutritional and health implications which call for intensive future studies.
SANITATION AND PERSONAL HYGIENE

Sanitation and personal hygiene are significant factors influencing health. It is also a matter related to one's habits and daily chores. The nature of daily chores may be such that certain amount of dirt or uncleanness is bound to remain on the body and surroundings. It may not be possible for certain category of individuals to remain clean throughout the day. In the same way the surroundings of the habitation may not be kept clean always. Sometimes, certain compelling factors do not facilitate maintenance of clean environment. For example, in many Andhra villages waste disposal is a big problem due to absence of a predetermined place and unwillingness of the villagers to allow a common waste-bin located nearby his/her residence. Consequently, waste is deposited in the street or within the surroundings of one's own house or in any vacant place.

In many traditional societies waste matter is more or less in the organic form which usually gets quickly decomposed. Requirement for sanitary facilities is also minimal because, the settlements are small in size, population size is small, and most of the operations regarding personal hygiene and cleanliness and household maintenance like washing utensils, cloths etc are at minimal scale. Some of the adivasi settlements are said to be very clean. Besides, what is cleanliness and hygiene and what constitute pollution are culturally determined.
SANITATION IN CHENCHU GUDEMS

Each hut is bounded by a fence enclosing courtyard. This space is regularly swept and the portion in front of the hut is neatly smeared with dung so that it looks very clean and dry. Bathing is done at a corner in the compound. This place is also used for cleaning the utensils. The slush water is left to drain. It is a rarity to find pool of slush at these places for the reason that the amount of water used for these purposes is very small, may be two or three buckets of 20-25 litres each. Besides not everybody carry out these chores. Most of them prefer to take bath at the nearby streams or ponds. Washing cloths is invariably carried out at these streams or ponds and not in the precincts of the hut.

Any organic waste resulting from food preparation and consumption are given to cattle or dog. Left-overs are not thrown in the open, but given to the live-stock. If not spoiled, left-overs are consumed the next day or get distributed. Thus generation of waste within the household is very minimal.

Cooking is usually done outside the hut. Hence soot-formation and cob-web formation are minimal. Besides the Chenchus repair the hut, particularly the roof, once in every six or seven years. Most of the time they tend to spend their time outside the hut. Hut, as a matter fact, is not considered as a prized property.
Traditionally the Chenchus did not keep any domesticated animals except dog. Thus infections through domesticated animals were negligible in the past. Dog was and continues to be a pet favourite companion animal having access almost to the entire household, excepting food. Food is usually kept in a sling suspended from the roof at a height beyond the reach of dogs. In the recent past the Chenchus started rearing live-stock especially goats and bovine stock, domestic fowl and occasionally pig. The cattle dung is not usually collected but the droppings in the shed are heaped within the courtyard of the hut or just outside. The goat-shed itself is located within the hut in order to obviate threat from thieves and wild animals. If the cattle herd is large, a separate pen is made in the forest itself. The dung is sold out or used as manure for the agricultural fields. Thus live-stock is an important source of dirt and waste. The dung heaps located nearby the huts are the main sources of insects, flies, mosquitoes etc.

The Chenchus have the habit of keeping a smouldering log within the hut especially in winter season to keep the hut warm as well as to drive away the mosquitoes by the smoke. The Chenchus are exposed to this smoke which is a potential source for respiratory diseases.

The ponds or streams are used carefully. Specific spots are habitually used for carrying out specific deeds. In case of pond, collection of drinking water and washing cloths take place from different widely separated locations.
Defecation is performed in the bush which is usually not traversed by people. There are no definite places for defecation but a Chenchus prefer to go quite far away from the settlements. It appears that defecation is a secret affair. Generally the people going for defecation get dispersed unlike in peasant villages of Andhra Pradesh where the peasants tend to flock together attending nature call. The faecal matter gets quickly decomposed or eliminated by insects or other scavenging animals in the area under study. The nature of soil of the area also facilitates quick decomposition.

Some personal habits of the Chenchus cause problems of sanitation. The children usually defecate and urinate within the settlement or anywhere in the house or its surroundings. The adults also urinate on the backyard. They also spit wherever they sit, even inside the hut, some persons cover spit by throwing handful of mud. Women who chew betel leaf and areca nut spit quite frequently. To some persons, spitting is like a mannerism, an impulsive drive.

The children may not be washed after defecation or urination if its relatives are not around. This habit of defecation and urination create problems of hygiene and children are prone to infections. The researcher has seen that dogs lick the buttocks of child. Though such incidences are rare, they are potential sources of infection. Washing of bottom is not considered
very essential. Many go away to resume the work. They also prefer to wipe with stones, leaves etc.

PERSONAL APPEARANCE AND CLEANLINESS

An outsider, looking from his own perspective would easily categorise the Chenchus as unclean, untidy and shabby. A typical Chenchu adult have unkempt hair, wearing soiled cloths and limbs are heavily soiled with dust or slush.

The Chenchus have a tendency to sleep on the floor either in the hut or in open place. Usually when they return from the forest, the male and female wash their bodies if not take a full bath. They also tend to consume arrack, and after eating their grub fall asleep on the floor. Most of them keep mats locally made of palmyra leaf. The small children would urinate on them, and these mats easily gets soiled. It is difficult to clean these mats. However, these mats are dusted and occasionally washed to get rid of dust particles. They keep using these mats until they are completely worn out to a stage of discard.

After getting up from sleep, daily ablutions are carried out. Teeth are cleaned either with ash or charcoal or with any twig depending upon the place within the house, in the forest) where teeth is cleaned. Twigs of pongamia, palmyra, margosa, babul, nuxvomica are used for cleaning the teeth. Usually
no soap is used. Face, neck, limbs are washed with water. After taking the morning meal around 10 AM - 11 AM, they proceed to the forest. In the forest, they indulge in a variety of activities like collection of food, collection of MFP, grazing, firewood collection, cutting operations (bamboo, firewood, timber etc for the Forest Department) and other activities of miscellaneous nature. The work is wound up by 3.30 PM - 4.00 PM and the Chenchus start returning home. These trips invariably cause sweating and dust get accumulated on their bodies especially limbs. At any stream, washing is done. After returning home men usually wash themselves, but women turn to attend household chores or their infants. Only after food is cooked, utensils cleaned, hut swept, bed made, did she find it fit to splash water on her body parts. A complete bath is taken by men and women once in a week. These periodic baths are usually a thorough process lasting leisurely and usually combined with washing cloths. Lathering material like soap nuts are used for the body and head. Bathing is usually a group affair of each sex, the members help rubbing each other's dirt off.

Clothing of the Chenchus is minimal which reflect poverty. Wearing clothes seem to have begun a century ago. But till recently, men wore a loin cloth and a waist band; women wore a blouse, and a piece of cloth was wound like a skirt. In the past three decades, the Chenchus started wearing a shirt or full bannian and a lower garment called pancha. Women also started wearing
a blouse and sari with its free end drawn on to the left shoulder to cover breasts. This dress pattern is gaining popularity among the youngsters.

The children's dress is very scanty. They start wearing cloths around 10 years of age. Most of the children's dress is provided by the Ashram schools. Where school is absent, the children are most likely to sport a loin cloth or go naked for almost 5-9 years of age. Girl child is usually provided with a skirt by parents or relatives.

On the whole, the Chenchus, would keep two or three pairs of dress. A fresh dress is worn for about a week or 10 days or as long as the dress does not get intolerably soiled. Usually each adult male or female washes their own dress once in a week or 10 days depending upon volition and congenial mind-set. Given the work habits, the Chenchus do not wish to spend time every day for cleaning cloths. However no Chenchu would wear a stinking dress; in the absence of clean dress, they would prefer to wear a loin cloth.

Women do the washing of cloths of their children, her own cloths and sometimes the cloths of her husband. Washing is usually done near a pond or stream using a soap purchased from G.C.C. However simple soaking, shaking and rinsing cloths in the plain flowing water without using soap is also very common.
It is the children's clothes that cause serious health problem. In the first instance the dress of small children get soiled and most likely to get infected. The infants urinate or defecate in the clothes only to be washed at a later time by its elders. The baby sitters may help the babies if they are not otherwise preoccupied with some errands. The infants and children playing in the open grounds usually get their bodies as well as their clothes heavily soiled. However, when parents return, the children are cleaned and clothes dusted or changed almost every day. The resident children in Ashram School (residential schools) tend to pile each others clothes together. This practice facilitates spread of infections. Skin diseases are most rampant among the school going children, and especially among the inmates of hostels. It may be mentioned here that skin diseases were not endemic during the period before Ashram Schools were introduced in the Chenchu territory, as per the information provided by the elderly Chenchus, retired teachers and hospital staff at Dornala. The ANM at PHC Dornala has narrated that in Jillagondipenta, an ashram school was started in the year 1987. Prior to that skin diseases was unheard of among the people of this gudem. Gradually the incidence of skin disease increased. In the beginning the people and hostel officials thought that it might be due to new food items and water. Later the children's tendency to pile their clothes together was detected as the main reason that caused skin diseases. As a remedial measure, the Tribal Welfare Department of Andhra Pradesh has instructed the warden to see that the clothes
are periodically, at least once in a fortnight be washed in hot water and each student be supplied with one trunk box. There are problem in their implementation: neither mixing up of clothes ceased nor washing cloths in hot water was ensured on a regular basis. Unavailability of pots or vessels for heating water and trunk boxes due to short supply or pilferage or improper maintenance have rendered elimination of skin diseases an indomitable exercise.

Children roam in and around the forest area, collecting food or playing. Fishing is one favourite activity of the Chenchu children. They look for small pits in the hillocks which contain standing water. These pits contain fish and also mosquitoes. Sometimes, the children drink this water and suffer from abdominal infections. Malaria is also very common.

Another potential sources of infection is hostel food. Hostel mess are not kept clean. House flies flock these places. Fly population is also said to have increased after opening up of hostels. Hostel food brought home is kept to be consumed either in the afternoon or evening. Many Chenchu students residing with their parents, collect hostel food and take it home to be shared by all the members of the household. Even the nutrition food supplied by the government to small infants and pregnant/ post-partum mothers every morning is taken back home to be shared by other members. Often this food is stored for a while and is not covered or sometimes covered with cloth. Files
flock around these food. Even while eating, the flies flock around. The
Chenchus are conscious of infections caused by flies. They fan them away.
Recently the Chenchus are using a cyst deposited by a small insect called
kampa pasiri. This insect produces bundle of cyst around any slender twig of
tree. Any insect or worm or small lizards coming in touch with it or perched,
get caught and stuck up to the cyst. The kampa pasiri present inside the cyst
preys on the victim. The Chenchus collect these cysts and tuck on the walls or
poles inside the hut which act as traps for flies and mosquitoes. But the hostel
food is a potential source of attraction to the common house flies and are
potential source of infection to children.

In this chapter an attempt has been made to appraise the physical
conditions of the habitations and the surrounding forest in order to understand
health implications. It also examined sanitation and personal hygiene among
the Chenchu's. The population under he present study are forest dwellers
living in Gudem which are relatively isolated, besides being relatively
sparsely populated. The huts one constructed with sufficient space in
between. These physical features set to be advantages in preventing the
spread of infections dependence on forest food has provided better nutrition to
the people. However in the recent part the forest is under pressure resulting in
the depletion of food base. In the same way the Chenchus are imbibing food
culture from the caste community which is largely rice-based. Though the
environment is not polluted people suffer from certain infectious diseases which are largely water-form. This chapter clearly shows that the Chenchus are well adopted to their environment which is reflected by Geographic isolation, small group size, life style characterised by mobility, diverse diet. These practices have health benefits. This adaptation seen to be collapsing due to various interventions such as commercial silvi-culture.

Isolation also has certain disadvantages. Health care services and modern medical technology are difficult to reach the people. People also have to suffer periodic hunger during drought, and due to lack of income generating activities.