CHAPTER V
LOCAL HEALTH TRADITIONS AND MODERN MEDICINE:
ENVIRONMENTAL AND ECONOMIC CONSIDERATIONS

The environmental and economic considerations in the use of LHT and modern medicine form the thrust area of this chapter. The first part of the chapter discusses about the socio-cultural changes in the study area. With the help of historical profile and community maps, the economic and environmental status of the area is broadly examined. Getting nuances from the use of particular medical systems, during illness, the economic and environmental considerations in the use of LHT and modern medicine is discussed. Towards closing, the chapter discusses the economic and environmental factors as supporting or delimiting the use of LHT as complementary to modern medicine.

INTRODUCTION
In the previous chapter, the access and extent of use of the LHT and modern medicine in the study area was discussed in detail. Though, in India, only 35 per cent of the population has access to medicine, the picture is quite different in Kerala, where it is accessible to a majority of the population. There are around 944 PHCs in the state which provide for the immediate health needs of the local people (FRHS, 1999). Besides, there is a wider network of private health care providers of allopathic medicine. The present public health care system in India is based on the western ideologies, which depend heavily on external resources (Hafeel et al, 2001). This chapter delves into the environmental and economic considerations for choosing a medical system and their influence on complementing modern medicine with the LHT. The chapter probes into the economic and environmental characteristics of Kanjoor and its influence on the health seeking behaviour.

THE FINDINGS
1. The preference for modern medicine over the LHT is controlled by environmental factors like the availability of facilities at close proximity.
2. Though the LHT are economical, the non-availability of the local medicine men and scarcity of herbal resources have led to limited use of the LHT.

3. The physical and social environments are in a state of constant flux, which has limited the use and access to the LHT.

THE DISCUSSIONS
The study of the environmental and economic situation of Kanjoor is facilitated by:

a) The Historical profile; and

b) Community maps prepared by the members of the community. (Plates: 5.1, 5.2, 5.3 and 5.4)

An appreciation of the socio-economic and environmental changes of Kanjoor from the pre-independence period to the present was brought out by the historical profile. Historical profiles show up the notable changes that have taken place and have remarkably influenced the socio-economic and cultural set up of the village under study (Bolt and Fonseca, 2001). The exercise involves the active participation of the insiders, who have a better grasp of the history of the region. An attempt has been made here to bring out the socio-cultural, economic and environmental characteristics of Kanjoor.

THE SOCIO-CULTURAL PROFILE
The remarkable social development of Kerala is witnessed in its rural neighbourhoods. The case of Kanjoor is no different from its rural counterparts. The population is literate, politically and socially aware, and have better accessibility to health and education facilities. The social climate of Kanjoor and the changes it has undergone are similar to the changes which the state has undergone over the same time-frame. The major events which had a remarkable impact on the social structure are:

- Abolishment of untouchability;
- Land reforms; and
- Infrastructure Development

The society is equitable with equal rights ensured for all religious and caste groups. The people of the lower caste had undergone much difficulties in the past for their legitimate
rights and their situation has changed drastically now. The social change from a socially unequal to a socially equal society became complete with the Land Reforms Act.

The important social changes and characteristics of the past and the present are shown in the table 5.1. The pre-independence period was dominated by feudalism, with feudal landlords dominating the lower castes and exploiting them. The discrimination based on caste was beyond bounds and there were groups which were not only untouchables but were unseeable to the upper caste. The social discrimination came down with the various reform movements and with the advent of communist and socialist philosophies in the state.

The land reforms changed the social organization of the villages, giving more power to the landless tenant. But the segregation of the various caste groups still exists. A majority of the low caste people concentrates in the schedule tribe colonies and schedule caste colonies which stand on the land given to them during the time of Land reforms.

**Table 5.1: Historical Profile – The Social Changes**

<table>
<thead>
<tr>
<th>Past</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Had feudal land lords and high rate of discrimination during the pre-independence period.</td>
<td>• Compartmental society</td>
</tr>
<tr>
<td>• Caste-based discrimination until the 1950s</td>
<td>• Poor relationships within the community</td>
</tr>
<tr>
<td>• The land reform laws of the late 1950s gave more power to the landless tenant.</td>
<td>• No proper educational psychological or social development.</td>
</tr>
<tr>
<td>• More power to the poor tenants who tilled the land</td>
<td>• Nuclear family</td>
</tr>
<tr>
<td>• High social development, and ideals</td>
<td></td>
</tr>
<tr>
<td>• Joint family</td>
<td></td>
</tr>
</tbody>
</table>

The interaction levels are not commendable though the society has become more cosmopolitan. Society is still compartmental, though now the compartmental groups are made of various economic groups rather than caste groups. There are lots of missing links in the relationship between the members of the community. Though there is co-operation,
the willingness to work as a community is far lower than the willingness to work as a family. They see family as the basic unit from where the development has to start and there is reluctance to engage in co-operation with other groups possibly due to the conflicts which may arise in the future. The change from a joint family system to a nuclear family system has accentuated the situation.

This attitude was replicated in the survey when majority of the people was interested in attempts to conserve Local Health Traditions at the household level rather than at the community level or government level. This speaks much on the reluctance of the people to come together and work.

Figure 5.1
Initiatives for Conserving LHT

Though decentralization has taken place, it needs to be carefully analysed as to how many people actively engage in the process of planning at the local level. This has led to poor social development rather than in the past when there was more interactions between the people of the different groups. Though there have been changes with better housing facilities, better standard of living, the level of social development in terms of social interactions is far behind.

The Economic Profile

The economic development of Kerala is not on par with its social development. The absence of any major industries owing to the volatile political climate and the labour unrest has resulted in the present state of affairs. The low level of economic development
has led to a situation where the high literacy rates and awareness level of the human resources remain untapped for the benefit of the state. The economic situation of Kanjoor is reflected in:

- Reduction of the rich poor divides which now is widening;
- Unemployment;
- Increase in wages and increase in number of migrant labourers;
- Reluctance of the skilled workers to work as unskilled or semi-skilled labourers;
- Low work participation among women; and
- Better infrastructure.

The economy has become more equitable than in the past. The divide between the rich and the poor was brought down by the revolutionary land reforms, though the gaps are widening still between the rich and the poor. In the earlier days poverty was related to the caste, though this trend is absent now. Poverty still exists. Education is highly accessible and the village has a hundred per cent literacy. However, the employment opportunities have not multiplied in accordance with increase in the number of educationally qualified people in the state. This has worsened the employment situation, with very few job opportunities. Earlier, there was no education and no jobs. But now the people do not have jobs to support them in spite of education. The economic changes are listed in the economic profile (Table 5.2).

**Table 5.2: Historical Profile: The Economy**

<table>
<thead>
<tr>
<th>Past</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caste based poverty</td>
<td>Poverty still exists</td>
</tr>
<tr>
<td>No education, no jobs</td>
<td>Education, but no employment</td>
</tr>
<tr>
<td>No wealth no contentment</td>
<td>Wealthy but not happy</td>
</tr>
<tr>
<td>Employment but no wages</td>
<td>High wages but no employment</td>
</tr>
<tr>
<td>Poor infrastructure</td>
<td>Better infrastructure</td>
</tr>
</tbody>
</table>

The wages for the daily wage labourers are high when compared to the neighbouring states. But the people who are willing to work as labourers have come down drastically. According to one of the villagers:
Now no one wants to do any work which will spoil his shirt. Everybody wants a white collar job and is not ready to work in the fields, once they are educated. This has resulted in shortage of labourers. But we get migrant labourers to do work from the neighbouring states like Tamil Nadu and Karnataka. There are people who come even from North India, from Bihar and Bengal. The reality is that the work is available here which no one is ready to take up.

Unemployment seems a relative reality in this context. Unemployment in Kerala is thus the result of the absence of jobs for the educationally qualified and skilled human power. The truth is that people are not available to work outdoors or on the field. This can be attributed to:

- the attitude of the educated for their reluctance to work in the fields; and
- a high inflow of workers from the neighbouring states for such labour.

The situation in the past was quite different when jobs were available for all but with low wages. The number of people engaged in agriculture has come down drastically because

- agricultural land parcels are getting converted to houses; and
- the need for high scale investments in the form of labour and fertilizers, both of which are expensive.

Associated with the unemployment problem is the low work participation rate of women in the village, which is similar to the trend, observed in the state. Women though literate seldom take up a job and are mainly home makers.

Kanjoor has a relatively good infrastructure for development than in the past. Facilities for education and health are quite good. A wide range of health practitioners are found in Kanjoor. They include practitioners of modern medicine, homeopathy, ayurveda and the LHT. There are health services in both the private and public sectors. Health care is accessible and distance is not a constraint in accessing a health care system. Accessibility in terms of quality of health care and cost incurred however needs to be examined and evaluated.

Is Modern Medicine economical enough?

The public and private sectors offer health care provisions based on the allopathic system. Accessing health care facilities in the private sector is costlier when compared to accessing the same provided by the public sector. The Primary Health Centres take a nominal fee of one rupee for consulting and providing medicines. In the private hospitals
the treatment costs are comparatively high. The number of private hospitals now exceeds the government facilities in the density of beds and employment of personnel. The number of beds in government institutions increased from around 36,000 to 38,000 between 1986 and 1996. During the same period, beds in private institutions grew from 49,000 to 67,500. This accounts for 40 per cent increase in the private sector beds and 5.5 per cent in the public sector (Government of Kerala, 1995; Kutty, 2000).

An evaluation of the health care provider approached, suggests that money is not an important factor controlling the choice of a health care provider. The number of people who patronised private health care provider is more than the people opting for a public health care provider. The situation that has emerged out of the survey is representative of the overall health situation in Kerala. The survey showed that nearly 206 households preferred private providers of modern medicine, while only 102 households preferred government hospitals. The statistic shows that there are people who prefer both. Of the people who opt for ayurveda, 23 prefer visiting private hospitals and 57 prefer visiting government dispensary (Ayurveda). The private homeopathic clinics are preferred by 75 households (Figure 5.2).
This has been compared with the actual situation over six months before the period of survey on the flow of the ill by gender from a household to the private and government health care providers. From the graph (Figure 5.3), it is evident that most people visited the private health care providers than the public health care providers. Females outnumber the males in the frequency of ill people approaching the various health care providers. From the total of 245 households, the number of females who approached a private hospital is 90 and the government hospital is 28 and the females who visited both the private and government hospitals are 7. The number of males who approached a private hospital is 81 and the government hospital is 14 and the males who visited both the private and government hospitals are just 3.

This makes explicit the preference of private over public health care utilities. This goes on par with the findings of Kunhikannan and Arivandan (2000) that only 30–40 per cent of even the low-income group seek medical help from government healthcare units, including the primary health centres (PHCs). According to their study, the poor spend 40 per cent of their income on health care, in contrast to the rich who spend a mere 2.4 per cent.

The mission statement brought out by the National Rural Health Mission for 2005-2012 puts forward two interesting facts in the state of public health, which speaks about the economic burden arising from the costs on health care. According to the National Rural Health Mission:
- Over 40 per cent of the hospitalized Indians borrow heavily or sell assets to cover expenses.
- Over 25 per cent of the hospitalized Indians go into the category of below poverty line because of hospital expenses.

It might seem unwise on the part of the poor to approach a private health care provider since it increases the economic burden. The study conducted by Kunhikannan and others (2000) points out the reasons for the preference for private health care unit rather than government health care service, prominent among them being adequate care in private hospitals, nearness to private hospital, absence of medicine and improper care in government hospitals. The poor also opt for private health care providers, due to the better quality of care provided by them. The public health care providers are often constrained by the scarcity of resources in terms of infrastructure and medicines. Matters have grown worse with the Government gradually pulling out of the health sector. The Indian Government spends only 0.9 per cent of its GDP whereas according to the WHO guidelines, it should be 6 per cent. The preference for a private health care provider may be because of the higher hidden costs in the public sector. In the words of one of the women who attended the PRA:

*It has happened to us many times that when we are going through a financial crunch, we take the ill to the government hospital thinking that the expenses will be lesser. But once we land up in a Government hospital, we might have to get all medicines from outside.*

*And also the various medical tests are done outside the hospital, which again costs money. And the patient will not get adequate attention from the doctor or staff and also the infrastructure is very poor.*

*We cannot complain about the doctor because he/she would be attending to innumerable cases at a time. Finally, the patient will not be treated properly and we will be guided to a private hospital since the patient needs better care. Again we have to spend money in the private hospital also.*

*So it is better that we approach the private hospitals first and cure the illness rather than go through a long process through the Government Hospital. So we approach the Government Hospitals for minor illnesses only.*
It is apparent that the private health care facilities are not affordable and people do use it intensely, for the quality of health care and services offered. A considerable number of households have a single bread winner. And there are a large number of daily wage labourers in the village, who do not have a stable income. Many a time, this long duration for curing an illness means loss of man-days for the ill people and also the people accompanying them. So there is a loss of income on both sides: that is, one from the illness and the other from the time spent in a hospital. This means a disease episode is an economic burden which pushes them further into the poverty trap and they are hardly able to get out of the vicious cycle of poverty.

Another point of view as expressed by one of the ladies near Arankavu, a neighbourhood of Kanjoor is that:

*If the doctor is good at the Government Hospital we will definitely approach him/her. It is the capability of the doctor which matters, more than anything else. If anyone goes to the PHC in Kanjoor, they can see that it is crowded all the time whereas at the PHC in the nearby panchayat the picture is quite different.*

The words of this woman seemed true when I observed a big crowd during my visit to the PHC in Kanjoor. It was quite impossible to meet with the doctor, even as I went many a times, because of the never-ending queue of patients. From the doctor I found that she attends nearly 120 to 150 patients a day between 9 am and 1:30 pm. Many a time she is able to leave only very late. On an average, she is able to give hardly 3 minutes for a patient and I stood witness for the frustrations of the people in the queue. Though the doctor in the PHC has the role of providing only primary health care, the rush outside the PHC was quite high. Most of them attributed the rush to the capability of the doctor in that PHC and also the free medical care they get. According to the doctor, who serves at the PHC, there is need for more staff to cater to the needs of the people though medicines are available now, which are necessary for the primary health care. The case was similar when I visited the PHC in the urban neighbourhood. During the travel across the nearby panchayat I found very few people approaching the PHC in that panchayat.

**Is it economical to complement modern medicine with LHT?**

From the above discussions, it is clear that the accessibility of modern medicine in terms of the cost incurred is a matter of doubt. The LHTs are economical enough to be used
since it does not involve any major costs and involves things which are available in the immediate neighbourhood. But the LHT is not as popular as modern medicine. On an average, the number of households which used modern medicine with regard to both male and female is more than the number of households using other systems of health care. Though very few prefer the LHT, the number of people who have used it for treating their illnesses is more than the numbers using other alternate systems of medicine (Figure 4.2). This is indeed a positive trend. The LHTs are an important form of medicine which cannot be sidelined since:

- It provides curative and preventives, which are affordable;
- It does not produce any side effects; and
- It can be accessed from the immediate neighbourhood.

Still, the preference level for the LHTs is far below that of modern medicine. One of the reasons attributed often to the lower preference levels is the reluctance of the laymen in collecting the required herbs and preparing medicines out of it. For other medical systems, the medicines are readily available from the pharmacies. Recently however many home remedies have been commercialised. But if Local Health Traditions are commercialized, as mentioned in the earlier chapter, it is probable that the LHTs also become unaffordable. Problems of benefit sharing on the preparations cannot be ignored since the same LHTs exist among a wider community and their ownership cannot be narrowed down to an individual or community. The freedom of the people to use the preparations made from the locally available materials, with the traditional knowledge they possess can never be questioned. The case of the Kani tribes who were instrumental in the formulation of Jeevani, an energy drink made from arogyapachcha, is a good example of benefit-sharing. (Push pangadan, 2002; Gupta, 2002). But when it comes to other local health traditions, there might be numerous others who make use of the same herb, but in a different way for the same illness. The question arises here as to whether the benefit will go only to those who helped the pharmaceutical giants in locating the particular herbs or to all those communities who use the herb now.

Product patenting introduced recently in India is bound to increase the number of multinational pharmaceutical companies researching on many of the herbs used in local health traditions for the development of drugs. The benefit-sharing mechanisms which
are to take place cannot ensure that the role of local communities will be properly acknowledged. The colonial ideology of the British who concentrated on exporting the raw materials, changing them to finished products and selling them back to the poor in India, may be followed by the pharmaceutical giants. The R and D capabilities of the powerful pharmaceuticals, in extracting the active principles from the herbs need to be acknowledged. At the same time, the role of the local communities who were instrumental in guiding the pharmaceuticals towards development of a drug should not be side-lined.

**KANJOOR: THE ENVIRONMENT PROFILE**

Kerala, has a high population density and an associated increase in pressure on the land. The land use changes are occurring at a tremendous pace with more land being converted to non-agricultural purposes. The same trend can also be observed in Kanjoor and the urban neighbourhoods of Muppetadom and Edapally.

Periyar, the largest river in Kerala, drains through Kanjoor, and forms its boundary on the East and the South. The region is traversed by a number of irrigation canals and small distributaries. This impressive description on the water channels might give a picture that the region is blessed with plentiful water. Agriculture forms the major livelihood for a majority of the people, though many people are working in the commercial sector. Agricultural lands include the paddy fields, the banana and nut-megs plantations and areas cropped with mixed crops. The environment may seem unaffected by the changes in the outside world, though it is facing constant threat from the large-scale development activities. The problems experienced by the village were put across using the community maps and historical profiles constructed by the villagers. The prominent problems identified include:

* The unavailability of water, especially in summer;
* The degraded state of the irrigation canals and the distributaries of the river;
* Declining water table;
* Large scale sand mining from the river;
* Pollution of water and air;
* Water-logging and sanitation problems; and
* Degradation of agriculture.
PLATE 5.1: THE WOMEN ACTIVELY ENGAGED IN COMMUNITY MAPPING

PLATE 5.2: SUGGESTING CHANGES TO THE COMMUNITY MAP FOR PARAPPURAM IN KANJOOR
PLATE 5.3: HISTORICAL PROFILING AT HERBERT ROAD

PLATE 5.4: RECOLLECTING HIS NEIGHBOURHOOD- AN OLD GENTLEMAN AT KANJOOR
PLATE 5.5: THE AIRPORT RUNWAY

PLATE 5.6: THE PORAMBOKE AREAS ADJOINING THE CHENGAL THODU BEING CULTIVATED
The two villages receive rainfall like any other part of the district. But most of the water drains off into the river and is carried off quickly to the sea. Also the amount of water that flows through the river is very small since the river is mined for its sand. Though curbs have been laid down to prevent sand mining, it still takes place in the village, illegally. According to a woman, who lives near the river bank in Parappuram:

*The problem relating to water scarcity is mainly because of the sand mining. Due to sand mining the river is deep and the water table has fallen drastically. During the summer months, the wells dry out because of this. Secondly the other parts of the village do not get water because water is not regularly let into the irrigation canals. Since the river bed is very deep, water from the river rarely feeds the distributaries which traverse through different parts of the two villages. You might think that we should stop people from mining the sand from the river. But there are a lot of families in those areas who make a living out of sand mining. Though we know the people who are engaged in sand mining we cannot take away from them their livelihoods and that is the main reason we keep quiet. If we do it, we will be pushing many families to the abject poverty trap.*

Sand mining has long term implications for the environment which cannot be ignored. Sand mining leaves behind irreversible damages on the riparian flora and fauna resulting from riverbank slumping, channel incision and lowering of water table (Sreebha and Padmalal, 2006). The Periyar is not the only affected water body in the region. The Chengal Thodu which runs along the North of the village is no longer functioning as a water body. This stream was cut off from its natural course with the coming of the International Airport nearby. The Chengal Thodu which was once a source of water for irrigation especially for areas adjoining Chengal and Thuravanakara, is no longer the same as no water is found in this stream. Steps have been taken by the irrigation department following protests from the local people. They are awaiting the revitalization of the stream to be undertaken under the Food for Work Scheme. The people of these areas feel that the problem will be solved soon and the Chengal Thodu might get back its original frame.

Another issue is the scarcity of water for irrigation. This has been ascribed to the following:

1. Poor state of the irrigation canal; and
2. Irregularity in letting water from the river.
Though some of the irrigation canals are maintained, there are many others which need proper maintenance. There is an urgent need to line the canal so that the water reaches the farther ends where there are plenty of agricultural lands. The non-availability of water has led to the conversion of many land parcels to non-agricultural purposes. The water, according to many people, is not let in to let out regularly and this has led to a drop in the level of water in the surrounding wells. In summer, the situation grows worse.

Pollution
Related to all these problems is the high level of water pollution due to many reasons. The areas where the water is getting polluted are the Chengal Thodu adjoining the Kalady Panchayat and also the water points near the rice mills. Wastewater from the drains in Kalady is let in to a small water body called Udumbazhathodu which joins the Chengal Thodu and flows hence. The water which gets collected in the distributary is of no use because of the contamination caused by the wastewater.

The rice mills, near the paddy fields, are affecting the lives of people in the neighbourhood. The ash which is let into the air spreads to the neighbouring households affecting their normal living. Besides, the water after boiling the raw rice is let off without treatment into the distributaries or small water channels taking water to the nearby agricultural lands. The water let into them foul smells and often affects the paddy cultivated in the area and the smell is quite intolerable for the people who reside nearby.

Waterlogging
There are many points in the village where water logging is a serious problem and is caused due to a number of reasons. Water logging has been reported in the low-lying areas of Puthiyedam. These areas were once paddy fields and have now been levelled and converted into residential lands. The water logging is because of the fact that these areas are low-lying.

Another important area where there is water logging is the area near the runway of the airport. The tapioca fields adjoining the airport get water logged as there is no way for the water to drain away. Earlier the water was draining off into the Chengalthodu, which is now separated by the walls of the airport. The tubers get rotten because of water logging and the farmers face the loss.
Changing Land Use

The land use in the region is changing tremendously. Very few people are engaged in agriculture and related activities, compared to the past. According to one of the farmers:

_People are taking up other means of livelihood since agriculture is no longer profitable. Agriculture is now unprofitable. The costs are very high and the returns you get are very low. People are no longer ready to work in the field. The local people want to do only those activities in which their dress does not get dirty. They do not want to work in the field which requires them to toil. It is hard to get labourers for doing agriculture related jobs. We have a lot of unemployed youth. But none of them is ready to come to work. The chemical fertilizers and pesticides have become expensive. All this has increased the cost of cultivating the fields._

And people have started converting paddy fields to residential plots and other non-agricultural purposes. The environment has undergone tremendous changes from the past. The environmental changes were brought out by the historical profile created for the environment (Table 5.3).

### Table 5.3: Historical Profile – The Environment

<table>
<thead>
<tr>
<th>Past</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Rich in flora</td>
<td>• Reduction in flora</td>
</tr>
<tr>
<td>• Smaller number of houses and smaller houses</td>
<td>• Bigger houses and more in number</td>
</tr>
<tr>
<td>• Utilisation of environment for justifiable purposes</td>
<td>• Over-exploitation of environment</td>
</tr>
<tr>
<td>• No pollution of land, water or air</td>
<td>• High rate of pollution leading to misuse of land water and air</td>
</tr>
<tr>
<td>• Peaceful coexistence of humans with nature</td>
<td>• Nature has become a stranger for humans</td>
</tr>
</tbody>
</table>

The historical profile points out at the richness of flora during the pre-independence period which has now become considerably diminished. The population was small with lesser number of houses, with smaller houses predominating. The environment was utilised but never exploited as today. There was no pollution in the past but now pollution is a serious environmental concern. In short, humans have distanced themselves from nature causing more harm than good. The historical profile gives a condensed view of the environmental problems discussed earlier in detail.
The historical profile benefited the researcher and the participants, to reflect upon the major changes which have come about and how they are influencing the day-to-day life.

Complementing Modern Medicine with the LHT- Environmental Considerations

Though the LHT might seem an economic solution to the health needs of the local people, it is often restricted by the environmental considerations. While the local health traditions are considered as invaluable resources for bio-prospecting, attitude at the political level and among the laymen give little recognition to the LHTs (Hafeel et al., 2001).

The important constraints in the use and conservation of the local health traditions are:

- The ignorance of the local health traditions pertaining to curatives and preventives for specific illnesses;
- The non-availability of traditional medical practitioners;
- The non-availability of raw materials for the cure and the high scale development of modern medicine; and
- The unwillingness to use local health traditions.

Ignorance of the LHT

As Unnikrishnan (2004) reports, the rate of knowledge erosion is faster than the rate of resource erosion. The ignorance of the LHT is one of the major factors limiting their use as most of the people are unaware of the uses of even the most commonly available herbs. The traditional knowledge base is indeed declining very fast. Since the local health traditions are oral traditions, once lost, they cannot be retrieved. The knowledgeable in the community, who include people from the older generation and the traditional medicine men, are virtually non-existent. Though many texts have come out on the Local Health Traditions, these are highly limited. It is high time an initiative to codify this knowledge is taken up on war footing.

Initiatives, like the Community Biodiversity Registers (Box 5.1), were helpful in recording the biodiversity reserves of the community. However, codifying and preparing inventories of the LHT seeks the active participation of the community and traditional practitioners as well. Further, the success of such initiatives is in effectively reaching out to the local people who are the store houses of traditional knowledge. The initiative
should be such that it protects the best interests of the community and the traditional medicine men.

The importance of ignorance as a factor controlling the use and access to the LHT is brought out vividly in the survey. Nearly 51 per cent of the households felt that ignorance of the LHT was the major constraint in limiting their use. Another 9.1 per cent felt that it is moderately important and 12.3 per cent felt it is important. The remaining 37.6 per cent felt that it is not a significant reason for the decline of the LHT (Figure 5.4).

![Figure 5.4 Ignorance of Local Health Traditions](image)

Though the knowledge of Local Health Traditions is important for the use of the LHT, many of the members who are aware of the LHT are not capable enough in identifying the herbs and their habitats where they are found in abundance. The worst sufferers are the members of the present generation who have heard about many herbs and their usefulness, but are unaware of the herbs and their habitats.

An excellent example of this is the *Karakadaka Kanji* which is taken as a preventive and health booster during the onset of the south west monsoon. At present, owing to the high-scale commercialisation, ready made mixes are available for preparing this gruel and many households are dependent on these ready-made mixes. On the one hand, the commercialization of this preventive gruel seems to increase the income levels of a certain group of people, who are engaged in collecting and preparing the herbal mix.
On the other hand, the knowledge of *karkadaka kanji* is getting restricted to the commercial groups and there is a compromise on the quality of the local health traditions. In the past, people used to search for various herbs, many of which grew in abundance in the immediate neighbourhood and used to make the *kanji* which cost them nothing. Reserving the knowledge to a certain group will gradually lead to a dependence which can be commercially exploited in the future. This trend, which has started now, has to be controlled.

The possible solution for preserving the LHT and using it as a cost-effective alternative is to prepare inventories for the LHTs used in the community. This goal can be achieved through the active involvement of the people who know about the LHTs and acknowledge them as a community resource. This is far ahead of the Community Biodiversity Registers which have recorded only the herbs found in the particular village. The concentration should be on the preparations made from the herbs and their application.

This will help in the preservation of the knowledge which is eroding fast and hardly passed on to the future generations. It will ensure the transfer of knowledge to the people willing to use the local health traditions. The people in Kanjoor were interested to know

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**Box 5.1**

**Peoples’ Biodiversity Register**

The Peoples’ Biodiversity Register Project (PBRP) was taken up as a pilot project in the Ernakulam district of Kerala in 1997, under the direction of the State Planning Board.

The Kerala Shastra Sahitya Parishad (KSSP), teachers, students and representatives from local communities played a key role in the conceptualisation and implementation of the project.

The methodology for developing the registers adopted by KSSP was inspired from the efforts of the Centre for Ecological Sciences in Karnataka. The project was funded under the Peoples’ Campaign, of the Ninth Five Year Plan (1997-2002).

The Registers were found essential in recognising the range of local knowledge; rewarding and promoting the use of traditional knowledge, skills, techniques and conservation practices; and encouraging inter-community transfer of knowledge for capacity enhancement.

*It is strongly believed that the community register can be used for protecting biodiversity and local knowledge from threats of bio-piracy*

Source: Anuradha et al, 2001
about the local health traditions and many were even ready to grow the herbs in their gardens. But they all demand an awareness programme along with the supply of the seedlings of these herbs and also they demand to be taught about the use of the various herbs so that they can use them during an illness episode or they can use them as preventives. Such an initiative to have kitchen gardens (Hafeel et al., 2001) at the community or household level will help in conserving the herbs and popularising the LHT at the local level. Rather than commercializing the LHT, the aim should be towards providing sustainable health care for the local community, by making them aware of the innumerable herbal wealth in their immediate neighbourhood, which can be utilised for meeting their everyday health requirements. This will in fact lead to a more legitimate use of resources.

Though many of the local women SHGs would like to be trained for setting up herbal nurseries on a commercial scale, the problem of providing sustainable health care will remain a distant dream. Though herbal farming will give financial support to some selected SHGs, the basic purpose of LHT as a non-commercial form of health care might remain an unrealised aim.

Principles of social forestry or forestation should be carried on for preserving the herbs which form the basis of the LHT in Kerala. The community forests throughout the world have been an excellent example for the protection of many tree species across the world. The setting up of community herbal gardens will in the long-run help not only to conserve the resources but also to provide a resource base for immediate health needs.

**Non-Availability of Efficient Traditional Practitioners**

The number of traditional medical practitioners has come down drastically with the reluctance of the government to give them due recognition. The traditional medicine men or the *nattu vaidyan* is in fact the storehouse of the traditional health practices of the particular region. He is perfectly aware of the herbs and their habitats and can serve as resource persons for any initiative to conserve the LHTs. But the disheartening reality remains that their numbers have fallen down drastically and are very hard to be found nowadays.

According to a woman who attended a PRA at Arankavu:
When I was young, I hardly remember going to the hospital (modern medicine). Whenever I or any one in our neighbourhood fell sick, we used to go to an old man whom we called Vaidyar apuppan for treatment. Either he will prepare the medicine on his own or tell us to collect the needed herbs and guide us in preparing the medicines. Even he has cured me of mumps when I was young.

Now it is hard to find such knowledgeable people in the immediate neighbourhood. Though they do exist in some corners, we don’t know about their existence and we don’t have the patience and time to go to them and take medicines from them. Maybe because I was dependent on herbal medicine in my childhood, I have rarely fallen sick after the age of 12. But today even when my children have been vaccinated against many diseases, they fall sick very often. The resistance to diseases has come down drastically.

The non-existence of the traditional practitioner has been cited as one of the important reasons to the decline in the use of the LHT and also to the loss of the traditional know-how. The reluctance of the practitioners to share the information has been discussed earlier. Many of the good traditional practitioners are dying out, without passing on their knowledge to the future generations. Thirty-seven per cent of the people who responded found non-availability of traditional medical practitioners as a very important reason, 14.2 per cent as important and 13.3 per cent as moderately important reason for the decline of the LHT (Figure 5.5).

![Figure 5.5: Non Availability of Traditional Medical Practitioners](image)

The present generation has depended highly on the modern medicine for meeting their health needs rather than the Local Health Traditions. The transfer of knowledge of the
LHTs was highly limited during the past few decades owing to the excessive dependence on modern medicine, and a loss of trust in the LHTs. However there has been a revival of interest in using the LHTs. There are many people who know the names of the herbs used for various ailments but are unable to identify them even as they are easily available in the immediate environment. This ignorance stands in the way of proper utilization of many of the resources easily available. Steps need to be taken to create awareness among the people about the usefulness of the herbs, which should also include awareness programmes to identify many of the herbs used in the LHT.

The World Intellectual Property Organisation (WIPO) has identified that indigenous knowledge is increasingly endangered by misappropriation of this knowledge by outside researchers. Appropriate safeguards should be taken while preparing inventories for the LHT at the local level with little or no involvement of the outside and international bodies. The bio-pirates should not be allowed to exploit the knowledge base of the local communities and steal away the opportunities. An elder gentleman who attended the PRA felt strongly about this as he expressed his views that:

*The westerners or the so-called modernists, modernized agriculture here, leading to an over dependence on fertilizers and pesticides. This helped only to destroy the natural ecosystem and also made us dependent on the hybrid seed banks, which produce good yield but no seeds. The chemicals used in farming have led to huge production, but the quality of such produce was never verified.*

*Now we have got huge onions, huge cucumbers, huge mangoes, but we are really ignorant about the quality or the changes which has happened in these fruits or vegetables. At least now we should not allow any third party, may it be the UN or any such organizations, to get involved in such tasks.*

*The solution to our problems lies within us and not with outsiders and the local people should feel committed to the cause of conserving their environment and society. The world bodies may have their vested interests and it is better to take up a community initiative to preserve our herbs and our local knowledge.*
Box 5.2
Why is the Tradition Eroding?

The average age of the traditional health workers is now over 40, while only a few young persons seek to become part of the tradition. Even at household level, there are fewer households working with home remedies today. Whilst erosion is evident, however, the reasons behind it are not clear. It is too simple to say that local health traditions are eroding because they are ineffective or irrelevant and unable to meet present needs. Plants have not lost their healing properties and the knowledge of plants in the traditions is still profound. At the same time there is a rapidly growing resurgence throughout the world of interest in natural medicine. Pharmaceutical researchers acknowledge that screening plants on the basis of information derived from traditional knowledge saves billions of dollars in time and resources. The question, therefore, remains. Why are health traditions eroding despite their potential? The reasons for this erosion are political, economic and social rather than medical.

Source: Hafeel and Shankar, 1999

Scarcity of Resources

The Local Health Traditions consist mainly of home remedies and country medicines, which depend largely on herbs. Around the world the biodiversity is under threat including the herbal biodiversity. And Kerala is a state which is fast losing its rich biodiversity reserves due to the unprecedented development activities. This has led to a scarcity of the herbal resources which form the backbone of the LHTs. The high scale deterioration of the herbal wealth has also led to a decline in the use of the LHTs limiting its access. There are multiple threats to the biodiversity in Kanjoor. The changing land use owing to large scale conversion of lands for residential and other commercial purposes has led to threats to many herbs in this biodiversity rich zone being located in the floodplain region of the largest river in Kerala, the Periyar.

The river itself as shown earlier, is under serious threat posed by the illegal sand mining and by the innumerable factories downstream letting out pollutants into the river. Besides, the high rate of use of fertilizers and pesticides is feared to have left its poisonous residues in the herbs which grow nearby. Many believe that the medicinal properties of the herbs were affected by pollution. The seriousness of the problem is
made explicit by a young woman belonging to the Navodaya Kudumbasri near Arankavu. In her words:

When my son used to get cough I used to take the extract of muval cheviyan and give him. But now I heard that it is not safe to use the herb since it absorbs the chemical pesticides and has got poisonous effects. Here muval cheviyan is found near the banana plantations where the amount of fertilizers and pesticides used is quite high. I don’t know whether it is true or false. But I don’t want to risk my child’s health and now I don’t use muval cheviyan at all.

The resources which were once abundant has now become scarce and the remaining herbal wealth is under threat of pollution. The scarcity of resources coupled with the accumulation of harmful chemicals pose a serious threat to the herbal wealth and to the LHTs. Of the total respondents, 45.9 per cent rated resources scarcity as a very important reason for the decline of the LHT, 14.2 per cent of the population rated it as moderately important and another 14.2 per cent as important. A total of 24.7 per cent however rated it as slightly or not at all important (Figure 5.6).

![Resource Scarcity](image)

Many of the herbs, which were available in abundance, have now become scarce. According to an elder woman of Muppathadom, one of the peri-urban neighbourhoods, she finds it hard to locate certain herbs required for preparing the karkadaka kanji. Earlier she could get almost all the required herbs from the immediate environment.
In her words:

Earlier it was not so hard to get many herbs and was found in the garden of many people. Now people hardly own any gardens and the gardens are getting converted into houses. So many herbs are not currently available and I get them from the local raw drug vendors. Earlier the ottu which is a key ingredient for the Karkadaka kanji will be brought down by the rivers.

But this time when I made it I couldn’t get it and had to depend on the local raw drug vendors for it. But still it is better to make the kanji at home by collecting the raw materials rather than depending on the ready-made mixes available in the market. The quality is very poor and it might not serve the same purpose.

The change of land uses, often attributed to the changing life styles and increase in pressure on unit land due to an increase in population, has drastically affected the biodiversity of the region. The changes taking place is tremendous and very fast. Even the paddy fields are being converted into plots for building houses. The river banks have become sites for tourism related activities and for locating the multi storied flats.

This led to the removal of the rich biodiversity an increased pressure on land. The Keralite dream of owning big houses has led to over-exploitation of the environment. The threats to the riverine ecosystem and the associated biodiversity pose a threat to the herbal wealth. It is high time that the consumerist Keralite does a serious thinking on the aftermath of his consumerist attitude.

From the household survey conducted in the village, very few identified urbanization or change in lifestyle as a factor leading to the loss of biodiversity. Nearly 32 per cent of the households who responded to the query, felt that urbanization is not an important reason for the decline in use of the LHT, and 18.3 per cent felt that it is only slightly important. Only 14.6 per cent identified it as very important and 19.2 per cent as of moderate importance and 15.1 per cent as important (Figure 5.7). This indicates that a considerable number of respondents feel that the rate of urbanization does not influence the use or decline of the LHTs. The alarming number of people who felt that urbanisation seldom affected the LHT, points out at the lack of concern on the changes which have been taking place.
It is high time the local bodies which form the core of the decentralized planning process address these issues and create awareness on the environmental problems as afflicting the village. There is an urge to preserve the herbs or the green gold as a valuable community resource and make effective use of them for fulfilling the health needs of the common man.

Measures to limit the land use changes so as to protect the herbal wealth of the village need to be taken up. The cities have already bore the brunt of such changes and have become highly dependent on other sources of medicine. In the PRA, conducted with the urban households of Ernakulam, it was found that chances to revitalize local health traditions is scanty due to absence of rich biodiversity which would have covered the entire region once upon a time. Moving to the semi-urban environment, the rural-urban continuum is under constant flux, with the natural environment being replaced by urban structures. With regard to the LHTs, losing the traditional know-how and also the traditional resources at an alarming rate poses a threat which can seldom be reverted. Though the rural picture is quite promising with the abundance of herbs, when compared to other regions, commercialization has also reached its door step to convert it into a dependent urban community from a self-reliant rural community. The change in land use is alarming even in this rural neighbourhood and it is not in the distant future that urbanization will eat up all the traditional assets of this neighbourhood.
The Willingness to Use the LHT

Ultimately it is the willingness to use the LHT which determines their use. The willingness is dependent on the attitude of the people which is governed by their lifestyles. The present lifestyle is one which seeks faster relief with least physical strain. It is beyond doubt that if the LHTs can offer quick relief, it will be preferred over modern medicine. The disinterest on the part of the population towards use of the LHTs emerges from the longer time required for the entire process of using the LHTs. The use of the LHT demands the ill or the care-taker to know about the LHT, and time and patience for collecting and preparing the medicines for the curative or preventive purposes as the case may be. Taking these aspects into consideration, very few are really interested in using the LHT. Notable among them was a man whom I met during my field surveys. He works as a painter and has got a herbal garden at his home.

He says that:

I have taken English medicine only once or twice in my life that too when my condition was highly critical. I have always depended on the herbs that grow aplenty here. I have the habit of eating raw neem leaves, and also thulsi leaves. Maybe it gives me ample resistance and also I know many herbs which I use for the concerned illness.

Some are available in plenty, but some I am growing in my garden as well. I thought that it is a good idea to include these plants also in my garden because of the medicinal value alongside the ornamental plants.

This plant (he points out to a plant) called chakkarakolli (the sugar killer) is excellent for diabetes. I have heard that three leaves of this herb is equivalent to an insulin tablet. I don’t know how far it is true, but I know it kills the sugar and hence called the sugar (chakkara) killer (kolli).

Saying this, he offered me some sugar which he asked me to put in my mouth. Then he asked me to chew the leaf of chakkarakolli which he offered. As I chewed I felt the sweetness of sugar dying in my mouth and there was no sweetness or any other taste in my mouth for sometime afterwards. He just wanted to give a demonstration of how the herb worked. After this he offered some more sugar and told me that if I am suffering from low blood sugar and I might faint.
He continued by telling that:

*Now very few people are interested in this medicine, mainly because they are lazy and the medicines are available in ready-made forms. They no longer trust that a herb growing in their garden can cure or prevent an illness. Also the herbs are getting polluted since our environment is polluted. Can you give me the fruit least affected by pollutants? It is the jack-fruit. But now people here feel that it does not suit their status to eat the jack-fruit. Also many of the traditional practitioners have become highly money-minded and they charge you like the practitioners of other streams of medicine. Healthcare is getting commercialized.*

*I use the herbs because I believe in its power to prevent and cure illnesses and also I know many herbs and I am willing to use them and grow them in my garden.*

**CONCLUSIONS**

The study highlights the remarkable changes that have taken place in the state from pre-independence to the post-independence period and their influence on the health seeking behaviour of the people. The economic and environmental realities have changed over the years, bringing tremendous changes to the social fabric of the state. The caste system which ailed the society has become a thing of the forgotten past. But the society is compartmentalised into various economic groups.

The immense pressure on the land has resulted in land use changes, which have proved detrimental to the state. The green revolution and other developments, though each helped the people to better their economic situation, have deteriorated the environmental quality. The social development has led to an increase in the wages, but has at the same time restricted the growth of employment generating industries. At present there are a few employment opportunities for the skilled people in the state. Though there is need for unskilled labour, there are very few unskilled labourers to take up jobs.

The major environmental problems as reported from Kanjoor are water scarcity, water logging, sand mining and tremendous land use changes reducing the green cover. There has been an increase in the unemployment rates and agriculture has become uneconomical.
The village is well served by health care facilities and there is a high dependence on modern medicine than the LHT. Even if health care is unaffordable, the poor and marginalised make use of the modern medicine. Though the use of the LHT tends to offer cheaper and better quality health care, there is a higher dependence on private health care providers of modern medicine. This is the result of the rising levels of ignorance of the LHT and a fall in the herbal resources which supports them. Besides, the absence of traditional practitioners has also contributed to the present levels of use.

The promotion of the LHT as a complement to modern medicine calls for awareness generation and preparation of inventories on the herbs found in the immediate neighbourhoods. The study identified that people were ready to use the LHT provided that they know about the LHT. Initiatives like setting up kitchen herbal gardens can promote use of the LHT in a non-commercial way. Even then it is the attitude towards the local health traditions that has to undergo change. The likes of people, who have used only local health traditions throughout their life, can be counted on our fingers. They are individuals, who believed in the capability of the local health traditions. The attitude of the individual, the household and the community influences the use of the LHTs. Some people are willing to use the LHTs for their illness rather than consulting a physician. They feel that it is their responsibility to know about these traditions and also to conserve the various herbs, whichever they could get at. It should be brought into mind that they are also like other individuals, hard pressed for time as others are. But they find time since they are interested and have the willingness to use the local health traditions.

All these factors are interrelated and cannot be considered in isolation. The willingness to use the LHT can come only when the layman starts trusting in the effectiveness of the LHT. This can be promulgated through awareness creation on the LHT and gathering information on the LHTs and putting them to use. Various groups, individuals and organisations within and outside the community have significant roles to play, if such an initiative has to be implemented successfully.
REFERENCES


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