CHAPTER III

FILARIASIS – A REVIEW OF SOCIAL ASPECTS

For the study area filariasis is a social problem rather than a public health problem. To get a clear picture on the social aspects, it is necessary to have an understanding of the nature of the disease in general. The clinical signs and symptoms and the natural history of the disease are important. The parasitological, entomological and epidemiological aspects of the disease are included in the chapter along with the sociological analysis and interpretation on the prevalence and persistence of the disease in the area.

III.1 Filariasis-Entomological & Epidemiological aspects

Filariasis is a common term for a group of diseases caused by certain nematode worms. In India the most common form of disease is caused by Wuchereria bancrofti (W.b) and is known as Bancroftian filariasis accounting for 99% of the cases. The other form of the disease is caused by Brugia malayi and is known as Brugian filariasis. Brugian filariasis is restricted to a few rural pockets like the study area. At present the largest endemic tract of Brugian filariasis exists along the central part of the Kerala coast from Kayamkulam to Ponnani, covering an area of 1800 Sq. Kms. As it is mainly the lymphatic system of man that this parasite affects, the disease caused by this parasite is generally known as lymphatic filariasis.

Though mortality is negligible, there is a high degree of morbidity due in its acute and chronic manifestation. In the acute stages the disease manifests in the
form of lymphangitis, adenitis, filarial fever, funiculitis, epididymo-orchitis and tropical eosinophilia. In the chronic phases appears as hydrocele, chronic oedema and elephantiasis. While chronic swelling of limbs is common to both Bancroftian and Brugian forms, funiculitis, epididymo-orchitis and hydroceles are rare in the latter. A person may continue to be a microfilaria carrier without any disease manifestations for a very long period, and individuals with chronic disease on the other hand are usually negative for microfilaria.

III.1.1 **LIFE CYCLE OF FILARIAL PARASITES**
The adults of both *W. bancrofti* and *B. malayi*, are thread worms measuring 4 – 10 cms long. They are lodged in the lymphatic system of man. The female and male worms mate within the human body and the fertilized female liberates thousands of larvae, known as microfilariae (mf). During daytime, microfilaria remains concentrated in the capillaries and blood vessels of internal organs, especially lungs. These are released into the blood stream and circulate periodically in the peripheral blood at night. Further development of the mf can take place only in the body of the mosquito vector. Interestingly the nocturnal (night) appearance of the mf in the blood of man synchronizes with the biting period of the vector mosquitoes and depends upon the sleeping habits of man.

The mf ingested by the mosquitoes along with the blood, sheds its body cover and migrates to the thoracic muscle of the mosquito, where it undergoes two moltings to become the infective larvae in about 10-12 days. These infective stage larvae migrate to the proboscis (mouthparts) of the mosquito. When the infective mosquito feeds on man, these larvae are deposited on the skin near the site of the bite. A few of them succeed in penetrating the wound. Several microclimatic factors like
humidity, temperature etc., influence the successful entry of these larvae into the human body. The infective stage larvae develop into adult worms within the human body and this development takes approximately one year. Whereas the adult males live for a short period, the females can survive for long. The production of microfilaria within the body of man is dependent on the probability of the male and female worms getting lodged within the same lymphatic channel. Therefore, unless the number of vectors are high with a heavy load of mf in the population, the probability of transmission of this disease is very low. A large number of infective bites are necessary for patent microfilaraemia. Single worm single sex infections may also cause clinical symptoms but not microfilaraemia. Indirect evidence suggests that the duration between infective bite and production of microfilaria is about one and half years for W. bancrofti and 9 months to one year for B. malayi.

III.1.2 Vectors of filariasis in India

Both forms of filariasis are transmitted from man to man by female mosquitoes. While Culex quinquefasciatus is the major vector of bancroftian filariasis, brugian filariasis is transmitted by Mansonia mosquitoes. High density of Cx. Quinquefasciatus is maintained in urban areas due to gross mismanagement of the environment. The vector mosquito has successfully exploited the environmental changes brought about by man. Deterioration of sanitary conditions has certainly helped the geometric increase in the number of breeding habitats for this vector. Even though this species can breed in any aquatic habitat, highly polluted stagnant water bodies rich in organic matter provide an ideal environment for its proper development. Hence habitats, such as pit latrines, soakage pits which are designed to collect waste water, open septic tanks, biogas
plants, non flowing drains, cesspits, choked storm water canals, etc., are the major breeding sites of this mosquito.

Mansonina mosquitoes namely M. annulifera, M. Uniformis and M. Indiana, the vectors of Brugian Filariasis, require the presence of hydrophytes (water weeds) to complete their life cycle. The larvae of these mosquitoes attach to the roots of plants like Pistia, Elchornia and Salvia for their oxygen requirement.

III.1.3 Control of filariasis:

Filariasis can be controlled by any of the following methods in isolation or in combination:

(a) Reduction of man-vector contact by Vector control;
(b) Reduction of the parasite reservoir in man by Chemotherapeutic measures and
(c) Reduction of man-vector contact by personal protection

a) Vector Control:

Due to the difference in vectors and their ecology, the two forms of filariasis necessitate different approaches to vector control. Theoretically vector control can be achieved by directing control measures either against the adult or the immature larvae.

i. Anti-adult measures:

Adult population can be reduced by residual spraying with insecticides of choice. However residual spray is not very effective against Cx. quinquefasciatus due to change in resting behaviour and development of resistance. Space spray at regular intervals though effective is cost prohibitive in the absence of any antilarval
measures. Any temporary suppression of population by spray can be compensated by the high reproductive potential of the vector Cx. quinquefasciatus.

ii. Anti-larval measures:

Antilarval measures are the most effective method for controlling the vectors. The fact that larvae are in confined breeding habitats, facilitate easy attack on the immature stages. Elimination, reduction or modification of breeding habitat can prevent breeding of Cx. quinquefasicatus by simple sanitary measures. Wherever breeding can not be prevented, larval control can be achieved by the use of biological or chemical larvicides.

a). Environmental management is the most cost effective method of controlling Culex vectors. Since a majority of the breeding habitats are created by bad engineering practices and are man made, permanent elimination of these habitats by better engineering practices leading to source reduction should be the first priority in controlling the vector. Similarly physical removal of weeds is the most effective and easy method of Mansonia control.

b). Biological agents such as larvivorous (Gambusi, Poecilia, (guppy), Tilapia) and phytophagous (Chinese grass carp) fishes and several microbial agents (Bacillus sphaericus) can be particularly effective against larvae.

c). A high degree of larval control can be achieved by routine application of chemical larvicides in polluted breeding habitats. These however, are not suitable for the control of Mansonioid larvae which breed in large fresh water bodies that are also used for domestic purposes.
b. Chemotherapy:

Diethylcarbamazine (DEC) is the only drug of choice available at present. This drug primarily kills microfilariae. Since in many cases mf reappears after certain period, the effect of the drug on adult worms has been doubted. Moreover, multiple doses are required over a long time, and that death of mf during treatment frequently causes unpleasant reactions in the host (side effects). These side effects are relatively more severe in Brugian filariasis. These factors frequently deter public cooperation for chemotherapy. DEC can be administered either to the entire community (mass chemotherapy) or only to microfilaria carriers (selective). Both have their own advantages and disadvantages. The choice would depend upon the size of the target population, mf prevalence, manpower and resources available and the acceptance of the community.

Mass treatment with DEC can bring down parasitic load in community within a short period, and, therefore it is recommended in a community with high microfilaria prevalence and where public participation can be assured. Administration of DEC through food medium like common salt (medical salt) is another useful method for mass chemotherapy. Community acceptance of mass chemotherapy has been a problem in Brugian filariasis control, due to severe side reactions. Selective treatment of microfilaria carriers, on the other hand, requires continuous surveillance, public acceptance (though night time survey) and the prohibitive cost involved in the venture.
The recommended dosage for treatment of parasite carriers is 6mg per kg of body weight, daily for 12 days. In some situations single dose of DEC once or twice a year can also be used as a prophylactic measure with promising results. A new drug, Ivermectin, is now undergoing clinical trials and offers some hope in curing infected persons with a single dose treatment.

c. Personal protection:
Protective clothing, repellants, bed netting, avoidance of mosquito biting environments and screening houses are common sense elements in prevention and control. The keys to the implementation of these personal measures are health education and socio-economic development. The use of synthetic pyrethroid impregnated nets is another recent development but is yet to become operational.

III.1.4 Monitoring and long term evaluation
This should form an integral part of the control programme and should be based on repeated measurements of the vector and parasite population. The important parameters for this evaluation are man biting density (average number of female mosquitoes biting man per night), infection and injectivity rates (proportion of mosquitoes with any stage larvae and only infective larvae respectively.) of vector mosquitoes, and transmission potential (estimated number of infective bites). The parasitological indices which need to be monitored are incidence of infection (estimated number of new cases appearing in a community with a given period), prevalence of microfilaraemia (proportion of population with microfilaria in blood) and median microfilarial density (mean worm burden in infected persons)
Survey techniques in filariasis
For assessment of filariasis situation, in a given community parasitological, clinical and entomological surveys should be carried out at regular intervals.

a) Parasitological survey

Detection of microfilaria in blood is still the most reliable method of confirming filarial infection. As microfilaria appear at night in peripheral blood the survey has to be carried out at night after 8 p.m.

b) Clinical Survey

The prevalence of disease both in its acute and chronic form can be estimated by a clinical survey by medical personnel.

c) Entomological Survey

The role of vector population on the epidemiology of disease can be studied by monitoring the infected and uninfected mosquito population densities. Adult density can be measured by collecting resting or biting mosquitoes.

III.2 Social aspects of filariasis

It is very special of filariasis that it is a disease, that is looked upon by a sizeable chunk of the affected population as more of a social problem than one of health. It is undeniable that the disease has social, economic and psychological ramifications. Though not fatal, filariasis effects physical deformity that can considerably affect the earning capacity of the victim. The consequent sense of inferiority has a negative influence on the psyche of the affected. In the case of youngsters their marriage prospects and avenues of social interactions are adversely affected. (Table III – I)
Table – III-1

Opinion regarding the marriage prospects of filarial patients

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Response</th>
<th>No. responded &amp; percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Most difficult</td>
<td>229 (48.41)</td>
</tr>
<tr>
<td>2</td>
<td>Difficult</td>
<td>213 (45.03)</td>
</tr>
<tr>
<td>3</td>
<td>Somewhat difficult</td>
<td>23 (4.86)</td>
</tr>
<tr>
<td>4</td>
<td>Normal</td>
<td>6 (1.27)</td>
</tr>
<tr>
<td>5</td>
<td>Don't know</td>
<td>2 (0.42)</td>
</tr>
</tbody>
</table>

Source: Survey data

The study of the area reveals that the people have a quite clear awareness of these facts. 69.56% of them identify filariasis as a public health problem with a social stigma pinned to it; but they are not much concerned about the morbidity aspects of the problem. 16.07% even refuse to consider filariasis as a health problem. For them filariasis is a ‘disease of no concern.’

In spite of the very high degree of awareness revealed in the people’s response to the study, they are found lagging in matters regarding preventive and curative measures that they take up for themselves. Even the things they do as part of a collective work is, seen to be dropped, once collective enthusiasm ebbs out.

III.3 An Analysis of Social Aspects

The study area is observed to have a remarkably high level of literacy. But this high literacy level is not found proportionately reflected in the understanding the community betrays, with regard to filariasis. A great deal of misconceptions about
the disease, its causes, cure and prevention were prevalent even among the educated segment of the community of the study area (V.C.R.C 1989).

The technology mission project through their health education programme has succeeded in imparting scientific knowledge regarding the disease to the people of the area. The target, modus operandi and result of this project as dealt with in details in chapters VI & VII. The knowledge so imparted, has had, pronounced effect on the community in terms of the attitudinal changes it has produced. These attitudinal changes do not as readily get translated into practical action for the prevention of the disease up to the generally expected extent. As the ultimate purpose of the technology mission project is to generate such action, the causes and possible remedial measures for this failure is found to be imperatively looked into. An in-depth analysis of the prevailing situation has revealed a number of extremely noteworthy social aspects that contribute to the continued presence of the disease in the area for centuries.

The project had sought to make the people of the area aware of the nature and controls of the vectors and to project deweeding of the water bodies of the area, like ponds and canals, as the single and sure preventive measure. The appended chart (Table III. I) amply evidences that the level of awareness regarding the vector is very high among the population of the area. On the other hand, When it comes to de-weeding, which is the envisaged practical result, the level of achievement is remarkably low. What seeks special attention is that, even with regard to de-weeding, the response of the population on the knowledge – awareness level is markedly positive. This positive attitude is to be seen in 61.55%
of the people. They consider deweeding is very essential to control the vector. But they fail to translate this attitude to practice, which would make them actually take-up the de-weeding, or make them do that at regular enough intervals, once they have started doing it.

Table - III-2
Pattern of de-weeding by the community

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Pattern</th>
<th>No. of people Practiced</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regularly for filariasis Control</td>
<td>32</td>
<td>6.77</td>
</tr>
<tr>
<td>2</td>
<td>Sometimes</td>
<td>64</td>
<td>13.53</td>
</tr>
<tr>
<td>3.</td>
<td>Rarely</td>
<td>142</td>
<td>30.02</td>
</tr>
<tr>
<td>4.</td>
<td>Only once</td>
<td>46</td>
<td>9.73</td>
</tr>
<tr>
<td>5.</td>
<td>Never</td>
<td>189</td>
<td>39.96</td>
</tr>
</tbody>
</table>

Source: Survey data

This points to a situation where the awareness of the social unit is enriched, but the social will not sufficiently activated. This directs us to look upon the problem of controlling filariasis as being one with a predominant sociological thrust.

The response of the 4th group as shown in the chart demands closer attention. They did the deweeding when the control programme was intensive in their area. That is to say they fell in line with the other members of the community who were all at that point of time doing the deweeding. Here what motivated their deweeding activity was not so much of the awareness created, but an inclination to compromise with the general behavioural pattern of the community and as much of its social will is involved in the activity. It is only a small minority amounting to 6.77% of the population that continues to do the de-weeding regularly with the declared purpose of controlling filariasis.
The response of the people to filariasis detection, Night time Blood Test (NBT), Mass Drug Administration (MDA) and medicated salt reveals the same attitudinal feature. An analysis of the 236 different reasons the members of the community attributed to their undergoing night time blood test is analyzed in the following chart (Table III-3)

Table III-3

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Reasons</th>
<th>No. of individuals Responded</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shear individual interest</td>
<td>43</td>
<td>18.22</td>
</tr>
<tr>
<td>2</td>
<td>Social obligation and individual interest</td>
<td>99</td>
<td>41.94</td>
</tr>
<tr>
<td>3</td>
<td>Important persons</td>
<td>24</td>
<td>10.16</td>
</tr>
<tr>
<td>4</td>
<td>Service in proximity</td>
<td>50</td>
<td>21.18</td>
</tr>
<tr>
<td>5</td>
<td>Imitating others</td>
<td>20</td>
<td>8.47</td>
</tr>
</tbody>
</table>

Source: Survey data

Here also what is seen is a social concern that is activated among the group, but fails to be active with the individual. There is considerable disparity between the individual concern and the expected pattern of action.

As the chart shows 58.35% (table III-4) of the population knows about the asymptomatic carrier stage of the disease. That is to say that the people were well aware that the disease could remain without any symptomatic manifestation for very long period of time, making it impossible for the patient and others for realise that the patient is infected with filariasis. They also know that, NBT conducted is on one and all, the only means by which infection could be detected 54.33% is found to be convinced of the need for comprehensive NBT, 64.68% has faith in the curability of the disease in its early stages. Acceptance level of the programme among the
people of the area is found positive with 90.91% of the people and they considered
the project very essential and of benefit to them. Again 67.44% consider, periodic
night blood test and treatment, including mass drug administration as good means
in preventing filariasis transmission in the area.

Table III-4
Knowledge of the community regarding filariasis and its control

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Various aspects</th>
<th>No. responded</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Transmission</td>
<td>447</td>
<td>94.5</td>
</tr>
<tr>
<td>2</td>
<td>Breeding place of the vector</td>
<td>308</td>
<td>65.12</td>
</tr>
<tr>
<td>3</td>
<td>Acute symptoms</td>
<td>233</td>
<td>49.26</td>
</tr>
<tr>
<td>4</td>
<td>Chronic symptoms</td>
<td>344</td>
<td>72.73</td>
</tr>
<tr>
<td>5</td>
<td>Asymptomatic state</td>
<td>276</td>
<td>58.35</td>
</tr>
<tr>
<td>6</td>
<td>Treatment</td>
<td>305</td>
<td>64.68</td>
</tr>
<tr>
<td>7</td>
<td>Prevention</td>
<td>395</td>
<td>83.51</td>
</tr>
<tr>
<td>8</td>
<td>Detection procedure of ‘m.f.’</td>
<td>255</td>
<td>53.91</td>
</tr>
<tr>
<td>9</td>
<td>Nocturnal periodicity</td>
<td>257</td>
<td>54.33</td>
</tr>
<tr>
<td>10</td>
<td>Vector Control</td>
<td>351</td>
<td>74.21</td>
</tr>
</tbody>
</table>

Source: Survey data

Participation in the programme and intake of drug/medicated salt for
prophylactic effect, also could be seen as an act of compliance than that of
voluntary decision. Here a member of the community is merely falling in line with
the collective welfare effort of the community as a whole, arranged and
implemented by the community itself. In such a situation a member would join even
if he had contrary ideas, because remaining apart would require considerable force
of will and strength of personal character, So in such cases participation cannot be
termed as being on individual level.

It could also be seen that participation is withdrawn, when the prodding
influence either in the form of the communities collective effort or the presence and
involvement of an acceptable person or set of persons dwindles away. When the person or group of influence ceases to be present, the individual with draws from the activity. That is to say, at the individual level, the awareness created does not appear to generate effective action, without the involvement of some agency. This agency can be the society as a whole, or a set of acceptable persons or a more traditionally defined Govt. agency.

Interestingly in the Focus Group Discussions (FGDs), all the five groups are seen to acknowledge, filariasis control programme, as effective and essential. But most of the members of these groups would not go, seek and implement control measures on their own, though they would remain in the forefront and put in earnest effort in situations where control measures were arranged to be made available at a mass scale by some agency. Here again what is to be noted is the insufficiency of the motive force at the individual level.

This lack of individual concern could also be seen in the attitude that the members of the community in their personal protection measures. It is found that even when awareness level is very high the individual is not inclined to adopt any kind of simple protective measures; like using mosquito nets and repellants. This is so even with the 6.77% who are immigrants from non-endemic areas.

The basic reason for such a pattern of behaviour could be traced to a mental frame work of the community in general, having its roots in cultural aspects of the community, which ingrains in them a kind of notion, that despite the scientific information that came to them, they believe that they are not likely to contract the disease. The very same attitude is evident in their evading the questions with a
‘don’t know’ answer. (60.26% thinks that they have little chances of getting the infection and 29.95% evades the question pleading ignorance). On the other hand it is found that the level of their knowledge regarding the risk factors and the high degree to which they are exposed to them, is very high. The appended table bears this out.

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Programmes</th>
<th>No. of people responded and percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Very Essential</td>
</tr>
<tr>
<td>1</td>
<td>Night Blood test</td>
<td>325 (68.71%)</td>
</tr>
<tr>
<td>2</td>
<td>De-weeding of water body</td>
<td>293 (61.95%)</td>
</tr>
<tr>
<td>3</td>
<td>Treatment of mf+ve</td>
<td>333 (70.4%)</td>
</tr>
</tbody>
</table>

Source: Survey data

The level of social commitment is found to be very high. Out of 473 interviewed, 169 were willing to extend all possible help to a microfilarial positive mf+ve individual / family to access treatment. In the responses received for the inquiry regarding the assumed role the individual would play in a situation where an identified mf+ve is reluctant to take treatment, a distinct gradation in social obligation, among the groups could be observed. As mentioned earlier 35.73 are endowed with a high level of social commitment and they have a good deal of insight into the social threat that the mf+ve, reservoir in the community poses. A second group with almost the same size (35.1%) also well aware of the
consequences of a disease carrier try to involve VCRC in the situations. In a third group (76%) we found people who believe in preaching. They would try to educate and make the victim knowledgeable about means and ways of treatment. The fourth group evinces the least concur. They think that disease and its management are the concern of the affected individual and his family. They consider this as personal matter where the society has little role to play. There is also a very small group with a very weak social bond, who by themselves would not have any concern or willingness to act, but would be blaming everything on every one else.

Highly awakened social concern can be viewed as a result of the intensive heath education campaign. The level of participation of the community in the control programmes can be viewed as resulting from the high degree of compliance of the members of the community to any collective efforts, planned, organized and implemented for their welfare, by their own fellow men. This again reveals the primary group ‘Characteristic of the community, where individual line is intimate, face to face continuous interaction.

These behavioural aspects can be understood in term of two sociological theories.

1) Logical and non logical action of Vilfredo Pareto.

2) Bio – Social hypothesis of De Roberty.

The quintessence of the Pareto theory is that the equilibrium of social system depends mainly on the character of human molecules, manifested in their forms of behaviour and actions. These actions are based on certain ‘drives’; the most important of which Pareto terms as ‘residue’. Residue is the manifestations of
instincts and sentiments as different from instinct and sentiments themselves. This fine differentiation is crucial to the Pareto's theory, which emphasizes that the instinct and sentiments that initially trigger off a particular pattern of individual action, may not find a direct and unalloyed expression that pattern of action. On the other hand between the point of germination, at the level of instinct and sentiments, and the point of fruition at the level of manifested actions, it undergoes a number of identifiable and unidentifiable influences attribute to such mutations. So any attempt at organizing or channelising human behavioural pattern, must have a thorough understanding of the explicit and non-explicit aspects of this process. On the level of practical social work an acknowledgement of the nature of this process or residues would be of immense help.

The individual or group may have some greatly developed residues of certain class and some other weak residues of some other class. Again with in the same society, in the course of time and by interplay of varied circumstancial influences, the distribution and manifestations of residues, among the society's human molecules may be greatly changed, leading to a change in the social system.

All human actions are the manifestations of residues. These action fall into two categories.

1) Action that is not followed by speech or verbal explanations. Common subjective process and reflex actions come under this category.

2) Actions followed by justifications and to which ideologies could be pre-postulated. This category of actions are called 'derivatives' as they may be thought to be derived from logical arguments or ideologies. These
derivations are manifestations of 'residues' and therefore are much more flexible and variable than the former. So the sum residue may find expression in different derivations.

Actions and derivations are dependent on residues. The residues that operate within an individual may contradict one another, there by leading the individual into a state of confounded personality when illogical and self contradictory actions proceed from him.

Logical actions are those, the intended subjective purpose of which, coincides with objective results. Carried by a complex play of residues, man performs an immense number of action that are non-logical. That is action, The subjective purpose of which is quiet different from the objective results. Apart from the logico-experimental behaviour in the field of scientific performance, most of the human behaviour is essentially illogical, contradictory and inconsistant with illogical ideological connections or derivations.

An ideology is acceptable or otherwise to a society is not in terms of its truth of falsity, but on the agreement or nonagreement of it's residues. That leads one to the understanding that, any attempt to influence ideologies and opinion of an individual or group is best done through their residues. Any change in the residues will have a resultant change in the derivations / ideologies.

Pareto views derivations as minor reactions in our behaviour and indicates the impossibility of any scientific conclusions about a man or group on the corresponding speech reactions that fluctuate very much. Residues also are liable to fluctuations, but the tempo and aptitude of their fluctuations are much slower and
limited compared to derivations. Further Pareto underlines the usefulness of these non logical derivations; which are not illogical, to the society. They help in keeping the integrity of social system where unalloyed truth would have led to the disintegration. That is to say a derivation (myth, legend, ardent belief or superstitions which embellish and beautify the reality inspiring enthusiasm) may be useful to a group. On the other hand a naked truth may often be disastrous.

De Roberty considers knowledge and thought as super organic social phenomena. There are various modes of knowledge, identifiable as abstract and true concepts, scientific laws, philosophical/religious generalizations, symbols and images of arts and ethics etc. This knowledge is a product of intercerebral interactions of biological organisms and exist along with language, which is another products of long frequent inter cerebral interactions. Both of these manifestations are remarkably found only in man, the most social of animals.

A clear line of demarkations ought to be drawn between what is erroneous, fleeting individual images and their representation on the one hand, and thought and knowledge on the other, representing accurate and true ideas. Thought and knowledge are not embodiments of incidental and fragmentary individual experience. They are the incomparably richer collection of a multitude of generations, which are corrected, verified, enriched, amplified, diminished, and corrected, thereby making up for the sheer inadequacy of the individual experience. Any knowledge can be accurate only so far as it is found adequate by the collective experience. So any intellectual development can proceed only from social
interaction and therefore progress is possible only at the instance of social stimulus.

These arguments of De Roberty are corroborated by the great sociologist Derkheim. Derkheim stress the importance and superiority of 'collective consciousness' over the individual consciousness. Collective / Social Consciousness has its own independent existence. When it affect the individual mind it functions like an external force in the form of various moral codes; religious, juridical and logical rules, empowered with the force of coercion.

III.4 Conclusion

People of the endemic area under study, lived in the region for generations, and the disease also co-existed with them for a very long time. Not being a fatal disease, the familiarity with it developed a kind of thought / knowledge regarding it. These are embodied in their residues. Health awareness campaigns provide a kind of short lived stimuli that effect a change in derivation and corresponding action for the time being. As the campaign weakens, the force of the stimuli dies out and the residue re – asserts. As a result of this the society relapses into another pattern of actions than the one the campaigners oriented it for.