CHAPTER-VII

Summary of the Findings
Anthropologists always encounter with the problem of seeking bio-cultural explanations of different diseases and their treatment. This process facilitates in the production of bio-medical knowledge through research endeavour (Mc-cracken, 1971). Various issues related to bio-cultural dimension of diseases are generally studied under umbrella of medical anthropology (Landy, 1977; Sommerfield, 1998). An attempt has been made in this study to understand bio-cultural dimension of mosquito borne LF in coastal Orissa. The study covers the epidemiological trend, economic loss, social burden and socio-cultural beliefs of the said disease in an endemic population.

Disease is primarily a biological problem, which reflects it's multi-dimensional tribulations in the biological as well as socio-psychological life of human being. Human being is a social animal whose health conditions influence his socio-economic and bio-psychological life. As an individual is an integral part of social structure and system, the output of the society depends upon the output of its members. The functional output and the socio-economic performance of the individuals and society have been influenced by the health status of the individuals and the community. Thus, a healthy person is an asset for the society and a diseased person is a burden to the family as well as the society. There are some diseases like paralysis, leprosy, mental disorder, blindness and LF, which have been causing temporary or permanent disability among the human beings. Due to disability manifestations, these diseases generate problems not only for the patients but also for their family members and the society as a whole. LF is one such disease, which is regarded as a serious public health and socio-economic problem. More than 119 million individuals worldwide are estimated to suffer from LF caused by infection with mosquito borne LF nematode *Wuchereria bancrofti* (WHO, 1994). It is responsible for loss of 5 million disability adjusted life years (DALYs) per year. Of the estimated 119 million infected people worldwide, 48 millions people are from India. Alone in Orissa as many as 25.05 million (6.4%) are exposed to the risk of LF. The rural population of the state is more exposed to the risk factor of LF (22.2 million) than that of its urban population (2.85 million) (WHO, 2000).
Rural area of Khurda district has been selected for the study due to endemicity of the disease in the area. A total number of twelve randomly selected villages from three different blocks of the district are covered for the study (for details see the methodology part of the introduction chapter).

The results describe the epidemiological picture of Lymphatic LF in 12 study villages. The total disease attributable to LF is significantly higher in males (14.79%) than that of females (10.04%). However, elephantiasis is more prevalent in females and adenolymphangitis is more prevalent in males than that of their counterparts. The prevalence of various forms of diseases is age dependent in both sexes. About one seventh of men and women of higher age groups suffer from chronic debilitation forms of the disease. The present results indicate that the prevalence of various forms of LF are moderate to high and this disease still constitutes a major public health problem in this region of Orissa state. The data also indicate that the procedure of chronic forms of LF is age dependent in both sexes. About one seventh of men and women of higher age groups (60+) suffer from chronic debilitation forms of disease. The prevalence of ADL is also age dependent, which is not apparent in female. Women in the age group of 60+ years suffered less from ADL attacks. This could be partly due to their decreasing participation in their agricultural works with advancing age.

The results of one-year long longitudinal prospective surveillance of acute adenolymphangitis show that the annual incidence of ADL per 1000 individuals was 85.03, and is slightly higher in males (91.97%) than that of females (77.64%). A steady raise in the incidence of ADL episodes along with the age is recorded. The distribution indicates that persons with chronic disease are more prone to ADL attacks. The average number of episodes per year is 1.57 per cent and is influenced significantly by sex of the affected individuals. Duration of the episode varies from 1 to 11 days with mean duration of 3.93 days. The filarial pathology is the significant predictor for the duration of the episode. The data further show that fever and swelling at inguinal regions are most common symptoms. Microfilaria status of these individuals indicates that there is no association between acute ADL and infection (microfilaraemia).
The study also reports information on LF related knowledge and beliefs among diseased and normal people of the study area. However, no specific term exists in local language to denote LF in the study area. The filarial fever is locally known as *battajwora*. The most commonly used term for swelling of lower limbs (elephantiasis) is *godhara*. Hydrocele (the swelling of scrotum) is locally referred to as *eksira*. It is interesting to note that majority of the people in this endemic area do not relate hydrocele with LF. The term *batajwara* or *batajora* refers to fever associated with swelling in the inguinal region, a classic symptom of acute ADL episode (Manson-Bahr and Bell, 1987). The study also reports that only 24 per cent of the chronic cases and 36 per cent of the acute cases have the knowledge that LF is caused through mosquito bite. Similar results are noted with regard to hydrocele. Majority of people in this endemic area do not relate hydrocele with LF. No significant level of difference is noted in knowledge level between diseased and normal people. People's knowledge on cure and prevention of LF is also very poor. People have the belief that LF occurs due to *papa karma* (evil deeds). A person is believed to suffer from the disease due to the curse of the God, a *parinama* (consequence) of the evil deeds. They explained so many factors for the cause of LF.

As regard to health seeking behaviour, they take resort of different herbal, indigenous and religious treatments. But none of these treatments has any affect on the cure of the LF. In relation to foot care practices it is observed that the elephantiasis patients wash their elephantoid legs regularly. However, they do not take special foot care measure as part of morbidity management.

The economic burden of both acute and chronic cases is estimated in terms of treatment costs and loss of work. It is found that around three-fourth of the chronic patients have sought treatment for their condition and spent an average amount of INR 396 (approximately US $ 8.7) per year. The major component of the expenditure is the costs of medicines. The data on loss of work time due to chronic condition reveal that the total absenteeism to the work is significantly higher among chronic LF patients than that of the controls. The total number of working hours spent per day per patient and the controls are 4.94 and 6.06.
respectively. This is considered to be a major difference. The total absenteeism and the total number of working hours spent per day are influenced significantly by disease condition and other personnel characteristics, viz. age, sex and family type. The chronic patients lose a total of 68 days of work per year, which is equivalent to 19 per cent of the total working time of the year.

In case of episodic adenolymphangitis (ADL), it is found that such patients incur expenses amounting INR 92 on an average (approximately US $1.85) on each episode. The ADL episodes curtail the productive/economic activities of the patients. Patients (88%) are unable to attend any economic activity compared to 47 per cent of controls having no history of the disease. Similarly during 55 per cent of episodes, females (vs. 8% of controls) cannot attend to any domestic work. The mean number of hours spent on economic or domestic activities is significantly lower among patients. Disease status and sex have significant influence on total absenteeism from gainful employment; and similarly, age, family type and disease status influence total domestic work hours among women.

Besides causing economic burden, LF also creates a kind of social burden to the patients. People think that a diseased person cannot achieve an equal occupational output due to his/her disease condition. So, the disease condition determines the social status, social image and personality of a disease-affected person. The disease condition like hydrocele damages the male identity, sexual potentialities and masculine features of male.

In a family, male is support provider and the key person for procreation. Therefore hydrocele distorts the positive social identities of a male. The disfigure of an organ in case of a female elephantiasis or breast swelling the patient may be treated as ugly, unwanted and viewed as burden. So, the disfigured body organ creates a hindrance to the integrity of the body of the female patients resulting misery and rejection by the family and society. As a result, the disease has damaged the concepts of manliness and womanhood. The reproductive choice and reproductive health of the patients have also affected due to damage
of genitals. The disease conditions cause hindrance to saving, worker productivity, medical costs and marriage negotiation.

The results of the study demonstrate the prevalence of the LF and the extent of the economic burden caused by acute and chronic LF in the study area. The study also reveals interesting information on people's nature of perception on the disease. It shows as to how social stigma of the disease cripples the normal life of the LF patients. The patient's poor knowledge on disease and lack of scientific treatment-seeking behaviour justify for strengthening the ongoing LF elimination programme in the state of Orissa through suitable advocacy and sustainable management. Health education in the local language through the folk media and folk art should be provided to improve the knowledge of the people on LF. Before undertaking the health education campaigns, the desired behavioural change of the target population should be identified, and all information, education and communication (IEC) activities should be targeted to achieve that desired behavioural change, instead of just pouring the knowledge. The concept of functionalism and symbolism of rural culture and art should be understood properly and should be utilized in motivating and educating the rural community. Some indigenous methods like massaging of elephantoid leg have been prescribed recently by medical scientists. Therefore the recorded indigenous treatment methods should be examined scientifically and scientifically tenable practices should be encouraged in the community. The vaidyas should be provided adequate training for morbidity management. The local medical personnel and indigenous healers should be involved in LF control programmes. An integrated programme based on the traditional health practices with modern medicine should be developed to provide health to all at grassroots level. To prevent the mosquito breeding, native support system should be encouraged by creating mass awareness among the community. The traditional social institutions like caste panchayats, art groups, youth clubs and women groups should be involved extensively in LF eradication and morbidity management programmes. Besides that the WHO programme of Mass Drug Administration (MDA) should be implemented after taking sufficient precautionary measures. Further by utilisation of indigenous technology, native
support system and modern medical facilities the burden of LF can be reduced and disease elimination process can be accelerated. The findings of the study will go a long way in minimizing the burden of LF and accelerating the disease elimination process.