

## **Chapter III**

### **The Proposal**

#### **Mobilization of Community Health Workers for early diagnosis and treatment of Leishmaniasis in Nepal.**

##### **3.1 Introduction :**

Nepal is a land-locked country between two giant neighbors; India on the south and China on the north. Nepal is divided into five developmental regions, fourteen zones and seventy five districts along with 205 electoral constituencies. Each district is further sub-divided into village developmental committees. The developmental regions are again divided into five regions: Eastern, Central, Western, Mid-western, and Far-western regions. According to the Central Bureau of Statistics (1991), the projected populations of Nepal in 1996 was 21,126,636. Out of 75 districts and 14 zones, 11 districts and 4 zones and 2 developmental regions, eastern and central regions, of eastern-south part of Terai were found to be affected with the disease- Leishmaniasis.

In the eastern region of plains of Terai, in these 11 districts, cases of Kala-azar were estimated at 9,360, with an incidence of 44.60/100,000 population and case-fatality rate at 13.16%, which is very high and the population at risk was estimated at 5.5 million people (EDCD, Annual Report, 1995). Globally, there are 12 million people being in the Leishmaniasis cases with an annual incidence of 600,000 new cases

and population at risk estimated at 350 million. Out of this figure, 90% of Visceral Leishmaniasis was found occurred in Nepal, India and Bangladesh, and 90% of Cutaneous forms occurs abroad (PAHO, 1994). These affected districts have sub-tropical climate Its temperature ranges from a minimum of 5-10 °C to maximum 40-46\*c, while the relative humidity varies from 70 to 90%, which is suitable for breeding of Sand-fly and for transmission of disease. The annual rain fall is between 1300 and 1500 mm, most of which occurs between June and September, the period when increasing trend of incidence of Leishmaniasis is recorded. Since 1980, there have been over 9,000 cases of Kala-azar and more than 200-250 deaths. The number of cases are under reported several fold. The incidence is dramatically increasing and Nepal has the highest case fatality rate in Asia.

Nepal has fairly comprehensive infrastructure for delivery of health care services. The health infrastructure in Nepal, according to Ministry of Health is broadly divided into : (1.) Medical institutions, covering major population, (2.) Central hospital, (3.) Zonal hospital, covering 500,000 populations, (4.) District hospital, covering 2-300,000 populations, (5.) Primary health care center, covering 100,000 populations, (6.) Health posts, 30-50,000 populations, (7.) Sub-health posts, 3-9,000 populations, (8.) Community level-Health volunteers, and (9.) Family decision maker level, which is a community based health facility. Altogether they cover 7,000 to 100,000 populations.

Kala-azar is a major public health concern in Nepal. The cause of which is mainly lack of awareness among people, late detection of cases, inadequate treatment, socio-economic condition, alongwith delay or no access to health services. These factors play an important role in causing mortality from disease. In Nepal, though cases were identified in 1950s, but it ceased to be a threat due to massive DDT spraying for

Malaria Eradication, which had some effects over sand-fly transmission also (Raghvan,1953). After an improvement in Malaria Eradication activities, withdrawal of INGOS support led to reduction in insecticidal spraying, and this is how in 1980, resurgence of Kala-azar in southern and eastern part of Terai of Nepal took place.

The incidence rate went on increasing during 1980-1995, which was estimated at 1.5/100,000 population to 44.60/100,000 population (Annual report, Epidemiology and disease control division, 1995). Many workshops and seminars were held in this connection with the participation of NGOs/INGOs, Clinicians and Private practitioners to fight against the problem. Despite these efforts, nothing much could be achieved, because of the following :-

1. Non-availability of guide lines to health facilities for diagnosis and treatment,
2. Laboratory diagnostic facilities were not developed in PHC,
3. Insufficient treatment due to irregular and inadequate supply of drugs,
4. The role of CHWs was not assessed and they were not actively involved in the program.

The policies and programs were developed in 1988 with the objective of reducing mortality and morbidity from Kala-azar through promotion of actions in many forms;

1. Collection of information on Leishmaniasis,
2. Improving the early case detection mechanism through mobilization of community health workers,
3. Improved referral system,

#### 4. Improving diagnostic and treatment facilities,

In 1989, WHO recommended control measures for Leishmaniasis and emphasized early diagnosis and treatment through mobilisation of CHWs.

More attentions were paid to children and young adults with the intention that these groups are more vulnerable and are risk groups, in which failure in diagnosis is highest. At the WHO's meeting, a consensus was developed that it will be difficult to control Kala-azar until a good diagnostic and prompt treatment facility is developed in community based Health facilities, in which the role of CHWs is considered strongly, since they are paid government staff and can be motivated with little effort, and would be effective in conducting case detection at PHC.

The momentum in mobilization of such workers is increasing as it becomes generally accepted that in most countries their wide deployment is essential for the achievements of health for all. The reasons for employing such health workers are :-

1. past failure of services based on health center to provide adequate coverage of the whole populations for their principal health problems and at a cost they could afford.
2. realization that simple medical and nursing care and the use of medicaments alone can have little effect on the environmental, social and cultural factors that cause disease and disabilities. CHWs services which go beyond these functions, are the way of influencing these causes of illness.

So, mobilization of CHWs is a way of bringing services to the people in places that the official health services can not reach, service delivered by health workers who are like the people themselves, both socially and culturally. So, the aim of study is to

train CHWs and help to work with communities to bring about the kinds of changes that strike at the causes of disease and illness in a community, and at acceptable cost (WHO, 1989).

The availability of service between levels varies and this variation is presented even within each level. The district hospital is the first static facility where diagnostic and treatment facilities are available. Next comes to the Zonal hospital. However, there is no clear documentation of the situation of the service delivery points in particular regard to diagnosis and treatment.

By viewing the nature of disease and its serious effects, early diagnosis and treatment is the most appropriate intervention for disease control. The earlier a disease is diagnosed and treated, the better it is from the point of view of prognosis and for prevention of complications, death and disabilities. Early case detection and treatment has been identified as an essential component of disease control, which could be made possible through educating, motivating and evaluating CHWs (NICD, 1994).

Therefore, we need to have early case detection and treatment of Leishmaniasis for risk group of people through health workers. Who have been trained in Screening skills in order to increase case detection and promotion of referral process for confirmation of disease. It is required for prompt treatment in terms of reducing mortality from Leishmaniasis. Nepal epidemiological survey on disease control, 1994, has found these health workers having strong influence over community for control of disease. So, this study proposes to provide Screening (Case detection ) service through trained Health workers to risk people at Harinagar PHC in Sunsari district, Nepal.

### **3.1.1 Need of Early Diagnosis and Treatment :**

During past few years, there has been a growing clarity about which are the best efficient ways to prevent deaths and disabilities from Leishmaniasis (Visceral). Some complications can be prevented by appropriate management of disease in time. But most life threatening complications, which are the result of late diagnosis or inappropriate treatment, can not be prevented. During the period of illness, people suffering from fever do not actually know the nature of fever, and when they approach PHC, because of lack of diagnostic facility at PHC and inadequate training to health workers, they are not taken care properly for the real cause. Some times, they are given anti-malarial drugs where, as some times they get only antibiotics or paracetamol, which is not going to cure the disease.

When there are no facilities, patients with suspicion of Leishmaniasis need to be referred to district hospital for diagnosis and treatment, which helps reduce mortality and morbidity from disease (NICD, 1994).

The government of Nepal with the help of International agencies have decided to initiate activities to transmission of sand-fly, and reduce the mortalities and the morbidity from Leishmaniasis by instituting early diagnosis and treatment, along with other programs such as Insecticidal spray, use of bed-nets, early case detection, improving diagnostic and treatment facilities at the nearest health facility, creating community awareness through health education, Training to CHWs, and Improving referral system. These activities can influence mortality and morbidity from Leishmaniasis (Visceral) by reducing the number of undiagnosed and untreated cases.

So far, complications from the disease are concerned. It is very difficult to deal with complications even in a good setup, because complications from Leishmaniasis is some times so serious (Renal-failure, Toxaemia, etc.) Even if the patient reaches hospital, it needs lot of physical facilities, valuable and expensive drugs, along with trained medical personnel to care Leishmaniasis. At the same time, financial burden to the patients in the form of transportation costs and other miscellaneous costs all makes situation worse for them to afford.

So, early diagnosis and treatment is needed for the following reasons :-

1. For prevention of complications.
2. For reducing mortality and morbidity.
3. For protection of people at risk.
4. For application of interventions in time.

### **3.1.2 Demographic back-ground of Sunsari district :**

The populations of Koshi Zone is 17,30942 (Central bureau of statistics,1991),and its area is about 9,669 square k.m. There are, altogether, 7 Districts in Koshi Zone, and Sunsari is one of the districts of Koshi zone on the eastern plains of Terai of Nepal, with a population of 5,22643 and Male/Female ratio of 51:49%. The district has the area of 1,265 square k.m. with 50 village development committees, 2 Municipalities and 5 electoral constituencies. The entire population of the districts has been divided into Hindu (60%) ; Muslims (20) ; Budhists (5-10%) ; and Others (10-15%). Total number of families are 9,831. The districts has many industrial set-up. People are mostly engaged in agriculture, though a negligible amount of people are

working in government and private sectors. Socio-economic status of the people is low. Sunsari district has one district hospital (30 beds), one private hospital (20 beds), one Medical institution, (1,500 beds) Community based (almost in each VDCs)-PHCs (3 beds), Health posts and Sub health posts (No beds), including TB and leprosy and Family planning clinics in 12 VDCs. The distance of health centers to district hospitals and other hospitals are as follows, From PHCs to District hospital is 2 hours and to Institute of Medical Sciences, it takes 3 hours by public bus.

District health facilities are well equipped for diagnosing and treating cases. The district has more or less good transportation facility, and so, if identified cases are referred, delay in reaching district hospital could be minimized.

The main concern is that when an individual has Leishmaniasis or developed complications from disease, the important thing is-how an individual (diseased) is being recognized for his/her problem, how long it takes for his or her to reach health facility and receive adequate care and who is going to give him appropriate information about medical care, and how he/she is going to have access to better center for diagnosis of problem and its management.

This mobilization of CHWs in PHC set-up to detect disease early and referred them to district hospital for confirmation and treatment is the way out to help an individual for timely diagnosis and treatment, and thus help reducing mortality and morbidity from Leishmaniasis.



### **3.1.3 Harinagar Primary Health Center in Sunsari District :**

Harinagar is one of the most remote villages in Sunsari district, Nepal. It is 25 km. from district headquarters, and 2 km from Bihar state of India. The inter country border is open with no passport system. There is a PHC with 3 beds in Harinagar. PHC is a primary level hospital of Nepalese Health care system. The population ratio determined by the National Health Policy is 100,000 per PHC for provision health services. The population of Harinagar village is 7,145 with 1,012 households and people at risk of Leishmaniasis (5-20) are 1,472. Total number of cases identified in 1995 and 1996 are 35 and 57 with 9 and 11 deaths with case detection rate at 4-6% respectively (Reg. Health Service, 1997). Literacy rate of the village people is very low, (Male-20-25% in male and Female-15-16% in female), and most of them depend upon farming.

The functions of PHC, documented by the Ministry of Health, Nepal ;

1. To provide curative and preventive services to the community.
2. To provide training to nurses, paramedical staffs.
3. Prevention and control of communicable diseases and epidemics.
4. Collection of vital statistics and reporting to higher level.
5. Provide health education to community people.
6. Referral system - works as referral center for better access of the patients.

<b>The Technical Staffs of the Primary Health Center is as follows :</b>	
1. Medical officer--1.	6. Auxillary health Worker-2
2. Staff Nurse-----1.	7. Laboratory technician---1.
3. Health Assistant--1.	8. Auxiliary Nurse Mid-wife-2.
5. Village health Worker--1.	9. Peon----1.

PHC has been established with good intention to provide health services to people in the community particularly those whose access is difficult to district level for many reasons, However, lack of equipments, inadequate training to health workers, inadequate and irregular supervision, lack of accomodation for staff, irregular and less logistic supplies have put PHC in a poor condition where delivery of services seems difficult.

Doctors, for many reasons, prefer to practice at headquarters than in the PHCs and so ultimately, people have to depend upon CHWs who, for them, is a community bare footed doctor who always available and accountable to the community. Most of the treatment done at PHC are conventional. It provides care up to 70-80 patients (75% routine and 25% emergency cases) a day. Most of the time cases which can not be treated at PHC are referred to district hospitals. Record keeping process is found unsatisfactory at PHC level. This is because of lack of training to the Health Workers.

#### **Referral system :**

Referral system is an important function of PHC. Referral process is one of the most common ways in which probability of disease is increased. Teaching and other hospitals wards, as well as clinics and emergency departments are found involved in

referral process, because outside physicians, CHWs, refer patients formally and because patients refer themselves informally.

**Criteria for Referral :**

1. Remoteness having no or poor transport facilities.
2. Difficult access to health facilities.
3. To develop link between community and health care system.
4. When health personnel are of little or no faith.

Referral system is of value to ensure an equitable and complete health services to the people, and to ensure easy and effective access of the patients, as well as with having opportunities for CHWs to learn/discuss about referred patients. In Nepal, PHC is not fully developed to tackle all problems, so cases are referred from PHC to District hospital. But due to financial burden, poor transport and lack of education, and no provision of referral slip, people go to private practitioners for treatment instead, thereby increasing the burden of illness/complications/ death. The referral system in Nepal does not seem to be functioning properly at PHC level.

**3.1.4 Reasons for choosing Harinagar PHC as the study area :**

1. Because PHC is the closest health facility in the community, where Leishmaniasis can be detected, tackled, stabilized and, if needed, referred.
2. Unless people have an access to early diagnosis and prompt treatment, mortality and morbidity remains high.

3. Technical staffs are available (including One medical officer) for providing services both curative and preventive.

## **3.2 Objectives of the Proposed study :**

### **3.2.1 General Objectives :**

1. To increase early case detection and prompt treatment of Leishmaniasis through mobilization of community health workers at Harinagar PHC of Sunsari district among risk group people :
  - A. To reduce mortality and morbidity to 50% by year 2000.
  - B. To protect population at risk of Leishmaniasis.

### **3.2.2 Specific Objectives**

1. To develop curriculum of training for community health workers.
2. To provide training to CHWs for early case detection and treatment.
3. To develop guide lines for diagnosis and treatment of Kala-azar.
4. To provide components needed for promotion of service-ECDDT.
5. To provide guide lines for referral of cases to District hospitals.
6. To implement screening services (EDPT) through trained health workers at PHC to risk group people.

7. To monitor screening (EDPT) activities conducted by CHWs to look at service achievements at PHC.
8. To supervise screening services conducted by health workers in order to improve their screening performances.
9. To evaluate the impact of screening services provided through CHWs after their training, regarding behavior, attitudes and practice of health care providers.
10. To facilitate health workers by providing them with good logistic support, remuneration, IEC materials and others.

### **3.3 Purpose Statement of Study :**

The purpose of study is to reduce mortality and morbidity from Leishmaniasis (Visceral) through early detection of cases of Kala-azar and their referral to district hospital for parasitological confirmation and appropriate treatment. This can be achieved by providing training to CHWs on case finding and referral, and for treatment at Harinagar Health Center of Sunsari district. So, the main focus of study is to provide services to the people suffering from Leishmaniasis or to the population at risk. The impact evaluation will be carried out after completion of one year of the program.

### **3.4 Proposed plan of program implementation :**

The main focus of study is to provide and promote early case detection and prompt treatment in time, which can be achieved by providing screening services to Kala-azar patients or population at risk through mobilization of CHWs at Harinagar PHC. Therefore, mobilization in terms of appropriate and adequate training, providing remuneration, logistic support to CHWs for screening services is a major component of the proposed plan.

The purpose of such training is to get CHWs acquainted with knowledge, attitude and practical skills in early case detection, and their referral in time for parasitological confirmation and prompt treatment , there by preventing complications from disease and death. At the same time, the proposed plan has the provision of providing information, education and communication materials to the Kala-azar clients or population at risk through CHWs at PHC before, during and after screening services. The monitoring and supervision of the screening (case detection) services will be done as planned, in which monitoring will help to know the achievement of the services. At the same time, supervision will also help health workers to perform their screening job in a better way by improving their knowledge and practical skills.

On a completion of one year services, a plan will be made to evaluate the impact of screening services in Kala-azar clients or people at risk and to answer how much improvement has been found in detecting cases of Kala-azar, and weather or not they have received enough information for detection of cases of Kala-azar?

### **3.4.1 Training for EDPT (Screening) Services to Community Health Workers of Harinagar Primary Health Center, Sunsari, Nepal :**

#### **A. Introduction :**

Health workers provide medical services to people who become sick or at risk. But in many circumstances, people at risk are not followed, identified or screened properly due to lack of knowledge, in health which leads to an in effectiveness of the program, resulting in less recognition of disease with more burden of illness, complications and death from the disease. This needs training for CHWs in that field.

Health workers of Harinagar PHC are not properly trained. In the absence of essential guide lines, they do not follow the right technique for early case detection and prompt treatment. Since Harinagar PHC is an endemic area for Kala-azar, its closeness with Indian borders for increasing number of cases from neighboring countries needs special attention for control of disease.

#### **B. Responsible Organisation :**

As a researcher, I would like to brief the Director of National Health and Training Center and the Director of National Health Education, Information and Communication Center, since they have the mandate to provide different kinds of training to health workers and IEC services as well.

Since implementation of project will be carried out at Harinagar PHC, the NHTC will be responsible for organizing the training for health workers of Harinagar PHC. After training, all Harinagar PHC's staff will be responsible for implementation of (ECDT) screening services for Kala-azar clients or people at risk.

### **C. Training Objectives :**

The main objective of the ( screening) training program to the health workers, is to improve their knowledge and practical skills, while interacting with Kala-azar clients or people at risk. The aims and objectives of CHWs training program is to equip those health workers for the tasks (case detection, referral for diagnosis and treatment) they are expected to perform in the community they are in working.

When viewed as front line workers, training tends to focus on certain basic practical skills. CHWs are considered as an agent of change, then their training need to go beyond mastering certain basic practical skills/related knowledge to communication and organisational skills for motivating the community to undertake collective action for its problems (WHO, 1990). At the end of training the health workers will be able to:-

1. describe the nature, signs/symptoms of disease.
2. describe the difference between active and passive case detection.
3. describe the benefits of early diagnosis and treatment.
4. describe the early case detection methods, and referral process.
5. describe the principles of screening.

### **D. Training Approach :**

An approach adopted in training will be participatory and competency based. Active participation and discussions are essential to develop practical skills (of case detection for Leishmaniasis ), which will be much effective in developing skills of health workers. Trainer would explain the skills, or tasks to be learnt and then demonstrate it. After completion of demonstration/discussion, the trainer will observe



the health workers for their practical skills. The trainer will encourage health workers to contribute what they have learnt, which helps encourage CHWs to participate more actively.

#### **E. Curriculum of Training for E.D.P.T. (Screening) :**

The curriculum of screening (ECDT) training for health workers would be a package for National Health Training Center with few modifications to fulfill the desired objectives of the project.

The curriculum is divided into 9 modules, and each module focuses on the aspect of Kala-azar screening (or case detection/treatment aspect). These modules are for the following purposes: Module 1. and M2 - is about introduction of screening training. M3- Screening methods, M4- Referral process, M5- Disease aspect, M6- About Control measures, M7- Treatment aspect, M8- About complications and M9- About Inter-personal communications. (The details has been illustrated in Appendix I.).

The main objective of these modules is to introduce 3 stages of training: (1.) Initial, (2.) Method specific, and (3.) Follow-up.

Discussions with health workers, role play, exercises, case study, lectures and brain-storming are the methods of screening training to health workers. One handbook is being provided to each health worker. It contains background information that reinforces the content of each module, and will be used by health workers throughout his/her training course.

**F. Duration of Training :**

It will be defined by aims and objectives of the training and envisaged role of the CHWs. Care must be taken not to overload them. The date of training will be fixed by discussing with the Director of National Health and Training center and Medical officer/IC. of Harinagar Primary Health Center. The duration of training will be one week.

**G. Location (Venue) of Training :**

Training will be carried out at Harinagar PHC, Sunsari, which is the work place of Health workers.

**H. Trainees :**

Trainees would be all health workers (Para-Medical Staffs) of Harinagar PHC, e.g. one health assistant-one, one-staff nurse-one, two auxiliary health assistant-two, three auxillary Nurse mid-wife, and one village health worker-one.

**I. Trainers :**

The orientation and skill of trainers are of critical value in training program, because trainers are often appointed depending on their availability rather than their suitability. Trainers should be trained in educational planing and curriculum management. They also need to be familiar with the structures and the dynamics of the communities for which CHWs are being trained. Trainers are made available after placing a request from researcher to the Director of NHTC.

### **3.4.2 Implementation of Case detection (Screening) Program :**

A team will be formed to implement the screening services in Harinagar PHC successfully. The list of potential members in the team is provided in Appendix II, but an actual team will be formed after discussion with the Director, NHTC. After training has been completed, trained health workers will provide services to each Kala-azar clients or to population at risk. Screening session will be organized at Harinagar PHC from 10.00 am. to 2.00 pm. Saturday exclusive. Training is grouped into three stages : (1.)Initial, (2.) Method specific, and (3.) Follow-up.

#### **(1.) Initial :**

It is the method which is adopted at first when they meet in clinic or hospital. The main intention is to make them familiar with screening methods, their advantages and disadvantages, health care services, clinic procedures, and policies as well. At the same time, trainers explore the trainees experiences.

#### **(2.) Method specific :**

It is provided prior to, during and after screening methods. People at risk or Kala-azar clients will be given opportunity to ask potential questions on screening methods.

#### **(3.) Follow-up :**

A follow-up screening is done when Kala-azar clients or people at risk come for more suggestions, advices for side effects, resistance and relapses.

### **3.4.3 Provision of Information, Education and Communication (IEC)**

#### **Materials for the EDPT. Training program :**

All health service providers and trainers need information, education and communication materials that help inform and educate them about national standard and norms of the case detection program. Uses of visual aids during training session make it more attractive and understandable for the messages. His Majesty's government of Nepal has given mandate to produce and disseminate the health information through different methods and medias in Nepal.

Though IEC, materials are provided to each health out lets but it still covers only 60-65% of the demand because of remoteness of health facilities, lack of transportation facilities and less budget. In my study area, the Harinagar health center is one of them having in adequate supply of IEC materials.

#### **3.4.4 Monitoring :**

The main purpose of monitoring screening services is to look at work progress, performance of staff and achievement of the services in PHC. For this purpose, monitoring the services will be made through routine data collection during screening intervention to look at achievement of the services.

In the year 1994 and 1995 total number of Leishmaniasis cases identified without training to CHWs were 35 and 57 respectively in Harinagar PHC. These numbers are may be due to irregular and in-adequate spraying of insecticide, poor case detection and in adequate and improper treatment of the case. This training to CHWs for screening of

Leishmaniasis will help increased and early case detection and their access to district or equipped hospital in time for diagnosis of cases and treatment, resulting in reduction of mortality and morbidity from Leishmaniasis, which is a major achievement of the service. Performance of CHWs is being monitored by comparing the average of individual's yearly performance with his/her monthly performance in the same year. The source of data can be obtained from, CHWs activity monthly report form, monthly record form of the hospital, master register of the PHC, and monthly report sent to district.

The PHC's Medical officer/IC will be responsible for monitoring the screening services conducted at PHC. Since it is a research project, I will go to Harinagar PHC, every 4 months during screening program implementation to attend meeting with staff involved in the program to assess the situation of screening (ECDT) service.

#### **3.4.5 Supervision :**

The extent to which a good or poor supervision is referred to main cause of failure or success of CHWs training program indicates the fundamental role of supervision and the commonalities of the problems in that area. Supervision is an important part of improving the health workers performances, and is of importance in the success of Kala-azar program. CHWs working in health facilities are supervised by trained health professionals. Guidelines for performing supervision need a check list of activities along with supervisors supports, time given by him and financial resources. After training, what CHWs have learnt from training would be applied as skills in problem solving practice.

Repeated supervision of health workers on how they are using their skills in finding out the cases and referring them to health facilities for confirmation by trained supervisor will help the CHWs to perform their duties effectively.

#### **3.4.6 Evaluation of Training :**

Evaluation is an important aspect of screening training. It helps to know the effects of training is health workers in terms of their knowledge, attitude and practical skills. It also helps improve future training activities. The screening training evaluation includes 4 stages, A. Training process evaluation, B. Learning outcome evaluation, C. Trainees behavioral changes to evaluate knowledge, attitude and practical skills of the trainees. D. Impact of the services on population at risk.

##### **A. Training process evaluation (Reaction evaluation) :**

It is the observation of how training program is being conducted. It suggests strength, weaknesses and improvement in future screening program. It focuses on training objectives, contents, methods, materials, facilities, duration of training and effectiveness of trainers in conducting training and application of training at working place. Usually training process evaluation will be done by observing their skills, practices, and feed-back exercise of trainees during screening program. It will help to determine whether trainees have improved their skills in case finding and found themselves satisfied with the training course.

## **B. Learning outcome evaluation :**

Knowledge and skills of Kala-azar screening is essential for screening of people at risk/Kala-azar clients. It helps improve knowledge and skills of service providers. To measure their skills and knowledge, a Pre-test and Post-test will be done before and after training with multiple choice and true-false questions.

### **1. Pre-test of Trainees with Written Questionnaires**

Pre-test is important to know and to measure the existing knowledge of health workers. It also helps identify topics which need to emphasis during training period. It will help both health workers and trainers to carry out training smoothly.

Pre-test will be done on the first day of training course. The main purpose of the pre-test includes sharing of experiences with health workers and then to compare them with post-test, and see whether they have gained knowledge/skills or not? True-false and multiple choice questionnaires will be provided for this purpose (see Appendix V).

### **2. Post-test Questionnaires :**

Post-test on health workers with written questionnaires will be taken, because it measures any increase in knowledge, and practical skills of health workers at the end of training. Post-test will be the same as of pre-test questionnaires (Appendix V).

Their knowledge will be determined through the score obtained. A score of 80-85% will be taken as good score for health workers to declare their success and competence for providing screening services.

### **C. Health Workers Behavioral Change Evaluation**

After one month of training an evaluation will be done to know whether health workers attitude and behavior have changed or not. The attitude and behavior such as greeting, introducing himself, inviting them to sit comfortably, dealing politely, listening, reflecting feelings, eye contacts, expressions, providing information, showing concern and interest about problems will be observed during the training.

Observation of each health workers before and after training will be done and compared to determine if there are any changes in health workers' behavior. A check list will be used for observation. Tape recorder is used with consent.

### **D. Impact Evaluation**

#### **1. Introduction :**

The main intention of Screening (Early case detection) training is to improve the quality of screening services in terms of detecting cases early. After completion of a year of screening services provided to people at risk or Kala-azar clients of Harinagar PHC, an impact evaluation will be carried out in Harinagar PHC to assess the impact of screening services to the people at risk of Leishmaniasis or Kala-azar clients provided by those trained Health workers.

Training to Health workers will increase the efficiency of Health workers with increase in case detection of Leishmaniasis and its referral for treatment. It will also help providing all informations to the people about transmission and control of Leishmaniasis through health education and help people to decide to seek medical care in time. It will help knowing the effects of program to the community people at risk. It will also improve the future case detection and treatment activities. Impact evaluation



is the final stage of screening training evaluation, which will determine the knowledge, attitude, and practice of the clients or risk people on screening methods.

## **2. Components of evaluation :**

### **i. Knowledge of Leishmaniasis :**

- Knowledge of Clinical features of Leishmaniasis
- Knowledge of how to identify disease
- Knowledge of prevention/control of disease
- knowledge of transmission of disease
- knowledge of treatment/side-effects

### **ii. Attitude towards Leishmaniasis :**

- Preference of methods
- Use of mosquito nets
- Cattle sheds far from dwellings

### **iii. Practice :**

- Practice of what to do when become ill
- Practice of case finding
- Practice of referral method
- Practice of seeking treatment
- Language used
- Attention and interest

## **3. Methods of evaluation :**

Survey research method will be used to evaluate the impact of case detection training program. The measurement of indicator for evaluation will be Health knowledge, attitude and practical skills of the risk people or Kala-azar clients. The

individual semi-structured questionnaires and official statistics will be used as data collection instruments. Data collection may have 3 functions : (1.) To provide a continuing record of care for each patient (clinical care). (2.) To supply those incharge with information on disease pattern and on performances of health services, (3.) To influence the working practice of those collecting data.

The official statistics includes name of the Kala-azar clients, date of follow-up, services received or not, and number of cases identified and referred. The questionnaires is divided into 3 parts. Part I consists of respondents background. Part II determines the knowledge, attitude, and practice on care of Leishmaniasis and case detection method. Part III consists of knowledge, attitude and practice on case detection method, laboratory diagnosis and treatment if provided at PHC.

#### **4. Study Population :**

Since Leishmaniasis mainly affects children and young adults of age ranging from 5 -20 years of age, and population of this age group are altogether 1,472 living in Harinagar village. In screening program, the target population are people of risk group in both sexes (5-20 years). The screening service is directly related to people at risk, who receive services from PHC, from September 1, 1998 to the end of August 1999, will be the study population.

#### **5. Study Design :**

Study Design will be Longitudinal (Prospective, Cross-sectional, 2 times). Observation will be repeated in the same population over a period of twelve-month time by follow-up examination. A mid-term evaluation will be done after 6 months of

the implementation of EDPT (Screening program). At the end of twelve-month, an impact evaluation will be conducted.

#### **6. Study Site :**

Study site will be to PHC Sunsari district of Koshi zone in Nepal, where screening program will be implemented as a project.

#### **7. Data-collection :**

##### **i. Focus group discussion :**

As focus group discussion was not planned before data exercise, a need was felt to collect in-depth information on Leishmaniasis, mode of transmission, diagnosis, disease prevention/control and treatment from Kala-azar clients. It will help to develop the interview instruments and messages for clients on Leishmaniasis, particularly its detection and treatment. The main content of discussion will be KAP of screening services Leishmaniasis.

Two focus group discussions will be organised with 9 members in each group. Persons selected are those having a risk of disease. They are identified and selected in 2 different groups from hospital record or from survey. Then 2 separate sessions would be conducted on Saturday evening.

The location of discussion would be either in classroom in a school or in PHC separately. Language of discussion would be a local language (Nepali, Maithili) which is easy to speak and understand. The duration of discussion will be not more than one hour. (The guideline for FGD is given in Appendix VI). FGD would be conducted smoothly by Vector borne disease control supervisor from district health office as

moderator. It will be started with introduction of participants, introduction with objects of discussion and to get consent for using tape recorder.

Participants will be encouraged by moderator to express their perception, and ideas, and concept on Leishmaniasis will be observed by the moderator, which will be included in the result of discussion. One AHW will work as a note-taker in FGD and will be responsible for taking all notes from the discussion. Similarly, an Assistant from Harinagar PHC will help operate tape record to capture all informations of discussion.

The researcher, as an observer, will sit at the back of the group members with their consent. All moderator, note-taker and assistant would be trained by supervisor from District Health Office before FGD in Harinagar PHC. Lastly, at the end of session, moderator will thank every one and would play the recorded conversation.

#### **ii. Semi-Structured Interview :**

It will be done to get an accurate information from clients of Leishmaniasis. It will also be done with trained health workers of Harinagar PHC. The technique of data collection will determine health knowledge, attitude and practice of the interviewee. It consists of structured and unstructured questions. The aim of semi-structured interview would be to explore more accurate informations on Leishmaniasis, their diagnosis and treatments.

The semi-structured interview guide lines (Appendix VII) will be developed and used for this purpose. Interview will be conducted in Nepali language, which is translated from English questionnaires. Two interviewers will be selected from District

Health office, Sunsari. They will be trained by researcher for 2 days orientation at Harinagar PHC. Interviewer will take 5 interviews per day and will finish by 15 days.

**iii. Review of Official Statistics :**

Official statistics will be used as one of the technique of data collection. It signifies service achievements of the screening program being conducted at Harinagar PHC. The data will be collected from master register and quarterly report forms. It helps to determine visits done by Kala-azar clients and also determine monthly report from new cases and number of followup visits done by Kala-azar clients. By this method, monthly trend of disease will also be available.

## iv. Activities Plan with Time - Table

SN. Activities -	1998	1999
<b>1. Preparation Phase-</b>	Apr.-Aug, Sept.-Dec. Jan-Mar.	Apr-Aug, Sept-Dec
1. Meeting NHTC/NHEICC -	April	
2. Project team implementation -	May	
formation		
3. Request to donor for availability of fund	May	
4. Ist meeting with PHC staffs- at Harinagar PHC	May	
5. Implementation team - meeting	June ----July	
6. Observations of Hws-	July	
<b>2. Operating Phase ;-</b>		
1. Conducting EDPT training-----	Aug 98	
2. Providing screening-service -----	Sept. 19 98 to -----Aug. 1999	
3. Health education materials-	Aug 98 and jan. 1999	
4. Supervision of screening service-	Dec 98, April 99 and Aug 1999.	
5. Monitoring---	Jan. 99, May 1999, Sept 1999.	

SN. Activities	1998	1999
<b>3. Evaluation Phase -</b> Apr.-Aug, Sept-Dec, Jan-Mar.   Apr-Aug, Sept-Dec, Jan-Mar.		
1. Recruitment of -		Sept. 1999
Interviewer		Sept. 1999
2. Training of Inter-viewer-		Sept. 1999
3. Focus gr. discussion		Sept. 1999
4. Interview		Sept. 1999
5. Analysis/data inter-pretation-		Oct. 1999
6. Writing report		Nov.1999

**v. Budget for the Study :**

Budget of the study will be required to carry out the training for screening program (case detection and treatment) of Leishmaniasis and for evaluation of impact of screening services in the community people. At the same time there will be need of provision of budget for supervision and monitoring of screening services.

<b>Field Expenses -</b>	
1. Researcher 1 person x 2 days x \$ 10	\$ 200
2. Interviewer 2 persons x 18 days x \$10	\$ 360
Sub - Total -	\$ 560
<b>Supervision of screening -</b>	
A. Per diem 1 supervisor x 3 days	\$ 90
x 3 times x \$ 10	

B. Travel cost x 2 days x 3 times x	\$ 30
\$ 10 per visit	
Sub-Total -	\$ 120
<b>Monitoring :-</b>	
1. Allowances 9 persons x 1 x	\$ 135
3 times x \$ 5	
2. Researcher 1 person x 3 days x	\$ 90
3 times x \$ 10	
3. Traivel cost x 2 days x 3 times x 10 visits	\$ 30
Sub - Total -	\$255
Report writing and Printing	\$ 350
Miscellaneous 10-15%	\$ 205
<b>Grand - Total -</b>	<b>\$ 2570</b>

### 3.4.7 Potential Problems :

The proposed screening program of Leishmaniasis is an interaction between health workers and Kala-azar clients or people at risk for early case detection and treatment. In this process the potential problems are :-

1. commitment of Health workers on implementing screening services at Harinagar PHC, failing which objective of study will not be achieved. It will



be improved by periodic monitoring, and supervision of screening services by trainer from NHTC and provision of remuneration in terms of prizes, medals, and grades.

2. frequent transfer of health workers, which can be minimized by making a request to the Director Health Services.

#### **3.4.8 Human Resource Requirements :**

Because of sufficient existing manpower in PHC, no additional manpower will be required to carry out the study. Additional human resources, such as 3 trainers, 2 assistants (including audio-visual assistant from NHTC), will be needed. Similarly, 2 supervisors will be available from district health office, and health workers of PHC will be utilized for the program.

#### **3.4.9 Technical equipments requirement :**

An overhead projector, screen, video-deck, camera, and tape player/recorder with cassettes will be needed during training, which will be made available from NHEIC/NHTC center.

#### **3.4.10 Sustainability of the services :**

Sustainability of service will depend upon impact evaluation, which will be done in August 1999. If it shows a positive impact, efforts will be made to sustain the

screening program in Harinagar PHC. The Proposed study of screening services to people at risk will be provided through the government. Health workers since the government is committed to provide services to people down to community level. Government has been providing regular budget to PHC and the services will be provided within that budget to measure financial sustainability. Management of screening services will be sustained by providing re-training to CHWs ( after August 1999) of PHC, which is the responsibility of NHTC.

### **3.5 Ethical Issues in the study :**

Screening is a process of interaction between people at risk of disease and CHWs. Disease is a matter of concern of an individual with burden of illness on family and community as well. When health workers come in contact with Kala-azar clients or people at risk during case detection, clients may feel embarrassed, confused, worried and afraid. So, health workers will have to assure and reassure them about their intention of communication. Knowing the nature and consequences of illness, clients may feel depressed and so health workers will have to deal with them with all good assurances, since diagnosis and treatment is available. Health workers will also have to care the best interest of the clients, consider their feelings, their socio-economic status and help them if they need referral. A prior consent after explaining in detail for data collection and use of tape recorder for the same purpose is taken.

### **3.6 Limitations of Study :**

The study sample is a small sized Harinagar village, Sunsari, which can not be a representative of the entire country. The conclusion of study will refer only to a small group of participants. Management and implementation of the program is out of researchers control, because PHC is directly controlled by regional health directorate and to some level by district health office. Therefore, expected outcome of increasing case detection ( among those suffering or are at risk of disease) may not be fulfilled.

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