

CHAPTER V

Presentation

On 9th October 1997, the thesis examination committee was held to evaluate my work. I presented the overall view of my thesis study on the topic, "Developing a community profile on socio-economic and human behavioral aspects for improved malaria control in Nepal" to the committee. The presentation was divided into four parts : introduction, essay, proposal and data exercise.

In the introduction part, I presented a glance of malaria problem in Nepal and clarified the non availability of socio-economic and behavioral information. In the essay part I discussed about the concept of prevention and control of malaria and possible tools of interventions; how those information could be used for the selection of those control measures; and, need of a community malaria profile. In the proposal part, I discussed about my proposed a study in Panchkhal village of Kavre district Nepal in order to prepare a community profile and clarified about the process that I am going to apply for the development of the profile. For this part I presented the limitations of the study. Then I presented the fourth part of the study - the data exercise. For this section, I presented the objectives of the data exercise and I discussed about my field observation in two villages of Kanchanaburi Province and

key informant interview with health service provider at Ministry of Public Health, Thailand. I also presented the limitations and lesson learned from the data exercise. During presentation, the committee member asked me questions about my project, to which I tried to respond my best.

The overhead transparencies were prepared and used for the presentation. The contents are given below sequentially as shown to the examination committee.

Developing a community profile on socio-economic and human behavioral aspects for improved malaria control in Nepal

ISSUE

Lack Of Information On Socio-Economic And Behavioral Aspects Of Malaria Transmission

REASONS

- **Present surveillance for malaria do not cover the entire aspects of malaria epidemiology. It does not give information on socio-economic status and elements of human behavior conducive for malaria transmission in any area (External Assessment Report of 1993, DoHS/1994).**
- **Present MIS for health also do not give that information and there is no separate information system for malaria (External Assessment Report of 1993, DoHS/1994).**
- **No studies are available on socio-economic and behavioral aspects of malaria transmission.**

CONCLUSION

- **Should develop a community information profile on socio-economic and behavioral aspects of malaria of each prone area inclusive of all relevant and adequate information and devise a suitable control measures based on those information.**

NEPAL MALARIA SITUATION

- **Total of 13.17 million people (out of 20.32 million population of Nepal) in 56 districts are considered to be at varying degrees of malaria.**
- **Among 75 districts, malaria has been observed in 67 districts.**
- **Total National cases reported in 1995 was 9609.**

COMMUNITY MALARIA PROFILE

It is the collection of information of a given geographical area on vector (malaria mosquito), host (human), disease (malaria), control activities (by community and health services) and environment (physical and climatic) with respect to malaria transmission (WHO, 1997).

IMPORTANCE OF PROFILE

The information contained in the profile will define the malaria situation of an area and provides planners a picture to understand situation and a basis for deciding appropriate anti-malaria interventions.

IMPORTANCE OF SOCIO-ECONOMIC AND BEHAVIORAL ASPECTS IN MALARIA TRANSMISSION AND CONTROL

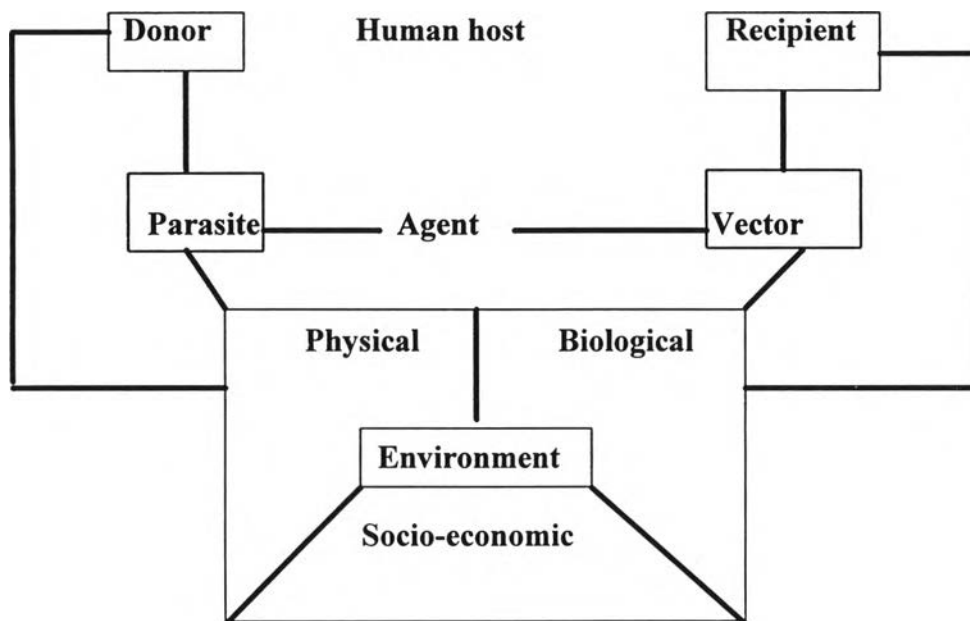
Studies show that -

- **Socio-economic and behavioral factors influence the distribution and intensity of malaria from place to place and affects malaria transmission and control.**
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- **For any anti-malaria interventions those factors should be taken under considerations.**

SOCIO-ECONOMIC AND BEHAVIORAL FACTORS OF MALARIA TRANSMISSION

- **DEMOGRAPHIC EXPLOSION**
- **INTENSIFICATION OF AGRICULTURE**
- **INDUSTRIAL DEVELOPMENT**
- **URBANIZATION**
- **IMPROVEMENT IN TRANSPORT FACILITIES**
- **DEFORESTATION**
- **IRRIGATION**
- **LABOR FORCE MOVEMENTS**
- **RESETTLEMENT SCHEMES**
- **TREATMENT SEEKING**
- **PERSONAL AND FAMILY PROTECTION**
- **MAINTENANCE OF LIVING ENVIRONMENT**

**EPIDEMIOLOGICAL FACTORS OF HOST,
AGENT AND ENVIRONMENT INVOLVED IN
THE TRANSMISSION OF MALARIA.**



(Source: adapted from Bruce-Chwatt's Essential Malariaology by Gilles and Warrell, 1993)

PRINCIPLES OF COMPREHENSIVE MALARIA CONTROL

Type of control	Effect
<p><u>Individual protection :</u></p> <ol style="list-style-type: none"> 1. Mosquito repellents 2. Impregnated mosquito nets 3. Protective clothing 4. House screening 5. House siting 6. Pyrethrum house spraying 7. Antimosquito fumigants 	<p>Reduction of human-mosquito contact</p>
<p><u>Vector control (factors reducing the vectorial capacity)</u></p> <ol style="list-style-type: none"> 1. Environmental modification and manipulation 2. Reduction of vector densities 3. Chemical and biological larvicides 4. Insecticide space spraying 5. Residual insecticide spraying 	<p>Reduction of vector breeding habitats</p> <p>Reduction of longevity of vector population</p>
<p><u>Antiplasmodial measures (factors reducing the parasite reservoir) :</u></p> <ol style="list-style-type: none"> 1. Early diagnosis and treatment of acute cases of malaria 2. Chemoprophylaxis and suppression of malaria infection 3. Radical treatment of relapses 4. Mass treatment (epidemics) 	<p>Elimination of malaria parasites and prevention of transmission</p>
<p><u>Social Participation :</u></p> <ol style="list-style-type: none"> 1. Health education 	<p>Motivation for personal and family protection</p>

(Source : Gilles and Warrell, 1993. Bruce-Chwatt's Essential Malariaology)

POSSIBLE INTERVENTIONS TO PREVENT AND CONTROL MALARIA

- **PROTECTION AGAINST THE BITES OF MOSQUITOES :**

1. **MOSQUITO NETS**
2. **SCREENING**
3. **PROTECTIVE CLOTHING**
4. **REPELLENTS**
5. **MOSQUITO COILS AND MATS**

- **MOSQUITO CONTROL :**

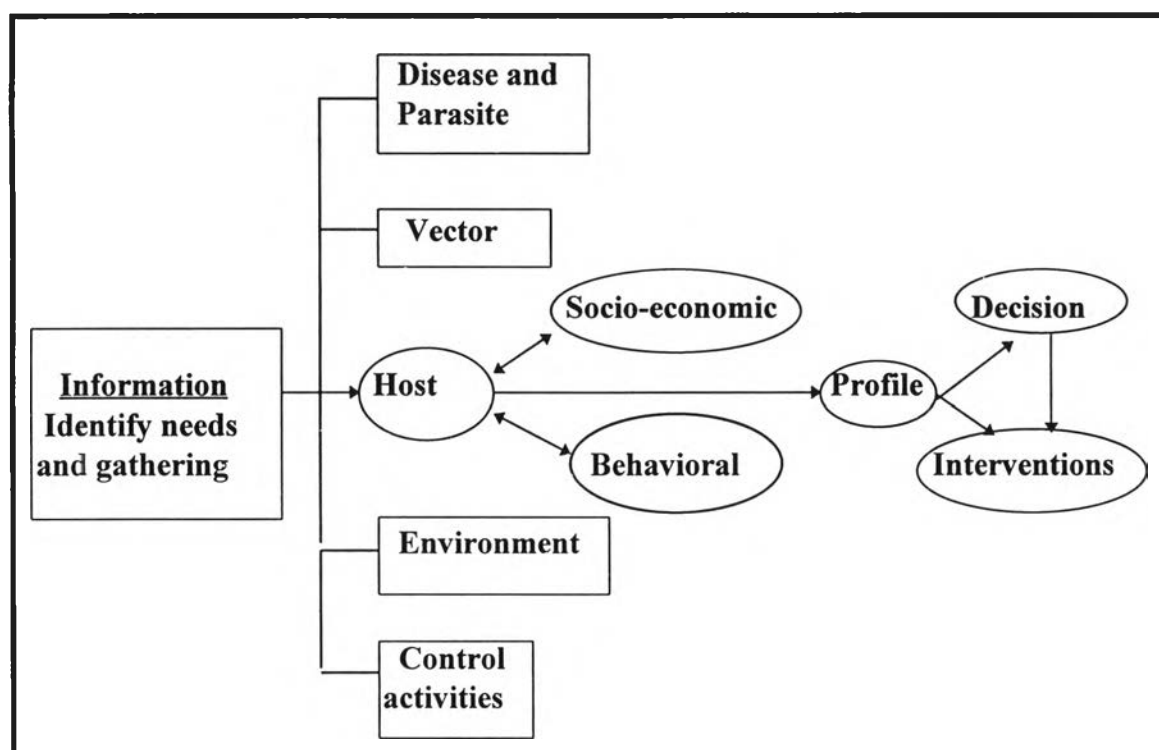
1. **SOURCE REDUCTION**
2. **CHEMICAL METHOD**
 - a. **RESIDUAL SPRAYING**
 - b. **SPACE SPRAYING**

3. **BIOLOGICAL**

- **ANTIPLASMODIAL MEASURES**

ANALYTICAL FRAMEWORK OF THE STUDY

Required information for community malaria profile to undertake decisions and select intervention



REQUIRED INFORMATION FOR THE SELECTION OF CONTROL MEASURES

- **INFORMATION ON HOST (HUMAN) :**
POPULATION SIZE, DISTRIBUTION, OCCUPATIONS, MOBILITY, TYPES OF DWELLINGS, INCOME LEVELS, TREATMENT SEEKING BEHAVIOR, PERSONAL PROTECTION BEHAVIOR, ENVIRONMENTAL MAINTENANCE etc.
- **INFORMATION ON DISEASE (MALARIA) :**
ENDEMICITY, MORBIDITY, MORTALITY, SEX DISTRIBUTION OF CASES, PARASITE SPECIES, DRUG RESISTANCE STATUS etc.
- **INFORMATION ON VECTOR (MOSQUITO) :**
SPECIES, PREFERRED BREEDING SITES, RESTING HABITS, BITING HABITS, SEASONAL DENSITY CHANGES etc.
- **INFORMATION ON CONTROL ACTIVITIES (BY COMMUNITY AND HEALTH SERVICES) :**
TYPES OF HEALTH CARE, TYPES OF MOSQUITO CONTROL, TYPES OF PERSONAL PROTECTION, AVAILABILITY OF TREATMENT PROTOCOLS etc.
- **INFORMATION ON ENVIRONMENT :**
CLIMATE, RAINFALL, TEMPERATURE etc.

SUMMARY

- **TO PREPARE A SOCIO-ECONOMIC AND BEHAVIORAL COMMUNITY PROFILE OF MALARIA, A STUDY TO COLLECT INFORMATION ON THAT ASPECT IS PROPOSED TO ONE OF THE MOST MALARIOUS VILLAGE OF NEPAL.**

PROPOSAL

CONTENTS:

I. INTRODUCTION :

- **Rationale of study**
- **Background of study area**
- **Problem statements**
- **Relevance of the problem**
- **Purpose statement of the study**
- **Field of application of research results**

II. METHODOLOGY :

- **Conceptual framework**
- **Objectives**
- **Study design**
- **Techniques of Data collection**
- **Sampling**

III. ACTIVITY PLAN

IV. BUDGET AND MANPOWER REQUIREMENTS

V. ETHICAL ISSUES OF STUDY

VI. LIMITATIONS

INTRODUCTION OF STUDY AREA

- **Study site : Panchkhal village, Kavre district, Nepal.**
- **Population : 24,564 (Annual Report of 1995, DoHS/1996)**
- **Total households : 4310 (an estimate of 1995)**

- **Malaria cases :**
 - a. **In 1993 : 2,720 cases**
 - b. **In 1994 : 1,278 cases**
 - c. **In 1995 : 1,482 cases**

- **Total National cases in 1995 : 9609 cases**
- **Total share of Panchkhal village in National cases : 15.42%**

The 5 years status of malaria in the country and Panchkhal village, Nepal.

YEAR	ABER		API		SPR	
	Country	Village	Country	Village	Country	Village
1991	6.95	39.24	2.63	104.3	3.73	26.45
1992	6.35	38.17	2.07	121.7	3.20	31.89
1993	4.79	30.53	1.42	115.9	2.76	27.05
1994	3.55	17.63	0.83	53.3	2.19	25.46
1995	2.49	15.56	0.78	60.3	2.85	31.00

(Source: Modified from Annual Report of 1995 of MoH/DoHS/1996)

Note :

ABER - Annual Blood Examination rate

API - Annual Parasite Incidence

SPR - Slide Positivity Rate

OBJECTIVES OF THE STUDY

- **GENERAL OBJECTIVES :**

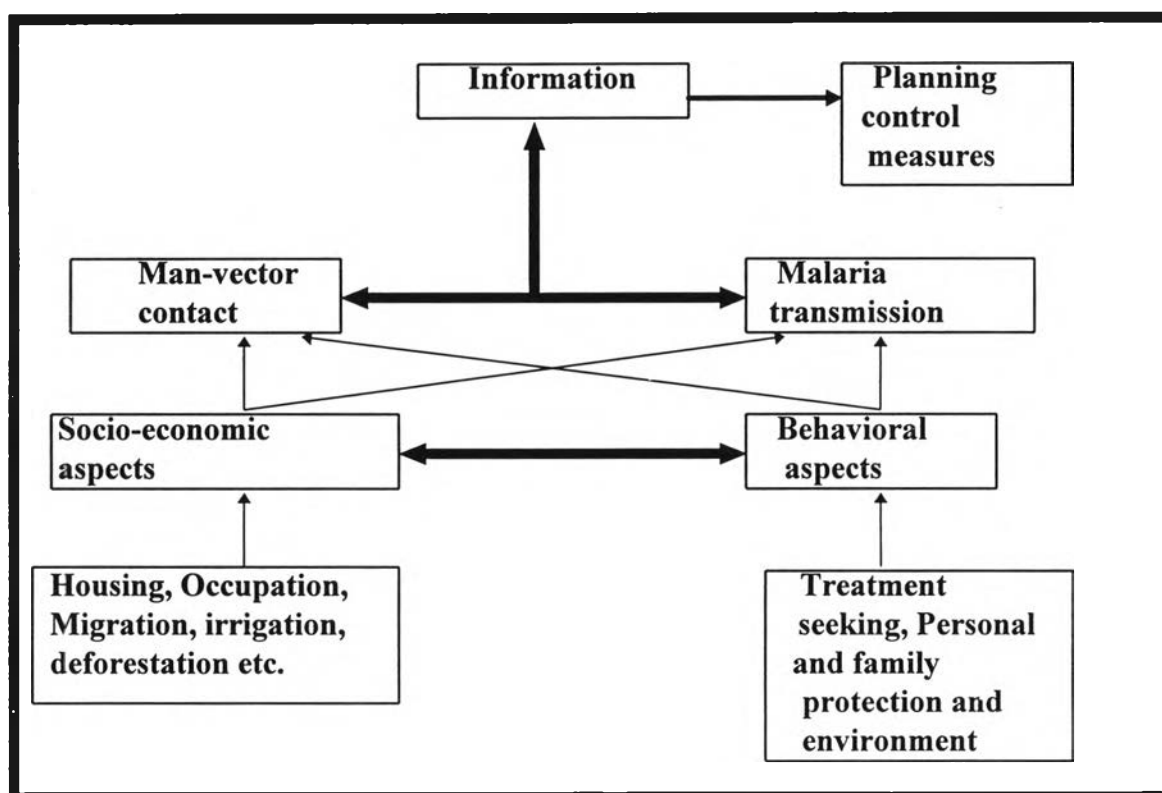
To develop a socio-economic and human behavioral information profile of malaria in Panchkhal village so that a suitable control measures could be recommended in order to interrupt the transmission.

- **SPECIFIC OBJECTIVES :**

- (1) to determine the socio-economic conditions of the Panchkhal village with respect to malaria transmission.
- (2) to identify the elements of human behavior with particular reference to malaria transmission as given below :
 - (a) treatment seeking behavior if suffered from fever or malaria.
 - (b) personal and family protection behavior against mosquito nuisance
 - (c) behavior related with maintenance of surrounding environment to control mosquito nuisance.

CONCEPTUAL FRAMEWORK

Relationships between socio-economic and behavioral factors with malaria transmission and need of information for planning control



STUDY DESIGN

- **RESEARCH APPROACH : QUALITATIVE**

TECHNIQUES OF DATA COLLECTION

- **INTERVIEW WITH KEY INFORMANTS :**
 - (a) **WITH HEALTH SERVICE PROVIDERS**
 - (b) **WITH COMMUNITY PEOPLE**
- **FIELD OBSERVATION**
 - (a) **HOUSE TO HOUSE OBSERVATION**
 - (b) **OBSERVATION OF VILLAGE AREA**
 - (c) **OBSERVATION OF FORMAL AND INFORMAL SECTOR HEALTH SERVICE FACILITIES**
 - (d) **OCCUPATIONS, AGRICULTURAL PRACTICES AND DEFORESTATION ACTIVITIES IN THE VILLAGE**
- **SEMI-STRUCTURED INTERVIEWS WITH HOUSEHOLD MEMBER**
- **DOCUMENTS AND SECONDARY DATA**

DATA EXERCISE

CONTENTS :

- **INTRODUCTION**
- **OBJECTIVES OF DATA EXERCISE**
- **SITE OF DATA EXERCISE**
- **METHODOLOGY USED**
- **FINDINGS**
- **INTERPRETATION**
- **DISCUSSION**
- **LESSON LEARNED**
- **LIMITATIONS**

OBJECTIVES OF DATA EXERCISE

- **TEST THE DATA COLLECTION TECHNIQUE**
- **PRE-TEST THE INTERVIEW QUESTIONNAIRE AND OBSERVATION CHECKLISTS**

SITE OF DATA EXERCISE

- **FIELD OBSERVATION :**

(A) PROVINCE : KANCHANABURI

(B) DISTRICT : SAI-YOK

(C) MALARIA SECTOR : TA-SAO-6

(D) VILLAGE : 1. KANG PA LOM-1

2. VANG KA-JAE-7

- **KEY INFORMANT INTERVIEW :**

(A) PLACE : THE OFFICE OF VECTOR BORNE
DISEASE CONTROL REGION-5, DEPT. OF
COMMUNICABLE DISEASE CONTROL,
MINISTRY OF PUBLIC HEALTH,
THAILAND

(B) INFORMANTS : EPIDEMIOLOGIST AND
MALARIA RESEARCH OFFICER

LESSON LEARNED

- **Prior to going for data exercise semi-structured interview was not incorporated in the draft design, but added after data exercise.**
- **Observation of houses provides information. But if it is done along with interview with household member it may provide more information.**
- **Knowledge on floating position of malaria mosquito is essential.**