CHAPTER I

INTRODUCTION

1.1 Background and Rationale

Dengue hemorrhagic fever is an infectious disease with *Adedes aegypti* as the carrier of the disease when it bites the patient with dengue hemorrhagic fever and then bites a healthy person. The spread of dengue hemorrhagic fever has been increasing rapidly in almost all regions in the world. In 1970, the cases of dengue hemorrhagic fever were reported only in nine countries around the world, but in 1998, the number of patients, according to World Health Organization, was as high as 1.2 millions, with 150,000 deaths. At present, the cases of dengue hemorrhagic fever are reported in more than 100 countries in the world, and the number of patients is approximately 2.5 million people each year. The continents where dengue hemorrhagic fever is commonly found are Africa, America, Eastern Mediterranean countries, and Southeast Asian countries (World Health Organization [WHO], 2000).

The first case of dengue hemorrhagic fever in Thailand was reported in 1958, and the disease has spread since then. From 1998 to 2002, the epidemic of dengue hemorrhagic fever occurred once every two years, in 1998 and 2001, with the rate of prevalence of 211.42 and 225.82 per 100,000 persons, respectively (Ministry of Public Health Department of Communicable Disease Control, 2002). However, in 2002, the epidemic of dengue hemorrhagic fever also took place with the prevalence rate of 168.52 per 100,000 persons.

Nakhon Si Thammarat Province is one of the provinces affected by the epidemic of dengue hemorrhagic fever. In particular, in Thung Song District, the prevalence rate of dengue hemorrhagic fever was 46.43, 434.49, 20.12, 19.78, 276.26, and 297.11 per 100,000 persons during 1997 – 2002, respectively. Even though the overall rate tends to decrease, in some years the number of patients was higher than the goal set in the Ninth National Economic and Social Development which states that the number of dengue hemorrhagic fever should not be higher than 50 per 100,000 persons.

In 2003, the Department of Communicable Disease Control proposed a project called "This house is free from *Adedes aegypti* larvae." Village health volunteers play a very significant role in disseminating the information in the community, collaborating with community members to destroy the breeding grounds of *Adedes aegypti*, and monitoring their own work by determining the prevalence index of *Adedes aegypti* larvae (Ministry of Public Health Department of Communicable Disease Control, 2002). Village health volunteers are the representatives of the community members who cooperate with the Ministry of Public Health in the community level, who are the health leaders in the community, and who work closest to the community members.

In Thung Song District, there are 108 villages, 29,995 households, and 1,288 village health volunteers. The initial assessment of the performance outcomes of village health volunteers to prevent and control dengue hemorrhagic fever in Thung

Song District was conducted based on the survey data and the data regarding the destruction of *Adedes aegypti* breeding grounds in the area which were submitted to the Thung Song Public Health Office. It was found that of the total 29,995 cards guaranteed no existence of *Adedes aegypti* larvae in the household first distributed, 4,423 were returned, accounting for 14.7%. For the second time, 5,288 cards were returned, making up 17.6%. When considering the percentage of the returned cards by the residents in the high risk areas (the prevalence rate higher than 50 per 100,000 persons) and the low risk areas (the prevalence rate not higher than 50 per 100,000 persons) based on the criteria of the Ministry of Public Health in 2002, it was discovered that the return rates were higher in the high risk areas than the low risk areas for both distributions of the cards. Unfortunately, this clearly showed that the performance of village health volunteers to prevent and control dengue hemorrhagic fever in Thung Song District had not yet reached the goal previously set.

An analysis of the prevalence index of *Adedes aegypti* can be used to plan the surveillance of dengue hemorrhagic fever. Efficient and effective planning depends on sufficient and accurate information. There may be a number of factors that could explain why village health volunteers were unable to accomplish the goal, including their perception and understanding of the roles (Pupaiboon, 1991).

The researcher was interested in investigating the roles of village health volunteers in preventing and controlling dengue hemorrhagic fever. This is because perception is a process in which individuals interpret and give meaning to the data, making them develop awareness of self, others, and different events in the actual world. Perception is very important to individuals and has a major influence on their

behavioral expressions. If individuals have correct perceptions, their behaviors will reflect such perceptions. In other words, perceptions make individuals have different behavioral expressions (Woranusantikul, 1981). It was anticipated that the findings of the present study would shed light on the role perceptions of village health volunteers regarding prevention and control of dengue hemorrhagic fever as well as the factors influencing their perceptions. Thus, the findings could be used to devise appropriate training programs, knowledge dissemination, and public relations activities to better enable village health volunteers to prevent and control dengue hemorrhagic fever.

1.2 Research Questions

1. What is the level of role perception of village health volunteers regarding prevention and control of dengue hemorrhagic fever?
2. What are the factors associated with the role perception of village health volunteers regarding prevention and control of dengue hemorrhagic fever?
3. What is the level of role performance of village health volunteers regarding prevention and control of dengue hemorrhagic fever?
4. Is there any relationship between village health volunteers' role perceptions and role performance?
5. What are the obstacles and problems experienced by village health volunteers regarding prevention and control of dengue hemorrhagic fever?

1.3 Research Objectives

1. To assess role perceptions of village health volunteers regarding prevention and control of dengue hemorrhagic fever.
2. To study the factors associated with role perceptions and role performances of village health volunteers regarding prevention and control of dengue hemorrhagic fever.
3. To investigate role performances of village health volunteers regarding prevention and control of dengue hemorrhagic fever.
4. To explore the relationships between role perceptions and role performances of village health volunteers regarding prevention and control of dengue hemorrhagic fever.
5. To determine problems and obstacles experienced by village health volunteers regarding prevention and control of dengue hemorrhagic fever.

1.4 Conceptual Framework

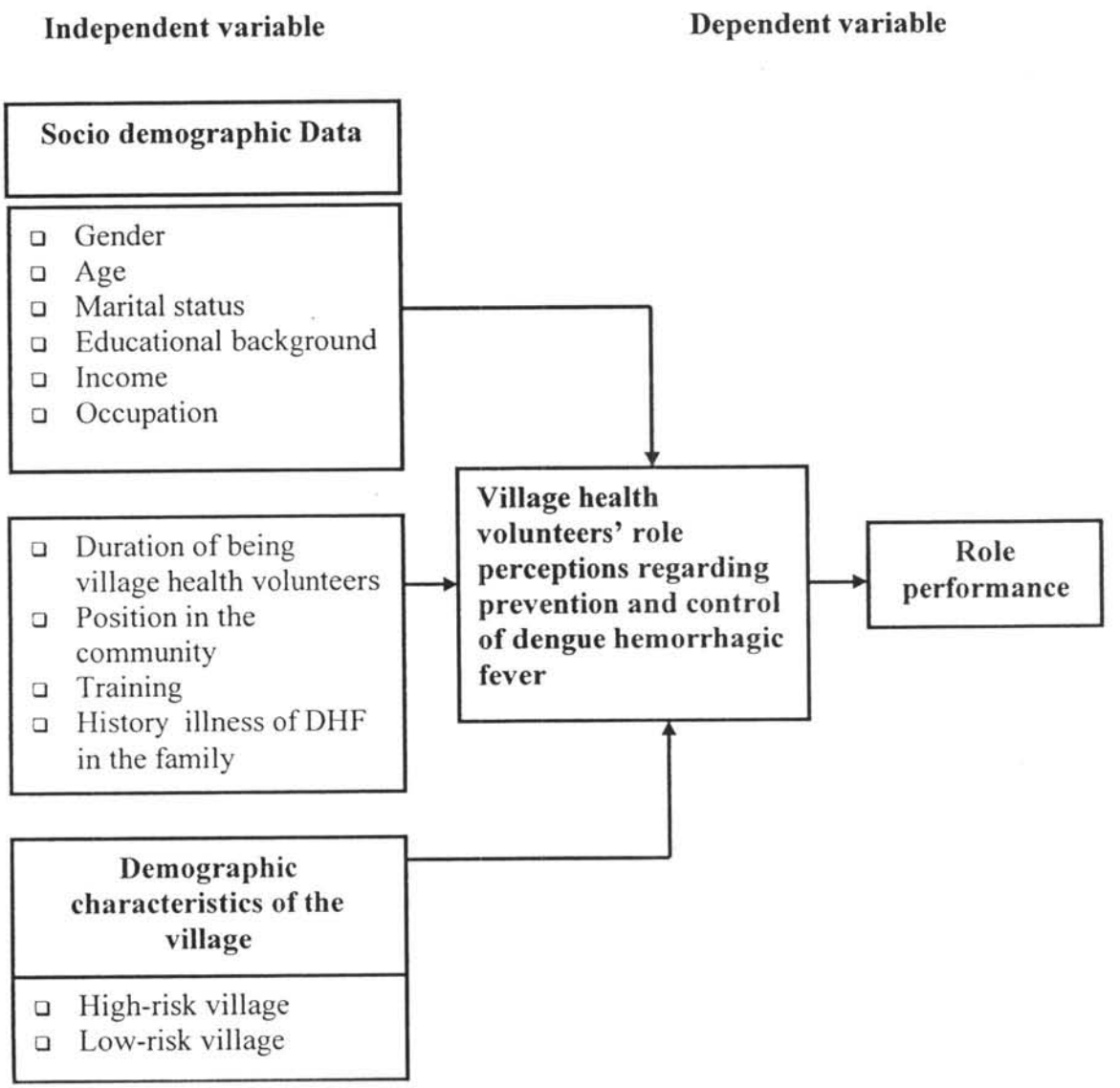

Figure 1: Conceptual Framework

1.5 Operational Definition

1. Perception refers to individuals' understanding of things with their senses. In the present study, perception refers to village health volunteers' perceptions of their role in preventing and controlling dengue hemorrhagic fever in particular.
2. Village health volunteers refer to individuals who have been selected by residents of each village to undergo training devised by the Ministry of Public Health. Their major responsibility is to be the change agents in the villages.
3. Prevention and control of dengue hemorrhagic fever refers to the activities conducted by village health volunteers to disseminate knowledge and information, devise plans, and collaborate with the community to reduce or eliminate the breeding grounds of *Adedes aegypti*, to destroy the *Adedes aegypti* larvae, and to kill the *Adedes aegypti* to prevent the onset and spread of dengue hemorrhagic fever in the village.
4. Data regarding demographic characteristics of the village refer to the categorization of the villages into high-risk areas and low-risk areas. The former has more than 50 patients with dengue hemorrhagic fever per 100,000 persons, while the latter has less than 50 patients with dengue hemorrhagic fever per 100,000 persons for three consecutive years, as specified by the Ministry of Public Health.