

CHAPTER 1



INTRODUCTION

1.1 Background Information

1.1.1 Vietnam

Vietnam is a tropical country in Southeast Asia, which covers an area of 331,114 square kilometers. It borders China in the north, Laos and Cambodia in the west and faces the Pacific Ocean on the east and south. Approximately 80 % of the land area of Vietnam are mountains, high plateaus and jungles; only 20 % is flat land. The following are some social - economic indicators of the country:

- Population:	72,509,509 (millions)
- Population in urban area:	20 %
- Population in rural area:	80 %
- Crude birth rate:	2.83 (%)
- Population growth rate:	2.16 (%)
- Crude death rate:	0.67 (%)
- Life expectancy: + Men:	63
+ Women:	67.5
- GDP: (VN dong)	170,258.00 Billions
- GDP per capita:	2,345,000.00 VN dong.
- Health expenditure:	1,848,000.00 VN dong.
- Health expenditure/ capita:	26,634 VN dong.

(Statistical Yearbook of Vietnam, 1994).

The country is divided into 53 provincial administrative units. Those 53 provinces are grouped into seven geographical regions. They are: North Mountain, Red River Delta, North Central Coast, South Central Coast, Central Highland, East of Southland, Mekong Delta. Each province is divided into districts which are further sub - divided into communes. Overall, there were 560 districts and 9,986 communes in 1993 (Statistical Yearbook of Vietnam, 1994).

Vietnam is an agrarian society. In mid 1994, it had an estimated population of 72.5 millions and 80 percent resided in rural areas. The majority of the

working people are engaged in agriculture, mostly rice cultivation.

Agriculture is the largest sector of Vietnam's economy, accounting for about one third of the gross domestic product (GDP); manufacturing industry occupies about one fifth of the GDP. Per capita income is about US\$ 200 per annum (Statistic Yearbook of Vietnam, 1993), one of the lowest in comparison with the other countries in the region.

It was only in the late 1980s that Vietnam began to change its economic management mechanism from a centrally planned economy to a market one. This has led to significant achievements in socio-economic development. The gross national product has continuously increased over the years: From 76.7 trillion VietNam dong in 1991 to 136.6 trillion VietNam dong in 1993. In 1994, GDP 196 trillion Vietnam dong.

These data show that during the four years from 1991 to 1994, Vietnam has achieved an estimated annual GDP growth rate of 7.8 percent. As a result, the living standard of the majority of the people has rapidly improved.

As regards the 1991-95 five year socio-economic plan, the increase in GDP was considered a major achievement. From an average growth rate of 5.5 and 6.5 % set for five - year period, actual growth rose to 8.2 % with the 1995 figure reaching 9.5 %.

In addition, the structure of the national economy is changing. The share of income from agriculture fell from 39.5 of GDP % in 1991 to 29.3 % in 1993 (Statistical Yearbook of Vietnam, 1993). The proportion of GDP for industries and construction rose from 22.7 % in 1990 to 30.3 % in 1995, while services increased from 38.6 % to 42.5 %. The national economy continued to be stable with a high growth rate estimated at 8.5 % per year (Vietnam News, 1995).

The socio-economic situation of the country has some influence on the health sector. Since the late 1980s many health programmes have concentrated on primary health care at grass - roots level. The strategy planning "Health for all in the year 2000" (the fifth term of five - year period planning of Vietnam) is being undertaken. Some of major objectives are going to be achieved. The

Government spent more resources on health sector than that in the previous years.

1.1.2 The North Mountain Region of Vietnam

The North Mountain region of Vietnam is the region which covers twelve provinces in the northern part of the country. Most of land area of the region is mountains, forest, high plateaus and jungles. The living condition is poorer compared with other regions. The following socio and economic indicators describe the region:

- Population:	11,658,800
- Crude birth rate:	3.06 (%)
- Population growth rate:	2.35 (%)
- Crude death rate:	0.71 (%)

In 1993, there are 113 districts and 2,680 communes in the whole region. With different minority groups of population, there is high population growth rate in comparison with the average population growth rate of the country; low income, low level of education and literacy rate. The North Mountain region is the region in which the government is trying to improve the living condition and improve socio-economic, education etc. situations in order to lessen the gap of development between the North Mountain region and other regions in the country (Statistical Yearbook of Vietnam, 1994).

Because of the peculiar characteristics in the geographic, economic, living conditions etc, it is not easy to distribute health manpower such as medical doctors in the region. Newly graduated medical doctors do not want to go to work there, even if staying in the city means they will be unemployed. That is why for many years, the region has had a shortage of health manpower.

The climate, weather and geographic characteristics of the region are favourable to malaria. This region has been a hyperendemic malaria area for a very long time. Therefore, the malaria control programme has many difficulties standing in its way of achieving its goal of eradicating malaria, e.g. lack of health manpower, funds and transportation, etc.

1.2 Statement of the Problem

Malaria continues to be a major global health problem. The World Health Organization (WHO) estimated

that 2,073 million people (over 40% of the world population), living in more than 100 countries, are exposed to the risk of malaria and that some 270 million of these are infected with malaria parasites. While the number of cases reported to WHO were 5 million annually for the past years, the best estimate is that perhaps 110 million clinical cases occur every year, of which 90 million are in tropical Africa. Global deaths are estimated at approximately 1 million a year (WHO, 1990).

According to Kondrachine and Trigg (1995), 1.5 million people are killed by malaria in the world - one death for at least every 20 seconds - each year, while 300 and 500 million people become ill, mostly severely, due to the disease. Over a million of the deaths are children aged under five, but they also include women in their first or second pregnancy, older children and young adults.

It is the complexity of malaria that has enabled it to resist so successfully the many and varied attempts to eradicate or control it. With this in mind and recognizing that the world wide eradication of malaria disease is not an attainable goal in the foreseeable future, the WHO Expert Committee on malaria promoted in 1985 an epidemiologic approach to the design of control programme should be determined by the local epidemiologic situation rather than by general control axioms (WHO, 1986).

As in many developing countries in the region and in all over the world, there are still a lot of health problems in Vietnam such as:

- Nutritional problems among school children.
- Malaria.
- Rising trend of AIDs.
- High prevalence of Leprosy.
- Road traffic accidents.

The climate and weather in Vietnam are in favour of some tropical diseases of which malaria is considered as the most important tropical disease problem in the country.

Vietnam is situated in a highly malarial endemic area. The malaria eradication programme started in 1958 in the North and was extended to the south in 1975. In 1991, the malaria eradication programme was converted to the malaria control programme, because of some technical

problems, e.g. the malaria parasites developed resistance against antimalaria drugs, the main malarial vectors avoided or build up resistance against insecticides, migration of population and lack of funds for malaria eradication programme.

In 1991, about 35 million people were exposed to the risk of malaria. Among them, about 15 million people were living in hyperendemic malaria areas. There were 225,928 people infected with malaria and 2,632 people died of malaria.

In 1994, malaria was still a serious problem in 33 provinces, 134 districts, 2,209 communes, and 9,498,441 people are in a high risk group of malaria.

Malaria ranked sixth among the top 11 leading causes of mortality in hospitals (1994: 513 deaths; 0.8 per 100,000 inhabitants) while its morbidity rate was 507.43 per 100.000 inhabitants (324,756 cases).

Malaria is also the leading cause of morbidity in five regions which includes Central coast of Northland, Central coast of Southland, East of Southland, Central Highland, Mekong River delta; it is the second leading cause of morbidity in mountainous and midlands.

However, in the Red River delta region, malaria is no longer included as a leading cause of mortality.

The following table (Table 1.1) shows the morbidity rate and the mortality rate of malaria in Vietnam 1994:

Table 1.1: Malaria Mortality and Morbidity Rates in Vietnam 1994

<i>Regions</i>	<i>No of cases</i>	<i>Rate per 100,000 population</i>	<i>No of deaths</i>	<i>Rate per 100,000 population</i>
North Mountain	241,673	2,073	88	0.67
Red River Delta	82,112	555	5	0.03
North Central Coast	134,199	1,380	60	0.62
South Central Coast	85,799	1,135	127	1.68
Central Highland	174,269	5,813	209	6.97
East of Southland	62,901	709	83	0.93
Mekong Delta	134,112	846	34	0.21

Source: Health Statistics Yearbook 1994, Hanoi, April, 1995.

The above mentioned are the reasons why the Government set up a National Malaria Control Programme and had it implemented since 1992. The objectives of the programme are: to reduce malaria mortality rate by 30% every year and to reduce the morbidity rate from malaria by 20% every year. By the year 2000, the mortality rate of malaria should have been reduced to as low as that of other common diseases.

In order to achieve the objectives of the programme, many activities are undertaken such as vector control, promotion of health education for people to protect themselves from mosquito bites, supply of drugs. One of the activities is to distribute microscopes to Health Stations at commune level in order to improve the quality of malaria care at grass-roots level.

Some of the indicators showed promising signs of the programmes as shown in Table 1.2

Table 1.2: Malaria Trend in Vietnam (1991-1994)

Year	No. of Cases	No. of Deaths	No. of Outbreaks
1991	1,091,201	4,646	144
1992	1,294,426	2,658	115
1993	1,111,960	1,061	19
1994	860,999	604	8

Source: Health Statistics Yearbook 1994, Hanoi, April, 1995.

When taking into consideration the budget of the malaria control programme between 1991 and 1994 (about 6 billion VN dong in 1991 and more than 60 billion VN dong in 1994), there are some arguments about the costs and effectiveness of the programme in the Ministry of Health.

As the management of health manpower is one of the important factors which can affect the effectiveness of malaria control programme, this study is carried out in order to provide the decision makers of the Ministry of Health with a picture of the impact of manpower distribution on the effectiveness of a health programme.

The purpose of the study is to analyze the process of the distribution of manpower in the malaria control programme in order to answer the questions: How effective is the allocation of health manpower in the malaria control programme especially in the North Mountain region of Vietnam and how to improve it.

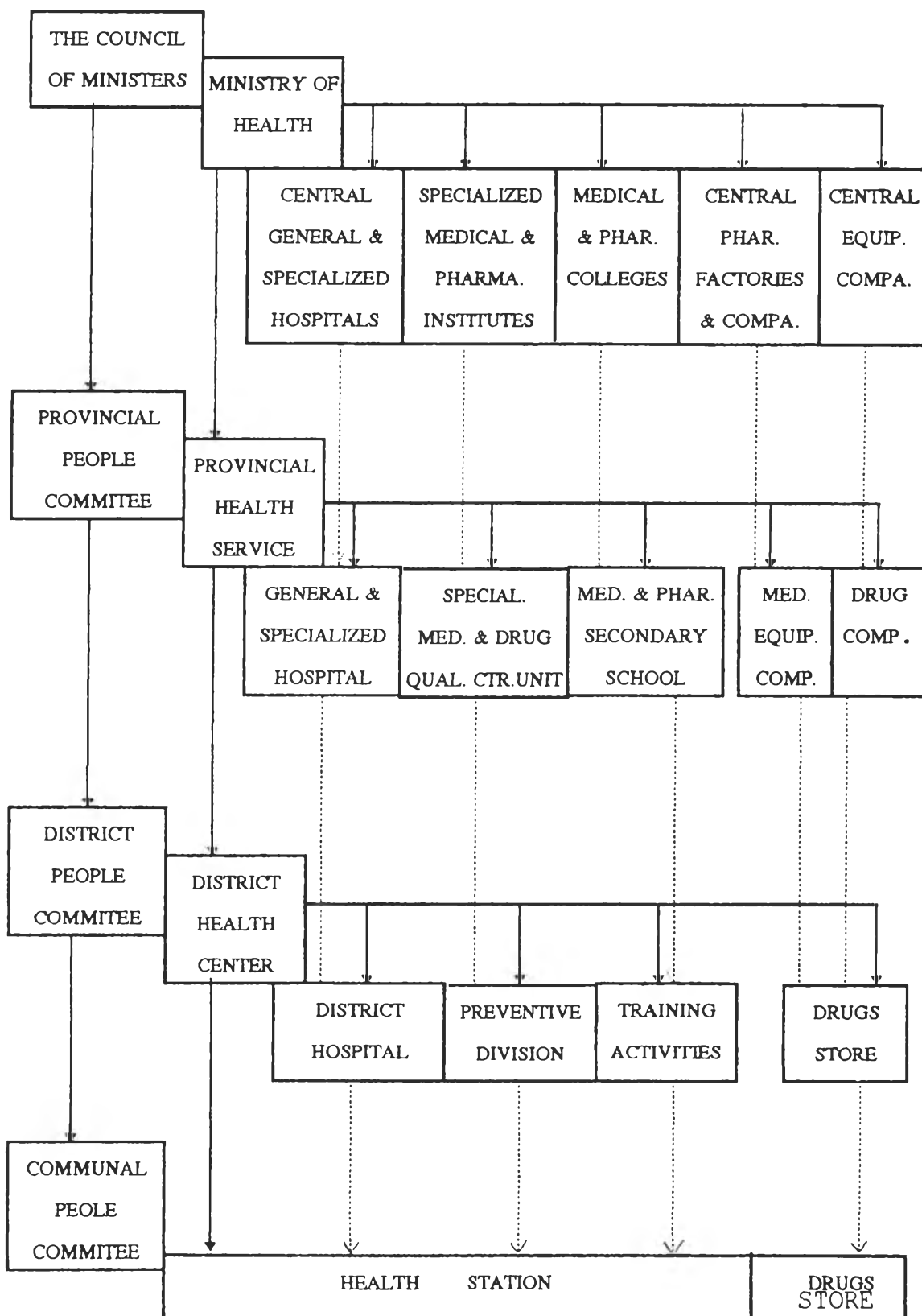
This study may lead to further work on the effectiveness of manpower allocation in the tropical diseases control programmes or other health programmes and some studies about the policy of reallocation of qualified health manpower to improve the effectiveness of health programmes.

The existing system of the distribution of qualified health manpower in the malaria control program in Vietnam is not the same in different geographical regions. The general situation is a shortage of medical

doctors in rural and mountainous areas where malaria is a serious problem. The reason is that newly graduated medical doctors do not want to go to work in those "difficult" areas.

Among seven geographic regions, the North Mountain region is the most avoided by health personnel. While waiting for government policy to reallocate qualified health manpower, to provide sufficient numbers of medical doctors required for the programme, the local authorities tried to remedy this problem by producing assistant medical doctors who can work in primary health care for the malaria control programme in place of medical doctors. This situation has been going on for ten years. An assessment, however, has not been made.

Figure 1.1 THE STRUCTURE OF HEALTH SYSTEM IN VIETNAM



1.3 Research Questions

1.3.1 Primary question

Is there any relationship between the allocation of qualified health manpower and the effectiveness of the malaria control programme in the North Mountain region of Vietnam?

1.3.2 Secondary questions

1) What is the supply situation of doctors to the total health manpower and within the malaria control programme for the next six years? And what are the different trends between them?

2) What is the existing qualified health manpower distribution situation for the malaria control programme in the North Mountain region of Vietnam?

3) What is the relationship between the allocation of health manpower and the effectiveness of the malaria control programme in the North Mountain region of Vietnam?

4) What is the difference between the cost of supplying medical doctors and assistant medical doctors (substitute for medical doctors) for the malaria control programme?

5) What are the probability of applying some incentive policy options of the distribution and reallocation health manpower in malaria control programme situated in "difficult" areas?

6) What are the policy options for distribution and reallocation (incentive policy) of health manpower to improve the effectiveness of the malaria control programme in the North Mountain of Vietnam?

1.4 Objectives

1.4.1 General Objective

To identify the relationship between the distribution of qualified health manpower and the effectiveness of the malaria control programme in the North Mountain region of Vietnam.

1.4.2 Specific Objectives

1) To estimate the supply of total health manpower and health manpower for the malaria control programme for the next six years in order to analyze the different trends between them.

2) To identify the existing distributional situation of health manpower within the malaria control programme in the North Mountain region of Vietnam.

3) To analyze the relationship between the doctors or assistant medical doctors/ population ratio and the effectiveness of the malaria control programme in the North Mountain region of Vietnam.

4) To identify the difference between the cost of supplying medical doctors and assistant medical doctors for the malaria control programme.

5) To design a survey questionnaire for assessing the probability of applying some incentive policy options for the distribution and reallocation of health manpower in malaria control programme situated in "difficult" areas.

6) To provide some policy options for the distribution and reallocation (incentive policy) of qualified health manpower to improve the effectiveness of the malaria control programme.