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The Impact of AEC on Health of Twin-city Communities in Western Region of Thailand Case Study Emerging Infectious Diseases

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Abstract

Thailand, as a joint member of the Association of Southeast Asian Nations (ASEAN), and the revolution of Myanmar administration, these caused a large number Myanmar citizen moving to the western region of Thailand. It was obviously shown that several Thai communities, in particular, Mae Sai; Chiang Rai-Tachilek, Mae Sod; Tak-Myawaddy, and Muang; Ranong-Koh Saung are vulnerable to the emerging infectious diseases and the re-emerging infectious diseases. Considering the annual statistical data, influenza became an emerging infectious disease causing the loss of social-economic system of Thailand. It was also found that the vulnerable factors to the emerging infectious diseases in twin-city communities in western region were population structure and behavior, ASEAN membership and movements, social factor (poverty), evolution of disease, and public health structure and services of Republic of the Union of Myanmar.

Keywords: *twin-city communities, emerging infectious diseases, western region of Thailand*

1. Introduction

According to the ASEAN membership, all those countries have accelerated several projects regarding the infrastructure development and expanded economic networks, trade and language, etc. to gain the economic profit. With the advantage in location, Thailand is located in the middle of ASEAN countries. Additionally, Thai government has supported and developed the provision of basic infrastructure associated with the East-West economic corridor, for instance, constructing bridges across Mekong river to Lao People's Democratic republic, constructing roads connected between the western region to north-eastern region, permitting to open the permanent border crossing points, and permitting to open the temporary border crossing

points. These actions have drawn the domestic movements, tourists, animals, and plants. According to the potential developments over Thailand and the role as a hub of ASEAN countries, these are definitely found interesting to the neighboring countries in terms of education, public health, including tourism. This situation causes the mass movement over Thailand. However, it was found that Thailand is vulnerable to the increase of epidemic disease annually, regarding the statistical records from Bureau of Epidemiology, Thailand. It was also found that the infectious disease frequently disperses over the twin-city communities in the western region of Thailand, such as the communities in Chiang Rai, Tak, and Ranong. The major causes of this situation are the changing regime of population in terms of natural change, domestic and international migration, industrial and technology evolution, including the ecological and environmental change of disease vectors. Remarkably, the nature of this infectious disease is extraordinarily complex, hardly managed and controlled. The loss of lives and health of people highly affects to several aspects in social-economic of Thailand (Darika Kingnetra, 2554). Formerly, Thailand policy in controlling and monitoring the infectious disease had been effective until the mass migration phenomenon of neighboring residents into Thailand. This occurs the emerging infectious disease and the re-emerging infectious disease, in particular the access ways in proximity areas between Thailand and neighboring countries.

For these reasons, in order to monitor, prevent and control the emerging infectious disease effectively, it is essential to study the vulnerable factors to the emerging infectious disease by focusing on the analysis of physical, social, economic, and cultural factors in the twin-city communities in western region of Thailand.

2. Research methodology

1. Select the study areas: study areas are located in the twin-city communities in western region of Thailand adjacent to Republic of the Union of Myanmar, which are;

- 1) Mae Sai district, Chiang Rai and Tachilek
- 2) Mae Sod district, Tak and Myawaddy
- 3) Muang district, Ranong and Koh Saung

Field survey was conducted to collect the physical, social, economic, and cultural data from the study areas.

2. Scope a content of the study: the collected data of the emerging infectious disease were recorded in 2013-2016. The data were collected and analyzed by focusing merely on the twin-city communities in western region of Thailand.

3. Analyze the vulnerable factors of the emerging infectious disease from the statistical records of the emerging infectious disease and physical, social, economic and cultural data.

3. Results

1. Physical, social, economic and cultural characteristics of the twin-city communities;

1.1) Mae Sai district, Chiang Rai is a border community adjacent to Myanmar in the North. These twin-city communities share the similar social and cultural characteristics. The potential in economics of Mae Sai has shown outstandingly along two Thai-Myanmar friendship bridges regarding the cross-border logistics and transportation. Mae Sai district is connected

with Jinghong, People's Republic of China by R3B route passing through Tachilek-Chiang Tung, Myanmar. Therefore, Mae Sai is delineated into the Special Economic Zone of Chiang Rai province. The major land-use types of Mae Sai are residential area, commercial area, service and entertainment, market, and agricultural area. The major occupations are trade and agriculture. Specifically, consumer goods are well traded to Tachilek twin-city communities, while the service and entertainment are served both Mae Sai and adjacent area of Myanmar including China. Mae Sai is also a part of the Economic Quadrangle, which is collaborated between Thai-Laos-Myanmar and China governments. This causes the mass movement of traders and travelers, intensive land-use activities, increasing vehicles, traffic jam in front of border crossing point, waste and water drainage problem, slum and disorder, land encroachment, and poor public health. Physical and infrastructure have been developed as the first priority response to the economic growth of Mae Sai, whereas the public health is poorly managed so that the emerging infectious disease has dispersed in this area.

1.2) Mae Sod district, Tak is the western community adjacent to Ping river. Since 1861, local residents of Mae Sod were Karens, following with the next generation of Thai people from the north evacuated into this area. Mae Sod is connected to Myanmar in the west. However, there have been some sophisticated conflicts among the minor groups of local residents along the border area influencing to economic and national security including the public health issues inevitably. Residents conduct the business in trading, warehouse, and services. An increasing number of tourism and business activities from Mae Sod Special Economic Development Zone causes the urban expansion, route construction and development, and the provision of basic essentials and infrastructure development associated with Myawaddy trade zone. Several projects were planned such as the construction of the second Thai-Myanmar friendship bridge, the expansion of Mae Sod airport, the promotion of tourism in Mae Sod and Myanmar, the investment of department stores, hotels, guesthouses, and apartments for immigrants. For the domestic migration, Thai people from Tak province and some from central parts of Thailand mostly resettle to this area, while residents from Myawaddy, Myanmar are the major group of international evacuees moving into this area. As the intensive investment over Mae Sod, the un-solved current issues have been severely increased as trouble as the poor public health situation causing the emerging infectious disease in this area.

1.3) Muang Ranong is located along the Andaman Sea in the west and Myanmar. The shape of this province is long and narrow surrounding with mountain ranges, however, the Muang Ranong is almost flat. Regarding the expansion of investment of basic infrastructure in the south of Myanmar and the airport development, this provides a channel to access the south region of Myanmar and causes dramatic expansions of flue and construction material business. This situation extremely stimulates the border trade between Muang Ranong and Koh Song. Muang Ranong is the hub of goods distribution, in particular fresh sea foods, i.e. cockle, crabs, shrimps, and mantis shrimps, and frozen sea foods from Andaman Sea. There are four border crossing points in this area, such as, border crossing point at jetty, border crossing point at Andaman club company pier, border crossing point at immigration point, and border crossing point at Ranong custom pier. For these reasons, this area has been developed the basic infrastructure associated with the international trade. This area has had an intensive change of commercial areas and promoted the marine tourism business toward Myanmar. These

situations cause the flow of Myanmar workers into Muang Ranong, with the unexpected emerging infectious disease.

2) The emerging infectious disease was studied over the twin-city communities in western region of Thailand from 2013-2016, with the highest number of influenza as the emerging infectious disease and re-emerging infectious disease;

2.1) Based on the collected data in 2013, the influenza infected ratio of male to female was 1:1.07. It was found that the number of influenza infected Thai patients was larger than Myanmar patients. General employees (11.13%), who were 25-34 years old found as the major group of influenza infected persons. Secondly, fifteen to twenty year-old students were infected 11.13% and ten to fourteen year-old students were infected 9.97% respectively.

2.2) Based on the data collected in 2014, the influenza infected ratio of male to female was 1:0.83. It was found that the number of influenza infected Thai patients was larger than Myanmar patients. General employees (11.14%), who were 25-34 years old found as the major group of influenza infected persons. Secondly, ten to fourteen year-old students were infected 10.49% and seven to nine year-old students were infected 10.48% respectively.

2.3) Based on the data collected in 2015, the influenza infected ratio of male to female was 1:0.83. It was found that the number of influenza infected Thai patients was larger than Myanmar patients. General employees (11.74%), who were 25-34 years old found as the main group of influenza infected persons. Secondly, fifteen to twenty year-old students were infected 11.00% and ten to fourteen year-old students were infected 10.44% respectively.

2.4) Based on the data collected in 2016, the influenza infected ratio of male to female was 1:1.90. It was found that the number of influenza infected Thai patients was larger than Myanmar patients. Noticeably, the highest number of infected persons was seven to nine year-old students (12.04%). The second group of infected patients (11.68%) was general employees, who were 25-34 years old, while fifteen to twenty four year-old students (9.99%) were infected in this area.

4. Discussion

Regarding the advantages in terms of the provision of basic essentials and infrastructure, public health system, and the borderless of ASEAN countries, these circumstances directly and indirectly affect to the twin-city communities along Thai-Myanmar border in several ways. The movements of people have flown freely into Thai labor market, tourism, and public health. With a high concern, influenza has appeared as the emerging infectious disease and re-emerging infectious disease in Thailand. It is claimed that migrant workers are the major groups of people causing the emerging infectious disease. It is also concluded that the vulnerable factors to the emerging infectious disease in twin-city communities in western region of Thailand are;

1. Population structure and behavior: Myanmar immigrants have moved from twin-city communities into Thailand for the better quality of lives. Therefore, the twin-city communities in the territory of Thailand have to encounter with several problems, such as the insufficiency of the provision of basic essentials, land-use changes, urbanization, and limitation of public health services. These circumstances have been leading to the increase of epidemic diseases, emerging infectious disease and re-emerging infectious disease.

2. ASEAN membership and borderless movement: The capacity of trading and traveling of ASEAN members over the neighboring countries can spread the emerging infectious disease from one place to other places rapidly. The dispersion can be boarder than ever due to the connected transportation networks. For instance, the influenza currently requires less time of spreading than the past.

3. Social problem and poverty: The lack of information and public health services in the twin-city communities in the territory of Myanmar is leading to a critical health problem. These vulnerable people may be infected carriers, who are able to spread the disease to the communities in western region of Thailand.

4. Disease evolution: Regarding the increase of low immunity and under poor medication circumstances, people in twin-city communities in the territory of Myanmar are highly vulnerable to the emerging infectious disease.

5. Public health structure and services in twin-city communities in the territory of Myanmar adjacent to the western region of Thailand: The lack of medical cares and professionals, budgets, and consideration to prevent the infection causes the emerging infectious disease and re-emerging infectious disease in western region of Thailand.

5. Conclusions

According to the regard as a membership of ASEAN and simultaneously, the revolution of Myanmar administration, these cause the development of infrastructure and economics in Thailand. With the advantages of location, the provision of basic essentials, sources of works, public health system, and the similarity of cultural characteristics of the twin-city communities in Thailand and Myanmar, these factors draw the movements of Myanmar into Thailand increasingly. However, the capacity in serving the public health services in Thailand has approached to the limitation. Regarding the emerging infectious disease in the twin-city communities, tourists may frighten from epidemic disease and cause some losses in economics inevitably. Therefore, it is essential to prepare the twin-city communities in term of the capacity in reducing the impacts of the emerging infectious disease and re-emerging infectious disease by reinforcing the twin-city communities to be life-long learning communities. Also, the accessibility to public health services in both Thai and Myanmar would be able to manage and control the emergency situations from the dispersion of the emerging infectious disease through Thailand.

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