The Development of Management Efficiency in One Health Policy to Enhance One-Stop Service: A Case Study in Tak Special Economic Zone

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The One Health Policy aims to promote effective collaboration between Committees on public health and related Organisations in Tak special economic zone under concepts and theories of integrated management. The study examines the development of the management efficiency of One Health Policy to enhance one-stop service in Tak special economic zone which has integrated services in various fields such as foreign workers, disease control, industrial, import and export products, etc. Research on the casual factor models on the management efficiency of One Health Policy to enhance one-stop service was consistent with empirical data within the standard (p-value >.01,RMSEA< .05or .08). The variables directly influencing the elements that affected the management efficiency of One Health Policy to enhance one-stop service include technology and network associates, at a significant level .01, in respective order with the casual model. The research found that there were significant benefits and coverage for an integration plan between One Health Policy and one-stop service. When widely adopted, this study on integrated policy development will enhance the flow of workforce and export-import agricultural products between the two ASEAN countries along the border.

Key words: *One health policy, theories of integrated management, one-stop service, special economic zone.*

Introduction

The development of Special Economic Zones (SEZs) is greatly important to the development of the country, so the Special Economic Zone Policy Committee (SPC) was established, with principles and methods important to the support of the establishment of the SEZ regarding four issues: 1) Investment benefits such as industrial estate zone, requesting investment permission etc. 2) One Stop Service Centre, 3) Measures supporting hiring foreign workers; and 4) Development of basic infrastructure and customs within the area, in order to support activities in the SEZ and connect the region efficiently. The Office of the National Economic and Social Development Board (NESDB) also evaluates the operations according to SEZ policy which will result in collective benefit for the country, to be used in the efficient establishment of new SEZs in the next phase (Nistarj, 1999). The pilot economic project on the border, could be on the border of Mae Sot district, Tak province and Myawaddy town in Myanmar. The special economic zone project is important in the present because the Government wishes to promote investments from neighboring countries or foreigners, including local investors, to invest in areas that the Government has prepared along the border. Foreign workers can work day-to-day and also freely import and export goods. In addition, it will become a support source for investment replacements for labour incentives and industries that rely on neighboring countries (Adisorn, 2008). There may be problems that could follow Public Health and Economics (Churairat, 2009). Therefore, the proposed One Health policy to enhance One-Stop Service in SEZ for developing public health for the benefit of people and the country (Tin & Kraayut, 1994).It is also a way to manage resources with integration efficiently and effectively in the future. The research objectives include:1) developing a causal model in management efficiency according to One Health to enhance One-Stop Service in Tak SEZ, 2) develop a model in management efficiency according to One Health to enhance One-Stop Service in Tak SEZ, 3) evaluate the model in management efficiency according to One Health to promote the One-Stop Service in Tak SEZ.

Literature Review

One Health is a new health solution which includes practices in human, animal and environmental health to lead to overall health (Panthep, 2012), especially for Special Economic Zones (SEZs). This is to help solve issues and control the spreading of disease, in order to have clean air (Bureau of Disease Control and Veterinary Services, 2012), clean water and structural development to have sufficient food and health services, as well as develop a sustainable economy and society. The study found that Emerging Infection Diseases (EIDs) in regions around the world are a global threat to health conditions. In recent decades, there has been an ongoing outbreak of EIDs around the world, including newly discovered infectious diseases or human infectious diseases found in new areas such as AIDS, SARS, Nipah viral disease, Ebola-Mar viral disease, West Nile fever, vCJD, or

diseases caused by mutated germs such as Avian Influenza (H5 N), or Influenza A (H1 N) 1 pandemic in 2 0 0 9 , E. coli, Meningococcal disease from new species, pathogen and drug resistance (Guardabassi, 2004). It includes re-EIDs which are infectious diseases that have spread in the past and were controlled, , but re-emerged, such as fever, joint pain, mosquito, plague, as well as the risk of infectious diseases used as a biological weapon, such as smallpox anthrax (Castrodale et. al.,2008). Therefore, each country needs to prepare surveillance to prevent the outbreak of EIDs, including closely co-ordination of information between various countries to prevent and stop the spread. In the current situation, health, economic and environmental factors need to enable "One Health" to be used to increase the efficiency of integrated management to have holistic potential and t make people safer in the future (Berglund et. al.,1999).

Thailand's development has an important goal, which is to create prosperity, allow people in society to have fulfilling lives and facilitate social wellbeing (Thepsak, 1993). All three parts must be balanced. Wellbeing refers to a state where happiness consists of four dimensions: physical, mental, social and spiritual, without looking at any one group of people, but rather all levels, from individual, family, community and public. To achieve this goal, society must have a direction, based on morality and economic balance. This direction is called Public Policy (Piyawan, 2004). There are currently many health-related Organisations such as the National Health Foundation, the Health Systems Research Institute, the Thai Health Promotion Foundation, the National Health System Reform Office, etc., which have tried to push public policy processes to improve quality of life. It is a public policy resulting from participation of all sectors of society as per the following definitions:

National Health Foundation by Dr. Chuchai Supawong (Chuchai, 1998) has provided definitions related to public policy, as follows. The policy is a clear direction for actions that guide and define decisions. Public policy is a decision that affects the Society that is expressed in legislation, or may be from the decisions of a private company or not for profit Organisation. In addition, there are also definitions given in the following additional dimensions.

The research examines the development of management efficiency models according to One Health to enhance One-Stop Service in the Tak Special Economic Zone to have potential in administrating issues in public health. Thailand has implemented approaches according to One Health policy, to develop efficient public health management in using existing resources to achieve the target (Namlin, 2011). There have been attempts to develop One Health system, as seen from the workshop on the co-operation network of One Health where various relevant knowledge and academic co-operation network was developed, in order to create value for society in One Health management (Department of Disease Control,2012). This is considered to be a start for the research dimension of efficiency in One Health, without

considering profits (Uthai, 1983). The development of One Health system efficiency needs to consider the following three major factors:

1. Network partners are efficient and effective factors in collaboration between the public sector, public enterprise, the private sector and people in t determining the mission, policy, strategy and tactic to use as components in making decisions, planning related personnel for genuine co-operation in operations of One Health policy, such as representatives of the Ministry of Interior, Ministry of Defense, Ministry of Public Health, Ministry of Agriculture and Co-operatives, Ministry of Education, Ministry of Information and Communication Technology, Ministry of Natural Resources and Environment, and the provincial Chamber of Commerce.

2. Technology is required in the operations of One Health policy, and needs to be up-to-date to quickly correspond with work in prevention and promotion, and information management with efficiency and reliability (Xun, 2012).

3. One Health policy services consider values towards the community. If One Health services are efficient, due to determination to work hard, with discipline and dedicated service, this will create a healthy population.

Methodology

The research uses a mixed research methodology as show in Figure 1.

Figure 1. Steps in developing the management efficiency model of One Health
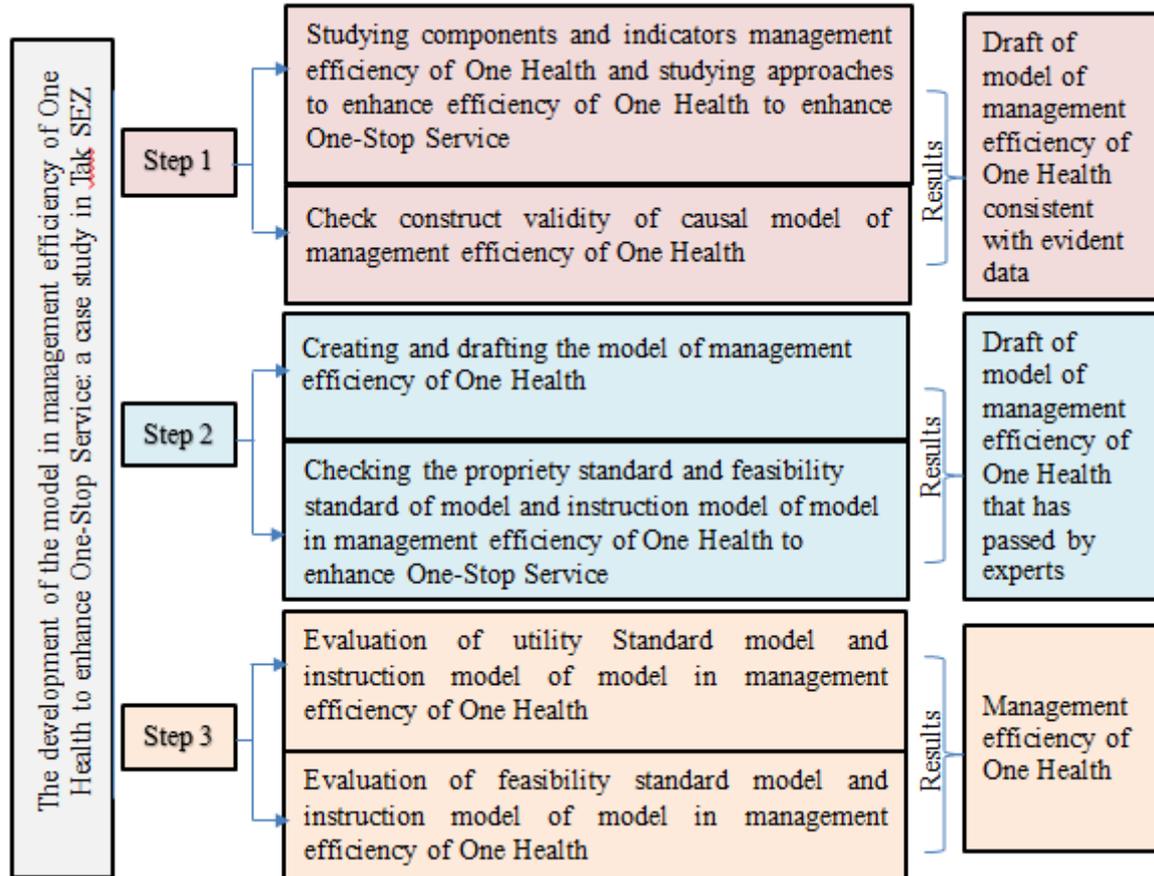
Data Collection

Step1: Documentation sources include textbooks, academic journals, the Internet, meeting reports, seminars and research summaries and research related to the management efficiency of One Health policy, in order to synthesise the components and indicators of the One Health policy's management efficiency including synthesis of factors that affect the success of management in One Health in order to use the information to draft the interview with qualified experts. Qualified experts are specialists in:1) Organisational efficiency development 2) One Health policy 3) Special Economic Zone 4) One-Stop Service.

TData from Part 1 will be synthesised from the documents and research related to the components and characteristics of management efficiency according to One Health policy. There are additional interviews with qualified experts, along with factors that affect the

success of management according to the One Health policy that was obtained from interviews with qualified people, to draft the causal model of One Health's efficiency management.. The population consists of 356 people including 1) administrators related to Tak SEZ and public health, 2) officers related to Tak SEZ and public health, 3) individuals who have stakes in Tak SEZ and public health, and 4) those who receive services in Tak SEZ in public health.

Step2: Sources include experts in; 1) Network partners 2) Technology and Information systems 3) One-Stop Service. Information obtained from synthesising documents and related research was used, including study results to draft One Health's model of management efficiency to enhance One-Stop Service. The results of the draft will separate the components into categories in order to understand the mechanism with efficiency and effectiveness. Following the draft, a group of data providers consisting of seven experts participate in the focus group by examining the propriety and accuracy standard as well as the instruction manual of the model.

Step3: Sources include:1) administrators related to Tak SEZ and public health 2) Officers related to Tak SEZ and public health 3) individuals who have stakes in Tak SEZ and public health 4) those who receive services in Tak SEZ in public health.

Results

The results of the evaluation (Roongnapa, 2005) were produced by eight specialists. The Indicators of management efficiency pass the criteria for consideration for suitability for all indicators shown in Table 1.

Table 1: Indicators of passing the criteria for consideration of suitability for all fifteen indicators as follows:

Components/Indicators
Partnership components: Society ,Economy , Education
Technology components: Data collection**,** Communication**,** Distribution
Services components: Related to One Health in working with determination**,** diligence and a service mentality
One Health components: Individual**,** Animal**,** Environment
One-Stop Service: Location**,** Personnel**,** Service efficiency evaluation

The mean and standard deviation of One Health management efficiency to enhance One-Stop Service is (n=356). Table 2 indicates that the level of practice in terms of overall

management efficiency is at the highest level with the average level of practice from 4.80 to 4.88. Standard deviation is between 0.29 and 0.35. When considering each indicator, that most have the highest level of practice. Indicators with the highest level of performance were individual (x⁻ = 4.88, SD. = 0.29), followed by network partners, and personnel (x⁻ = 4.86, SD. = 0.34, 0.31) respectively. The indicators with the lowest level of performance consist of technology in data collection (x⁻ = 4.80, SD. = 0.31) in Table 2.

Table 2: Mean and standard deviation of One Health management efficiency to enhance One-Stop Service (n=356)

Components	Indicators	x̄	SD.	Practice level
Network partners	Society	4.86	0.34	Highest
	Economy	4.83	0.35	Highest
	Education	4.82	0.33	Highest
Technology	Data collection	4.80	0.31	Highest
	Communication	4.85	0.31	Highest
	Distribution	4.84	0.32	Highest
Service	Related to One Health in working with determination	4.85	0.30	Highest
	Related to One Health in working with diligence	4.81	0.32	Highest
	Related to One Health in working with a service mentality	4.83	0.30	Highest
One Health	Individual	4.88	0.29	Highest
	Animal	4.81	0.32	Highest
	Environment	4.81	0.31	Highest
One-Stop Service	Location	4.82	0.32	Highest
	Personnel	4.86	0.31	Highest
	Service efficiency evaluation	4.84	0.30	Highest

The relationship model of the causal model in One Health management efficiency in accordance with empirical data is found to be consistent, based on several important factor indexes which include chi-square 68.777, when the Degree of Freedom is 56, and with a statistical significance level (p-value) of 0.1174. This meets the criteria that it must be greater than .05. The comparative fit index (CFI) is equal to 0.996 for the Tucker-Lewis Index (TLI), which is 0.998. It follows the criteria which should be greater than 0.90 and near 1.00 for the Standardised Root Mean Squared Residual (standardized RMR), which is 0.017. This meets the criteria that should be less than .05. The Root Mean Square Error of Approximation (RMSEA) is equal to 0.025, which meets the criteria that it should be lower than .05 as highlighted in Figure 2.

Figure 2. Relationship model of the causal model of One Health model in management efficiency to enhance One-Stop Service in accordance with empirical data:
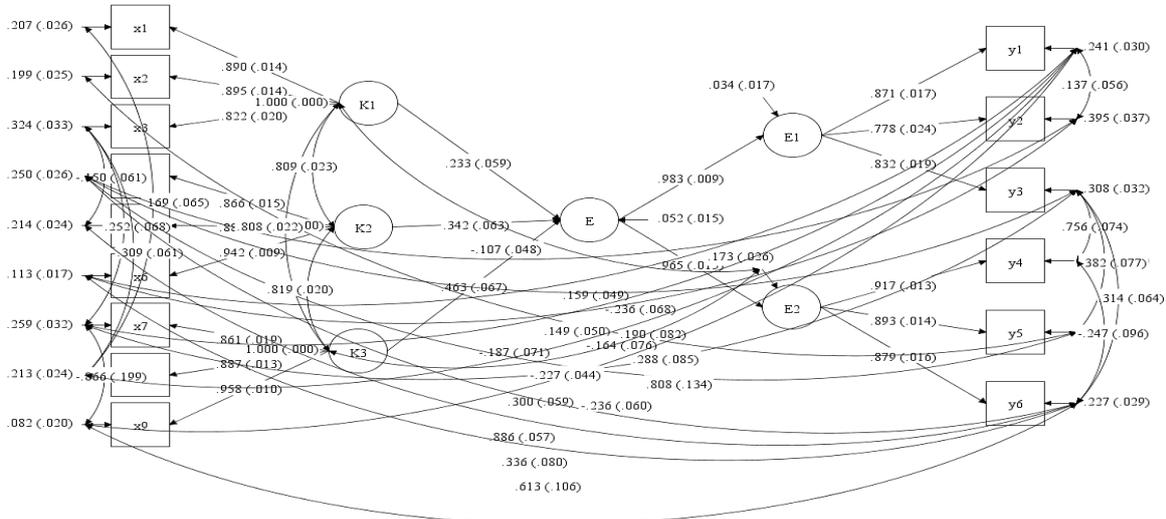
| E	means	Management efficiency of One Health (One health)
E1	means	One Health policy (health)
E2	means	One-Stop Service (One stop)
K1	means	Network partners (network)
K2	means	Technology (techno)
K3	means	Service (service)
Y1	means	One Health in personnel (health1)
Y2	means	One Health in animals (health2)
Y3	means	One Health in the environment (health3)
Y4	means	One-Stop Service in location (onestop1)
Y5	means	One-Stop Service in personnel (onestop2)
Y6	means	One-Stop Service in service efficiency evaluation (onestop3)
X1	means	Partners in society network (network1)
X2	means	Partners in economic network (network2)
X3	means	Partners in education network (network3)
X4	means	Technology in data collection (techno1)
X5	means	Technology in communication (techno2)
X6	means	Technology in distribution (techno3)
X7	means	Service related to One Health in work determination (service1)
X8	means	Service related to One Health in work diligence (service2)
X9	means	Service related to One Health in having a service mentality (service3)

Step 2 Creating and drafting One Health model of management efficiency to enhance One-Stop Service as shown in Figure 3.

Figure 3. Drafting-Management efficiency of One Health to enhance One-Stop Service
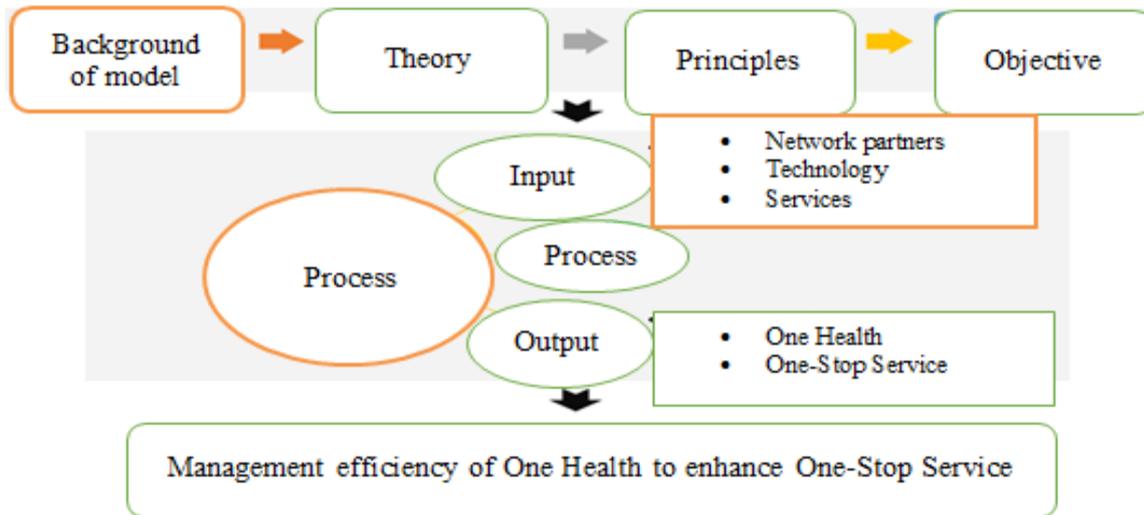
The results of checking the model and the instruction manual in One Health management efficiency to enhance One-Stop Service which has been amended according to focus groups participated in by seven qualified experts as shown in Figure 4.

Figure 4. One Health Management efficiency to enhance One-Stop Service
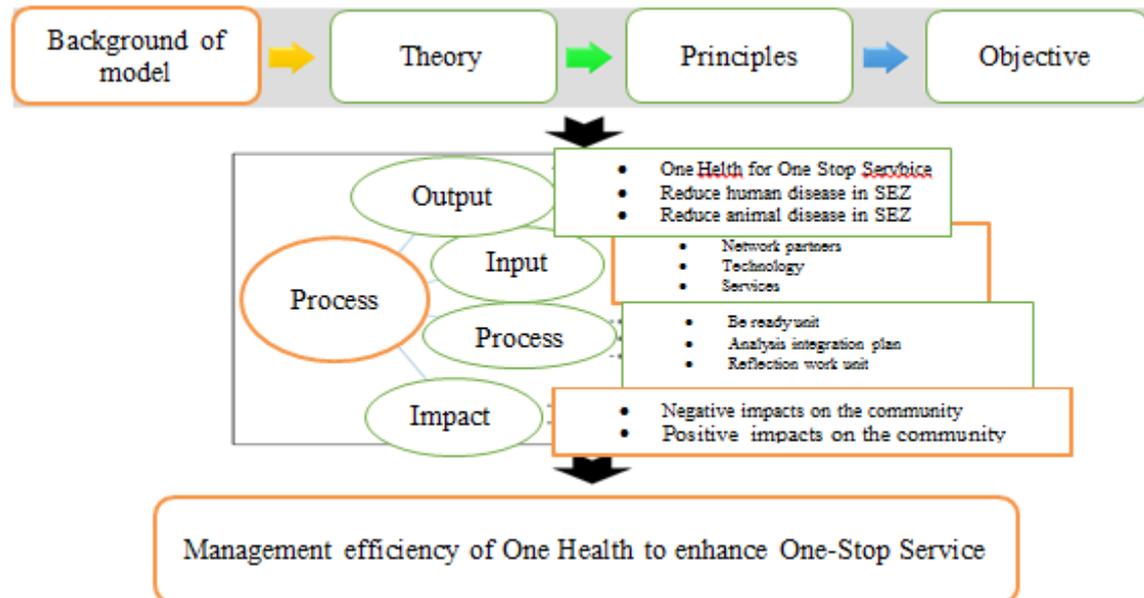
Step 3: Data collection used the Utility Standard in a 5 -level rating scale and additional suggestions in an open form for eight experts based on the evaluation criteria proposed by the

Joint Committee on Standards for Education Evaluation. The results of checking the utility standard of the relationship model of causal model of One Health management efficiency to enhance One-Stop Service of the opinions of experts based on the utility of relationship model of causal model of management efficiency. Most scores obtained from the Relationship Model are in the high and very high criteria, which shows that this model has a utility and feasibility standard and instruction manual of the model in One Health management efficiency.

Discussion and Conclusion

The public health mechanisms in One Health policy need to be efficient, to enable provincial groups to be able to manage problems and develop provincial areas and respond to the needs of people appropriately by integrating and co-ordinating work between Ministries, Bureaus, Departments, and other Government Agencies as well as various sectors to drive the SEZ development plan (Somyot, 1982). It is important for Mae Sot district, Tak province and the work plan for Tak Public Health to be more effective and push the national strategy into practice by affecting the support and promotion of provincial groups, able to develop provincial development plans, annual action plans and efficient budget management to also meet the needs of the people in the local area.

The research focused on the co-operation of public policy in accordance with One Health policy, which emphasises the integration of co-operation in order to achieve efficient and effective management, resulting in in-depth co-operation in providing services and management for the greatest benefit of people. This is consistent with the New Public Management (NPM) concept of One-Stop Service (Sutthipak, 2011). Prof. Dr.Wanchai Wattanasap (Wanchai, 2001) provided the definition of the participatory public policy process, which has been defined, understood and accepted. It is based on participatory democratic development through peaceful means. Prof. Dr.Prawet Wasi (Prawet, 1998) maintains that an effective public policy leads to fairness and justice, as well as public health benefits. There should be a participatory public policy process (PPP), which is an intellectual, social and moral process, in response to the royal command to enable the development of fairness of social benefit and can be integrated with the administration of provincial groups (Saman,1994). The Committee, provincial policy and integrated provincial groups established by the Provincial and Integrated Provincial Groups Administration royal decree 2008 has determined the policy and co-operation system between various sectors to enable provincial groups to be able to better manage problems (Brown, & Moberg, 1980), develop areas and meet the needs of the population.

The results of the development of the causal model of the One Health efficiency management model to enhance One-Stop Service: A Tak SEZ case study found that experts considered

the appropriateness of indicators of management efficiency in accordance with One Health policy to enhance One-Stop Service in Tak SEZ. All fifteen indicators are appropriate.

Based on the opinion of eight assessors, the evaluation results for the benefit and feasibility of the relationship of the causal model of management efficiency of One Health to enhance One-Stop Service (Kaynak, 2002), the benefits and the probable relationship of causal model, causal model of the One Health management efficiency to enhance One-Stop Service needs to be at a high to highest level. The evaluation model of One Health management efficiency to enhance One-Stop Service in Tak SEZ found that a case study of Tak SEZ has benefits and feasibility, consistent with Stufflebeam's theory (Stufflebeam, 1 9 7 1) which proposed the CIPP Model of Evaluation. A context, input, process and product evaluation was conducted. There are four standards for evaluation: utility standards, where the evaluation results are consistent with the results required by the user and can be used in developing operations;   feasibility standards, where feasibility in practice was evaluated showing that it is economical, worthwhile and proprietary; propriety standards and accuracy standards. In addition, the evaluation of the efficiency model of the research is also consistent with Eisner (Eisner, 1 9 7 6), who proposed the development and validation concept by using qualified experts in areas that require more sensitivity than quantitative research can provide. Equal perception is a basic quality of experts and consistent (Wisut, 2 0 0 4) w i t h   the development of decentralized   educational management model for basic educational institutions. The results conclude that Mae Sot, Tak province, is a high potential area for promoting various dimensions of development but there are public health problems, such as lack of hygiene for the residence of foreign workers which are severe disease carriers, the attitude towards foreign workers having many children etc. Therefore, to support the growth of the city and the economy in formulating policies for the development to full capacity and manage various problems integrated and systematically suitable for the development of governance model in the Mae Sot SEZ, Tak province, the impact of foreign workers on security, politics, public health, society and economy. The destination country of foreign workers like Thailand must try to find a way to manage and solve this problem. The implementation of One Health is therefore necessary because it is an integrated policy for effective co-ordination and networking (Mekaru, 2014).

The principles of the model in developing the causal model in One Health management efficiency need to be effective. The theoretical concept is based on system theory (Ladda, 2001), a theory developed using various concepts from different disciplines to integrate and apply in order to define as a system theory. In creating this management model, System theory consists of 1) input (2) process (3) and output. The purpose of the model is for One Health management efficiency to enhance One-Stop Service.

This study reveals how the efficiency of the integration of One Health policy to enhance One-Stop Service has increased by studying in Tak SEZ. From studying and analysing the structure, it can be concluded that One Health has a significant relationship to the promotion and development of integrated public health. Through creating collaborative network partners, information technology and data is co-ordinated through information technology systems, so that providing services to people became more efficient, whether proactively or passively, resulting in better public health services in the Tak SEZ in the future.

1. Tak SEZ Office should organise training regarding the model of management strategy of One Health to enhance One-Stop Service in the Tak SEZ to related agencies in order to show the importance and necessity of working together by bringing the proposed structure to manage co-operation in a concrete form of the Tak Special Economic Strategy Plan by relevant personnel to create a co-operation plan for each part by presenting through the network and the SPC in public health.

2. The Tak SEZ Office should provide a One-Stop Service model in the Tak SEZ to be flexible and suitable for the context of each related department, which is currently developing its potential. There is also already an established One-Stop Service in Tak SEZ. At present, there has been an initiative to connect information technology networks in various departments in the SEZ to facilitate services. Therefore, it is possible in the future to build a network of public health according to the structure presented by this research through information technology network. This should effect the potential for the development of the Tak SEZ in public health prevention, surveillance, disease control, primary health care system, disease control and environmental threats which can be made more efficient through the promotion of co-operation through the Tak One-Stop Service Centre.

3. When the Tak SEZ Office follows One Health, the SPC should set standards and methods for evaluating One-Stop Services in the Tak SEZ by using the models proposed to determine the indicators and provide an appropriate score by measuring the preparation of an integrated plan in various public health areas. Currently, there is a joint plan in One Health policy which has been partially prepared by Tak SEZ which can increase efficiency and expand public health co-operation to become broad and effective in the future. It can also be used as information in an integrated partnership, to determine how productive and efficient the service department is in providing services in order to amend, improve and develop public health services in the Tak SEZ.

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