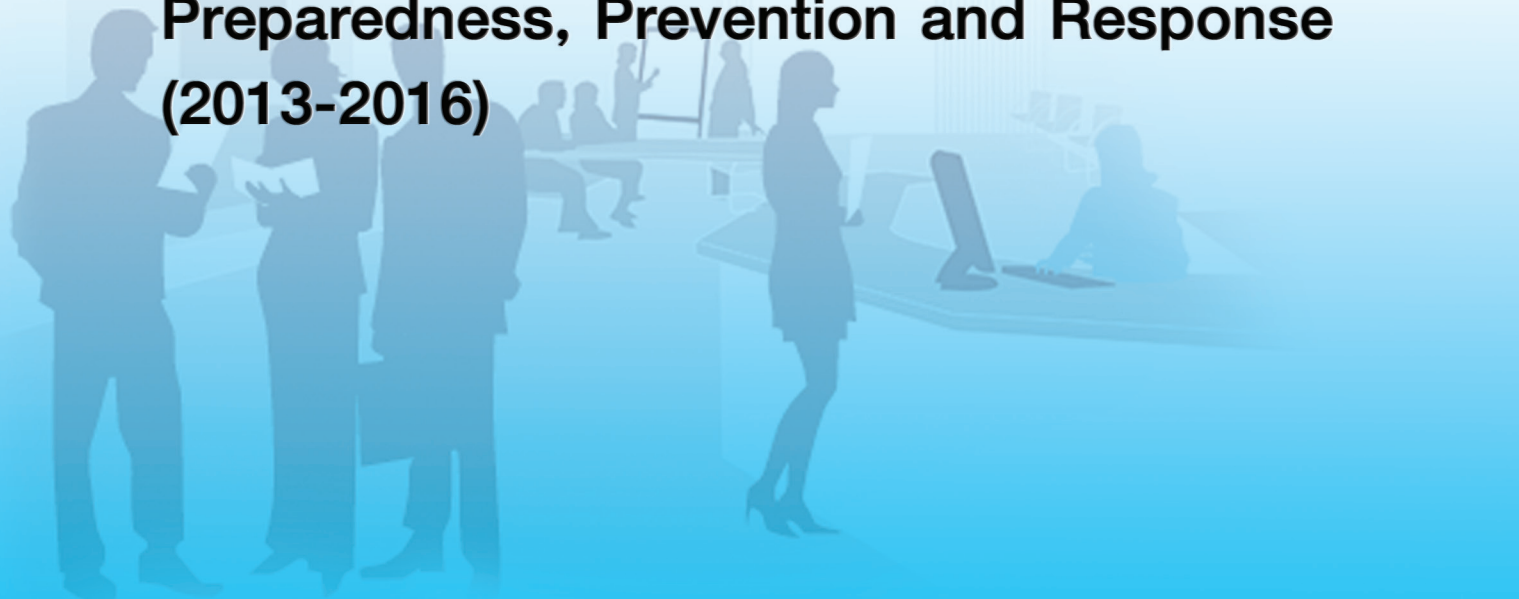




Thailand's National Strategic Plan for Emerging Infectious Disease Preparedness, Prevention and Response (2013-2016)





Thailand's National Strategic Plan for Emerging Infectious Disease

Preparedness, Prevention and Response 2013-2016

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Bureau of Emerging Infectious Disease, Department of Disease Control,
Ministry of Public Health.

Tiwanon Rd., Talad Khwan Nonthaburi Thailand 11000.

Tel: +66 -(0)2-5903159 Fax: +66(0)2-590-3238

<http://beid.ddc.moph.go.th>

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Thailand's National Strategic Plan
for Emerging Infectious Disease
Preparedness, Prevention and Response 2013-2016

Preface

Thailand's National Strategic Plan for Emerging Infectious Disease Preparedness, Prevention and Response 2013-2016, abbreviated as "NSP-EID", was formulated per a resolution of the National Committee for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic. The Committee was appointed by the Office of the Prime Minister and chaired by Major General Sanan Kajornprasart, Deputy Prime Minister. The committee resolved that the Second National Strategic Plan for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic 2008-2010, which would expire in 2010, was to be evaluated and a new strategic plan be built on it. Additionally, a resolution by the second National Health Assembly in 2009 proposed to the Cabinet also suggested that a national strategic plan to address emerging infectious diseases with integrated management be formulated. Therefore, the NSP-EID was developed as a master plan for the prevention and control of emerging infectious diseases in Thailand. The national strategic plan will serve as a framework for all concerned units in formulating their respective operational plans to ensure multisector cooperation and materializing the objectives of this national plan.

The NSP-EID stresses the participation of all sectors including the government, private sector, and the community. Global and national situation and risks of emerging infectious diseases, and experiences from implementation of the previous plan (the Second National Strategic Plan for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic 2008-2010) were taken into account in the development of this plan. The NSP-EID was prepared to harmonize with other national strategies and the commitments made under concerned international cooperation frameworks such as the Eleventh National Economic and Social Development Plan (11th NESDP) 2012-2016; the International Health Regulations (IHR) 2005; the Asia Pacific Strategy for Emerging Diseases (APSED) 2010; and the implementation frameworks of the Association of Southeast Asian Nations (ASEAN). The NSP-EID was approved by the Cabinet on 28 August 2012. Concerned organizations and units in all sectors may develop corresponding plans, guidelines and standards according to their missions and in consideration of the dynamic situation of health problems and work conditions.

August 2012

Committee for formulation of the National Strategic Plan on Emerging Infectious Disease
2012 – 2016

Abbreviations

A.D.	=	Anno Domini
AEC	=	ASEAN Economic Community
AIDS	=	Acquired Immune Deficiency Syndromes
APSC	=	ASEAN Political-Security Community
APSED	=	Asia Pacific Strategy for Emerging Diseases
ASCC	=	ASEAN Socio-Cultural Community
ASEAN	=	Association of South East Asian Nations
BCP	=	Business Countinuity Plan
B.E.	=	Buddhist era
EC-EID	=	Executive Committee for the National EID Preparedness, Prevention and Response
EGAT	=	Electricity Generation Authority of Thailand
EIDs	=	Emerging Infectious Diseases
FTI	=	the Federation of Thai Industries
GDP	=	Gross Domestic Product
HFMD	=	Hand, Foot and Mouth Disease
HIV	=	Human Immunodeficiency Virus
IFT	=	Influenza Foundation (Thailand)
KM	=	Knowledge Management
MEA	=	Metropolitan Electricity Authority
MoAC	=	Ministry of Agriculture and Cooperatives
Mol	=	Ministry of Labour
MoPH	=	Ministry of Public Health
MWA	=	Metropolitan Waterworks Authority
NESDB	=	National Economic and Social Development Board
NESDP	=	National Economic and Social Development Plan
NSP-EID	=	National Strategic Plan for Emerging Infectious Disease Preparedness, Prevention and Response 2013-2016

OIE	=	World Organization for Animal Health
PEA	=	Provincial Electricity Authority
PHEIC	=	Public Health Emergency of International Concern
PPR	=	Peste des petits ruminants
PWA	=	Provincial Waterworks Authority
R&D	=	Research and Development
SARS	=	Severe Acute Respiratory syndrome
SMS	=	Short Message Service
SRRTs	=	Surveillance and Rapid Response Teams
TBA	=	the Thai Bankers' Association
TCC	=	the Thai Chamber of Commerce and Board of Trade of Thailand
TRCS	=	Thai Red Cross Society
UN FAO	=	Food and Agriculture Organization of the United Nations
USA	=	United States of America
WHO	=	World Health Organization

Acknowledgement

The English version of Thailand's National Strategic Plan for Emerging Infectious Disease Preparedness, Prevention and Response 2013-2016 is translated from the Thai version prepared under the commission of the National Committee for Emerging Infectious Disease Preparedness, Prevention and Response. The translated draft was reviewed by Dr. Supamit Chunsuttiwat, Senior Expert in Preventive Medicine, Department of Disease Control, Ministry of Public Health, Dr. John R. MacArthur, Centers for Disease Control and Prevention, USA and Dr. Somchai Peerapakorn. The kind contribution of these reviewers was a major drive for the completion of this English version, it is therefore highly appreciated.

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Situation of important emerging infectious diseases in Thailand and abroad

1.1 Disease situation and state of the problems

The World Health Organization (WHO) defines Emerging Infectious Diseases (EIDs) as new infectious diseases (i.e., caused by new infectious pathogens), infectious diseases found in new geographical areas (i.e., not previously recognized in those areas), re-emerging infectious diseases, diseases caused by antimicrobial resistant organisms, and any act of bio-terrorism.

During the past decades, outbreaks of EIDs have occurred around the world. Examples of EIDs include HIV/AIDS, SARS, Nipah virus, Hendra virus, Ebola-marburg virus, West Nile fever, variant-Creutzfeldt-Jakob disease, diseases caused by novel viruses such as H5N1 avian influenza virus, Influenza A (H1N1), E. coli O104, and infections from anti-microbial resistant organisms. EIDs also include common communicable diseases of the past that re-emerge such as Chikungunya fever, plague, as well as threats from deliberate use of organisms with bioterrorism potential such as anthrax and smallpox.

Occurrence of EIDs may be associated with multiple factors, for example, changing dynamics in population and human behaviors, microbial changes, irrational use of drugs, advances in technology and industrial practices, and ecological changes including global warming. Most EIDs are complex and difficult to manage unless there are effective disease control systems and tools in place. EIDs can claim high losses in health and lives of the people and may cause vast socio-economic impacts.

Thailand has had periodic experiences with EIDs. For example, a case of SARS was imported from a neighboring country in March 2003, outbreaks of avian influenza among poultry were reported from 2004 to 2008 leading to human infections and deaths and currently remaining a risk of spread in a number of countries in Asia. The H1N1 Influenza pandemic in 2009 claimed many patients and deaths. Outbreaks of Chikungunya fever re-emerged during 2008-2009. legionellosis cases are sporadically reported among foreign tourists, melioidosis is increasingly reported in the country, and cases of Hand, Foot and Mouth Disease are detected frequently with the last epidemic occurring in 2012.

1.2 Trends of EID risks for Thailand

EIDs are increasing with most being associated with animals or wildlife. Factors for disease occurrence in humans include population mobility ; density of reservoirs or vectors; lack of public knowledge, understanding and awareness on prevention and control of diseases; and unhealthy or unsanitary practices. Certain groups of people are at higher risk due to low immunity, these groups include children under 5 year of age, the elderly, patients with chronic diseases, pregnant women and obese people. Some groups may have higher risks of exposure to diseases such as farmers, cattle keepers, workers in slaughterhouses, butchers, animal husbandmen and veterinarians. Some other groups have higher chances to contract and transmit diseases such as international travelers or parents or caretakers of sick children.

Assessment of risks and disease trends will generate useful data to guide precise and specific disease prevention and control plans.

In Thailand EIDs may be categorized into 3 groups according to risks of occurrence as follow:

1. Known EIDs which have already occurred in Thailand.

These diseases include H5N1 avian influenza; H1N1 pandemic influenza; hand, foot and mouth disease (HFMD); Legionnaires' disease; Chikungunya fever; multiple drug resistant tuberculosis; brucellosis; rinderpest; and meningococcal meningitis from *Neisseria meningitides* serogroup W135.

2. Known EIDs abroad that could be imported.

This group of EIDs include: yellow fever; leishmaniasis; Nipah virus infection; West Nile fever; Ebola-marburg virus; variant-Creutzfeldt-Jakob disease associated with Bovine Spongiform Encephalopathy; peste des petits ruminants (PPR); other enzootic diseases such as monkeypox; and infectious pathogens which can be used in bioterrorism such as anthrax, smallpox, and plague.

3. Novel EIDs that are yet to emerge.

Novel strains of influenza virus and other new micro-organisms, drug resistant strains of pathogens may cause EIDs.

A risk assessment exercise was undertaken by public health authorities in 2010 based upon existing epidemiological, community, environmental, and livestock information and data to identify EIDs of concern in Thailand. The exercise pointed to priority concern of seasonal influenza, HFMD, avian influenza, Chikungunya fever, meningococcal meningitis, *Streptococcus suis* infection and botulism. The participants also expressed worry about Legionnaires' disease, melioidosis, Nipah virus, West Nile fever, and other novel diseases.

Thailand needs to build capacities, systems and tools for EID prevention and control. It also needs to ensure adequate preparedness to effectively respond to EIDs, thus reducing socio-economic impacts from EID epidemics.

2

Summary on achievements of the Second National Strategic Plan for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic 2008-2010

During 2008-2010, the implementation of the Second National Strategic Plan for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic 2008-2010 provided satisfactory outcomes, reflected in the proper control of the spread of EID among livestock, indigenous animals, wildlife and environment thereby reducing opportunities of disease transmission in animals and human. Concerned units in various sectors demonstrated considerable levels of preparedness and capacities to address emergencies connected to EIDs. Well-defined systems for disease surveillance, prevention and control are in place with capabilities to diagnose, treat EID cases, and respond to the outbreaks. There has been increasing participation from all sectors for prevention, control and mitigating EID problems in the country. Thailand has become more self-reliant through its improved capabilities on knowledge management together with research and development on EIDs.

The following is the summary of achievements with respect to specified strategies in the Second National Strategic Plan:

2.1 Safe animal husbandry

There have been improvements and development of models for biosafety in industrial and backyard poultry farms; management of free-range ducks, fighting cocks, and other birds; and practice of compartmentalization to international standards. These measures secured Thailand's poultry export potential. There has also been strengthening in control of poultry movement in-country and cross-border; surveillance of avian influenza among wild birds; back-tracing practices in commercial poultry industry; compensation and funding support to farmers whose poultry is culled during disease control activities.

2.2 Disease surveillance, prevention and control in animals and humans

- When there is a disease outbreak in the poultry population, authorities were able to initiate appropriate control measures within 12 hours of notification of poultry disease or die-off.
- Active disease surveillance, prevention and control activities in public health sector were put in place to address human infection by avian influenza. These included screening of influenza-like illnesses and severe pneumonia, event based surveillance, and the surveillance of influenza in public health care unit.
- Central and regional diagnostic laboratories were established that comply with biosafety requirements including mobile laboratories were assembled, ready to be mobilized to the field in case of need and emergency. There was the development in knowledge and techniques for laboratory testing of novel influenza viruses.
- Teams of personnel, provided with essential supplies and equipment, are now ready for disease surveillance, diagnosis, care, and control of diseases in animals and humans. These personnel are trained and regularly received refresher trainings. Over 1,000 surveillance and rapid response teams (SRRTs) were put in place covering central, regional, provincial, and district levels. Plans are underway to extend these teams to the sub-district level. Annually, 40 physicians are trained to lead SRRTs
- Healthcare facilities at the regional and provincial levels are empowered with trained staff and equipped with isolation rooms to effectively care for influenza cases. Construction of isolation rooms at community hospitals is still on-going despite some limitations.
- Medical technologists and scientists are trained on molecular and field epidemiology to investigate influenza viruses at the central and regional levels. Forty outbreak investigation teams are trained each year.

2.3 Preparedness for influenza pandemic

Considerable achievements were made in managing public health emergencies during the 2009 pandemic. Preparedness planning and simulation exercises were conducted in all provinces with certain extension to district and sub-district levels. At the central level, challenges were identified related to the complexity in coordinating multi-sector work systems. Guidelines and standard operating procedures were developed for command systems and field operations. Operation centers for public health emergencies were put in place at all levels. Capacities to provide proper care to patients during emergencies were improved in public and private healthcare facilities at all levels. Additionally, a model for establishing field hospitals in time of need was developed.

- The recent influenza pandemic, which started in May 2009, was effectively responded to thus mitigating the consequences. Thailand experienced an actual number of cases and deaths lower than earlier estimated. Numerous lessons learnt during the prevention and control of pandemic influenza are now being utilized to improve the country's preparedness to all cause public health emergencies.
- Improvements in self-reliance has seen the development and manufacture of vaccines, antiviral drugs, essential medical supplies and devices for influenza prevention. Information management models were developed for logistics and stockpiling of vaccine, antiviral and personal protective equipment and the models were implemented at healthcare facilities nationwide. An industrial scale influenza vaccine manufacture with Good Manufacturing Practice standards was approved by the government. The manufacture plant is now under construction and is expected to begin making seasonal influenza vaccine available on the market by 2014. A national vaccine committee was established to oversee the coordination of national vaccine policy and the implementation of the national vaccine strategic plan.

2.4 Multi-sectoral and international cooperation

- Over previous years, networks of staff and volunteers for disease surveillance, prevention and control were established at all levels from the villages to sub-districts, districts and regions. These networks involve both public health and veterinary sectors collaborating on pandemic and avian influenza.
- In commercial sector, especially on production, the networks of disease surveillance were implemented. The status of production, marketing, consumption, processing and exporting of poultry products, local and foreign products were analyzed to consider suitable strategies, which have the cooperating system between organizations in order to integrate the goals.
- A regional research network coordinated by Health Systems Research Institute (HSRI) called Asia Partnership for Emerging Infectious Disease Research (APEIR) was established. This focuses on knowledge management and information exchanges on avian influenza from policy to practices. Currently there are five participating countries: Thailand, China, , Vietnam, Indonesia and Cambodia.
- Channels for public information are now available and accessible for people countrywide. Information sharing on good practices in poultry farming helps minimize risks of avian influenza and other communicable diseases. The information is shared among over 3,548 farmer groups that include over 173,640 members.

- Guidelines for disease surveillance, control and case management were developed through multi-sectoral and international collaboration. Collaboration among neighboring countries in the region was established to strengthen capacities on avian influenza diagnosis, prevention and control.
- Regional and international communication channels and networking were made available through cooperation with international organizations such as WHO, OIE and FAO, in support of surveillance and preparedness for influenza pandemics and other EIDs.

The implementation of the Second National Strategic Plan for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic 2008- 2010 remarkably reduced the risk of avian influenza in Thailand. The last poultry outbreak occurred in November 2008 and that the last human case was diagnosed in July 2006. When H1N1 influenza pandemic emerged in 2009, an effective multi-sectoral coordinated response was mounted which contributed significantly to the mitigation of this pandemic. However, there remain gaps in national preparedness. Further multi-sectoral cooperation is needed, especially in strengthening human resource capacities to ensure effective prevention and mitigation of losses from EIDs.

3

Importance of the problems and future trends

3.1 Spread of EIDs is a global threat

Currently, the threat from development and spread of EIDs is a growing concern for all countries. Every year, there are reports of the occurrence of certain EIDs, mostly of zoonotic origins, that may be associated with marked negative health and socioeconomic impacts. In the past three decades, numerous EIDs occurred including HIV/AIDS, SARS, avian influenza and 2009 pandemic Influenza. Therefore, all countries need to prepare their surveillance and prevention systems for EIDs and ensure effective intercountry exchange of surveillance data.

3.2 Risks of EIDs are increasing

1. Biological factors

These factors include, for instances, changes or mutation of microorganisms, especially viruses; resistance to antibiotics in many bacteria which is associated with irrational use of the drugs; and the increase in population with low immunity, e.g. people infected with HIV, that are prone to opportunistic infections including tuberculosis. The elderly population which is gradually growing also constitutes a high risk group due to their reduced immunity against infectious diseases.

2. Factors related to demographic structure and human behavior

The growth of population is often associated with population movement into urban areas. This movement may lead to crowded housing and thus overwhelm the limited public utilities resulting in a lack of clean water, problems with waste management and other sanitation problems. The shift from rural to urban life styles leads to increased health risks, for instance: consumption of mass-produced food carries risk of food poisoning; keeping children in child care centers exposes them to risks of contracting diseases such as hand, foot and mouth diseases; extensive use facilities reduces physical activities in daily life and brings about poor health. Changes in behavior such unsafe sex or intravenous injection of addictive substances increases the risks of contracting blood-borne diseases such as HIV.

3. Factors related to international travel and trade

Increased international travel, population movement across the borders, international transportation of animal products all can spread EID and may result in geographically extensive outbreaks. The H1N1 influenza pandemic in 2009 took much shorter time to spread globally than pandemics in the past due to faster and more convenient transportation.

4. Socio - economic factors

Poor people in rural and urban areas, including migrant workers, are at higher risk of contracting diseases. This is partly due to their marginalized access to health information, leaving them with insufficient knowledge on how to prevent infectious diseases through behavior change. The poor also may have challenges accessing clean water and good sanitation. Moreover, there are also risks of bioterrorism like the postal mailing of anthrax powdering the USA in 2002. Other pathogens such as smallpox virus may as well be used by terrorists and caused panic to public which is social interruption.

5. Factors related to agricultural and animal husbandry systems

Industrial developments may threaten ecological systems. Forest encroachment causes natural imbalances and may lead to spread of microorganisms. Raising poultry for exportation without adequate farm biosecurity is a key risk factor for avian influenza outbreaks. These accounts of human behavior can cause EID outbreaks which threaten health of humans and animals.

6. Factors related to public health and animal health infrastructure

Insufficient public health resources, combined with inadequate priority given to prevention and control of communicable diseases, expose the country to the risk of outbreaks. Strong public health infrastructure and animal health services provide the country with the capacity to rapidly identify and contain outbreaks. The development and support of this is an area of cost-effective investment for a country.

7. Factors related to global warming

In the 21st century, the global temperature rose 1-4 degrees Celsius from the previous century. The warmer temperature favors reproduction of insect vectors with expansion of their habitats. Additionally, microorganisms grow faster in warmer climates. Global warming has direct impact on communicable diseases in humans and animals, especially on zoonotic and vector-borne diseases. Its impact on weather systems may create an indirect impact on EID transmission through natural disasters that are often followed by disease outbreaks. Global warming causes environmental changes, raising adaptation pressures in animal reservoirs and disease vectors. Such adaptation may enhance the ability of a pathogen to survive, spread easier, infect new host species, and/or become more virulent, causing an EID. Vector-borne diseases such as dengue and malaria tend to expand in global warming.

8. Potential risks related to the establishment of ASEAN Economic Community in 2015

Increased movement of human populations and goods are expected after the initiation of the ASEAN Economic Community comes into effect in 2015. The population movement will involve Thai workers going to neighboring countries as well as influx of foreign workers in Thailand. The undocumented workforce in Thailand is likely to increase. With the movement of goods across the borders, there may be an increase in imported food products that are of substandard quality and therefore may pose risks to human health. These factors will directly or indirectly affect the spread of diseases and complicate disease control management.

3.3 EIDs can cause severe socio-economic impacts

The National Economic and Social Development Board (NESDB) analyzed the impact of past avian influenza outbreaks and came up with the following summary:

1. Negative impact on private sector consumer expenditures caused by drops in poultry consumption, lay-offs in poultry farms and related industries, decreased income from poultry industry, and faltered consumers' confidence
2. Negative impact on exportation of poultry products due to avian influenza outbreaks abroad
3. Negative impact on income from foreign tourists due to their concerns on avian influenza outbreak situation

In an overview, Thailand's Gross Domestic Product (GDP) decreased 25,240 million Baht (0.39% reduction) while the government's expenditures on avian influenza disease prevention and control increased by more than 500 million Baht. As for the impact of EIDs on the global economy, the outbreaks of Severe Acute Respiratory Syndrome (SARS), avian influenza, and pandemic influenza 2009 caused a 0.6%, 0.3-0.7%, and 2.6-4.4% reduction in GDP respectively (Source: Asian Development Bank and World Bank).

The social impacts from outbreaks of avian influenza were profound. Many small and medium-sized poultry farms went out of business due to the loss of their flocks and causing some poultry farmers to change their careers. The people became panicked and many lost confidence in consuming domestic poultry products. Additionally, the negative impact on tourism was evident. During the pandemic Influenza outbreaks in 2009, panicked patients stormed into hospitals causing an increase in unnecessary hospital visits. There was a temporary increase in number of absences of the labor force due to illnesses. Many people stopped going to work for fear of disease exposure or because they needed to care for sick family members. Schools and businesses were temporarily closed; public utilities and transportation services became less convenient, and in some localities, there were temporary shortages of food items and consumer goods. The public confidence in the government's actions wavered due to the concern of the possible impact the disease might have on national security and essential services. Based on these experiences, EIDs have the potential of causing severe impact on the psycho-socio, economic, and security of the country.

4

Concepts and principles in the formulation of the National Strategic Plan for Emerging Infectious Disease Preparedness, Prevention and Response 2013-2016 (NSP-EID)

The NSP-EID was developed in line with many national and international frameworks so that it is up-to-date and relevant to the current situation, contexts and dynamics of the global society. The frameworks used to guide its development include:

4.1 The Eleventh National Economic and Social Development Plan (11th NESDP)

The 11th NESDP seeks to reduce the impact caused by EIDs through the development of a sustainable learning society, aiming for better health care and social justice, ensuring equitable access to public utilities and services, through regional and international cooperation, and proper management of natural resources and environment.

4.2 International Health Regulations 2005 (IHR 2005)

The IHR 2005 lays the framework for preparedness and response to public health emergencies of international concern (PHEIC) including EIDs that may jeopardize international travel, transportation, and trade. International cooperation on disease surveillance and control including measures at international points of entry is also highlighted.

4.3 Asia Pacific Strategy for Emerging Diseases (APSED)

APSED was developed in observation of the IHR 2005 framework. The strategy addresses preparedness and capacity building of countries in the Asia-Pacific region regarding the response to EIDs and public health emergencies. Experiences gained in the region during the response to 2009 influenza pandemic formed a key input for the updated strategy.

4.4 ASEAN cooperation frameworks and preparedness towards establishment of ASEAN Community

The ASEAN Community shall be founded over three pillars, namely 1) ASEAN Socio-Cultural Community (ASCC), 2) ASEAN Economic Community (AEC), and 3) ASEAN Political-Security Community (APSC). Under the ASCC, there exist strategies and work plans on capacity building in member countries on the prevention and control of communicable disease including EIDs. The establishment of the ASEAN community may increase cross-border movements of human and animal populations, goods and technology. These changes may create environments that facilitate the spread of EID pathogens. The prospect of facilitated movement of EIDs calls for effective regional preparedness to address possible health ramifications of a closer Southeast Asian community.

4.5 One Health concept

The One Health concept calls for harmonization of knowledge and work systems that address human health, animal health and the environment including wildlife, in well-integrated and balanced manners. The development and implementation of this concept is supported by major international organizations such as UN Food and Agriculture Organization, World Organization for Animal Health (OIE), and World Health Organization. The implementation of One Health concept is based upon interdisciplinary and inter-sectoral collaborations that will lead to unity of work for public interests and good health for all.

4.6 Management of global warming.

Current climate changes, especially the continuous rise of world's temperature, are affecting the environment in several ways, such as accelerating vector life cycles and enhancing pathogen growth. This may eventually promote the emergence of new diseases and the spread of known diseases in new areas and populations. Countries are recognizing the need to prepare for the potential health problems resulting from changes in the environment.

4.7 OIE International Animal Health Code 2000

Established by the OIE, the Code concerns animal health and safety of animal products. It is a common framework of reference for OIE member states to implement measures for preventing inter-country spread of diseases through animals or animal products, and for preventing the use of health arguments to create unfair trade barriers.

4.8 Policy lines of International Association for Ecology & Health.

These propositions support research and studies on policy development and implementation to promote human health and ecology, aiming to achieve sustainable health of human and animals, wildlife and environment.

4.9 Standards of work set by the Food and Agriculture Organization of the United Nations (UN FAO).

The UN FAO seeks to develop food and nutrition standards; collect and analyze essential information on nutrition, food, agriculture, forestry, and fisheries; and share them with member states to support formulation of national policies.

4.10 Development guidelines of the Office of Agricultural Economics, Ministry of Agriculture and Cooperatives, Thailand.

The Office is tasked to facilitate continuous and sustainable development and growth in the agricultural sector, aiming to achieve food security and better quality of life for farmers and agriculturalists.

Thailand's National Strategic Plan for Emerging Infectious Disease

5

Vision:

Thailand is capable of effective prevention and control of emerging infectious diseases (EIDs) with internationally-accepted standards of practices, based on well coordinated preparedness in management systems and personnel capacity , and with competent knowledge management.



6

Vision:

Thailand is capable of effective prevention and control of emerging infectious diseases (EIDs) with Thailand can reduce illnesses; deaths, and the social-economic and environmental impact arising from outbreaks of emerging infectious diseases.

7

Targets:

- 7.1 Thailand has cooperation among sectors responsible for human health, animal health, wildlife and environment, and has potential to perform integrated efforts on surveillance, prevention, treatment and control of EIDs.
 - 7.2 Thailand has good practices of livestock husbandry system and reduce in-country economic impact from exportation of livestock or animal products.
 - 7.3 Thailand has an integrated knowledge management on EIDs and promotes research and development.
 - 7.4 Thailand has management systems in place with preparedness to provide effective response to emergencies arising from EIDs.
 - 7.5 People have correct knowledge and understanding on disease prevention, and have confidence in their country's ability to solve EIDs problems.
- tion of animal products all can spread EID sand may result in geographically extensive outbreaks. The H1N1 influenza pandemic in 2009 took much shorter time to spread globally than pandemics in the past due to faster and more convenient transportation.

Summary of the National Strategic Plan for Emerging Infectious Disease Preparedness, Prevention and Response 2013-2016 (NSP-EID)

The formulation of NSP-EID involved the review of EID situations over the past 20 years, analyses of circumstances within and outside the country, experiences from the implementation of the Second National Strategic Plan for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic, This sets the framework for strategies, and guides the determination of the tactics and intervention measures to achieve the objectives and targets of each strategy in recognition of dynamic situations.

This national strategic plan consists of 5 strategies, 25 tactics, 140 measures as follow:

- 8.1 Strategy on development of disease for surveillance, prevention, treatment and control under the “One Health” concept. This strategy consists of 5 tactics that cover 41 measures.
- 8.2 Strategy on management of systems to enhance disease-free animal husbandry, animal health, and health of wild animals. This strategy consists of 8 tactics that cover 36 measures.
- 8.3 Strategy on knowledge management systems and promotion of research and development. This strategy consists of 3 tactics that cover 19 measures.
- 8.4 Strategy on Development of integrated management systems with preparedness for emergency response. This strategy consists of 4 tactics that cover 26 measures.
- 8.5 Strategy on risk communication and public relations on EIDs. This strategy consists of 5 tactics that cover 18 measures.

These five strategies are systematically inter-related as shown in Figure 1. Effective disease surveillance, prevention and control in humans, animals and wild animals, and proper environmental management will help ensure safety for the people of Thailand. Meanwhile ensuring the preparedness of EID outbreak response will increase national capacity for self-reliance and minimize the socio-economic impacts often associated with outbreaks. In addition, integrated and efficient management systems will facilitate and enhance the cooperation of all sectors of society in building capacities and a body of knowledge to prevent, control and mitigate EID-related problems. Nowadays, a communicable disease that emerges in a country can rapidly spread worldwide. Therefore, disease prevention and control must be carried out under strong cooperation of all countries.

Figure 1 Linkages of vision, goal, objectives, and strategies for EID management





Strategies for national emerging infectious disease preparedness, prevention and response 2013-2016

Strategy 1: Development of systems for disease surveillance, prevention, treatment and control under “One Health” concept

Objectives

1. To draw cooperation among concerned units of public and private sectors, that are responsible for human health, animal health, wildlife and environment for integrated EID surveillance, prevention, treatment and control based upon One Health concept.
2. To enhance the capacity of concerned units in public and private sectors for effective EID surveillance, prevention, treatment and control.

Key Performance Indicators

1. The presence of coordination mechanisms for integrated EID surveillance, prevention, treatment and control among sectors responsible for human health, animal health and wildlife.
2. Surveillance systems can detect EIDs and the control of in-country spread can be achieved within the early stage of the outbreaks.
3. Laboratory networks can identify EID etiological pathogens within determined timeframes, and the laboratories are of sufficient biosafety standards.
4. Medical and public health personnel countrywide are capable to efficiently diagnose and treat EIDs, and are able to implement prevention and control of healthcare associated infections according to the Ministry of Public Health standards

Tactics

1. Strengthening of integrated EID prevention.
2. Integration of EID surveillance systems among sectors responsible for human health, animal health, wildlife and the environment.
3. Capacity building of laboratory networks.
4. Development of EID diagnosis, treatment, and control.
5. Strengthening of integrated outbreak investigation and control.

Tactic 1: Strengthening of integrated EID prevention

Measures

- 1.1 Assessment and development of policies to reduce risks of zoonotic diseases through multilateral cooperation.
- 1.2 Review and amendment of laws in support of EID outbreak prevention.
- 1.3 Strengthening of surveillance, prevention and control of diseases in humans, animals and wildlife at points of entry via land, waterways, and air routes, and ensuring public health emergency preparedness as per IHR 2005.
- 1.4 Improving the functions at international points of entry, including border checkpoints.
- 1.5 Building manpower capacity on EID surveillance and prevention at international points of entry including border check points.
- 1.6 Cultivating the sense of multidisciplinary and multilateral cooperation based upon One Health concept, including integrating the concept into health science training and education.

Tactic 2: Integration of EID surveillance systems among sectors responsible for human health, animal health, wildlife and the environment.

Measures

- 2.1 Establishment of a national mechanism for integrated EID surveillance among human health, animal health, wildlife and the environment sectors, based on existing linkages in field epidemiology and molecular epidemiology, with intersectoral and international sharing of data and information.
- 2.2 Strengthening the monitoring of international EID situations.
- 2.3 Dissemination of essential knowledge on EIDs to concerned personnel.
- 2.4 Regular reviews of EID situation and outbreak alerts.
- 2.5 Enhancing EID surveillance by the use of diagnostic and syndromic reporting.
- 2.6 Establishment of surveillance systems for EIDs with the risk of spread among animals in high risk areas.
- 2.7 Establishment of proactive surveillance on EIDs with the risk of spread among humans, including surveillance on important diseases syndromes such as encephalitis, meningitis, and severe pneumonia.
- 2.8 Ensuring inter-sectoral cooperation on notification of disease outbreaks in animals and humans.
- 2.9 Promotion of roles of local authorities, the people and volunteers in notifying diseases and syndromes including the occurrence of abnormal illnesses and deaths of animals as well as abnormal absenteeisms in classrooms or workplaces.
- 2.10 Development of surveillance on anti-microbial drug resistance in human and animal.
- 2.11 Establishment of surveillance data standards and application of information technology in disease surveillance.

Tactic 3: Capacity building of laboratory networks.

Measures

- 3.1 Building the capacities of national reference laboratories to the international standards of quality assurance and biosafety.
- 3.2 Establishing the laboratories with biosafety standards for testing of EID pathogens.
- 3.3 Strengthening public health laboratory networks for diagnostic support to disease surveillance and control.
- 3.4 Ensuring adequate laboratory staff for operation in normal and pandemic situations.
- 3.5 Training and capacity building of laboratory staff for handling and testing of EID pathogens as well as the handling of epidemiological data.
- 3.6 Establishment of national guidelines and standard operating procedures for laboratory testing of EIDs.
- 3.7 Development of systems and protocols for collection, transfer, and testing of EID specimens including conducting regular exercises on the procedures.
- 3.8 Ensuring quality control and assurance per international standards of diagnostic reagents and test kits that are locally-produced or imported.
- 3.9 Development of systems for accurate and timely reporting of laboratory results.
- 3.10 Establishment of information centers on pathogens that collect and share essential data and information such as anti-microbial drug sensitivity and genetic profiles, in a rapid and timely manner.
- 3.11 Establishment of specialized reference laboratories for different infectious diseases.

Tactic 4: Development of EID diagnosis, treatment, and control.

Measures

- 4.1 Strengthening infrastructure at various levels of health service for diagnosis and care of EID cases.
- 4.2 Ensuring sufficient systems and facilities for care and treatment of patients of EID epidemics, and conducting regular exercises on the systems.
- 4.3 Strengthening the capacity of medical and public health personnel in public and private sectors on diagnosis and treatment as well as prevention and control of infectious diseases.
- 4.4 Enhancing networking systems on diagnosis, care and treatment of infectious diseases, as well as prevention and control of healthcare associated infections in public and private sectors and in the communities; including expert consultation system in support of the networking.
- 4.5 Strengthening of patient referral systems and stockpiling of essential medical supplies.
- 4.6 Development and dissemination of guidelines on disease diagnosis, treatment, prevention and control and conducting regular exercises.

Tactic 5: Strengthening of integrated outbreak investigation and control.

Measures

- 5.1. Development of mechanisms for cooperation among public health, livestock, wildlife, environment, and other concerned sectors in disease surveillance, investigation and control.
- 5.2. Building the capacity of personnel involved in disease surveillance, investigation and control in animal and public health, in public and private sectors, at local, regional, national, and international levels.
- 5.3. Providing support to infectious disease surveillance, investigation and control in the community, healthcare facility, and laboratory settings.
- 5.4. Improvement of facilities and systems for isolation of infectious disease patients and quarantine of contacts.
- 5.5. Strengthening international cooperation and information exchange on the EID situation, preparedness, prevention and control.
- 5.6. Promotion of multi-sector cooperation on prevention and control of environment-related diseases, especially focusing on the improvement of sanitation in urban and rural areas.
- 5.7. Establishing systems for an integrated response to EID emergencies with close cooperation among public health, livestock, wildlife, and environment sectors.

Main responsible units:

1. Ministry of Public Health
2. Ministry of Agriculture and Cooperatives
3. Ministry of Natural Resources and Environment

Supporting units:

1. Ministry of Interior
2. Ministry of Defense
3. Ministry of Science and Technology
4. Ministry of Education, with the participation of universities and education institutions
5. Office of the Prime Minister, through Public Relations Department
6. Ministry of Labor
7. Ministry of Foreign Affairs
8. Private sectors, community leaders, action groups and volunteers

Strategy 2: Management of systems to enhance disease-free animal husbandry, animal health and health of wild animals

Objectives

1. To manage EID-free animal husbandry systems in livestock, domestic animals, and wildlife.
2. To reduce the economic impact on in-house livestock trade and exportation of animals and animal products.
3. To prevent and reduce negative impact on food security and livelihood of agriculturists

Key Performance Indicators

1. Initiatives on EID-free management in animal husbandry, animal health and animal production as well as in wildlife care (in compliance with approved criteria).
2. In each EID outbreak, the consumption of food consisting of in-house livestock will not decrease by more than 50% per year.
3. In each EID outbreak of each species, the export quantity and price of livestock and its products will not decrease by more than 20% per year.
4. No EID outbreak which relates to importation of animals and animal carcasses.
5. Initiative of the restoration plans on both food and non-food animal husbandry.

Tactics

1. Improve and develop both small-scale and industrial-scale animal husbandry.
2. Prevent the importation of EIDs.
3. Strengthen the high-risk groups in animal industry by knowledge sharing and personnel enhancement.
4. Promote good slaughtering standards.
5. Post-EID-outbreak restoration on animal husbandry, breeds, and marketing of domestic animals and exotic birds.
6. Establish trace-back systems in animal and animal product industries.
7. Conduct studies on husbandry system modifications and risk factors of EIDs.
8. Conduct studies on security, biological diversity, and heredity of wildlife.

Tactic 1: Improve and develop both small-scale and industrial-scale animal husbandry.

Measures and Procedures

- 1.1 Organize husbandry and disease prevention systems in small-scale farms e.g., establishment of disease-free flocks, villages, and cooperatives.
- 1.2 Develop and monitor husbandry and disease prevention systems for industrial farms according to biosecurity.
- 1.3 Provide EID-free regulation of livestock and wildlife establishment e.g., zoo, live market, and cock-fighting pit.
- 1.4 Monitor the supply chain systems and propagate best systems.
- 1.5 Conduct a study on the impact of environmental changes to animal husbandry systems.

Tactic 2 : Prevent Importation of EIDs.

Measures and Procedures

- 2.1 Issue regulations and conditions on live animals, animal products, and wildlife importation and organize the origin verification. Harmonize the regulations with the international standards and also amend the concerned laws.
- 2.2 Establish livestock movement control checkpoints.
- 2.3 Develop E-movement licensing and real-time monitoring of animal movement via internet
- 2.4 Establish the risk assessment system on livestock and wildlife importation.
- 2.5 Develop disease prevention supporting system e.g. vaccine bank and vaccine cold chain.

Tactic 3 : Strengthen the high-risk group in animal industry by knowledge sharing and personnel development.

Measures and Procedures

- 3.1 Provide training courses and promote experience sharing among the livestock officers.
- 3.2 Provide capacity building of livestock-related officers, veterinarians and livestock inspectors to be skillful in relevant livestock laws.
- 3.3 Provide livestock husbandry practice courses for livestock farmers focusing on disease prevention, productive yields and good quality livelihood.
- 3.4 Provide short-course vocational training for livestock workers at labor development centers, collaborating establishments, and mobile training units.
- 3.5 Establish a labor hub network.
- 3.6 Disseminate and communicate to farmers and livestock entrepreneurs, focusing on development of animal husbandry and slaughterhouses.
- 3.7 Conduct public relation activities for the compliancy on livestock movement according to livestock laws and regulations.
- 3.8 Protect worker welfare and social security by campaigning and visiting working sites

Tactic 4: Promote good slaughtering standards.

Measures and Procedures

- 4.1 Increase the slaughterhouse and processing plants verification capacity for exportation.
- 4.2 Develop sanitary standard qualified meat markets.
- 4.3 Enforce laws on slaughterhouses.
- 4.4 Provide capacity building on both government and private sector officers who are related to slaughterhouses and processing plants.
- 4.5 Develop monitoring and data recording systems of slaughterhouse and processing plants supporting by E-traceability system.

Tactic 5: Post-EID-outbreak restoration of animal husbandry, breeds, and marketing of domestic animals and exotic

Measures and Procedures

- 5.1 Standardize disease surveillance systems for EID prevention.
- 5.2 Disseminate EID surveillance, prevention and control knowledge to the people and concerned target groups.
- 5.3 Provide animal health emergency preparedness systems.
- 5.4 Conduct a research and develop the epizootic diseases and EIDs tolerance breeds.

Tactic 6: Establish trace-back systems in animal and animal product industries.

Measures and Procedures

- 6.1 Provide the registration system for groups of livestock farmers and entrepreneurs including slaughterhouse and processing plant.
- 6.2 Provide the verification, certification and licensing system for animal products and transportation of livestock products.
- 6.3 Organize the essential information systems to support livestock management e.g. export & import quantity data, certificates and licenses.

Tactic 7: Conduct studies on husbandry system modification, and risk factors of EID.

Measures and Procedures

- 7.1 Conduct a research on modification of husbandry systems, focusing on technology and model development.
- 7.2 Research on EID risk factors and risk management in various livestock establishments e.g. cock-fighting pit, live animal markets and other animal pools in transportation.
- 7.3 Analyze the production, marketing system and also production chain which would be affected from husbandry practice modification e.g. free-range duck, small-scale piggery, and small holder dairy cows practice modification, etc., and approach to amend concerned laws.
- 7.4 Conduct a study on disease-free stocks/areas establishment e.g. compartmentalization, EID-free farms, etc.

Tactic 8: Conduct studies on security, biological diversity, and heredity of wildlife.

Measures and Procedures

- 8.1 Integrate with the necessary research on biological diversity according to the 9th target of the Strategic Plan for Biodiversity 2011-2020 which concerns invasive alien species and their spreading, controlling and eradication pathways, and establish measurement to prevent their introduction and invasion.
- 8.2 Manage wildlife health and study on wildlife heredity diversity.

Main Responsible Units:

1. Ministry of Agriculture and Cooperatives
2. Ministry of Natural Resources and Environment
3. Ministry of Public Health

Supporting Units:

1. Ministry of Science and Technology
2. Thailand Research Fund
3. National Research Council of Thailand
4. Ministry of Education (including educational institutes)
5. Ministry of Defence
6. Ministry of Interior
7. Office of the Prime Minister (through Public Relations Department)
8. Local Administration Organizations
9. Ministry of Labour
10. Ministry of Commerce
11. Private sector and communities

Strategy 3: Development of knowledge management systems and promotion of research and development

Objectives

1. To establish integrated EID knowledge management (KM) in the country with systematic and sustainable knowledge utilization.
2. To promote appropriate research and development (R&D) on EIDs.

Indicators and targets

1. There is a complete system on EID research and KM, consisting of a national KM center, policy, research mapping, technical cooperation mechanism, central database, knowledge dissemination and promotion of knowledge utilization.
2. R&D on EIDs receives support in areas of budget, human resource development, knowledge dissemination to target groups and the communities for further utilization.

Tactics

1. Systematization of knowledge management.
2. Development of integrated bodies of knowledge and promotion of knowledge-based policy and practice.
3. Development of systems to support R&D on engineering and design.

Tactic 1: Systemization of knowledge management.

Measures and procedures

- 1.1 Establishment of centers and development of EID research and KM networks, including centers for laboratory specimen collection.
- 1.2 Issuance of policies on research and KM to support EID prevention, control and risk reduction of EID spread.
- 1.3 Construction of a research map to build bodies of EID knowledge, technology and necessary products in relation to human, animal, wildlife, and the environment.
- 1.4 Establishment of a technical cooperation mechanism for knowledge sharing among institutions, organizations, offices and experts in the country and abroad.
- 1.5 Dissemination and sharing of state of the art regarding EID prevention and control among involved personnel of all sectors at all levels.
- 1.6 Development of a central database for EID knowledge collection and dissemination with data links to national, provincial, and community levels.

Tactic 2: Development of integrated bodies of knowledge and promotion of knowledge-based policy and practice.

Measures and procedures

- 2.1. Development of state of the art biology, ecology, and updated population databases of wildlife, which may be linked to EID spread for policy making of concerned authorities.
- 2.2. Development of body of knowledge on outbreaks and mutation of pathogens in animals, humans, and animal inter-species transmission.
- 2.3. Development of necessary technology and products for EID diagnosis, surveillance, prevention and control.
- 2.4. Promotion of R&D on drugs and vaccines for EIDs with further development of industrial scale production.
- 2.5. Establishment of networks of excellent centers on various EIDs.
- 2.6. Development of system-wise knowledge on environmental, economical, social and cultural aspects in relation with EIDs.

Tactic 3: Development of systems to support R&D on engineering and design.

Measures and procedures

- 3.1. Organization of system on Intellectual Property in connection with R&D.
- 3.2. Development of technology to support modern research, e.g., microorganism gene sequencing, microbial synthesis and computer technology.
- 3.3. Development of communication technology and expansion of communication channel for knowledge dissemination to personnel and the people, e.g. websites, short message service (SMS) on mobile phones.
- 3.4. Provision of support for capacity building of personnel in various units on research and KM.
- 3.5. Establishment of model training centers on communicable disease prevention and control in communities.
- 3.6. Development of systems for diagnostic tool validation, proficiency tests and preparation of reference materials such as serum and other laboratory specimens.
- 3.7. Provision of infrastructure and necessary equipment for gene sequencing analysis (e.g. high performance computer), test of devices for disease prevention and control (e.g. laboratories with proper biosafety standards, Good Laboratory Practice certified laboratories for animal testing of products, Current Good Manufacturing Practice certified factories, and national repositories of pathogens).

Main responsible units

1. Ministry of Science and Technology through the National Science and Technology Development Agency
2. Office of the National Research Council of Thailand
3. Ministry of Public Health
4. Ministry of Agriculture and Cooperatives
5. Ministry of National Resources and Environment
6. Ministry of Education, and universities
7. The Thailand Research Fund

Supporting units

1. Ministry of Foreign Affairs
2. Office of the Higher Education Commission
3. Health Systems Research Institute
4. Agricultural Research Development Agency (Public Organization)
5. Thailand Institute of Scientific and Technological Research
6. Armed Forces Research Institute of Medical Sciences
7. Ministry of Tourism and Sports
8. Public Relations Department
9. National Vaccine Institute
10. Government Pharmaceutical Organization
11. Thai Red Cross Society
12. Private firms

Strategy 4 : Development of integrated management systems with and preparedness for emergency preparedness and response

Objectives

1. To establish management and coordination systems for the prevention and problem-solving of EID outbreaks, which are connected to the National Disaster Prevention and Mitigation Plan 2010-2014.
2. To establish preparedness on EID emergency response among units of all sectors and the people.
3. To secure adequate resources and logistics for correction of the outbreak situation.
4. To establish efficient operational support systems for emergency response.
5. To reduce illnesses, deaths, and socio-economic impact arising from EID outbreaks.

Indicators and targets

1. Thailand has an efficient management system for prevention and problem-solving of EID spread before, during, and after the epidemics, in accordance with the National Disaster Prevention and Mitigation Plan 2010-2014.
2. There are network coordination mechanisms inside the country and among countries, bilateral and multilateral, at national, provincial, and local levels.
3. Units of all sectors and the people are prepared for EID emergency response according to the NSP-EID 2013-2016.
4. Thailand has adequate resources and logistics for disease outbreak response according to the predetermined standards of authorities.
5. There are systems to support emergency response which favor quick, timely and adjustable operations.
6. Numbers of patients, deaths, and economic losses do not exceed the estimates.

Tactics

1. Organization of integrated management systems on prevention and problem-solving of EID outbreaks.
2. Development of mechanisms of cooperation network members inside the country and between countries.
3. Establishment of preparedness on EID emergency response.
4. Development of supporting systems on resource procurement and logistics.

Tactic 1: Organization of integrated management systems on prevention and problem-solving of EID outbreaks.

Measures and procedures

- 1.1 Establishment of a national emergency operation center.
- 1.2 Appointment of Steering Committees at national, ministerial, and provincial levels, with representatives from various sectors.
- 1.3 Development of incident command systems at national, provincial, and local administration levels for clear and efficient event command at respective levels.
- 1.4 Formulation of operation and response plans, at national, ministerial, provincial and local administration levels, with participation of concerned units and the people.
- 1.5 Integration of work mechanisms and budget systems of concerned units at all levels for efficient management.
- 1.6 Integration of exercises on operational plans in high risk areas and specific response plans at all levels among all concerned units.
- 1.7 Development and amendment of laws, rules and regulations.
- 1.8 Development of technical support systems for EID prevention, control, and problem-solving.
- 1.9 Organization of rescue systems for the affected foreigners in Thailand.

Tactic 2: Development of cooperation mechanisms of network members inside the country and between countries.

Measures and procedures

- 2.1 Development of systems on forewarning of disasters, sharing of information on disease outbreaks, coordination for EID preparedness and response inside the country and between countries.
- 2.2 Development of cooperation mechanisms between government authorities and local administration organizations.
- 2.3 Provision of support to integrated emergency response among sectors responsible for public health, livestock, wildlife, and the environment.

Tactic 3: Establishment of preparedness on EID emergency response.

Measures and procedures

- 3.1 Enhancement of preparedness for EID prevention and response in units/offices nationwide according to the operational plans.
- 3.2 Capacity building of personnel at all levels on preparedness for EID emergency response.
- 3.3 Enhancement of preparedness among the people by having the correct knowledge and understanding of EIDs and the prevention and control.
- 3.4 Provision of support to the formulation of a tangible business continuous plan (BCP) in every organization and unit of public sector, state enterprises, and private sector.
- 3.5 Strengthening of cooperation for disease prevention among personnel of various sectors, e.g. medical and public health personnel, livestock personnel, volunteers, military and police personnel, etc.
- 3.6 Promotion of disease prevention and control via appropriate measures, including non-pharmaceutical interventions (NPI), which enable self-reliance on disease prevention among the people nationwide and reduce losses from EIDs.
- 3.7 Conducting public relations activities and forewarning international travelers on the prevention of communicable diseases.
- 3.8 Organization of rescue and rehabilitation systems for affected persons from communicable diseases including environment restoration.

Tactic 4: Development of supporting systems on resource procurement and logistics.

Measures and procedures

- 4.1 Development of guidelines on resource procurement and logistics for EID emergency response.
- 4.2 Capacity building of resource procurement and logistic personnel including the organization of periodic exercises to ensure the groups work efficiently.
- 4.3 Organization of systems for budget request and reimbursement with high flexibility and are favorable to emergency management at all levels, according to the National Disaster Prevention and Mitigation 2010-2014.
- 4.4 Mobilization of cooperation and resources within the country from the public and private sectors, and mapping out all resources in advance.
- 4.5 Development of systems on procurement, stockpiling, and distribution of medical supplies, PPE, and other necessary materials and devices for EID prevention and response.
- 4.6 Development of capacity inside the country on R&D and manufacturing of necessary vaccines and drugs through collaboration with the business sector for the sake of long-term self-reliance.

Main responsible units:

1. Ministry of Public Health
2. Ministry of Interior
3. Ministry of Agriculture and Cooperatives

Supporting units:

1. Ministry of Science and Technology
2. Public Relations Department
3. Ministry of Education and educational institutes
4. Ministry of Foreign Affairs
5. Ministry of Natural Resources and Environment
6. Ministry of Defence
7. Ministry of Labour
8. Ministry of Industry
9. Ministry of Transport
10. State enterprises
11. Private sector, communities, including community volunteers

Strategy 5 : Risk communication and public relations on EIDs

Objectives

1. To have mechanisms, at national and international levels, that can quickly, accurately, timely and continuously coordinate, disseminate and publicize data and information on risks of EID prevention.
2. To ensure that involved personnel and the people have correct knowledge and understanding to provide rapid and appropriate treatment, prevention and control of diseases.
3. To build social confidence on efficiency in responding to EID situation.
4. To enhance the country's good image and international confidence towards Thailand.

Indicators and targets

1. There is a tangible and efficient infrastructure for risk communication under a multisectoral collaboration approach.
2. There are strategic plans for risk communication to serve as a framework for efficient, continuous and sustainable operations at all levels.
3. Involved personnel who are knowledgeable about EID prevention and have correct and appropriate practices in place.
4. Personnel in involved units receive and can utilize necessary data and information in their operation of EID prevention and control according to the standard requirements.

Tactics

1. Development of infrastructure and networks on risk communication and public relations in all sectors at all levels.
2. Formulation of strategies on EID risk communication and public relations.
3. Capacity building of personnel in charge of risk communication and public relations.
4. Acceleration of proactive approach in communication and public relations on EID prevention and control among the people to improve health behavior.
5. Efficiency improvement on risk communication and public relations.

Tactic 1: Development of infrastructure and networks on risk communication and public relations in all sectors at all levels.

Measures and procedures

- 1.1. Development of infrastructure and mechanisms of risk communication and public relations in all sectors and at all levels ranging from central, regional, local administration, to community level. Modification of the structure and regulations of communication committees to gain wide cooperation from involved units and persons. Development of the units in charge of risk communication within concerned authorities so that competent personnel are responsible for efficient performance with the capacity to release information to international mass media, and development of mechanisms for linking of communication networks of all sectors at all levels.
- 1.2. Development and encouragement of participation of communication and public relations networks and the people's networks in EID prevention and control.
- 1.3. Organization of data and information surveillance systems at all levels to perform news analysis for regular adjustment of public communication policy.
- 1.4. Procurement and development of necessary materials and devices for communication and public relations to be adequate, modern, efficient and accommodating to the rapidly changing social trends.

Tactic 2: Formulation of strategies on EID risk communication and public relations.

Measures and procedures

- 2.1. Formulation of strategies on EID risk communication and public relations in all involved sectors at all levels through integration with disaster risk communication which covers all periods, i.e. before, during and after disasters.
- 2.2. Formulation of data and information dissemination plans of concerned authorities so that they can communicate thoroughly, rapidly, timely, and have high coverage of target groups among the people and units inside the country as well as concerned target groups abroad. The plans include using of online social networks, personal and community networks.
- 2.3. Formulation of guidelines and standards on risk communication under normal situation and emergencies, which are in harmony throughout from national to local levels.

Tactic 3: Capacity building of personnel in charge of risk communication and public relations.

Measures and procedures

- 3.1. Organization of training for personnel in charge of risk communication including other involved personnel.
- 3.2. Building of the capacity and skills on risk communication and public relations through foreign languages, including training and study visits on risk communication practice at international organizations and abroad to gain experience and learn about the modes of operation in exemplary risk communication practice.
- 3.3. Allocation of adequate posts with appropriate career progression for communication professionals

Tactic 4: Acceleration of proactive approach in communication and public relations on EID prevention and control among the people to improve health behavior.

Measures and procedures

- 4.1. Promotion of proactive dissemination of information for people's knowledge and understanding and ability to take care of themselves and others if affected, during EID outbreaks.
- 4.2. Acceleration of dissemination, public relations, and campaigns on promotion of communicable disease preventive behaviors in the general public through various communication channels under public-private integrative collaboration.
- 4.3. Promotion of the use of diverse dissemination and public relations channels compatible with various target groups, including the use of internet-based media, mobile phones, short message service (SMS).

Tactic 5: Efficiency improvement of risk communication and public relations.

Measures and procedures

- 5.1. Development of coordination mechanisms to produce and disseminate information among various government sectors and the general public.
- 5.2. Formulation of EID public relations practice guidelines for common and harmonious use by involved authorities including optimal organization of media conferences and press releases during crises.
- 5.3. Promotion of R&D on efficient and relevant communication and public relations to improve policies, strategies, models, and procedures.
- 5.4. Organization of websites owned by various concerned authorities so that they have easy access, simplicity and extensive linkages.
- 5.5. Promotion of grouping and networking among mass media professionals specialized in health including media producers and presenters, for their cooperation in EID communication and public relations under normal and emergency situation and organization of regular training, seminars and exchanges to improve procedures and update information.

Main responsible units:

1. Public Relations Department
2. Ministry of Public Health
3. Ministry of Agriculture and Cooperatives

Supporting units:

1. Ministry of Foreign Affairs
2. Ministry of Education, together with universities
3. Ministry of Science and Technology, through the Office of the National Research Council of Thailand and educational institutions
4. Ministry of Interior and local administration organizations
5. Ministry of Natural Resources and Environment
6. Ministry of Tourism and Sports
7. Private sector, communities and community volunteers

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Roles of government authorities, state enterprises, and private sector

Ministry of Public Health

1. Provides support to and facilitates the execution of activities and exercises for EID preparedness at national and regional levels
2. Provides background data needed for official announcement of epidemics, affected areas and degree of intensity.
3. Procures resources and provides medical and public health coordination.
4. Maintains up-to-date data on healthcare facilities, personnel and medical devices and equipment as well as safe haven for medical evacuation in case of need.
5. Ensures that personnel, supplies, equipment, devices and amenities, drugs, laboratories, healthcare facilities are always ready to serve.
6. Organizes emergency medical service systems and networks to be ready to help affected persons.
7. Organizes medical, health, sanitation and disease prevention services for affected persons.
8. Establishes strong disease surveillance system with rapid response mobile team for prompt outbreak investigation and control.
9. Educates the people on disease prevention and control and first aid treatment.
10. Organizes early warning systems for outbreaks using modern information and communication technology with data linkages to concerned authorities and networks.
11. Participates in data gathering on damages and needs of affected persons.
12. Participates in immediate mitigation actions including mental rehabilitation of patients and family members of patients and deaths.
13. Cooperates with international organizations and units to build EID preparedness and response, promotes and provides support to human resource development in other units and sectors for clearer understanding of EID preparedness according to the NSP-EID.
14. Participates in the formulation, coordination, and implementation of policy and concerned measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
15. Provides support to the formulation of internal Business Continuation Plans (BCPs) for corporate EID preparedness nationwide.

Ministry of Agriculture and Cooperatives

1. Organizes systems for disease-free livestock husbandry participated by animal caretakers and entrepreneurs in agricultural and industrial sectors.
2. Prevents and controls outbreaks of animal diseases (epizootics).
3. Controls and monitors transportation of animals and carcasses.
4. Establishes early warning systems for animal disease outbreaks
5. Establishes standardized systems for slaughtering practice, carcass management, and trade of animals.
6. Develops human resources through knowledge transfer among agriculturalists, entrepreneurs and employees in animal husbandry.
7. Maintains human resources, materials, equipment, devices and supplies, drugs, laboratory services for EID prevention, control, and treatment.
8. Establishes animal disease surveillance systems.
9. Establishes specific field units for animal disease control around the country.
10. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
11. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Interior

1. Provides support to and facilitates the execution of activities and exercises for EID preparedness nationwide.
2. Coordinates, administers, provides support to provinces and local administration units in procuring materials, equipment, devices and supplies for prevention and mitigation of disasters.
3. Directs, oversees, and provides assistance to affected persons on consumable supplies and other welfare in a timely and thoroughly manner.
4. Manages evacuation of affected persons of disasters and provides temporary shelters.
5. Officially announces disasters and provides assistance to affected persons according to the Ministry of Finance's rules and regulations.
6. Keeps peace and order, enhances security, and prevents panics among the people.
7. Provides welfare to affected persons, coordinates support from charities and the private sector.
8. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
9. Provides support to the formulation of internal Business Continuation Plans (BCPs) for corporate EID preparedness nationwide.

Ministry of Natural Resources and Environment

1. Operates the surveillance, prevention and control of animal communicable diseases among wildlife and animals in natural habitats
2. Develops sources of natural resources and the environment to enhance durability, sustainability, and to lower risks of harmful events
3. Monitors, verifies, and evaluates environmental impact from residuals of EID problems
4. Rehabilitates and maintains the balance of the environment so that it would be conducive for living by the people and other living things
5. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
6. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Defense

1. Directs, coordinates, administers, oversees relief operations performed by units of the Ministry of Defense, including immediate problem solving and reconstruction efforts at central and regional levels in a speedy, integrated and effective way (and supportive to immediate problem solving actions by other concerned governmental authorities)
2. Provides assistance to affected persons as per the Ministry of Finance's rules and regulations
3. Directs and manages public relations activities through the existing equipment owned by Ministry of Defense, or through other mass media, to alert, report events and situation, and advise affected persons of disasters
4. Provides support to and facilitates the execution of activities and exercises for EID preparedness nationwide.
5. Provides medical and other support upon request.
6. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
7. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Science and Technology

1. Makes available personnel and equipment on science and technology.
2. Conducts studies, researches, provides support to research and development on tools for EID prevention and response, including drugs and vaccines.
3. Provides support to knowledge management on EID among research units and networks.
4. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.

Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Foreign Affairs

1. Coordinates with international organizations to support international trade negotiations.
2. Conducts public relations on screening of international travelers at international airports or border crossings.
3. Strengthens international cooperation to protect, control and preserve Thailand's rights and benefits.
4. Creates correct understanding among countries with regard to disease situation in Thailand.
5. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
6. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Office of the Prime Minister

1. Formulates an operational plan on public relations and conducts public relations activities to create knowledge and understanding among governmental authorities, private sector, and the people, in normal situation and during crises.
2. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
3. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Transport

1. Educates concerned personnel of public transport services on EIDs and measures to prevent and control the spread of diseases.
2. Regulates and prevents transport areas and vehicles from being disease reservoirs, including allocation of areas for screening and isolation of patients in collaboration with medical and public health systems.
3. Specifies appropriate measures to prevent the spread of EIDs for safe use of public transport systems.
4. Conducts public relations activities to disseminate knowledge on EIDs to clients of public transport systems, including advice for safe use of public transport services.
5. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.
6. Provides vehicles and their operators in transporting EID suspects or patients.
7. Facilitates the use of routes and vehicles as needed for travel of operating officials on the transport routes under jurisdiction.
8. Cooperates with and provides support to the implementation of concerned policies/strategies/measures including the execution of exercises to achieve the objectives of the NSP-EID.

Ministry of Labour

1. Ensures that employers arrange for training and skill development of employees for correct and safe working in their establishments.
2. Obtains, recruits, enlists technical workforce for the benefits of disaster prevention and mitigation.
3. Provides support to workforce development and protection in poultry raising establishments and related industries.
4. Provides vocational knowledge to families affected by hazardous events.
5. Provides short-course vocational training to employees and agriculturalists who want to change career, organized in labor development centers/institutes or collaborating establishments, and through sending mobile training teams to target areas.
6. Establishes networks of labor market to provide new jobs for workers who could not continue their jobs or want to change career.
7. Protects the worker's welfare and social security through implementation of inspection visits and public relations activities so that entrepreneurs of animal husbandry would note and comply with labor laws.
8. Improves labor laws and welfare to be more suitable for application during crises, for instances on compensation for employee's leave.
9. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
10. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Education, and universities

1. Organizes teaching and learning for students regarding body of knowledge on health including EIDs.
2. Organizes teaching and learning in the areas allocated for population evacuation as needed.
3. Encourages students to take roles in assisting and supporting disaster prevention and mitigation.
4. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
5. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Higher Education Institutions (hospitals under Faculties of Medicine)

1. Provides treatment and care of patients and executes surveillance, prevention and control of healthcare associated infection.
2. Provides laboratory diagnosis in collaboration with disease surveillance networks.
3. Recruits students to assist and support patients under emergency situation.
4. Formulates medical and public health curricula with subjects on EIDs.

5. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
6. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Commerce

1. Ensures sufficient supply of consumer goods.
2. Establishes systems for rationing and goods control when supplies are limited.
3. Examines animal products on sale in markets and supermarkets nationwide to ensure safety for consumption and standards.
4. Coordinates with international organizations to support international trade negotiations.
5. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
6. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Industry

1. Cooperates in supplying data related to industrial factories.
2. Cooperates in dissemination of information on prevention and control of communicable diseases.
3. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
4. Provides support to the formulation of internal Business Continuation Plans (BCPs) for corporate EID preparedness among units under command and the private business sector.

Ministry of Energy

1. Procures and produces sufficient supply of fuel and energy for the prevention of, response to and preparedness for EID problems.
2. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
3. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Information and Communication Technology

1. Produces and provides support regarding equipments and devices for communication.
2. Manages core and alternative channels for communication in emergency situation.
3. Provides human resources to establish uninterrupted communication between affected areas and the outside world for timely rescue.
4. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
5. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Social Development and Human Security

1. Strengthens social development and social welfare networks.
2. Provides mental rehabilitation to affected persons.
3. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
4. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Office of Commissioner General, Royal Thai Police

1. Maintains peace and order and the people's safety of life and property, gives social services.
2. Assesses situation, formulates operational plans, manages deployment and directing, encourages information exchange among operational units.
3. Organizes traffic systems when transport routes are interrupted or have barriers, provides support to relief operations of other authorities.
4. Oversees immigration services.
5. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
6. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Justice

1. Amends and proposes laws that are conducive to reduction of disease spread.
2. Ensures fairness to operating officials and the people in consistence with outbreak situation.
3. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
4. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Culture

1. Conducts public relations activities to enhance cultural ways and public mind which are conducive to prevention and control of outbreaks.
2. Participates in the formulation, coordination, and implementation of concerned policies/strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
3. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Finance

1. Provides budget and facilitates budget reimbursement process.
2. Participates in the formulation, coordination, and implementation of concerned policies / strategies / measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
3. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Ministry of Tourism and Sports

1. Conducts public relations activities to create confidence among tourists.
2. Formulates measures to provide assistance to affected persons who are tourists.
3. Participates in the formulation, coordination, and implementation of concerned policies/ strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
4. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Electricity Generation Authority of Thailand (EGAT), Metropolitan Electricity Authority (MEA), and Provincial Electricity Authority (PEA)

1. Facilitates provision of uninterrupted electricity supply during disasters.
2. Controls and prevents dangers from electricity during disasters.
3. Participates in the formulation, coordination, and implementation of concerned policies/ strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
4. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Metropolitan Waterworks Authority (MWA), Provincial Waterworks Authority (PWA), and other public waterworks

1. Facilitates provision of uninterrupted public pipe water supply.
2. Controls and prevents dangers from damaged or leaking waterworks with timely modification or repairs during disasters.
3. Participates in the formulation, coordination, and implementation of concerned policies/ strategies/measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
4. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Thai Red Cross Society (TRCS)

1. Procures and stockpiles blood supply, drugs, medical supplies and other devices as well as consumer goods for relief operations in disasters.
2. Conducts training of TRCS personnel, i.e. officials, members, volunteers, and TRCS provincial units as well as the people for disaster preparedness regarding knowledge on first aids treatment and health so they can help themselves and others in disasters.
3. Participates in the formulation, coordination, and implementation of concerned policies / strategies / measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
4. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

The Federation of Thai Industries (FTI), The Thai Chamber of Commerce and Board of Trade of Thailand (TCC), The Thai Bankers' Association (TBA), and The Private Hospital Association, Thailand.

1. Provides support to the national operation center in prevention and control of EID outbreaks.
2. Participates in other missions as requested by the authorities.
3. Participates in the formulation, coordination, and implementation of concerned policies / strategies / measures through multisectoral collaboration to achieve the objectives of the NSP-EID.
4. Formulates internal Business Continuation Plans (BCPs) for corporate EID preparedness.

Influenza Foundation (Thailand): IFT

1. Promotes human resource development in government and business sectors to have knowledge and practice of EID preparedness.
2. Participates in the dissemination of knowledge and understanding among the general population through various channels including mass media and websites.
3. Cooperates with the authorities in other missions on request.

Private sector, private organizations, other concerned associations and foundations, and the public sector.

1. Provides support and assistance and cooperates with the government authorities in their missions.
2. Cooperates with the operational network, and in communication and public relations activities to disseminate knowledge and enhance cooperation among the people and civil societies for EID surveillance, prevention and control.

10 Management and Implementation of the plan

10.1 Concepts and Principles

EIDs have the opportunity to spread rapidly and extensively around the world. Hence they are not only a problem of the country of origin but also a threat to all other countries. Every country needs to speed up the building of its capacity, systems and tools for effective disease prevention and control and EID preparedness, which can minimize socio-economic impact. There is a need to have international cooperation on disease surveillance, prevention and control across borders. Inside the country, close and continuous cooperation is needed among governmental authorities, state enterprises, private sector and civil society sector, under government policies and the frameworks of NSP-EID.

Recently, Thailand has done similar things under the Second National Strategic Plan for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic (B.E. 2551- 2553) (A.D. 2008- 2010), which has the Executive Committee for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic as a national mechanism. However, the mechanism is subject to change as per government's term. Additionally, there has been no specific core unit authorized to fully take charge of management and implementation of the plan. As a result, there were certain limitations and lack of continuity on the implementation. Hence, to ensure that the country could gain benefits as per the objectives of NSP-EID, there is a strong need to put in place a well-defined and effective national mechanism.

10.2 Objectives

1. To establish the processes of translating the strategic plan into practice by governmental authorities and concerned organizations, with an ultimate goal that Thailand can effectively prevent and control EIDs.
2. To integrate all efforts and operation of governmental authorities and other concerned units so that objectives and targets of the NSP-EID are achieved holistically.
3. To enhance roles and encourage participation of all sectors in driving the policies and strategies into fruitful practice, through the formulation of the country's operational plans at various levels which are systematically interlinked and integrated, under the NSP-EID.
4. To systematically and effectively monitor and evaluate implementation of the NSP-EID.

10.3 Approaches for the management and implementation of NSP-EID

To effectively and integratively manage and implement the NSP-EID both at normal situation and during emergencies, a driving mechanism and management process, which is powered by government authorities in full collaboration with other sectors while emphasizing the people's participation, must be in place. The mechanism will manage the implementation of a variety of measures to deliver the expected achievements of the NSP-EID, i.e., Thailand can prevent and control EIDs effectively based upon standards which are acceptable in Thai society and internationally. Important approaches to drive and manage the NSP-EID are as follows:

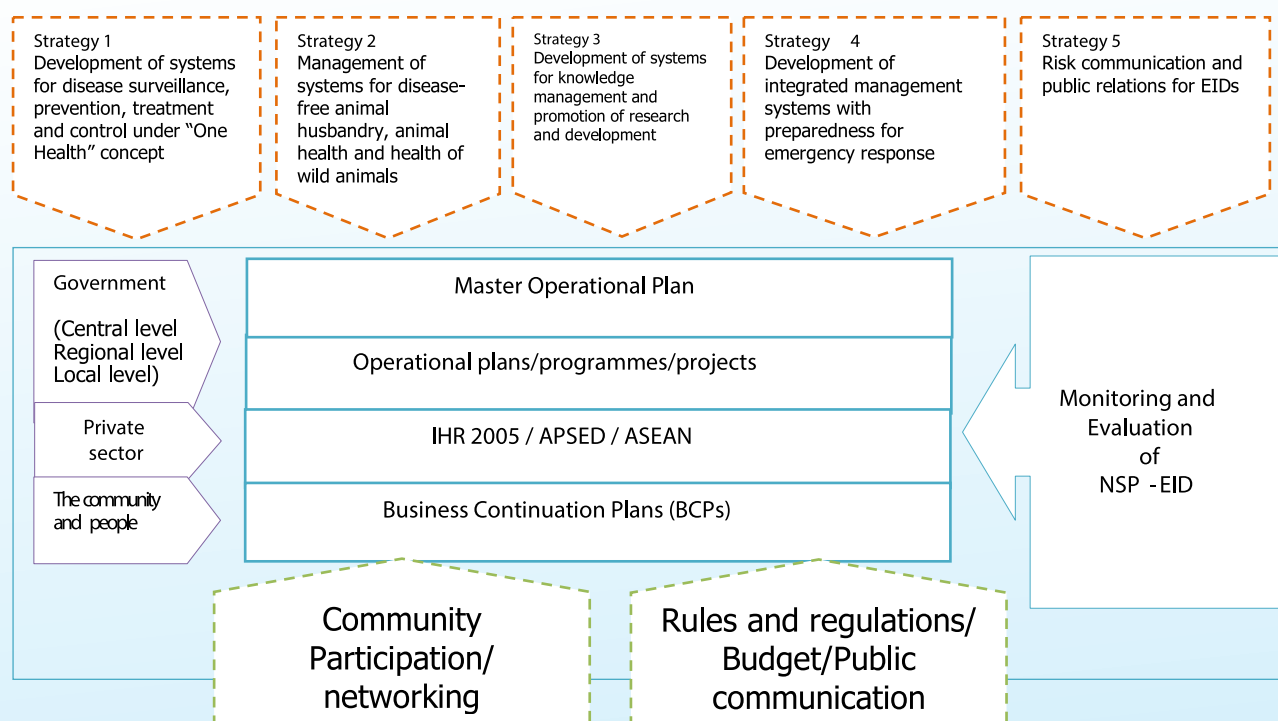
1. To make the Executive Committee for the National EID Preparedness, Prevention and Response (EC-EID) the national mechanism fully in charge of implementation of the NSP-EID. Government authorities concerned would ask the government to appoint the EC-EID. Subsequently the EC-EID would propose to the government to assign a suitable group to be the core unit with well-defined mandate. Those terms of reference are as follows: to oversee the formulation and integration of operational and budget plans involved; to improve concerned regulations to make them more favorable for continuous cooperation and monitoring and evaluation of the implementation; and to use findings on outcomes and problems in improving the relevance of its coordination and facilitation.
2. To use the government operational plans as the tool to implement the NSP-EID within the government sector. This would be done by integrating the NSP-EID objectives, targets and measures into the routine missions as well as the special or national agenda of concerned government authorities, at central level, provincial level, and in groups of provinces.
3. To use the implementation processes of the IHR2005, APSED, and frameworks for collaboration under the Declaration of ASEAN Concord, as supplementary mechanisms to strengthen the capacity of concerned units in the country and international collaboration. This would call for amendment of concerned national operational guidelines and standards to be consistent with the guidelines, regulations and criteria as specified in those international regulations, strategy, and frameworks.
4. The government, through the EC-EID and concerned government authorities, would promote the roles and encourage participation of all associates in the government sector, state enterprises, private sector, and civil society, at central, regional, and local administration levels. This is to integrate the implementation of their particular missions into a set of harmonious practice in line with the NSP-EID.
5. To use the formulation of Business Continuity Plans (BCP) as a means to accelerate the awareness and role development of units in various sectors regarding EID and disaster preparedness. Government authorities especially those core ministries involved in the implementation of the NSP-EID, e.g., MoPH, MoAC, MoI, MoL, as well as various state

enterprises, are required to formulate their internal BCPs in preparation for epidemics and to periodically conduct exercises based on their BCPs. Those BCPs must be consistent with the national framework of disaster prevention and mitigation. The private sector would also be encouraged to do the same.

- To use the monitoring and evaluation system for government works as the mechanism to monitor and evaluate implementation of the NSP-EID by the government sector. NSP-EID elements would be incorporated in government operational plans at all levels through the formulation process as per the Royal Decree on Criteria and Procedures for Good Governance, B.E.2546 (2003). In this regard, national evaluation would be the responsibility of units such as the ONESDB, the Secretariat of the Cabinet, and the Bureau of the Budget, etc. Monitoring and evaluation of the implementation by other sectors of the NSP-EID would be done based on data from concerned government authorities or other sources.

Driving NSP-EID into practice

National Strategic Plan for Emerging Infectious Disease Preparedness, Prevention and Response (B.E. 2556-2559) (A.D. 2013-2016): NSP-EID





ANNEX

National Committee for EID Preparedness, Prevention and Response

Order of the Office of the Prime Minister
number 149/2555

Subject: Appointment of the National Committee for EID preparedness, prevention and response

In order for Thailand to have preparedness and capacity to efficiently prevent, control, and manage the situation of Emerging Infectious Diseases (EIDs) with highest effectiveness,

By virtue of section 11(6) and (9) of the Public Administration Act B.E. 2534 (A.D. 1991), the Prime Minister hereby abolishes the Order of the Office of the Prime Minister number 111/2553 dated 26 May 2010 and appoints the National Committee for EID Preparedness, Prevention and Response, with its composition and the authority and functions as follow:

1. Compositions

- 1.1 Designated Deputy Prime Minister – Chairperson
- 1.2 Minister of Agriculture and Cooperatives – Vice Chairperson
- 1.3 Minister of Natural Resources and Environment – Vice Chairperson
- 1.4 Minister of Interior – Vice Chairperson
- 1.5 Minister of Public Health – Vice Chairperson
- 1.6 Secretary-General to the Prime Minister – Member
- 1.7 Permanent Secretary, Office of the Prime Minister – Member
- 1.8 Permanent Secretary for The Ministry of Defence – Member
- 1.9 Permanent Secretary for The Ministry of Finance – Member
- 1.10 Permanent Secretary for The Ministry of Foreign Affairs – Member
- 1.11 Permanent Secretary for The Ministry of Tourism and Sports – Member
- 1.12 Permanent Secretary for The Ministry of Social Development and Human Security – Member
- 1.13 Permanent Secretary for The Ministry of Agriculture and Cooperatives – Member
- 1.14 Permanent Secretary for The Ministry of Transport – Member
- 1.15 Permanent Secretary for The Ministry of Natural Resources and Environment – Member
- 1.16 Permanent Secretary for The Ministry of Science and Technology – Member
- 1.17 Permanent Secretary for The Ministry of Energy – Member
- 1.18 Permanent Secretary for The Ministry of Commerce – Member
- 1.19 Permanent Secretary for The Ministry of Interior – Member
- 1.20 Permanent Secretary for The Ministry of Justice – Member

- 1.21 Permanent Secretary for The Ministry of Labour – Member
- 1.22 Permanent Secretary for The Ministry of Culture – Member
- 1.23 Permanent Secretary for The Ministry of Science and Technology – Member
- 1.24 Permanent Secretary for The Ministry of Education – Member
- 1.25 Permanent Secretary for The Ministry of Public Health – Member
- 1.26 Permanent Secretary for The Ministry of Industry – Member
- 1.27 Secretary General, Office of the National Economic and Social Development Board – Member
- 1.28 Director, Bureau of the Budget – Member
- 1.29 Commissioner General, Royal Thai Police – Member
- 1.30 Director General, Department of Provincial Administration – Member
- 1.31 Director General, Department of Public Relations – Member
- 1.32 Manager, Thai Health Promotion Foundation – Member
- 1.33 Secretary General, National Health Commission Office – Member
- 1.34 Permanent Secretary, Bangkok Metropolitan Administration – Member
- 1.35 President, Veterinary Council of Thailand – Member
- 1.36 President, Thai Veterinary Medical Association under the Royal Patronage of H.M. the King – Member
- 1.37 Chairperson, the Board of Trade of Thailand – Member
- 1.38 President, the Federation of Thai Industries – Member
- 1.39 President, the Thai Bankers' Association – Member
- 1.40 Director General, Department of Disease Control – Member and Secretary
- 1.41 Director General, Department of Livestock Development -- Member and Co-secretary
- 1.42 Director General, Department of Disaster Prevention and Mitigation -- Member and Co-secretary
- 1.43 Director General, Department of National Park, Wildlife and Plant Conservation -- Member and Co-secretary

2. Authority and functions

- 2.1. To issue national policy and strategy on EID preparedness, prevention, control, and outbreak management; to take monitor and oversee the implementation of the policy and strategy; and to issue mitigation measures and relief for affected persons.
- 2.2. To formulate and review the national strategic plan for EID preparedness, prevention and Response; oversee integration of implementation of the national strategic plan among government agencies, state enterprises, local administrative authorities, private sector, and other concerned sectors; and to monitor the implementation of the strategic plan.
- 2.3. To direct the establishment of mechanisms for coordination, support and monitoring the preparedness planning of concerned sectors.
- 2.4. To appoint sub-committees, working groups or persons assist in the performing is functions as deemed appropriate.
- 2.5. To perform other duties as assigned by the Prime Minister.

All of this is effective from now on.

This order is issued on 2 July 2012.

signature
(Miss Yingluck Shinawatra)
Prime Minister

(copy)

Order of the Ministry of Public Health

number 301/2554

Subject: Appointment of the Committee for the formulation of the National Strategic Plan on EIDs
(B.E. 2555-2559) (A.D.2012-2016)

As previously The National Committee for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic, appointed by Order of the Office of the Prime Minister number 105/2552 on 25 April 2009 and chaired by Major General Sanan Kajornprasart, Deputy Prime Minister, passed an order for appointment of a sub-committee to assess and formulate the 3rd strategic plan on management of Avian Influenza and preparedness for Influenza Pandemic. This sub-committee had the Director General of Department of Disease Control and the Director General of Department of Livestock Development as Co-chairpersons, with a representative of Director of Bureau of the Budget as Vice Chairperson and representatives of other concerned agencies as members. In addition, a resolution of the second National Health Assembly (2009) submitted to the Cabinet called for formulation of a strategic plan to manage EIDs in integrated manners.

To ensure efficient formulation of the national strategic plan on EIDs for the period 2012-2016, the Committee for the Formulation of The National Strategic Plan on EIDs (B.E. 2555-2559) (A.D.2012-2016) is therefore appointed with the compositions, authority and functions as follows:

1. Compositions

- 1.1. Permanent Secretary for the Ministry of Public Health – Advisor
- 1.2. Representative of National Health Commission Office – Advisor
- 1.3. Representative of the Office of National Economic and Social Development Board – Advisor
- 1.4. Mrs Kalyanee Dhamajaree, National Economic and Social Advisory Council -- Advisor
- 1.5. Mr Siritwat Tiptaradol, Deputy Permanent Secretary for the Ministry of Public Health and Chief of Health Development Cluster – Chairperson
- 1.6. Mr Suwannachai Wattanayingcharoenchai, Deputy Director General, Department of Disease Control - Vice Chairperson
- 1.7. Mr Supamit Chunsuttiwat, Department of Disease Control – Vice Chairperson
- 1.8. Mr Kumnuan Ungchusak, Department of Disease Control – Member
- 1.9. Mr Pornpet Panjatiyakul, Office of the Permanent Secretary for the Ministry of Public Health – Member
- 1.10. Mrs Narumol Sawanpanyalert, Department of Medical Services – Member
- 1.11. Mr Sapon Iamsirithaworn, Department of Disease Control – Member

- 1.12. Chief, Technical and emergency preparedness cluster, Bureau of Emerging Infectious Diseases, Department of Disease Control – Member
- 1.13. Mrs Wirongrong Hoonsuwan, Department of Livestock Development – Member
- 1.14. Mrs Noppawan Buameethoob, Department of Livestock Development – Member
- 1.15. Mr Rakthai Ngampakdi, Department of Livestock Development – Member
- 1.16. Representative, Department of Health – Member
- 1.17. Representative, Department of Local Administration – Member
- 1.18. Representative, Department of Disaster Prevention and Mitigation – Member
- 1.19. Representative, Department of Public Relations – Member
- 1.20. Representative, Ministry of Science and Technology – Member
- 1.21. Representative, Ministry of Defence – Member
- 1.22. Representative, Ministry of Natural Resources and Environment – Member
- 1.23. Representative, Ministry of Tourism and Sports – Member
- 1.24. Representative, Ministry of Education – Member
- 1.25. Representative, Department of Health, Bangkok Metropolitan Authority – Member
- 1.26. Director, Bureau of Emerging Infectious Diseases, Department of Disease Control – Member and Secretary
- 1.27. Mrs MananyaPrasertsook, Department of Disease Control – Member and Assistant Secretary

2. Authority and functions

- 2.1. To direct the formulation of the national strategic plan on EIDs 2012-2016, with budget estimates, to ensure the preparedness for prevention, control and management of EID. The plan will be submitted to the National Committee for Preparedness, Prevention, Control and management of Avian Influenza, Pandemic Influenza and epidemic of other serious communicable diseases in human.
- 2.2. To appoint working groups or persons as needed in the formulation of the national strategic plan on EIDs 2012-2016.
- 2.3. To coordinate, monitor, and support the works of the Committee for the Formulation of the National Strategic Plan on EIDs (B.E. 2555-2559) (A.D.2012-2016) to ensure efficient and effective implementation.
- 2.4. To perform other assigned duties.

All of this is effective from now on.

This order is issued on 2 March 2011

Signature

(Mr Pajjit Warachit)

Permanent Secretary for Public Health

Certified valid copy

Signature

(Mrs Mananya Prasertsook)

Bureau of Emerging Infectious Diseases

2 March 2011

(copy)

Order of Ministry of Public Health

Number 531/2554

Subject: Appointment of the Committee for the Formulation of the National Strategic Plan on EIDs
(B.E. 2555-2559) (A.D.2012-2016) – supplement

In reference to the Order of Ministry of Public Health number 301/2554 dated 2 March 2011 appointing the Committee for the Formulation of the National Strategic Plan on EIDs (B.E. 2555-2559) (A.D.2012-2016); In order to ensure the efficient formulation of such plan, and to enhance the participation of concerned agencies;

The Ministry of Public Health hereby appoints additional members to the Committee for the Formulation of the National Strategic Plan on EIDs (B.E. 2555-2559) (A.D.2012-2016) as follow:

- 1.1. Representative, Office of the World Health Organization Representative to Thailand – Member
- 1.2. Representative, Thai Health Promotion Foundation – Member
- 1.3. Representative, National Health Commission Office – Member
- 1.4. Representative, Health Systems Research Institute – Member
- 1.5. Representative, Emergency Medical Institute of Thailand – Member

All of this is effective from now on.

This order is issued on 22 April 2011.

Signature

(Mr Siriwat Tiptaradol)

Deputy Permanent Secretary for Public Health

Certified true copy

Signature

(Ms Kanyaporn Prompriangchai)

Public Health Technical Officer, Professional Level

Bureau of Emerging Infectious Diseases

April 2011

(copy)

Order of Ministry of Public Health

Number 645/2554

Subject: Appointment of the Committee for the Formulation of the National Strategic Plan on EIDs
(B.E. 2555-2559) (A.D.2012-2016) – supplement

In reference to the Order of Ministry of Public Health number 301/2554 dated 2 March 2011 appointing the Committee for the Formulation of the National Strategic Plan on EIDs (B.E. 2555-2559) (A.D.2012-2016);

In order to ensure efficient formulation of such plan, and to enhance the participation of concerned agencies; additional members to the Committee for the Formulation of the National Strategic Plan on EIDs (B.E. 2555-2559) (A.D.2012-2016) are hereby appointed as follows:

- 1.1. Director, Bamrasnaradura Infectious Disease Institute – Member
- 1.2. Director, National Institute of Health, Department of Medical Sciences – Member
- 1.3. Director, Bureau of General Communicable Diseases, Department of Disease Control – Member
- 1.4. Director, Bureau of Epidemiology, Department of Communicable Diseases – Member
- 1.5. Representative, Bureau of the Budget, Office of the Prime Minister – Member
- 1.6. Ms Chitra Theerangkoon, Bureau of Emerging Infectious Diseases, Department of Disease Control – Member

All of this is effective from now on.

This order is issued on 20 May 2011.

Signature

(Mr Siriwat Tiptaradol)

Deputy Permanent Secretary for Public Health

Certified valid copy

Signature

Mrs Mananya Prasertsook

Bureau of Emerging Infectious Diseases

May 2011



**Working group for the Formulation
of the National Strategic Plan on EIDs
(B.E. 2555-2559) (A.D.2012-2016)**



**Thailand's National Strategic Plan
for Emerging Infectious Disease
Preparedness, Prevention and Response 2013-2016**

(copy)

Order of Ministry of Public Health

Number 735/2554

Subject: Appointment of the Working group for the formulation the National Strategic Plan on EIDs
(B.E. 2555-2559) of (A.D.2012-2016)

In reference to the Order of Ministry of Public Health number 301/2554 dated 2 March 2011 subject: Appointment of the Committee for the Formulation of the National Strategic Plan on EIDs (B.E. 2555-2559) (A.D.2012-2016); the Order of Ministry of Public Health number 531/2554 dated 22 April 2011 subject: Appointment of the Committee for the Formulation of the National Strategic Plan on EIDs (B.E. 2555-2559) (A.D.2012-2016) – supplement; and the Order of Ministry of Public Health number 645/2554 dated 20 May 2011 subject: Appointment of the Committee for the Formulation of the National Strategic Plan on EIDs (B.E. 2555-2559) (A.D.2012-2016) – supplement;

As per item 2.2, Authority and functions, the Committee is authorized to appoint working groups or persons as needed in the formulation of the national strategic plan on EIDs 2012-2016;

Hence, for efficient formulation of such plan;

The Committee hereby appoints a Working group for the Formulation of the National Strategic Plan on EIDs (B.E. 2555-2559) (A.D.2012-2016) with the compositions, authority and functions as follows:

1. Compositions

- 1.1 Mr Suwannachai Wattanayingcharoenchai, Department of Disease Control -- Chairperson
- 1.2 Mr Supamit Chunsuttiwat, Department of Disease Control – Vice Chairperson
- 1.3 Mr Kumnuan Ungchusak, Department of Disease Control – Vice Chairperson
- 1.4 Major General Thanom Supaporn, Ministry of Defence – Member
- 1.5 Colonel Pote Aimpun, Ministry of Defence – Member
- 1.6 Mr Watana Dhammasiri, Ministry of Tourism and Sports – Member
- 1.7 Mr Tharapong Rugkanam, Ministry of Tourism and Sports – Member
- 1.8 Mr Benjarong Srinate, Ministry of Education – Member
- 1.9 Ms Wareephun Watcharangkul, Ministry of Education – Member
- 1.10 Mrs Thitiwan Kerdsoomboon, Ministry of Science and Technology – Member
- 1.11 Mr Permsuk Sutchaphiwat, Ministry of Science and Technology – Member
- 1.12 Mrs Wirongrong Hoonsuwan, Department of Livestock – Member
- 1.13 Mr Rakthai Ngampak, Department of Livestock – Member
- 1.14 Mrs Noppawan Buamitoup, Department of Livestock – Member
- 1.15 Mrs Tantip Tongngamkam, Public Relations Department – Member

- 1.16 Mrs Surachana Roekchana, Public Relations Department – Member
- 1.17 Mrs Lueanpetch Laemthongmongkol, Public Relations Department – Member
- 1.18 Mr Chainarong Vasanasomsitthi, Department of Disaster Prevention and Mitigation – Member
- 1.19 Ms Jansima Seangsuriya, Department of Disaster Prevention and Mitigation – Member
- 1.20 Mr Dhana Yantrakovit, Department of Local Administration – Member
- 1.21 Mr Teerapat Kutchamath, Department of Local Administration – Member
- 1.22 Mr Sittiwee Vannapruegs, Department of Local Administration – Member
- 1.23 Mrs Duangrat Pothieng, National Park, Wildlife and Plant Conservation Department, -- Member
- 1.24 Mrs Wanlaya Chaipukdee, National Park, Wildlife and Plant Conservation Department, -- Member
- 1.25 Mr Wongwat Liulak, Bureau of Health, Bangkok Authority – Member
- 1.26 Mr Chaninan Sonthichai, Bureau of Health, Bangkok Authority – Member
- 1.27 Representative of the Thai Red Cross Society – Member
- 1.28. Ms Angkana Sommanustweechai, Zoological Park Organization under the Royal Patronage of H.M. the King – Member
- 1.29. Mr Chawalit Tantinimitkul, Office of the World Health Organization Representative to Thailand – Member
- 1.30. Mrs Benjamaporn Jhantharapat, Thai Health Promotion Foundation – Member
- 1.31. Mrs Somnuek Sirisuwan, National Health Security Office – Member
- 1.32. Mr Wisut Boonyasopit, National Health Commission Office – Member
- 1.33. Ms Ninlawan Tunkumthong, National Health Commission Office – Member
- 1.34. Ms Krongkaew Supawat, National Institute of Health – Member
- 1.35. Ms Sirima Pattamadilok, National Institute of Health – Member
- 1.36. Ms Pornpit Silkavute, Health Systems Research Institute – Member
- 1.37. Mr Boonchai Kijsanayotin, Health Systems Research Institute – Member
- 1.38. Mr Surachai Silawan, Emergency Medical Institute of Thailand -- Member
- 1.39. Ms Ura Suwannaruk, Emergency Medical Institute of Thailand – Member
- 1.40. Mrs Narumol Sawanpanyalert, Department of Medical Services – Member
- 1.41. Mrs Rojana Bamrungsuk, Department of Medical Services – Member
- 1.42. Mrs Porn Tippa Chainatraporn, Department of Medical Services – Member
- 1.43. Ms Sasiporn Tutchananusorn, Department of Health – Member
- 1.44. Mrs Walaiporn Teopipithaporn, Bureau of Health Administration -- Member
- 1.45. Mrs Porn tip Bunnag, Bureau of Health Administration -- Member
- 1.46. Mr Sopon Iamsirithaworn, Bureau of Epidemiology, Department of Disease Control – Member
- 1.47. Ms Chariya Sangsajja, Bumrasnaradura Infectious Disease Institute, Department of Disease Control – Member
- 1.48. Mr Pornpitak Panlar, Bureau of General Communicable Diseases, Department of Disease Control – Member

- 1.49. Mrs Supinda Teerarat, Bureau of General Communicable Diseases, Department of Disease Control – Member
- 1.50. Ms Woraya Luang-on, Bureau of Emerging Infectious Diseases, Department of Disease Control – Member
- 1.51. Ms Veena Bhakdisirivichai, Bureau of Emerging Infectious Diseases, Department of Disease Control – Member
- 1.52. Ms Chitra Theerangkoon, Bureau of Emerging Infectious Diseases, Department of Disease Control – Member
- 1.53. Police Captain Rungrueng Kitphati, Bureau of Emerging Infectious Diseases, Department of Disease Control – Member and Secretary
- 1.54. Mrs Mananya Prasertsook, Bureau of Emerging Infectious Diseases, Department of Disease Control – Member and Assistant Secretary

2. Authority and functions

- 2.1. To formulate the national strategic plan on EIDs 2012-2016 and related operational plans to effectively cope with the situation of emerging infectious diseases.
- 2.2. To coordinate and support the implementation of operational plan (for national strategic plan formulation).
- 2.3. To monitor and supervise the implementation of operational plan (for national strategic plan formulation).
- 2.4. To coordinate and secure budget and resources for the formulation of the national strategic plan.
- 2.5. To appoint additional members of the working group as needed.
- 2.6. To perform other assigned duties.

All of this is effective from now on.

This order is issued on 17 June 2011.

Signature

(Mr Siriwat Tiptaradol)

Deputy Permanent Secretary for Public Health

Certified valid copy

Signature

(Mrs Mananya Prasertsook)

Bureau of Emerging Infectious Diseases

June 2011

**Most Urgent
Number PM 0505/23288**

The Secretariat of the Cabinet
Government House, Bangkok 10300

31 August 2012

Subject: National Strategic Plan for Emerging Infectious Disease Preparedness, Prevention and Response (B.E. 2556-2559) (A.D. 2013-2016)

Attention: Minister of Public Health

Reference: Letter of Ministry of Public Health, Most Urgent, number PH 0436.2/2596 dated 27 July 2012

Attachments: as stated

Kindly refer to your letter on National Strategic Plan for Emerging Infectious Disease Preparedness, Prevention and Response (B.E. 2556-2559) (A.D. 2013-2016), submitted for further action.

The Ministry of Defence, Ministry of Finance, Ministry of Social Development and Human Security, Ministry of Agriculture and Cooperatives, Ministry of Natural Resources and Environment, Ministry of Information and Communication Technology, Ministry of Commerce, Ministry of Interior, Ministry of Labour, Ministry of Science and Technology, Ministry of Industry, Office of the Permanent Secretary to the office of the Prime Minister, Bureau of the Budget, and Office of the National Economic and Social Development Board submitted their comments to the Cabinet for consideration. We also received comments from Ministry of Transport after the Cabinet has already considered the subject. More details are in the attached documents.

The Cabinet met to discuss the subject on 28 August 2012 and gave approval as proposed by the Ministry of Public Health. Hence-forth, The Ministry of Public Health is advised to formulate the National Strategic Plan in concordance with the national plan on disaster prevention and mitigation, the Single Command management model, and to observe the policy on the utilization of shared resources so as to continuously minimize the budget burden, as suggested by the Bureau of the Budget. Furthermore, the comments of Ministry of Finance, Ministry of Natural Resources and Environment, Ministry of Science and Technology, and Office of the National Economic and Social Development Board need to be taken into accounts.

Hence, this letter is made to confirm the said Cabinet's resolution, and The Ministry of Public Health please take further actions accordingly. We have already informed concerned authorities on similar subject as per the attached list.

With best regards,

Signature
(Mr Siri Lertthammathevee)

Advisor of the Secretary General to the Cabinet, Acting for the Secretary General to the Cabinet

Bureau of Strategic Development and Special Policy Monitoring
Tel 0 2280 9000 ext. 443
Fax 0 2280 1446
www.cabinet.thaigov.go.th

List of participants to in the formulation of the National Strategic Plan for Emerging Infectious Disease Preparedness, Prevention and Response (B.E. 2556-2559) (A.D. 2013-2016): NSP-EID

Government sector and government units

Ministry of Public Health

1. Dr Suwannachai Wattanayingcharoenchai
2. Dr Supamit Chunsuttiwat
3. Dr Kumnuan Ungchusak
4. Dr Somsak Wattanasri
5. Dr Sopon Iamsirithaworn
6. Veterinarian Pornpitak Panlar
7. Mrs Supinda Teerarat
8. Dr Narumol Sawanpanyalert
9. Mrs Rojana Bamrungsak
10. Mrs Porntippa Chainatraporn
11. Dr Chariya Sangsajja
12. Mrs Waraporn Thienthong
13. Mrs Angkhana Im-noi
14. Ms Krongkaew Supawat
15. Ms Sirima Pattamadilok
16. Dr Orn-anong Ratchatrachenchai
17. Ms Noppawan Jenjai
18. Veterinarian Darika Kingnate
19. Mr Chawalit Tantinimitkul
20. Mrs Benjamaporn Pinyopornpanich
21. Dr Tanarak Plipat
22. Ms Sasiporn Tachananusorn
23. Ms Thanormrat Prasittimett
24. Mrs Walaiporn Tiewpipitporn
25. Mrs Porntip Boonnag
26. Mr Dusit Sakulpiyathevan
27. Ms Junya Sanurjai

28. Pharmacist Somchai Yuthayanond
29. Dr Rungrueng Kitphati
30. Dr Woraya Luang-on
31. Dr Natpathu Sa-nguanwong
32. Dr Rojana Watanarangsun
33. Ms Veena Bhakdisirivichai
34. Ms Chitra Theerangkoon
35. Mrs Mananya Prasertsook

Ministry of Interior

36. Mr Chainarong Vasanasomsit
37. Ms Junsima Saengsuriya
38. Mr Thana Yantrakowit
39. Mr Thirapat Kachamart
40. Mr Sithivee Wannapruek

Ministry of Agriculture and Cooperatives

41. Veterinarian Wirongrong Hoonsuwan
42. Veterinarian Rakthai Ngampakdi
43. Veterinarian Noppawan Buameethoob
44. Veterinarian Nirundorn Uengtrakulsuk

Ministry of Defence

45. Major General Thanom Supaporn
46. Colonel DrPhoj Aimpunt

Ministry of Science and Technology

47. Mr Permsuk Sajjapiwat
48. Mrs Thitiwan Kerdsomboon
49. Ms Ungsuthorn Sirilaksanamanond

Universities

50. Assoc Prof Veterinarian Parnthep Ratanakorn
51. Veterinarian Vithavatch Wiriyaratna
52. Assoc Prof Dr Porntip Phetchamitr
53. Assist Prof Yuwadee Mahakhunkitcharoen
54. Prof Dr Srisin Khusmith
55. Mrs Ratana Phetch-urai
56. Veterinarian Waraporn Pimprapai

Ministry of Education

- 57. Mr Benjarong Srinetr
- 58. Ms Wareepan Watcharangkul
- 59. Mr Pinitrak Suwanrang

Ministry of Natural Resources and Environment

- 60. Mrs Tuangratna Phothiang
- 61. Mrs Valaya Chaiyapakdi
- 62. Mrs Ratchaneekorn Karathamas
- 63. Ms Benjawan Sukcharoen

Ministry of Tourism and Sports

- 64. Mr Watana Thammasiri
- 65. Mr Tharapong Lakhanam

Ministry of Labour

- 66. Ms Achara Ngamsomjit
- 67. Ms Ketsarin Guntho

Ministry of Industry

- 68. Mrs Pongsiri Wannasri
- 69. Mrs Darunee Phupongsakul

Ministry of Commerce

- 70. Ms Pailin Duangsathaporn

Ministry of Finance

- 71. Mrs Ketwaree Liengmun

Ministry of Justice

- 72. Mrs Manaswan Khonthong

Office of the Prime Minister

- 73. Mrs Tharntip Thong-ngamkham
- 74. Mrs Suratchana Rirkchana
- 75. Mrs Ruenpetch Laemthongmongkol
- 76. Mr Thongyai Aiyawarakul
- 77. Mr Phaopatchara Rapeethammanond

Bureau of Health, Bangkok Metropolitan Administration

78. Dr Wongwatna Liewlaks

79. Dr Chaninant Sonthichai

Zoological Park Organization under the Royal Patronage of H.M. the King

80. Veterinarian Ankana Samanastaweechai

Thai Health Promotion Foundation

81. Mrs Benjamaporn Jhantharapat

National Health Security Office

82. Dr Somnuek Sirisuwan

National Health Commission Office

83. Mr Wisut Boonyasopit

84. Ms Nilawan Thunkhumthong

Health Systems Research Institute

85. Pharmacist Pornpit Silkavute

86. Dr Boonchai Kijsanayotin

Emergency Medical Institute of Thailand

87. Mr Surachai Silawan

88. Ms Ura Suwanrak

Medical Association of Thailand, under His Majesty the King's Patronage

89. Dr Nithiwat Kijriurai

Veterinary Council of Thailand

90. Veterinarian Chuchai Ungsuthornrangsi

The Medical Technology Council

91. Mrs Sirirat Likanonsakul

92. Mr Paibul Ratanachaipornpan

International Organization for Migration

93. Mr Thirayuth Prathumchart

US Agency for International Development

94. Veterinarian Sudarat Damrongwatanapokin

95. Ms Prathin Thammaraks

State enterprise sector

Metropolitan Waterworks Authority

96. Ms Udomporn Nantisantiphol

Tourism Authority of Thailand

97. Ms Yolrawee Sittichai

Thailand Institute of Scientific and Technological Research

98. Mr Parkphum Siriarchawatana

99. Mrs Ratanasiri Jiwanond

Private Sector

Thai Feed Mill Association

100. Mr Supoj Arnanthanasuwong

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