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)
The Second National Strategic Plan
for Prevention and Control of Avian Influenza
and Preparedness for Influenza Pandemic

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Sub-Committee for
The Second National Strategic Plan
for Prevention and Control of Avian Influenza
and Preparedness for Influenza Pandemic
A.D. 2008-2010

Under the Supervision of
The Executive Committee for Prevention and Control of Avian Influenza
and Preparedness for Influenza Pandemic
Preface

The implementation of the Strategic Plan for Prevention and Control of Avian Influenza and the Strategic Plan of Preparedness for Influenza Pandemic (A.D. 2005 - 2007) - the first strategy - devised by the Committee for Solution of Avian Influenza, with an aim to be a prototype in prevention, solution and preparedness to encounter the pandemic, has been regarded as an achievement in satisfactory mitigation of the avian influenza outbreaks in poultry occurred in Thailand in 2004. It has been evidently observed that infection in poultry; morbidity and mortality in humans as well as socio-economic losses resulted from avian influenza were mitigated. As such, it enables Thailand to be internationally recognized as being able to efficaciously prevent and control the avian influenza.

The Executive Committee on Prevention, Control and Solution of Avian Influenza and Preparedness for Influenza Pandemic foresaw the necessity to pursue, prevent and prepare to encounter the avian influenza outbreaks which have been continuously taken place in several parts of the world. Moreover, the influenza pandemic including other newly emerging diseases will possibly occur. Consequently, the Second National Strategic Plan for Prevention, Solution and Control of Avian Influenza and Preparedness for Influenza Pandemic (A.D. 2008 - 2010) has been formulated in continuation to the First Strategy whose core content is to prevent avian influenza and influenza pandemic since the avian
influenza viruses can mutate and turn into influenza pandemic infectious to humans. The priority is, therefore, given to prevention of outbreaks, besides solution, in case they do take place and preparedness to encounter such issues. The major principle of this strategy is the human-based comprehensive development to enable all concerned to be safe, to realize and to have an integration to prevent, solve issues and to be alert to encounter them as a whole, along with establishing more collaboration with various domestic and international sectors. The Second National Strategic Plan has been approved by the Cabinet of Ministers on July 10, 2007 and will be used as a guideline for relevant offices to jointly formulate and exercise the strategy during a 3-year period of time to eventually achieve its objectives set forth.

To implement the strategy, the Executive Committee has appointed a Sub-Committee to execute it as a mechanism for its continuous management, coordination, monitoring and evaluation so as to bring about efficacy in meeting the rapid evolving situation of the diseases and eventually to accomplish it. In future, a consideration to promote the committee as a permanent body to handle the issues would be taken.
The Executive Committee wishes to express its sincere gratitude to all sectors concerned – the government, the private and the public sectors – for their participation in devising the strategy, jointly and continuously solving the avian influenza issues and preparing the preparedness plan for the influenza pandemic. It hopes that such robust collaboration will be beneficial for future prevention, control and preparedness to encounter their outbreaks and other newly emerging diseases.

(Mr. Paiboon Wattanasiritham)

Deputy Prime Minister
Chairman of Executive Committee for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic
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The Second National Strategic Plan for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic (A.D. 2008 - 2010)

Overall Avian Influenza Situation in Thailand

1.1 Avian influenza (AI) or influenza in poultry is an animal disease which could be infectious to humans and other kinds of animals. It was firstly detected in Thailand in January 2004. The virus strain was H5N1. The first round of outbreak took place during January 23 to May 24, 2004. The government sector had implemented operations to control it by disposing of infected poultry, providing assistance and financial compensation to the affected raisers. Rehabilitation was also given to those suffered damages, both entrepreneurs and labour forces in their industrial processes. During the first round of outbreak, the government sector had eliminated 60,811,081 poultry including those naturally died and paid compensation to the raisers totalled to 5,186,231,843 Baht. In this connection, there were 12 human avian influenza cases, and 8 deaths.
1.2 Later, it was recorded that the second round of outbreak took place during July 2004 – April 2005 in Pak-hai district, Ayudhaya province. Thus, a total of 3,226,115 poultry were killed. The compensation totalled to 192,061,788 Baht. Five human cases were reported of contracting the avian influenza, and 4 deaths. After that, there were another 3 rounds of outbreak. The total numbers of the human avian influenza cases, except those in the last round, were 25 and 17 deaths.

1.3 Such avian influenza outbreaks during 2004 – 2006 demonstrate that they tend to turn into an endemic that continues to claim human lives. As such, if Thailand has no effective measures to control and prevent the avian influenza, the outbreak would recur and be a cause of severe national socio-economic loss and the threat to safety of the poultry raisers as well.

1.4 Moreover, if the avian influenza viruses change their strains through reassortment of human influenza viruses or mutate to become easily infectious, it would cause an outbreak from human to human and become a world pandemic. It tends to trigger outside Thailand and would be widespread to other parts of the world through international
communication. As a result, to control and prevent potential outbreak in future, a working group was set up to develop the National Strategic Plan for Solution of Avian Influenza, B.E. 2548 - 2550 and the Strategic Plan of Preparedness for Influenza Pandemic, B.E. 2548 - 2550 (A.D. 2005 - 2007). These strategies were approved by the Cabinet of Ministers on January 25, 2005.
During the previous period of 2005 - 2007, the concerned government agencies have continuously implemented their operations under the above two strategies till to date which is the final year. Therefore, there should be an evaluation of the performance to see how the strategies have been implemented and to realize the problems and obstacles which will be used to solve future issues. They are summarized as follows:

2.1 There were establishments of management for disease-free poultry for commercial and domestic purposes, fighting cocks, and free ranging ducks husbandry and strict control on poultry relocation.

In this connection, the good breeding practices of small-scale raisers of domestic poultry, fighting cocks, and free ranging ducks were developed. As such, it could prevent the risk of avian influenza infection at a certain stage. An adoption of compartmentalization for commercial poultry raising was another avian influenza-free measure. It also included the disease surveillance and investigation in poultry. Twice a year, nationwide campaigns to detect avian influenza in every area were conducted along with strict control on domestic and international relocation of poultry and their remains as well as the surveillance on transmission of avian influenza among natural birds.
2.2 Domestic and International surveillance and control of the disease in animals and humans during outbreaks were effectively and rapidly managed.

Through surveillance and control of the disease in animals, if poultry were detected of being infected or dead unusually, the measure to dispose the infected poultry within 12 hours was enforced to ensure effective control of the outbreak. The number of areas where the outbreak was detected in 2005 and 2006 dropped significantly as compared with those in 2004. Meanwhile, the surveillance and control of the avian influenza in humans were also conducted at nationwide public health service centers. Laboratory diagnosis as well as surveillance on virus mutation, cases investigation, community disease control, development of assertive disease surveillance and preparedness to encounter influenza pandemic through plan formulation and exercises throughout the country were implemented. Besides, international collaboration on disease surveillance and control especially with the neighboring countries in the region was also enhanced.
2.3 **Preparedness on medical services was initiated at a certain stage.**

Potential development for medical human resources was successfully managed. The renovation of public health facilities in the high risk areas for avian influenza outbreaks to accommodate AI cases in serious condition as well as preparation of isolation rooms for AI cases in hospitals were carried out. In this respect, it had reached 80% of the target set for the general hospital level. However, the provision of isolation rooms in the community hospitals is still limited.
2.4 **Essential medical supplies, materials and equipment were provided as planned.**

During 2005 – 2006, provisions of antiviral drugs, rapid influenza test kits, influenza vaccines, and personal protective equipment met the set target as well as development of antiviral stockpile management. Further, preparation of human seasonal and potential pandemic influenza vaccines with a plan to construct a WHO-GMP certified industrial plant to manufacture such vaccines was also initiated.

2.5 **Establishment and management of knowledge base on avian influenza were implemented. However, it has yet to be carried on continuously and widely.**

There was an establishment of knowledge base on biology and epidemiology pertaining to avian influenza in humans and animals. This resulted in better understanding of symptoms of the disease and it enabled scientists to monitor the viral mutation efficiently. Joint studies and research on efficacy of the prototype of the avian influenza vaccine, H5N1 avian influenza virus test kits and the antiviral drug (Oseltamivir) manufacture also took place. However, it is necessary to further strengthen local manufacture of influenza vaccines and virus test kits in order to cut cost and to be readily available for prompt use when requirement arises. Research and development of medication and herbal antivirals to combat influenza and herbal vaccines for avian influenza were also implemented for further dissemination and transition of knowledge base on its appropriate prevention to all concerned at all levels of target audience starting from producers, wholesalers, retailers to consumers.
2.6 **Initiation of capacity development of organizations and medical personnel involving avian influenza was managed.**

Development of the epidemiology units, the Surveillance and Rapid Response Team (SRRT), medical doctors and veterinarians and regional laboratories for detection of AI in poultry and in humans was conducted. Biological safety in poultry industry was as well upgraded. Additionally, transition and development of technical know–how on diagnosis and care of avian influenza patients were given to medical personnel at every level in both government and private sectors as they are the vital front–line health care workers to detect AI patients attending the medical service centers.
2.7 Building up better understanding and wider participation among the public, communities and private sectors were created.

Local networks of disease surveillance were set up in cooperation with community leaders and village health volunteers so as to develop the avian influenza surveillance and control system to cover every village all over the country. Information for disease prevention and health care was generated and disseminated to village health volunteers and the public in the high risk areas coupled with training to develop them for better risk communication skills.
2.8 Integrated national system and management mechanism to control avian influenza was developed. However, a central coordinating body for this mechanism is yet to be identified.

A steering committee for prevention and control of the avian influenza issues was set up under the chairmanship of the Deputy Prime Minister to oversee the issues at the national level. Establishment of a committee to actively control, prevent and manage avian influenza issues at provincial level was implemented as well. However, there was a lack of a central body with strong technical supports to organize knowledge base on avian influenza in a normal situation in order to provide a back-up to the core units in surveillance, control, and investigation of the outbreak in humans and animals. Meanwhile, the various concerned government agencies are coordinating with international missions like WHO and other missions on surveillance and preparedness for influenza pandemic.

2.9 Forty nine per cent of the set budget has been received in carrying out the First National Strategic Plan during B.E. 2548 – 2550 (A.D. 2005 – 2007)

The total for the implementation of the First National Strategy was set at 4,802 million Baht with an allocation of 4,026 million Baht for the strategy to combat avian influenza, and 776 million Baht for the strategy for influenza pandemic preparedness. Up to 2007, the actual allocation and consumption of the budget was totalled to 2,332 million Baht or 49% of the set budget.
2.10 **In summary, the implementation of the First National Strategic Plan was conducted on the right track.**

It is now generally known that Thailand is recognized internationally in achievement on prevention and control of the avian influenza. Preventive and control measures on the disease were systemically and rapidly implemented with preparedness both on surveillance and provision of medical supplies to encounter its outbreaks. It is worth noting that the outstanding success in this respect was from the operations that resulted in reduction of the damage severity caused by the issues to Thailand’s socio-economic aspects. Above all, the numbers of morbidity and mortality evidently dropped. The infection in poultry was also mitigated and could be controlled in time when there was an outbreak. Other significant successes were that the government offices concerned have gained more experience and systematic cooperation for continuous disease prevention and control from the actual events took place since 2004. These successes enhanced efficacy of the operations
3 Significance and Future Trends of the Problems

3.1 The regional avian influenza epidemics are threats to every country’s own solution.

Since 1997 till to date (April 20, 2007), there have been reports on H5N1 avian influenza in poultry (61 countries) and in humans (12 countries) covering African, European and Asian continents. In Asia particularly, the first record of the epidemic was reported in 1997 in People’s Republic of China. Till to date, there have been reports from 22 countries i.e. People’s Republic of China (including Hong Kong), Republic of Vietnam, Republic of South Korea, Japan, Pakistan, Republic of Indonesia, Lao People’s Democratic Republic, Afghanistan, Kuwait, Union of Myanmar, Bangladesh, Saudi Arabia, Cambodia, India, Kazakhstan, Jordan, Malaysia, Mongolia, Iraq, Iran, the Philippines, and Republic of China (Taiwan). As a result, epidemics in Asian continent, especially in our neighboring countries indicate that Thailand is still at high risk to the epidemic as the rest of the world.
3.2 **The risk of avian influenza virus mutation and transmission to humans is escalating.**

The eradication of avian influenza viruses has become more difficult as they are widespread throughout the world and now turned into an endemic. Moreover, their strains are constantly changing and every time there was a transmission in animals or humans, the virus has developed itself to be easily transmitted to humans which can eventually lead to a pandemic. According to the health ministry reports in Thailand, Vietnam and Indonesia, it was found that a number of avian influenza patients had caught the viruses from members in their own families. The investigation revealed that the human-to-human infection might have occurred through close physical contacts. However, the genetic analysis of virus strains has not yet shown significant mutations.

3.3 **The public awareness and interest dropped.**

This resulted to difficulties in controlling and prevention of avian influenza among the public and all concerned even though, at present, the government sector has strictly applied control and surveillance measures. But, the public sector and some other sectors concerned still lack of factual information and correct understanding as well as awareness and interest in the disease which are the causes that place the country in a situation at risk for influenza outbreak. As a result, if there is a severe outbreak, it might not be effectively handled and would have grave impacts and damages to all concerned. Moreover, in case Thailand’s neighboruing countries have no effective control and preventive measures, Thailand itself would as well be affected.
3.4 The avian influenza and influenza pandemic will bring about tremendous socio-economic impacts.

The Ministry of Public Health has estimated that, should there be an influenza pandemic in Thailand, the numbers of morbidity and mortality would basically be at least 6.5 million and 6,500 – 35,000 respectively, whereas the maximum numbers of patients would be up to 26 million and the deaths around 26,000 – 143,000. In addition, the Office of National Economic and Social Development Board has estimated the overall economic impact in Thailand during the 2004 avian influenza outbreak that there was a drop of 0.39% GDP. Therefore, in case of an influenza pandemic, the negative socio-economic impacts to Thailand would be detrimental.
The Second National Strategy is based on the main concepts and principles as follows:

4.1 **It is based on the human-centered comprehensive development** with a focus on the target audience i.e. poultry workers in agricultural sector and small scale farmers including the general public, community volunteers, and government sector personnel who are implementing the schemes for combating the avian influenza and influenza.

4.2 **It adheres to the First National Strategic Plan’s principles with an emphasis on the establishment of the safety and knowledge base for the target audience.**

   (1) **Private small scale poultry** raisers should be safe from infection of the avian influenza and have better understanding and knowledge on safe poultry husbandry as well as social responsibility.

   (2) **The general public** should also be safe from the avian influenza and can have safe consumption of poultry meats as well as being well aware of self-hygiene in order to be free from the disease.

   (3) **Volunteers and personnel** involved in the avian influenza and influenza prevention and control plans should be safe while they are working. Moreover, they should gain more knowledge to effectively solve the issues.
4.3 **It is focused on systematic integrated operations** starting from prevention and preparedness to encounter the avian influenza and influenza pandemic based on the Thai society’s knowledge base and context so that they can co-exist with the avian influenza virus without harm.

4.4 **Priority is given to solution management corresponding to the outbreak** as well as having a fair share in protective medical supplies in combating avian influenza and influenza along with development of self-dependence capability on vaccines.

4.5 **The Second National Strategic Plan (A.D.2008–2010) will be dynamic** and flexible to cope with the changing situation based on integrated, unified and sustainable mechanisms in combating the avian influenza and preparedness to encounter influenza pandemic.
5.1 To mitigate morbidity and mortality, socio-economic and environmental impacts resulted from avian influenza and influenza outbreaks, and to ensure the functioning of the public service system operations during such outbreaks.

5.2 To prevent influenza pandemic and to get ready for patient care, disaster relief and coordination in tackling the influenza pandemic once it takes place.

5.3 To enhance multilateral and international collaboration in combating the avian influenza and influenza pandemic.
6 TARGETS

6.1 Thailand can control outbreaks of avian influenza in the commercial birds and indigenous birds and other kinds of animals to reduce the risk of transmission to humans.

6.2 Thailand will be capable of handling emergency effectively when the influenza outbreak occurs.

6.3 Thailand has a robust prevention, control and surveillance systems with readiness in care, diagnosis, medication and vaccination as well as emergency relief system in communities.

6.4 Thailand is ready to encounter the influenza pandemic.

6.5 Every sector in Thailand takes part in the prevention, solution and control of the avian influenza.
In preparing the Second National Strategic Plan, the strategies in the First National Strategy were grouped and integrated into the plan to enhance guidelines and operational measures of each new strategy which will correspond to individual strategy’s objectives and target audience and also to consistent with evolving situation. In this respect, it comprises necessary guidelines and measures for prevention, control and surveillance along with development of knowledge base, and personnel and public relations work in each strategy. This Second National Strategic Plan consists of 4 strategies as follows:

7.1 Strategy 1: Systematization of Poultry Husbandry
7.2 Strategy 2: Disease Surveillance, Prevention and Control in Animals and Humans.
7.3 Strategy 3: Preparedness for Influenza Pandemic.
7.4 Strategy 4: Collaboration among the Public, Business and International Sectors.
All four strategies are systematically interlinked starting from the fundamental systematization of effective poultry husbandry for control of the disease and assurance of safety for the raisers. The continuous disease prevention and surveillance in humans and animals will be organized to enable prompt control of the disease and enhance safety for the target audience i.e. poultry raisers, the general public, volunteers and all personnel at various levels involved. At the same time, they will help in preparing preparedness plan to encounter the influenza pandemic which will also enable Thailand to be self-dependent during emergency and to mitigate losses that may occur to socio-economic and environmental conditions of the country. Furthermore, the collaborative strategy will unite all sectors in the society to build up capability and knowledge base for mutual efforts in preventing, controlling and combating the issues. Currently, the avian influenza has become a worldwide epidemic, especially in the South East Asian countries bordering Thailand. Therefore, to effectively handle the issues, it is essential to obtain cooperation from all countries concerned in exchange of knowledge on preventing, controlling and combating them.
Summary of Basic Budget Proposal for the Second National Strategic Plan for Prevention, Solution and Control of Avian Influenza and Preparedness for Influenza Pandemic (A.D.2008-2010)

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Total | 3,190.9 | 3,543.0 | 3,638.2 | 10,372.1 |
Strategy 1:
Systemization of Poultry Husbandry
Strategy 1: Systemization of Poultry Husbandry

- **Objectives:**
  
  (1) To prevent and control the disease in order to ensure the poultry are disease-free, and the poultry raisers, the public and consumers are safe and confident in consumption of food prepared from poultry.

  (2) To develop poultry relocation system that makes it easy to effectively detect AI and its effect.

  (3) To develop “traceability system” in poultry husbandry.

  (4) To restore the socio-economic and environmental conditions impacted by the avian influenza outbreaks to the poultry raisers.
Targets:

1. Small-scale farmers, free ranging ducks raisers, small-scale broiler duck raisers, raisers of backyard chicken, exotic birds, indigenous birds and fighting cocks will develop their raising procedures to meet the hygienic principles.

2. Commercial husbandry system for poultry, fighting cocks and exotic birds will be developed to meet the bio-safety requirements.

3. To have a nationwide standardization of management systems on poultry slaughter and disposal of their remains as well as poultry trading and breeding for sale in AI-free market places.

4. To have an establishment of “traceability system” in the commercial poultry husbandry.

5. To have tangible rehabilitation guidelines for the socio-economic and environmental impacts resulted from avian influenza outbreaks that affect poultry raisers.
Measures and Guidelines for Implementation

(1) To develop good poultry husbandry practices for backyard chicken, free ranging ducks, fighting cocks, and commercial poultry by focusing on compartmentalization.

(1.1) To develop the AI-free husbandry system for indigenous birds and backyard chicken.

(1.2) To develop the husbandry system for biosafety of free ranging ducks and to encourage duck farmers through cooperatives establishment with low-interest loans.

(1.3) To develop the AI-free husbandry system of fighting cocks, fighting cock arenas and their training grounds.

(1.4) To transform the poultry husbandry for commercial purpose into closed system based on biosafety principles for further development to standard farms.

(1.5) To develop the poultry husbandry system based on compartmentalization principles that comply with safety standards acceptable to international trading partners of Thailand.

(2) To control and detect relocation of poultry and their remains by setting up checking points all over the country. In this connection, the relocation licencing system will also be developed together with publicizing the information on avian influenza.
(2.1) To set up checking points for strict control of relocation of poultry and their remains within the Kingdom, i.e. to control their relocation within the province, inter-province and inter-zone among the five zones of poultry husbandry. To strictly apply measures against smuggling of poultry into the Kingdom along the borders with neighbouring countries, at airports and ports all over the country. Such applications will be conducted in collaboration with the police, military, customs and interior ministry. Those who relocate poultry without relocation licences will be arrested on charge of violating the animal outbreak control law.

(2.2) To develop web-based real time relocation licencing system and transit checks during relocation.

(2.3) To develop veterinarians, livestock department inspectors, and other officials involving in disease control and animal relocation to gain more knowledge and skills for effective application of relevant laws in their work.

(3) To develop and educate farmers, entrepreneurs and workers in poultry business by focusing on training on how to manage husbandry which prevent themselves from avian influenza infection.

(3.1) To organize training courses to enable exchange of knowledge and experiences among officials.

(3.2) To organize training courses to educate poultry farmers on husbandry and diseases prevention for quality production and, as a result, to enable them to earn sufficient income for their living.
(3.3) To provide workers and farmers who wish to change their jobs with short term vocational training courses at the labour development centers and institutes or within their workplaces where employers are willing to cooperate. This will include arrangement of mobile training modules for those in the target areas.

(3.4) To establish employment network and new jobs for workers who cannot carry on their present duties or wish to change jobs.

(3.5) To provide workers with welfare and social security insurance benefits by paying them visits and informing all poultry entrepreneurs concerned to abide by the labour law.

(4) To standardize the poultry slaughter system by regularly checking poultry products in the markets. In this connection, legal measures will be applied.

(4.1) To apply legal measures as well as encourage entrepreneurs to properly carry on their business.

(4.2) To apply nationwide standard checking on poultry meat products sold in the markets and supermarkets to ensure safety for consumers.

(5) To restore husbandry system, pedigrees, and marketing for exotic birds affected by the latest avian influenza outbreak.

(5.1) To promote exotic bird raisers to obtain certification on biosafety to increase confidence in exporting the birds to the world markets.
(5.2) To compile pedigrees and promote exotic birds husbandry by providing raisers with low interest loans coupling with certification.

(6) **To systemize the traceability system in poultry industry** with an application of standard qualifications including softwares, and customized computer programs to meet task requirements and data interchange for export industry of broiler chicken e.g.

(6.1) on systems of entrepreneur registration including their clubs and groupings and registration of slaughterhouses, processing plants and export factories of broiler chicken.

(6.2) on system of certification or licencing including relocation of broiler and fresh chicken and hygienic poultry food certification in the markets.

(6.3) on system of data processing and referencing including data importing and traceability in order to produce diagrams for further checking. This will help in retrieval of products and for further easy access to details of each diagram.

(7) **To do research** on development of poultry husbandry system and risk factors to avian influenza infection during relocation of poultry and their remains.
(7.1) To do research on systemization of poultry husbandry focusing on technology and model development and breeding prototype.

(7.2) To do research on risk factors to avian influenza infection in the fighting cock arenas and during relocation of poultry and their remains.

(7.3) To analyze system of production and marketing throughout their processes resulted from husbandry development e.g. free ranging ducks raising system development together with legal revision in response to husbandry systemization.

(7.4) To analyze and evaluate the use of compartmentalization in poultry raising.

(8) To provide public information to educate farmers and livestock entrepreneurs to encourage their participation in prevention, control and solution of avian influenza issues.

(8.1) To produce public relations media to educate farmers and livestock entrepreneurs emphasizing on development of poultry husbandry and slaughterhouses.

(8.2) To publicize and encourage farmers and livestock entrepreneurs to cooperate in relocation of livestock according to rules, laws and situations of avian influenza and to minimize various negative impacts in case of an outbreak of avian influenza.
**Principal Offices in Charge**

(1) **Ministry of Agriculture and Cooperatives** is the principal office in charge.

- To develop system of poultry husbandry, poultry slaughter to meet standard requirements as well as systemization of AI-free transport of poultry products from slaughterhouses to market places.
- To develop personnel and educate farmers concerned in development of poultry husbandry and their slaughterhouses.

(2) **Ministry of Public Health** jointly supports in checking poultry products sold in markets and supermarkets to ensure safety for consumers.

(3) **Ministry of Interior** and **Ministry of Defence** jointly support in relocation of poultry so as to control the disease transmission in general.

(4) **Local administration organizations** jointly support with other offices concerned in supervising poultry husbandry in communities in accordance with the given guidelines / measures to prevent and control the disease.

(5) **Ministry of Natural Resources and Environment** jointly supports in restoration of husbandry and marketing system of exotic birds.
(6) **Ministry of Education** jointly supports in doing research and development of knowledge base on poultry management and in educating students on AI infection control.

(7) **Office of the Prime Minister** through **Department of Public Relations** jointly supports in communications and public relations campaigns to educate farmers and the general public.

(8) **Ministry of Labour** jointly supports in labour development and protection in poultry husbandry farms and relevant activities.

(9) **Ministry of Commerce** jointly supports poultry traders on their marketing.

(10) **Ministry of Foreign Affairs** jointly supports in foreign trade negotiation.

(11) **The private sector** e.g. poultry raisers, traders and large scale producers jointly support application of the government measures and control for safe poultry husbandry as well as transaction of poultry and their products.
### Strategy 1: Systemization of Poultry Husbandry

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<td>1. To develop poultry husbandry</td>
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<td>2. To control relocation of poultry and their remains</td>
<td>Ministry of Agriculture and Cooperatives, Ministry of Interior, Ministry of Defence</td>
<td>43.5</td>
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<tr>
<td>3. To develop and educate farmers, entrepreneurs and workers</td>
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<td>5. To systemize the traceability in poultry industry</td>
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<td>7. To publicize in order to educate farmers and the public</td>
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“ล้างมืออย่างไร ให้สะอาด”
ล้างมือตั้งแต่ 7 ขั้นตอน
1. ล้างขัดมือกัน
2. ล้างด้วยสบู่และน้ำ
3. ล้างด้วยสบู่และน้ำอีกครั้ง
4. ปลั๊กนิ้วมือด้วย
5. ล้างมือด้วยสบู่และน้ำอีก
6. ปลั๊กนิ้วมือด้วย
7. ดรำวนิ้มมือ
ล้างหน้าและปากด้วย
ล้างมือด้วยสบู่และน้ำ
หลอดน้ำมันดื่ม
ข้อความที่หายไป
NATIONAL
From
Global
Influenza
From
Global
Influenza
Strategy 2:
Disease Surveillance, Prevention and Control in Animals and Humans
Strategy 2:
Disease Surveillance, Prevention and Control in Animals and Humans

Objectives

(1) To further develop disease prevention and control system both in animals and humans to prevent widespread of the disease and rapidly contain the outbreak.

(2) To further develop disease surveillance system to early detect novel viruses and monitor changing disease situations efficiently.

(3) To improve capacity of public health facilities nationwide in caring and providing treatments to all avian influenza and influenza patients, and in preventing hospital acquired infection and occupation-related infection of influenza virus.

(4) To strengthen capacity in research on avian influenza in preparation for potential outbreaks of avian influenza and influenza.
**Targets**

1. To have effective disease surveillance, prevention and control systems on outbreak in poultry that enable enforcement of appropriate measures within 12 hours of notification or being aware of poultry morbidity and mortality. According to the animal disease outbreak law, farmers have to report to the authorities concerned within 12 hours and the authorities have to completely eliminate the infected poultry within 12 hours as well.

2. To have active disease surveillance, monitoring, prevention and control to prevent morbidity and mortality in humans infected with avian influenza.

3. To have essential infrastructure and vital research and development activities as well as central and regional diagnosis laboratories complying with biosafety requirements and mobile laboratories ready for prompt use in case of emergency in animals and humans.

4. To have action teams ready for disease surveillance, diagnosis, care and control of disease both in animals and humans as well as adequate essential medical supplies for effective prevention and control of avian influenza.

5. To have nationwide public health service centers that could provide efficacious caring and treatments to avian influenza and influenza patients.
Measures and Guidelines for Implementation

(1) To develop potential and preparedness of personnel through provision of training courses for physicians, veterinarians and the Surveillance and Rapid Response Teams (SRRT) for prevention and control of avian influenza on diagnosis, treatment and care and promotion of technical know-how exchange with other countries in combating the issues.

(1.1) To organize training courses for physicians, veterinarians, epidemiologists and the Surveillance and Rapid Response Teams (SRRT) on disease control and investigation.

(1.2) To organize livestock-technical-official-run training courses for officials and workers involved in epidemiology and control of avian influenza, especially on sample collection for laboratory investigation.

(1.3) To encourage table top of operation plans and warning system as a preparedness for influenza pandemic.

(1.4) To promote exchange of technical know-how and expertise with other countries through study visits on prevention, control and control of avian influenza based on knowledge and updated technology on disease surveillance, diagnosis, treatment, care prevention and control. The relevant topics are, for example, measures for surveillance, prevention, and
control of avian influenza in each country, vaccination to control avian influenza in poultry, laboratory diagnosis in animals, diagnosis and treatments of avian influenza patients and epidemiology of avian influenza in animals. The information gained will be applied developing guidelines for more effective prevention, control, surveillance, diagnosis and treatment and care of avian influenza in the country.

(1.5) To develop and implement a master plan for long-term national personnel development on veterinary medicine and animal husbandry of the country as a preparedness for newly emerging diseases.

(2) To develop laboratory capacity for disease diagnosis in animals and humans both in central and provincial areas. There will be development of laboratories with appropriate safety requirements as well as an establishment of laboratory network and development of mobile laboratories.

(2.1) Development of laboratory diagnosis in animals
- To develop laboratories to meet the biosafety level 3.
- To develop diagnostic laboratories in response to avian influenza including genetic sequencing, laboratory monitoring for avian influenza vaccine used in animals, and laboratory diagnosis of low pathogenic avian influenza.
To establish laboratory network covering those laboratories at the Department of Livestock Development, universities, and the private sector for sharing of avian influenza data and information.

- To develop rapid and accurate laboratory diagnosis of avian influenza along with implementation of on-site basic laboratory testing. In this respect, test kits will be developed for rapid and accurate screening. Supplies, equipment and vehicles will also be prepared for operations.

- To develop mobile laboratories for use in case of emergency that can rapidly approach certain areas for action.

(2.2) **Development of laboratory diagnosis in humans**

- To develop laboratories in central areas and regional medical science centers to meet appropriate biosafety level.

- To develop avian influenza diagnostic techniques that could produce accurate and rapid results to cope with increasing requests.

- To develop mobile laboratories to meet urgent requirements in high risk areas where outbreaks take place.

- To develop laboratory coordination system and laboratory-based disease surveillance system.
(3) **To develop capacity in diagnosis, treatment and care of avian influenza patients** through development of guidelines and standards as well as establishment of network among government and private hospitals.

(3.1) to develop manuals and guidelines on screening, diagnosis, treatment and care and referral of avian influenza patients in all levels of public health service centers including management of field hospitals.

(3.2) To develop treatment and care standards and prepare personnel and organizations at all levels.

(3.3) To develop a network of physicians and public health staff in government and private hospitals for disease detection and reporting.

(4) **To do research and development of tools for** disease surveillance and control, knowledge base on avian influenza and influenza, research personnel, research infrastructure and policy.

(4.1) To develop tools for disease surveillance and control, i.e. manufacture of pandemic avian influenza and seasonal influenza vaccines, AI antivirals, test kits and disinfectant.
- To do research and develop capacity in manufacture of avian influenza vaccine for poultry with sufficient stock piling for emergency use.
- To do research for further development of pandemic influenza vaccine.
- To search for new appropriate avian influenza antivirals and to determine appropriate dose for severe patients.
- To do research on herbal medicine for treatments of avian influenza and seasonal influenza and to manage knowledge base on herbs for the above purposes.
- To do research on bactericide focusing on resistance of avian influenza viruses.
- To do research for further manufacture of test kits for antibody and antigen detection of avian influenza.
- To do research and develop diagnostic kits for avian influenza.
- To do research and develop personal protective equipment for all personnel concerned.

(4.2) **To develop knowledge base** for epidemiology and mutation of avian influenza viruses both in animals and humans to reduce outbreak risks.
- To do research on epidemiology, avian influenza viral mutation, pathogenesis of avian influenza infection, and to study ecology of poultry that are carriers of avian influenza.
• To do research on evolution of avian influenza viruses in animals and humans at village level, to develop breeding models. To study risk factors of avian influenza infection, its viruses and their transmission to natural birds, genetic sequencing and development of rapid and accurate diagnosis.

• To study the migration routes of important birds in Thailand through satellite follow-up system, bird tagging, bird population estimation, counting migratory birds during cold season and do surveys of their nesting areas.

• To study immune responses in avian influenza patients.

• To study ecological impacts of natural bird killing and to prohibit raising of free ranging ducks in paddies.

(4.3) **To develop research personnel** to strengthen vaccine and medicine development in preparation for mutation of avian influenza viruses both in animals and humans.

(4.4) **To develop research infrastructure** for development of medicine and vaccine for avian influenza, seasonal influenza and other newly emerging diseases.
(4.5) **To do policy– linked research** for decision making of concerned government agencies.

- To analyze and evaluate the compartmentalization system and strategy for establishment of a plant for avian influenza and influenza vaccine manufacture as well as guidelines for systemization of avian influenza surveillance.

- To study domestic and international socio-economic and environmental impacts the disease for further collaboration with other countries in the disease prevention and control.

- To do policy –linked study on avian influenza surveillance in animals and humans.

(4.6) **To develop database system** pertaining to transmission of avian influenza both in animals and humans e.g. database system of avian influenza infected poultry, its patients and outbreak areas. Other data on study and research carried out by various offices will also be compiled in defining agenda for further policy determination by relevant offices.

(5) **To conduct disease surveillance in poultry** Emergency operation centers will be established together with on site disease surveillance network as well as conducting campaigns on assertive disease detection.
(5.1) To set up “war room” both at central and provincial levels in order to alert the public and to devise disease control measures in animals and humans. Early warning system will be established in collaboration with data and information centers for decision making in application of relevant disease control measures. This will include exercises of plans and warning system.

(5.2) To develop and connect different databases on poultry husbandry and their outbreak areas. A GIS-based system will be utilized to aid nationwide operations with an updated and thorough avian influenza situation reporting system.

(5.3) To establish a surveillance network at village and sub-district levels through assistance of livestock volunteers, public health volunteers, sub-district headmen, village headmen under coordination of livestock officials who act as focal points. Government employees in the position of husbandry officials, veterinarians and other officials concerned will be employed to carry out disease surveillance.

(5.4) To organize teams of assertive and integrated disease detection in every village. If detected, the disease control measures will be immediately applied. Samples from poultry will be taken and submitted to laboratories.
(5.5) To organize campaigns on cleaning and disinfection by spraying disinfectants in certain areas which are potential for infection. The disinfectants applied must be of high quality with identical standard for use throughout the country.

(6) To organize disease surveillance on natural and migratory birds and animals in zoos. In this respect, campaigns to set up disease surveillance units will be organized to pursue, control and prevent outbreaks in natural and migratory birds as well as investigation and sampling from animals in zoos and public parks.

(6.1) To run campaigns on integrated detection for avian influenza by sampling from poultry and submitting them to laboratories.

(6.2) To establish operation units for control and prevention of avian influenza outbreaks in areas at risk of infection among natural birds. Centers on surveillance and tracing the disease infected from wild, alien and migratory animals will be set up along with their networks and systems for compilation of notifications and reports on disease detection.

(6.3) To apply disease prevention system based on biosafety measures at the entrance and exit of zoos in prevention and control of the disease.
(7) **To organize surveillance on low pathogenic avian influenza** by sampling from poultry and stipulating control measures to prevent its transmission.

(8) **To organize disease surveillance and control in humans** by focusing on patients with pneumonia, avian influenza, influenza and other respiratory infections along with investigation and control on patients infected from other patients of avian influenza and with influenza of other strains. Particular should be paid to patients with pneumonia and influenza in public health service centers.

(8.1) To organize surveillance on avian influenza and seasonal influenza viruses and to monitor their mutation and drug resistance through genetic sequencing.

(8.2) To organize surveillance on cluster transmission in respiratory infected patients defected from community networks, hospitals, health volunteers and mass media personnel.
(8.3) To investigate every case of suspected avian influenza patients and dead cases of pneumonia patients and to control transmission among patients who are suspected of being infected with avian influenza or influenza of new strains.

(8.4) To generate understanding among the public on disease prevention e.g. to encourage them to pay more attention on hand washing and using cloth masks when having coughs.
(9) **To apply disease control measures when an avian influenza outbreak is suspected** by eliminating poultry and spraying disinfectants on certain areas of contamination as well as prohibition of poultry relocation and application of continuous disease investigation.

(9.1) To eliminate infected poultry and compensate the raisers, the veterinarians will apply their careful consideration in immediately eliminating sick poultry suspected of being avian influenza infected without waiting for the laboratory test results in response to rapid disease control and declare such area as the disaster area as a result of avian influenza outbreak in order to apply for financial compensation and advance for disease control expenses from the emergency budget based on the Ministry of Finance’s regulation on budget reserve for emergency relief B.E. 2546 (2003). However, the order for poultry elimination and indemnity payment has to be based on the animal disease outbreak law.

(9.2) A task force unit will be available at each zone and ready to spray disinfectants in the outbreak areas and areas at risk.

(9.3) To apply prohibition for incoming and outgoing relocation of poultry within 10-kilometer diameter around the outbreak or suspected areas of the so-called ‘avian influenza infection zone’ including prohibition of bringing in new poultry to the above areas. These exercises are subject to regulations set forth by the Livestock Development Department.
(9.4) In case that the laboratory test on poultry produces positive result of detectable avian influenza viruses, further investigation has to be carried out to find out the cause of every infection together with implementation of disease surveillance over the area within 5-kilometer diameter for a consecutive period of at least 21 days.

(10) To manage and procure medical supplies, personal protective equipment for prevention, control and treatment of avian influenza e.g. disinfectants, gowns, avian and seasonal influenza vaccines, antiviral drugs, influenza test kits, life saving kits with monitoring on side effects of post-vaccine application.

(10.1) To procure medical supplies, equipment for personal protection, prevention, control and treatment of avian influenza in poultry e.g. disinfectants, sprayers, and gowns.

(10.2) To secure vehicles with medical supplies and equipment for use in surveillance, prevention and control of avian influenza as a back-up to operations in all areas concerned.

(10.3) To procure avian influenza vaccines for high risk groups to prevent genetic reassortment between influenza viruses. Antiviral drugs for treatment of patients and those who have close contacts with the former, basic influenza test kits, swabs used in sampling and other essential personal protective equipment should also be procured.
(10.4) To estimate demands of vaccines, antiviral drugs, and test kits.

(10.5) To develop manufacture capacity of influenza vaccines for poultry together with monitoring of outcomes of application of vaccines, disinfectants, and medicine for treatment of avian influenza and seasonal influenza.

(11) **Communications and Public Relations** will be utilized in prevention and control of avian influenza outbreak together with assessment of information consumption of the public.

(11.1) In implementation of public communications and health education publicity for prevention and control of avian influenza and influenza pandemic, types of media corresponding to the target audience with an emphasis on disease prevention will be selectively employed.

(11.2) To provide public information on prevention of transmission of avian influenza in natural birds.

(11.3) To evaluate information consumption of the public about avian influenza, influenza pandemic and environmental health management.
Principal Offices in Charge:

(1) Ministry of Agriculture and Cooperatives
- To carry on disease surveillance in poultry, and to manage control of avian influenza when an outbreak is suspected.
- To develop capacity and prepare personnel and laboratories both at central and provincial levels in disease diagnosis.
- To procure sufficient medical supplies and equipment for prevention, control and treatment of avian influenza.
- To do research in preparation for application of influenza vaccine in poultry.

(2) Ministry of Public Health
- To develop capacity and prepare personnel and laboratories both in central and provincial areas.
- To develop capacity in diagnosis, treatment and care of avian influenza patients.
- To procure sufficient medical supplies, equipment for application in prevention and control of avian influenza and influenza in groups at risk.
- To do research on development of avian influenza viruses and their mutation along with new antiviral drugs.

(3) Ministry of Natural Resources and Environment
- To manage surveillance on avian influenza in natural and migratory birds and animals in zoos as well as to disseminate public information on transmission prevention.
- To do research on migratory birds and avian influenza in natural birds.

(4) **Ministry of Science and Technology, Office of National Research Commission, Office of Thailand Research Fund and Ministry of Education** including other educational institutes e.g. universities will jointly support research and development of products applied in disease surveillance and control, knowledge base to evaluate the risks, personnel development, essential research infrastructure and policy-linked research for further decision making of government agencies.

(5) **Ministry of Defence and Ministry of Interior** jointly support the disease control and mobilize forces in case of emergency to prevent and control the disease.

(6) **Office of the Prime Minister through Department of Public Relations** jointly supports communications and public relations work on relevant matters e.g. public health communications and health education on prevention and control of avian influenza in poultry and natural birds and influenza pandemic.

(7) **Local administration organizations** take roles in campaigns on disease surveillance and public awareness of disease prevention and control measures.

(8) **Private sectors and communities** take roles in cooperation with the government sector in publicizing factual information to the public.
### Strategy 2: Disease Surveillance, Prevention and Control in Animals and Humans

<table>
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<th>Measures/Guidelines</th>
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<th>Budget (Million Baht)</th>
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<td>6. To organize disease surveillance on natural and migratory birds and animals in zoos</td>
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<td>7. To organize surveillance on low pathogenic avian influenza</td>
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<td>8. To organize disease surveillance and control in humans</td>
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<td>9. To apply disease control measures when an avian influenza outbreak is suspected.</td>
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<td>10. To manage and procure medical supplies, personal equipment for prevention, control and treatment of avian influenza</td>
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Strategy 3: Preparedness for Influenza Pandemic
Strategy 3: Preparedness for Influenza Pandemic

**Objectives**

(1) To prevent influenza pandemic

(2) To prepare for the pandemic in treatment and care of patients with better coordination when the pandemic occurs.

(3) To mitigate morbidity, mortality and socio-economic impacts resulted from the influenza pandemic while maintaining essential public health services during the pandemic period.

**Targets**

(1) Thailand will be able to effectively manage public health emergency of pandemic.

(1.1) To have preparedness plans and exercises for influenza pandemic appropriate to levels and offices i.e. the national, provincial, district and sub-district levels, at public health service centers, at international quarantine sites, at business sector, at public utilities and at community centers for example, nurseries, theatres and bus terminals.
(1.2) To have standards for preparedness, command system and personnel.

(1.3) To have a response operational center during public health emergency and development of medical personnel for the purpose.

(1.4) To have public communications system for the public during public health emergency.

(1.5) To have a preparedness in treatment and care of the patients at all government and private levels of public health services. Field hospitals will also be established when public health service units are overcrowded.

(2) Thailand will be able to effectively manage the prevention, control and treatment of influenza.

(3) Thailand will be able to be self-dependent in manufacture of vaccines, antiviral drugs, medical supplies and essential equipment for long-term influenza prevention.

(4) The public and communities all over the country will be self-dependent and be able to help each other during the pandemic period.
**Measures and Guidelines for Implementation**

1. **To develop operation systems during public health emergency.** In development of medical doctors and nursing teams during such a situation, operation centers in response to influenza pandemic and mass communication centers will be systematically set up and exercises of the plan will be carried out.

   (1.1) To develop specialized physician and nurse teams who would attend to patients in crisis and become consultants to other medical teams and personnel concerned at both government and private sectors in various areas.

   (1.2) To establish response operational centers during public health emergency, transformed from AI operational centers and to develop all levels of staff members being stationed at the centers.

   (1.3) To systematically establish mass communications centers and to provide mass communications staff, health volunteers and community leaders with training on influenza to mitigate their panic during pandemic.

   (1.4) To prepare and practice the influenza pandemic response plans at all levels i.e. the national, ministry and provincial levels including educational institutes and private sector.
(2) **To develop disease prevention, control and treatment systems** for personnel at all levels - government and private sectors - as well as preparedness of public health service units.

(2.1) To develop knowledge base on treatment and care and transfer it to medical personnel at all levels in both government and private sectors.

(2.2) To develop treatment and care curriculum and to transfer the knowledge to health volunteers or those who work in replacement of the health personnel in case of influenza pandemic.

(2.3) To develop service system and strengthen the capacity of the public health service units i.e. to provide respiratory infected patients with applied AI isolation rooms (AIIR), to manage environment focusing on infected wastes and excreta from influenza patients as well as to manage bodies of those who died of epidemic.

(3) **To develop patients’ support system and emergency operations systemic** procurement of influenza vaccine of pandemic strain and antiviral drugs as well as supervising and monitoring import of influenza vaccines and antiviral drugs.

(3.1) To provide public health service offices and operational centers with pandemic influenza vaccines, antiviral drugs and medical supplies.

(3.2) To administer, supervise and in vestigate import and registration of influenza vaccines
and antiviral drugs as well as to facilitate embassies, missions and donor agencies on their imports of antiviral drugs.

(3.3) To accelerate registration of influenza antiviral drugs and avian influenza vaccines.

(4) To develop control systems and measures for areas at risk. At this juncture, provision of field hospitals and preparedness for emergency relief in communities during influenza pandemic will be managed.

(4.1) To develop models and preparation of field hospitals for patients in the areas under control and to transfer knowledge base to other offices concerned.

(4.2) To be prepared to extend assistance, prevention and relief of public disaster and catastrophe along with coordination for community relief through collaboration with other missions specialized in public reliefs e.g. The Thai Red Cross Society and International Red Cross.

(5) To develop capacity in screening international travelers through development of international quarantine offices including border check points and to do vigorous campaigns at the check points.

(5.1) To standardize international quarantine offices to meet international requirements with procurement of updated screening tools and equipment.
(5.2) To organize public campaigns for visa applicants at Thai embassies and consulates abroad that there will be imposition of strict entry screening at airports and international border check points.

(6) To develop capacity of local vaccine and drug manufacture for long-term self-dependency through establishment of a local manufacture plant for pandemic influenza vaccines and antiviral drugs and to develop research team for industrial-scale vaccine and drug manufacture.

(6.1) To set up a local industrial-scale manufacture plant for pandemic influenza vaccine based on international standard with production of specific pathogen free (SPF) eggs to support the vaccine production process.

(6.2) To develop staff for industrial-scale vaccine research and development processes.

(7) To develop disease prevention and control capacity with non-pharmaceutical interventions in order to enhance the public in every community to have high self-dependency on disease prevention and to mitigate losses during influenza pandemic while medication or vaccines are not available or insufficient.

(7.1) To have no group gathering including closure of some educational institutes and public places as a social distancing measure.
(7.2) To promote the use of health masks, handkerchiefs, or paper tissues to cover one's mouth when having a cough or sneeze and to wash hands frequently as they might have contacted or might have been stained of virus.

(7.3) To arrange quarantines in households in communities during sickness.

(7.4) To limit traveling in order to reduce infection possibility.

(8) To publicize to create awareness and understanding among the public on prevention and transmission of influenza, care for one's self and others while being sick as well as preparation for safe living condition during the pandemic.

(8.1) To coordinate with mass communications and public relations offices in both government and private sectors for further dissemination of knowledge to the public.

(8.2) To organize campaigns on respiratory disease prevention behaviour e.g. hand washing, using of health masks, and avoiding contacts with patients.

(8.3) To disseminate knowledge to the public about safe living condition, self-dependency during emergency of pandemic and being able to assist others.
Principal Offices in Charge

(1) Ministry of Public Health is the principal office in charge.

- To develop operation systems on emergency public health service by setting up response operational centers during emergency, to develop personnel for preparedness to practice the plans and to set up field hospitals.
- To develop disease prevention, control and treatment systems covering knowledge base for all levels of personnel in both government and private sectors together with preparedness of public health service offices and field hospitals.
- To develop advocacy systems for patients and emergency practices in management of vaccines, medicine, medical supplies, local vaccine manufacture and to develop capacity of screening international travelers.

(2) Ministry of Agriculture and Cooperatives jointly supports on disease prevention and control.

(3) Ministry of Foreign Affairs jointly supports on public relations campaigns on dissemination of information to visa applicants at Thai embassies and consulates abroad on screening international travelers at airports and international border check points.

(4) Ministry of Science and Technology, Office of National Research Commission and
universities jointly support in management of research information.

(5) **Ministry of Defence, Ministry of Interior and Local administration organizations** jointly support and facilitate in preparedness and practices of influenza pandemic plans throughout the country together with coordination in emergency announcement and development of collaboration system for public relief in communities.

(6) **Ministry of Education** jointly supports in transfer of knowledge, public relations to generate cooperation on disease surveillance and prevention as well as exercises of operation plans in response to avian influenza and influenza pandemic especially in the areas at risk.

(7) **Ministry of Labour** jointly support in transfer of knowledge to labour forces in business places while **Ministry of Transport** takes roles in supervising public vacuation system during emergency, and managing public disaster relief during crisis while **Office of the Prime Minister** through Public Relations Department takes roles in public relations work.

(8) **Thai Red Cross Society** jointly supports in preparedness and operations in response to public health emergency.
## Strategy 3: Preparedness for Influenza Pandemic

<table>
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<tr>
<th>Measures/Guidelines</th>
<th>Offices in Charge</th>
<th>Budget (Million Baht)</th>
</tr>
</thead>
</table>
| 1. To develop operational systems during public health emergency | Ministry of Public Health  
Ministry of Defence  
Ministry of Interior  
Ministry of Transport  
Ministry of Education  
Ministry of Labour | 145.3 | 158.0 | 158.0 | 461.3 |
| 2. To develop disease prevention and control systems | Ministry of Public Health  
Ministry of Education  
Ministry of Defence  
Ministry of Interior  
Ministry of Science & Technology | 514.2 | 461.7 | 382.7 | 1,358.6 |
| 3. To develop patients’ support systems and emergency operations | Ministry of Public Health  
Thai Red Cross Society | 179.6 | 179.6 | 179.6 | 538.7 |
| 4. To develop control systems and measures for areas at risk | Ministry of Public Health  
Ministry of Defence  
Ministry of Interior  
Ministry of Transport  
Local administration organizations | 18.0 | 18.0 | 18.0 | 54.0 |
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<td>5. To develop capacity of screening international travelers</td>
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<td>6. To develop capacity of local vaccine manufacture for long-term self-dependency</td>
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<td>7. To develop disease prevention and control with non-pharmaceutical interventions</td>
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Strategy 4:
Collaboration among the Public, Private and International Sectors
Strategy 4: 
Collaboration among the Public, Private and International Sectors

**Objectives**

1. To promote roles of the public, private and business sectors on robust prevention and control of avian influenza and influenza transmission under collaboration with the government sector.

2. To strengthen volunteer network on epidemic prevention, control and surveillance on the concept of community’s system, operated by community for community.

3. To enhance international collaboration on disease prevention and control and to uphold Thailand’s interests.

4. To effectively disseminate information to the public and increase their awareness and understanding.

5. To generate international good understanding toward Thailand’s avian influenza situation during seasonal and non-seasonal outbreaks in order to maintain and promote image and economic interests of the country.
Targets

(1) To have volunteer networks for disease surveillance, prevention and control in every level of communities ranging from villages, sub-districts to districts.

(2) To have network for disease surveillance, prevention and control operated by non-government sector especially the business sector involving in production.

(3) To have public relations channels both during seasonal and non-seasonal outbreaks covering every province and be able to have an access to target audience e.g. raisers of laying and broiler hens, duck raisers, raisers of fighting cocks and exotic birds, small scale slaughterhouse operators, fresh food market clubs and associations, and food business operator clubs.

(4) To have guidelines on disease surveillance, control and treatment procedures for collaboration with other countries.

(5) To have channels to publicize information to international communities.
Measures and Guidelines for Implementation

(1) To develop network of the public sectors through their role promotion in avian influenza and influenza prevention, control and surveillance together with doing campaigns on hygienic behaviour.

(1.1) To develop and strengthen roles of the rural administration offices and private bodies and the public’s network as well as sub-district volunteers on avian influenza and influenza surveillance, prevention and control.

(1.2) To develop the coaching system to advocate the public sectors on avian influenza and seasonal influenza surveillance, prevention and control.

(1.3) To develop community information and communication system on avian influenza and seasonal influenza surveillance, prevention and control.

(1.4) To campaign on the public’s hygienic behaviour change to prevent epidemic.

(2) To advocate groupings of farmers and small-scale poultry raiser cooperatives to strengthen farmers both on production and marketing as well as exchange of experiences and updated technical know-how.
(3) **To develop collaboration with business sector** in preparedness for pandemic on information about the avian influenza situation and to mobilize resources from the business sector for implementing avian influenza and seasonal influenza surveillance, prevention and control.

(4) **To develop collaboration on bilateral and multilateral bases with other countries and international organizations** emphasizing on advocacy of medical supplies and equipment from regional stockpiles, laboratory collaboration and assistance, exchange of information on avian influenza and seasonal influenza together with practice of plans in response to epidemic on a bilateral basis.

(4.1) To obtain advocacy of medical supplies and equipment from the global and regional stockpiles and to negotiate for mutual interests especially regional medical supplies in response to pandemic threat.

(4.2) To exchange and compile data and information on avian influenza and seasonal influenza and their outbreaks abroad and disseminate them to relevant Thai offices for outbreak prevention and control in Thailand.

(4.3) To seek financial and technical collaboration and aids e.g. collaboration on
laboratory, treatment and care, safe public health and livestock practices and to transfer such aids to other countries especially members in Thailand’s sub-regional collaboration group for the purpose of avian influenza and seasonal influenza prevention and control.

(4.4) To formulate and practice the plans for avian influenza outbreak and influenza pandemic at a bilateral level.

(5) **To develop management systems among relevant organizations** through coordination and connection among those involved in plan implementation on avian influenza prevention and on avian influenza and seasonal influenza surveillance, control and prevention.

(6) **To do research** for further development of knowledge base and collaboration with others especially neighbouring countries on bilateral and multilateral bases.

(7) **Public Relations**: To publicize correct and updated information and guidelines to the public and various networks as well as to publicize data on international collaboration to encourage participation among all sectors concerned.
Principal Offices in Charge

(1) Ministry of Public Health is the principal office in charge.
   - To develop network of the public sectors on influenza surveillance, prevention and control.
   - To develop collaboration with international organizations and neighbouring countries focusing on disease surveillance, investigation, prevention and control at regional level.
   - To develop knowledge base with international organizations and neighbouring countries on treatment and care including medicine.

(2) Ministry of Agriculture and Cooperatives jointly participates in taking responsibilities on the following:
   - To develop network of the public sectors on avian influenza surveillance, prevention and control.
   - To advocate grouping of small-scale poultry raisers.
   - To develop collaboration among those in the business sector on exchange of information on operations.
   - To develop knowledge base and collaboration with international organizations and neighbouring countries focusing on disease surveillance, prevention and control.

(3) Ministry of Foreign Affairs takes charge of maintenance and development of opportunities, extension and strengthening international collaboration on bilateral and multilateral bases.
(4) **Ministry of Education and universities** jointly advocate research work and transfer of knowledge on hygienic behaviour to students together with knowledge on avian influenza and influenza.

(5) **Office of the Prime Minister** through **Department of Public Relations** jointly advocates development of community and public communications systems.

(6) **Ministry of Science and Technology, Office of National Research Commission** and educational institutes jointly advocate on data compilation and knowledge management for further application.

(7) **Ministry of Interior and Local administration organizations** take charge on management and coordination among offices concerned and advocate the networking civil society.

(8) **Ministry of Natural Resources and Environment** jointly advocates dissemination of correct knowledge on avian influenza, co-existence of human beings and natural birds and to do research on avian influenza from natural birds.

(9) **The private sector**, communities including community volunteers participate in disease surveillance network and in dissemination of knowledge and information within the network disease prevention and control.
**Strategy 4: Collaboration among the Public, Private and International Sectors**

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Total | 409.7 | 403.2 | 406.5 | 1,219.4 |
8 Plan Management and Implementation

8.1 Rationale

Avian influenza and seasonal influenza are diseases that cannot be totally eliminated from Thailand and the viruses are mutating all the time. Moreover, there are, currently, increasing global outbreaks of influenza. It is, therefore, necessary for Thailand to implement long-term disease surveillance, prevention and control. In addition, there must be a body to oversee both policy and implementation of this Strategic Plan for unity and efficacy of avian influenza control and influenza pandemic preparedness both during the pre-pandemic and pandemic period. At present, there is an Executive Committee for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic, established by the Prime Minister Office’s order as a national mechanism under the chairmanship of a Deputy Prime Minister to execute this strategy consolidated by various sectors for continuous and integrated implementation.
However, the above mechanism is subject to term of the Government which will result to an interruption of operations once there is a change of the Government while the avian influenza and seasonal influenza issues are critical and require long-term continual management. It is, therefore, essential to establish a permanent and robust mechanism to continuously carry on the functions and to expedite the strategy implementation to reach the objectives and targets.

8.2 Guidelines to establish an office for management and implementation. For effective, unified and concrete management and implementation of the Second National Strategic Plan for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic, there should be a management body with the following functions:

(1) **During the initial phase:** It is proposed that the Executive Committee for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic which has been set up by order of Office of the Prime Minister, to consider an establishment of a **Sub-Committee for Coordination of the Strategy Implementation** which comprises representatives of all relevant offices to concretely implement the strategies with main functions as follows:
(1.1) To coordinate with offices concerned to enable the effective implementation of the strategy as well as to coordinate for preparation of its budget.

(1.2) To monitor and evaluate the strategic operations make use of lessons learned and obstacles for further strategic adjustment that will be more in line with current situation and enable improvement of regulations suitable for the operations.

(1.3) To be a coordination center on technical and international collaboration.

(2) In the following phases: There should be an improvement of the management body as follows:

(2.1) To transform the Executive Committee into a permanent body so as to be able to continuously and effectively handle the avian influenza and seasonal influenza issues. The Prime Minister Office’s regulations could be used to formalize the Executive Committee with an Office for Coordination on Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic. This Office will act as a secretariat with tasks in line with the evolving situation of the diseases. In this connection, the Office will carry out active operations
achieve the targets. Its functions cover prevention of newly emerging diseases in addition to avian influenza and influenza as well as being a mechanism for knowledge management on avian influenza and newly emerging diseases. The Executive Committee has main duties as follows:

- To supervise policy-linked functions and coordinate implementation among relevant offices to enable effective operations in line with the Second National Strategic Plan.

- To manage and coordinate knowledge on avian influenza, seasonal influenza and newly emerging diseases as a preparation for prevention and control of the diseases as well as coordination of national and international collaboration.

- To monitor and evaluate all relevant offices’ operations according to the Strategy.

- To coordinate strategic reviews to meet the rapidly evolving situation and to coordinate formulation of annual budget preparation and allocation of all offices concerned, and improvement of rules and regulations corresponding to the strategic implementation.

(2.2) To arrange a feasibility study on establishment of a central office for long-term tangible solution of the issues. The Office should be independent in its management, operations, and technology with a legal advocacy to turn it into a permanent, effective and flexible body in response to rapid evolving situation and issues of newly emerging diseases.
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)
APPENDIX

- Pandemics: working together for an effective and equitable response
- Executive Committee for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic
- Sub-Committee for the Preparation of 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)
- English Translation Working Group
Pandemics: working together for an effective and equitable response
Dr Margaret Chan
Director-General of the World Health Organization

Distinguished delegates, ladies and gentlemen,

For the first time in history, the world has been watching the conditions that might start an influenza pandemic unfold in real-time.

Nature has given us an unprecedented warning. And we have been given more time to prepare that anyone dared hope. Scientists have tracked the changing situation with unprecedented precision. A flurry of research has chased after every clue from the molecular genetics of viruses, to the pathways of human infection, to the flight patterns of migratory birds.

In a stunning technical feat, the 1918 virus was reconstructed as part of the detective work. This virus caused the most lethal pandemic ever recorded.

Many headlines have competed with each other for the biggest number of predicted deaths. The most respected scientific journals have published scenarios of the havoc a pandemic could wreak under the unique conditions of the 21st century.

The World Bank has estimated that a pandemic could cost the world economy between 800 billion dollars and 2 trillion dollars, depending on the virulence of the virus.

But both estimates agree: the greatest cause of economic loss will arise from the uncoordinated efforts of the public to avoid infection.

WHO has coordinated laboratory and epidemiological investigations, provided direct support to countries, and constantly assessed the level of threat.

We have also strongly advised and supported all countries to develop pandemic preparedness plans.

All of these events, stretched over almost four years, have raised unprecedented concerns, and unprecedented ethical dilemmas.

An influenza pandemic is a unique event. I know of no other health emergency that can spread to every corner of the globe within a few months.

Once a fully transmissible pandemic virus emerges, its international spread is considered unstoppable.

The three pandemics of the previous century encircled the globe in six to nine months, even at a time when most travel was by ship.

Pandemics are very different from natural disasters and other international emergencies, which usually affect only limited areas or regions of the world.

In such situations, fortunate unaffected parts of the world can provide generous assistance to those in need, as we saw in the Asian tsunami.

This sharing of resources is not expected to take place during a pandemic, especially when protective measures are in short supply. There will be no fortunate unaffected parts of the world.

Faced with a universal threat, each country will look after itself, at least in the immediate pandemic period. This is a natural behaviour of governments: to give first priority to protecting the lives and well-being of directly threatened citizens.

WHO has advised and supported all countries to prepare. Pandemic preparedness has many components, and not all are prohibitively expensive.
But experts agree on one point. Vaccines are the single most important medical intervention for reducing morbidity and mortality during an influenza pandemic.

This creates our most difficult ethical dilemma. The dilemma has two dimensions.

One is a technical problem, related to vaccine manufacturing. The second is a resource problem, related to money.

One touches science. The other touches policy.

We know that manufacturing capacity for influenza vaccines is overwhelmingly concentrated in Europe and North America. We also know that manufacturing capacity is finite.

Current capacity is 1.5 billion doses for a monovalent vaccine. This falls far short of what will be needed for a world of well over 6 billion people, all susceptible to infection.

I know that your deliberations have explored the science side of this issue.

The second dimension is a policy issue. I believe that developing countries are right to ask us to address the issue of equitable access to vaccines now.

Now is the best time to develop an insurance policy for an unpredictable, yet potentially catastrophic event.

Preparedness for an influenza pandemic was the most hotly debated issue during last month’s World Health Assembly.

After more than 40 hours of negotiations, WHO Member States adopted, by consensus, a resolution on the sharing of influenza viruses, and on the sharing of access to vaccines and other benefits.

Developing countries have a strong and valid point to make. The benefits of scientific research on H5N1 viruses need to be shared in a fair and equitable way.

I commend the ambitions of the Pacific Health Summits: to make the future healthier than the past. Pandemic influenza and other emerging diseases are a particular challenge.

The conditions of our highly mobile, interconnected, and economically interdependent world have made these diseases a much larger menace than in the past.

This menace is likely to grow in the future. And it is a menace that can directly threaten every country in the world, not just developing nations.

Such threats to our collective health security call for broad collaboration. We need all the sectors represented in this room.

We need science. We need policy-makers. We need industry. And we need leaders from the business community.

The world faces its first chance ever to have a vaccine available near the start of an influenza pandemic. This summit has been exploring all the right issues.

In this session, you want to move from science to policy. What priorities are needed to meet the challenges facing the global community?

Priorities and expectations for WHO were clearly set out in the resolution on pandemic influenza adopted in May.

Developing countries want WHO to help them develop their own capacity to manufacture vaccines, to conduct research on influenza viruses, and to perform diagnostic tests.

They have asked WHO to establish an international stockpile of vaccines for H5N1 influenza.

They want WHO to establish mechanisms, including innovative financing, to help ensure fair and equitable distribution of pandemic vaccines at affordable prices.

These are some tough assignments, but I am personally committed to doing everything I can to ensure equitable access to H5N1 and pandemic vaccines.

WHO work on this problem began long before the May resolution. A global pandemic influenza action plan to increase vaccine supply was issued last year.

The first agreements to transfer technology to vaccine manufacturers in developing countries have been signed, and I am grateful to the governments of the USA and Japan for their financial support.

Advance procurement mechanisms for a pandemic vaccine are under development. In April, a strategic advisory group of experts confirmed the scientific feasibility of establishing an H5N1 vaccine stockpile.
The experts saw two immediate needs for such a stockpile: to intervene near the start of a pandemic in an attempt to contain it, and to allow protection of essential personnel, such as health care staff, in the initially affected countries.

WHO has initiated work to establish such a stockpile.

I am in dialogue with development partners and with executives from all the leading influenza vaccine companies. I am greatly encouraged by the firm commitments we have received from several companies.

GlaxoSmithKline is announcing their substantial commitment today to provide 50 million doses of H5N1 vaccine to a global stockpile managed by WHO, for which we are most grateful. I am also pleased to announce that Sanofi Pasteur, Omnivest and Baxter will also contribute to the stockpile. These commitments strengthen our collective security. I hope other companies will join.

These are all important steps. But the bigger challenge remains. Will we have enough pandemic vaccine to protect enough people in time?

This brings us back to the issue of fairness.

It is also an issue of self-interest: can the world afford to leave vast populations vulnerable to the high morbidity and mortality that inevitably accompany pandemics? Is it not in our collective best interest to strive for more equitable protection?

This, I believe, must be a priority concern. But there are other priorities.

The current pace of scientific research is commendable, and this needs to continue.

It is deepening our knowledge about pandemics and pandemic viruses. This knowledge will hold us in good stead, whether the next pandemic is caused by H5N1 or another virus. Virus sharing must continue without exception, without interruption. This is our key to understanding the threat, and planning for protection.

Our collaborative leadership should be another priority.

I ask you all to maintain vigilance, maintain preparedness activities. Influenza pandemics are recurring events, and the threat has not diminished.

If you put a burglar in front of a locked door with a sack full of keys and give him enough time, he will get in.

Influenza viruses have a sack full of keys and a bag full of tricks.

They are constantly mutating, constantly delivering surprises. We must not let down our guard.

In conclusion let me remind you that the revised International Health Regulations will come into force in just two days.

These regulations greatly strengthen our collective defences against emerging diseases and other international threats to health.

They also place greater responsibility on WHO and on its leadership.

The responsibility of declaring an influenza pandemic falls on the Director-General of WHO.

Should this responsibility come within my term of office and I hope it doesn’t I need to be sure that I have all the information needed to perform my duty well.

This will almost certainly be the greatest health crisis experienced for almost a century.

This will almost certainly be a major economic crisis as well.

Even the most conservative estimates predict that around 20% of the world population will fall ill within a short period of time.

I have mentioned the World Bank estimates of economic losses, most of which will arise from the uncoordinated efforts of the public to avoid infection.

Apart from ensuring equitable access to vaccines, all of us here will need to provide leadership. It is this leadership that will make efforts to avoid infection more rational and coordinated.

This leadership will need to be based on evidence, and on a firm understanding of the connection between science and policy.

The deliberations of this summit will be a major contribution to this objective. I am pleased to be here.

Thank you.
Executive Committee for
Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic

Chairperson:
Deputy Prime Minister (Mr. Paiboon Wattanasiritham)

Vice Chairperson:
1. Minister of Agriculture and Cooperatives
2. Minister of Public Health
3. Minister of Natural Resources and Environment

Committee Members:
1. Permanent Secretary for Agriculture and Cooperatives
2. Permanent Secretary for Public Health
3. Permanent Secretary for Natural Resources and Environment
4. Permanent Secretary for the Prime Minister's Office
5. Secretary – General of National Economic and Social Development Board
6. Permanent Secretary for Defence
7. Permanent Secretary for Interior
8. Permanent Secretary for Finance
9. Permanent Secretary for Foreign Affairs
10. Permanent Secretary for Commerce
11. Permanent Secretary for Science and Technology
12. Permanent Secretary for Education
13. Permanent Secretary for Labour
14. Permanent Secretary for Industry
15. Permanent Secretary for Bangkok Metropolitan Administration
16. Director of Budget Bureau
17. Director General of Public Relations Department
18. Director General of Medical Sciences Department
19. Director General of National Parks, Wildlife and Plants Department
20. Dr. Supamit Chunsuttiwat
21. Prof. Vet. Dr. Jiroj Sasipreeyajan
22. Prof. Dr Yong Poovoravan
23. Assoc. Prof. Vet. Dr. Thaweesak Songserm
24. President of Veterinarians’ Council
25. President of Veterinarian Association of Thailand
   under the Royal Patronage
26. President of Chicken Production Association for Export of Thailand
27. Representatives of Industry Association of Thailand
   Chamber of Commerce of Thailand
   and Thai Banks Association (Dr. Chingchai Hanjenluck)

Committee Members and Joint Secretaries:
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2. Director General of Disease Control Department

Committee Members and Assistant Secretaries
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2. Director, Office Influenza Program, Department of Disease Control,
   Ministry of Public Health
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Second National Strategic Plan for Prevention and Control of Avian Influenza and Preparedness for Influenza Pandemic
(B.E. 2551-2553) (A.D. 2008 - 2010)

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   Secretary-General of National Economic and Social Development Board

Sub-Committee Vice Chairperson:
   Deputy Secretary-General of National Economic and Social Development Board
   (Mrs. Chutamas Baramichai)

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3. Director-General, Livestock Development Department
4. Director-General, Public Disaster Prevention and Relief Department
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6. Director, National Science and Technology Development Agency
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8. Prof. Vet. Dr. Jiroj Sasipreeyajan
9. Assoc. Prof. Vet. Dr. Thaweesak Songserm
10. Dr. Suwit Wibulpolprasert
11. Dr. Supamit Chunsuttiwat
12. Dr. Kumnuan Ungchusak
13. Prof. (Emeritus) Dr. Prasert Thongcharoen
14. Dr. Sujarti Jatanasen
15. Assoc. Prof. Dr. Prasert Aeuarakul
16. Assoc Prof. (Special) Dr. Thawee Chotpittayasunondh

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4. Mr. Korkiet Somprasong Policy and Plan Analyst 8
5. Mr. Niti Changpinyo Policy and Plan Analyst 6
6. Ms. Saowanee Kongwiboolsiri Policy and Plan Analyst 6
7. Ms. Supattra Cherdchuchai Policy and Plan Analyst 6
8. Ms. Namporn Ananthaweewat Policy and Plan Analyst 4
9. Mr. Chanchai Rukkhawattanakul Policy and Plan Analyst 3
10. Ms. Nisarat Nanthasen Administrative Staff

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