

Multisector Pandemic Preparedness in the ASEAN Region

This paper will focus on work undertaken by the Association of Southeast Asian Nations (ASEAN) and within its respective member states to progress multisector pandemic preparedness since 2006 in order to mitigate non-health impacts of a severe pandemic on society and economy.

In early 2007 the Pandemic Influenza Contingency (PIC) unit of the Office for the Coordination of Humanitarian Affairs (OCHA) Regional Office for Asia-Pacific (ROAP) undertook a study of all publicly available national pandemic preparedness & response plans in the Asia-Pacific region that were published in English language. The objective was to explore whether and to what degree those plans dealt with non-health impacts and issues of a severe pandemic, describing measures that were to be taken in order to either mitigate such impacts or to respond to developing situations. There were two main findings, namely (i) the available pandemic preparedness & response plans dealt almost exclusively with the health issues of a pandemic and covered other sectors mainly regarding their linkages to the health sector response and (ii) there were no “multisector pandemic preparedness plans”, including all relevant essential service sectors as such. Where essential services had been involved in preparedness planning in order to mitigate non-health impacts such as high absenteeism rates on the workforce and supply chains, those sectors might have developed “sectoral” plans and in many cases the main service providers within such sectors, public as well as private ones, had plans for their business operations dealing with pandemic issues.

As part of the study, the ten member states of ASEAN were also looked at and it was found that only Singapore at that time had done considerable work involving other sectors covering what they call the “primary essential services” in pandemic preparedness planning. The had developed a national pandemic alert coding system and the Ministry of Home Affairs had coordinated and supported the preparedness planning efforts undertaken by the various sectors. The approach of Singapore is described in more detail as a case study and will thus not be described here again, except where relevant for the joint approach of ASEAN supported by the ASEAN secretariat.

All other nine ASEAN Member States (AMS) in early 2007 had not yet embarked or made significant progress using a more strategic approach involving other sectors to develop preparedness plans in order to mitigate the non-health impacts of a severe pandemic. The ASEAN secretariat embarked in 2007 on a remarkable process, trying to set up a regional mechanism in order to develop a joint mechanism and tools to improve pandemic preparedness of non-health sectors, especially of those covering the so-called “essential services”. The process led to a number of achievements that will be described in the following. While other regional associations and bodies have worked on joint programs to improve animal and health sector preparedness for avian influenza, the ASEAN process might be the only example of a regional association to work on multisector pandemic preparedness and the integration of pandemic preparedness into a multihazard disaster preparedness approach.

ASEAN Approach on Multisector Pandemic Preparedness

In 2007 the ASEAN secretariat supported by USAID through the ASEAN-US Technical Assistance and Training Facility (TATF) and in partnership with the United Nations System Influenza Coordination (UNSIC), OCHA-PIC and WHO conducted a workshop in Vientiane, Lao PDR involving the ASEAN Expert Group on Communicable Diseases. During the workshop it was recognized that a severe pandemic could have significant impacts on the operation of various services and sectors that if not prepared for it could lead to serious additional problems for the governments, the health sector and the public in general. As a result it was therefore decided that more work should be undertaken within ASEAN to support governments in preparing all relevant sectors for the impact of a severe pandemic focusing on high absenteeism rates and the development of business continuity or continuity of operations plans. As the focus of the work that would have to be done was outside the generic expertise of the health sector, it was agreed that during future meetings in addition to officials of the ministries of health and agriculture the national disaster management authorities of the AMS should be invited as well. During a follow-up workshop that involved the national disaster management authorities of the AMS as well as the head of the Disaster Management and Humanitarian Division of the ASEAN Secretariat an agreement was reached that ASEAN should promote regional preparedness on pandemics and demonstrate that ASEAN can jointly and effectively respond to a pandemic. This was seen in line with the ASEAN Vision to achieve an open, dynamic and resilient ASEAN Community by 2015, including the implementation of sound initiatives which address priorities to prevent the spread and reduce the harm of infectious diseases.

ASEAN Multisector Pandemic Preparedness and Response Work Plan

In March 2008 a detailed ASEAN Multisector Pandemic Preparedness and Response Work Plan was developed defining specific activities that would help filling the gaps in multisector pandemic preparedness among the AMS. The development of this work plan that was endorsed by all AMS and the subsequent implementation of planned activities presents a prime example on how officials of member states of a regional association and international organisations can work and agree together on very specific actions to be undertaken in order to assure better preparedness of each member state for a future threat. The plan defined the vision, main goals, strategies and a number of objectives and activities in order to achieve the goals.

An ASEAN Technical Working Group on Pandemic Preparedness and Response (ATWG PPR) comprising two or three persons from each AMS was established to promote multisector planning and coordination in pandemic preparedness and response at regional level, and support the implementation of the ASEAN Work Plan on Pandemic Preparedness and Response. After consultation with the member states the ATWG PPR agreed on eight services to be considered “essential”, namely Health, Food, Water & Sanitation, Energy, Public Security & Order, Finance, Telecommunications, and Transport. In this context multisector preparedness planning was understood to advocate to all sectors, but especially those covering the essential services the need for continuity of operations or business continuity planning in order to mitigate non-health impacts of a severe pandemic.

In February 2011 a new work plan on pandemic preparedness and response was finalised and an Action Plan, towards building ASEAN multisectoral PPR mechanisms, was formulated, which is expected to be presented for review and adoption at a meeting of health, disaster and national security officials later in 2011.

The Disaster Management and Humanitarian Division of the ASEAN Secretariat continued also to play a very significant role in the development and subsequent implementation of the work plan since 2007. In addition to its contribution implementing the work plan activities, it took on the task to foster the inclusion of pandemic scenarios into the scope of hazards disaster management authorities should plan and prepare for. In 2005 ASEAN had agreed on an “ASEAN Agreement on Disaster Management and Emergency Response” (AADMER), which was finally signed into effect in December 2009. As a result of the involvement of Disaster Management and Humanitarian Division of the ASEAN Secretariat in the multisector pandemic preparedness work of the ASEAN secretariat, pandemics have been integrated into the AADMER and thus pandemic preparedness planning is incorporated officially into disaster preparedness. The AADMER further underlines the importance of integrating multihazard disaster preparedness into a wider development framework, which is also of importance for future approaches to pandemic preparedness.

During the Southeast Asia Regional Multisectoral Pandemic Preparedness and Response Table Top Exercise the existing Standard Operating Procedures for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations (SASOP) were tested for their applicability respective gaps dealing with a severe pandemic. The new action plan is based on the decision within ASEAN that multisectoral pandemic preparedness and response should be incorporated within the framework of AADMER and recognized the need to formulate mechanisms and more specific Standard Operation Procedures (SOP)s in addition to the SASOP. It was also recognized that it is important in this context to define and specify the roles and responsibility of the recently established ASEAN Humanitarian Assistance (AHA) Centre with regards to pandemic preparedness and response, in order to avoid duplication or contradiction with existing structures and mechanisms, especially those within the UN system. It is proposed to assign the AHA Center as the focal point and coordinating body for pandemics and all ASEAN regional responses to Public Health Emergencies.

ASEAN Indicators to Assess National Multisector Pandemic Preparedness and Response

In 2008 a small working group comprising delegates from Malaysia, Indonesia and Cambodia, representatives from UNSIC, OCHA-PIC, ASEAN-US TATF and the ASEAN+3 Emerging Infectious Diseases Programme Phase II as well as the Health and Population Unit and the Natural Resources Unit of the ASEAN Secretariat was set up to develop an indicator system to be used by all AMS to assess the level of their national multisector pandemic preparedness. This indicator system was designed to define required structures, policies, mechanisms, etc. that would need to be in place in order to assure preparedness of the relevant sectors for non-health impacts of a severe pandemic such as high absenteeism rates. It defined a number of

criteria for the identified relevant areas of multisector pandemic preparedness at four levels¹. This was done in order to enable the indicator system to be used for assessments of multisector preparedness similar to a system developed by WHO for the assessment of pandemic preparedness of the health sector. The indicators were grouped into four areas that were considered the key elements that should be addressed for a comprehensive national preparedness and response to an influenza pandemic. The four areas and the specific types of indicators listed represented the “minimum areas” to be addressed for multisector pandemic preparedness and response.

1. National Government Planning and Coordination
2. Subnational Government Involvement
3. Whole of Society Planning
4. Sectoral planning and continuity of essential services

The different levels of indicators represented the level of progression of the country to a full state of pandemic readiness for response.

- **Level 0** indicated that a country has not yet started preparing non-health sectors for a pandemic or initiated preparedness activities that did not yet meet the criteria for the other levels.
- **Level 1** generally reflected a stage where a country had initiated pandemic planning efforts in non-health sectors to be ready and able to respond to an influenza pandemic at a minimum level to mitigate non-health impacts on at least the essential services.
- **Level 2** generally reflected a situation where a country had completed its planning efforts and begun to implement the non-health sector pandemic preparedness activities laid out in its plans.
- **Level 3** reflected that a country had fully tested and implemented its pandemic preparedness plans – i.e., the plans had been operationalised and institutionalised. This represented the optimal or desired level of multisector preparedness.

The AMS endorsed the indicators to be used for the assessment of multisector pandemic preparedness and in June 2009 a pilot assessment was carried out in Indonesia in order to test the system and the preparations necessary for such an assessment and to revise the indicators if found necessary. While there were a number of short-comings in the pilot assessment and the methodology, it was found that the approach could provide valuable insights into the situation with regards to pandemic preparedness planning of non-health sectors, including public and private service providers, indicating areas that would require further strengthening in order to mitigate significant non-health impacts of a severe pandemic on continuity of operations of essential services. The emergence of Pandemic (H1N1) 2009 interrupted the plans for the assessment of the remaining AMS, which was finally continued in a different format in a number of countries at the end of 2010 and in early 2011, indicating that despite the fact that Pandemic (H1N1)2009 was not severe and thus did not appear to have any significant impact on the

¹ The small working group took into consideration the WHO Pandemic Influenza Preparedness Guidance and UNOCHA’s “PIC National Pandemic Preparedness Indicators” in developing the key areas for indicators to assess multisector pandemic preparedness and response

continuity of operations of essential services, governments of the AMS have recognized the potential value or preparedness planning of non-health sector and a “Whole of Society” (WOS) preparedness approach. While some of the originally planned activities of the ASEAN Multisector Pandemic Preparedness and Response Work Plan, such as the development of tools and specific in-country assistance to fill the gaps identified during the national assessments of multisector pandemic preparedness have not been carried out as part of the ASEAN approach, a number of AMS have initiated specific measures on their own and with some support provided by the UN system through the Central Fund for Influenza Action (CFIA).

Southeast Asia Regional Multisectoral Pandemic Preparedness and Response Table Top Exercise

Another remarkable achievement of the ASEAN approach to strengthen multisector pandemic preparedness of their member states was the implementation of a major simulation exercise carried out in Phnom Penh in August 2010. The exercise was called “*Southeast Asia Regional Multisectoral Pandemic Preparedness and Response Table Top Exercise: Managing the Impact of Pandemics on Societies, Governments and Organizations.*” The goal of the exercise was to improve the multisectoral “Whole of Society” capabilities of ASEAN Member States individually and collectively to prepare for and respond to a severe pandemic with potentially devastating effects on the region. The objectives of the exercise were:

1. To gain a common understanding by all participants of existing regional preparedness and response plans and mechanisms.
2. To confirm essential service sectors, and identify planning and response elements and issues that influence the preparedness and continuity of operations by government and civil society at the national and regional level, including sectoral interdependencies that may result in additional effects.
3. To determine when an initial health crisis response changes to a multisectoral crisis severely impacting the functioning of society and interaction among countries within a region; identify key trigger points for actions by ASEAN (as an organization), ASEAN Member States, and other regional and international organizations and assisting states.
4. To identify the gaps in how ASEAN (as an organization) and ASEAN Member States coordinate and cooperate amongst themselves, and with UN and other key international agencies including donors; develop strategic options for regional cooperation when the response requires broader efforts.
5. To examine the regional communications strategy, protocols and plans for possible improvements.
6. To identify recommendations for improvement to existing standard operating procedures (SOPs) and plans for interagency and cross-border cooperation.

The concept and the objectives of this simulation exercise found great interest and support by international organisations and significant financial and planning support were made available by USAID and the Asia Pacific Centre for Security Studies (APCSS) in order to enable the exercise to take place. It was carried out over three days, with an introduction day prior to the exercise and another day for the presentation and discussion of the results afterwards. Participants of the exercise comprised approximately 10 officials per member state of the

different ministries covering the essential services, officials of the ASEAN secretariat and ACDM as well as from various UN agencies such as WHO, UNSIC, OCHA, UNICEF, WFP, ILO, IOM and ICAO from country, regional and headquarter levels. In addition observers were invited from other regional associations such as the European Union (EU), the African Union (AU), League of Arab States (LAS), South Asian Association for Regional Cooperation (SAARC), Secretariat of the Pacific Communities (SPC), etc. This has been most likely the only regional multisector simulation exercise globally focusing on on-health impact a severe pandemic could have on various sectors and the preparedness measures that should be taken and planned for.

Lessons learned

The practical experience gained within the ASEAN secretariat with the work done and the process applied for multisector pandemic preparedness has helped in the formulation of the “ASEAN AGREEMENT ON DISASTER MANAGEMENT AND EMERGENCY RESPONSE” (AADMER) Work Programme for 2010 – 2015, which was adopted by the 15th Meeting of the ASEAN Committee on Disaster Management (ACDM) in March 2010 in Singapore. Not only are pandemics included in the scope of work outlined in the AADMER as well as the work programme, activities planned in order to strengthen preparedness of the AMS have benefited from the experience gained and may have been defined as a result of the work carried out on multisector pandemic preparedness. Under strategic component # 3 “Preparedness and Response” two activities target specifically pandemic, namely (i) to “*develop other appropriate SOPs to respond to specific disasters, such as pandemics, and link them to SASOP, if appropriate*” and (ii) to “*develop systems and mechanisms needed to ensure the continuity of essential services when required in a disaster, such as severe pandemics, and link them to SASOP*”.

The proposed activities for output 13, “*Increased preparedness and response capacity of ASEAN Member States*” are very much structured in line with activities in the ASEAN Multisector Pandemic Preparedness and Response Work Plan.

- *Establish a baseline on the overall ASEAN’s level of preparedness and response*
- *Propose and agree on preparedness and response benchmarks*
- *Develop and conduct capacity development strategy, including support for contingency planning, to achieve the benchmarks*
- *Conduct periodic evaluations of preparedness levels and response capacities of Member States through After Action Reviews of actual emergency responses to gather feedback from disaster-affected community, government, other ASEAN Member States who responded and other humanitarian actors*

Developing an indicator system that would be used by all member states of a regional association in an assessment of the baseline preparedness status and thus creating more harmonized and potentially even standardized results, might be a valuable approach not only for pandemic preparedness capacities but also for a broader multihazard approach. The following is a list of potential lessons that can be drawn from the work and experience in the ASEAN region.

- While national planning and action will ultimately be required in order to achieving any degree of pandemic preparedness (multisector or health sector specific), the regional approach provided significant and valuable boosts for the member states and helped progress in-country activities. The work of the ASEAN secretariat and the ATWG PPR has provided additional motivation and created stronger national commitment.
- Regional associations can support the planning and implementation of specific technical action, if properly prepared and endorsed by the Member States through a consultative process. Activities planned and carried out as part of the regional approach have helped the governments to successfully advocate to their own governments and to other line ministries for the need and the objectives of multisector pandemic preparedness planning. It has also provided and additional and complimentary support for in-country activities of the AMS.
- International organisations can work effectively and successfully together with regional associations and provide relevant and important technical advice and assistance. The very close, trustful and good collaboration between the officials of ASEC, the AMS and international organisations has helped significantly in the development of the details of the work plan and the successful implementation of activities and thus contributed to the overall outcome and success.
- Inter-regional exchange of information and experience as well as cooperation might be a valuable vehicle to provide further motivation and support to progress with the implementation of preparedness activities at regional as well as member state level in other regions.
- Regional activities can easier get a higher level of political attention within governments and help promoting their significance.

National Multisector Pandemic Preparedness Planning in ASEAN Member States

While Singapore had started to involve other sectors in pandemic preparedness planning at a very early stage in recognition of the lessons learnt during the SARS outbreak in 2003, other countries have started to focus on non-health issues much later and not necessarily in a very strategically planned way. The following describes the situation in those AMS where information was available to the author.

Lao PDR: During the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003 the Ministry of Health (MOH) set up a National SARS Preparedness Taskforce comprising of officials of various departments of the MOH considered most important to be involved in the different aspects of preparedness planning. In response to the outbreaks of avian influenza H5N1 in Viet Nam the MOH adapted its approach to SARS and utilized it to prepare for the detection of H5N1 in birds as well as possibly human cases, to develop quarantine and isolation capacities and implement measures building the necessary capacities in all provincial and district hospitals throughout the country. In 2006 the National Avian and Human Influenza Coordination Office (NAHICO) was established within the MOH in order to more effectively coordinate the work on strengthening preparedness and response measures of the agricultural and the health sectors and to implement the National Avian Influenza Control and Pandemic

Preparedness Plan 2006 – 2010. While the plan focused mainly on activities in the animal and human health sectors strategy 5 of the plan included some activities related to multisector preparedness, strengthening the cooperation with the National Disaster Management Office (NDMO) and preparing for humanitarian issues, however without any further specification on how this should be carried out.

Officials of the MOH and NAHICO, which was subsequently renamed as National Emerging Infectious Diseases Coordination Office (NEIDCO) participated in the twice annual workshops organized by the ASEAN secretariat on Multisector Pandemic Preparedness and hosted one workshop in 2007. During that workshop the participants of the ten AMS recognised the need to involve other sectors and to focus not only on the health issues such as surveillance, case detection, isolation and treatment, but also to prepare for non-health impacts of a severe pandemic, such as high absenteeism rates and disruptions of supplies and other services. The participants of NEIDCO and other departments of the MOH in Lao PDR also came to the view that it would be important to involve other sectors much stronger in pandemic preparedness planning and with a focus on planning how to maintain their operations in face of high absenteeism rates. However, the different focus on continuity of operations or business continuity planning (BCP) was seen as being clearly outside the field of expertise of the MOH and their responsibility. As a consequence it was necessary to move the responsibility for those aspects, to coordinate continuity of operations planning activities in other sectors that are within the regulatory responsibility of other line ministers to another and higher governmental institution. The MOH and NEIDCO went through a prolonged process of discussions and meetings at highest level of government in order to explain why other sectors would need to be involved in preparedness planning in a way that could not be managed and coordinated by the MOH.

In July 2009 the MOH organized in cooperation with the UN system an “Orientation Workshop” for the Prime Minister’s Office (PMO) and other line ministries in order to explain in detail the possible no-health impacts of a severe pandemic and to point out why other sectors would need to develop continuity of operations plans in order to mitigate as much as possible such impacts and to maintain operations at least of the essential services. This event was followed by a national multisector pandemic simulation exercise (table top exercise) again prepared and implemented in cooperation with the UN. As a result of the advocacy work the MOH and NEIDCO carried out and following those two important events, the government acknowledged the need for a broadening of the multisector preparedness planning process in Lao PDR and it was decided that the Prime Minister’s Office should be put in charge of organizing and coordinating the necessary work that had to follow.

With the Southeast Asian Games (SEA Games) being held at the end of 2009 in Lao PDR the government came to realize in face of pandemic (H1N1) 2009 more clearly the possibly disastrous impact a pandemic could have on several sectors and its consequences for society and economy. As a result the government realized the benefits of multisector preparedness including business continuity planning, speeding up the process that had been initiated several months earlier.

In January 2010 the Prime Minister’s Office convened a workshop and a seminar for officials of all relevant line ministries of Lao PDR in order to introduce the concept and methodology of

business continuity planning with the objective to initiate a process in each ministry to develop their BCPs. This was the first time for ministry officials to be confronted with the topic of business continuity planning and it took another several months of follow up meetings with the PMO and the line ministries in order to understand this “alien” concept and how to apply it within their organization. It had also to be explained that developing business continuity plans within ministries would not equal “sectoral preparedness” and that more steps would have to follow to achieve real multisector pandemic preparedness, involving other key actors and service providers from the public as well as the private sector.

After the understanding of the concept of BCP and its application for ministries and sectors had been better understood the PMO confirmed its commitment to the process and instructed all line ministries to move ahead, to set up BCP teams and continue to develop BCPs for their ministries. With support from the UN and funded by the Central Fund for Influenza Action (CFIA), more workshops and trainings were organized throughout 2010 and early 2011 and three ministries (covering the energy, telecommunication and water & sanitation sectors) have developed operational BCPs and another seven ministries are in the process of doing so. While the development of operational business continuity plans for a ministry is a time consuming and challenging process that takes considerable time and effort of numerous persons, the government of Lao PDR and the ministries have continued to commit themselves to the process, even though less external support has been available since 2011. The MOH and NEIDCO have suggested that since BCP is an ongoing process, an effort should be made to include it as a central pillar of the second 5 year National Plan 2011-2015 for the control of emerging infectious diseases.

In addition to this focus on developing BCPs within line ministries as a first step towards sectoral preparedness planning the International Labour Organization (ILO) provided support in Lao PDR in late 2009 through their Pandemic Human Influenza and the Workplace Project, focusing on Small and Medium Enterprises in order to (i) support employers’ and workers’ preparedness plans, (ii) reduce the infection risks at the workplace and (iii) protect their businesses under possible pandemic situations.

Between the UN Country Team and key government counterpart such as National Disaster Management Office there are ongoing discussions on mainstreaming BCP into the disaster preparedness and response framework in Lao PDR. This shift is being considered given the current national context, where there may be more opportunity by the Government to mainstream the concept of business continuity in relation to disaster risk reduction. It is the view of the PMO that business continuity would be applicable and value-adding in enhancing disaster risk reduction primarily due to the multi-sectoral character of natural disasters.

Malaysia: Pandemic preparedness and response planning has been mainly the responsibility of the Ministry of Health and the National Influenza Pandemic Planning Committee (NIPPC), which is the technical and advisory committee for the Ministry of Health (MOH) Malaysia and the National Inter-ministerial Influenza Pandemic Committee (NIIPC). Through the cooperation of officials of MOH with the ASEAN project on multisector pandemic preparedness and response and the ATWG PPR, the MOH recognized the importance of other sectors to develop preparedness plans with a focus on maintaining continuity of operations during a severe

pandemic. However, the MOH did not consider itself well placed to instruct or guide other sectors on business continuity planning or to coordinate such planning efforts of other sectors. It requested service providers with relevance regarding the spread of the virus, such as airlines, airports and others to develop specific pandemic preparedness plans, but their focus was on prevention and hygiene measures and not on BCP measures to mitigate the impact on their operations.

A number of events have been carried out in Malaysia in cooperation with international organisations. In October 2009 the International Labour Organisation (ILO) in cooperation with the Department of Occupational Health and Safety and with support from WHO and UNOCHA carried out a “National Awareness Raising Workshop on Protecting Employees and Business from Pandemic Human Influenza. ILO continued in 2009 and 2010 to provide some support for Small and Medium Enterprises (SME) to implement pandemic preparedness measures at the workplace and promoted business continuity planning.

In May 2010 the International Civil Aviation Organization (ICAO) carried out a workshop on multisector pandemic preparedness planning in conjunction with an aviation BCP seminar inviting airlines, air navigation system operators, airport authorities and other relevant aviation service providers in order to discuss and exchange experience and work undertaken on business continuity plans to mitigate the impact of a pandemic on aviation sector operations.

In addition to the NIPPC under the MOH, the National Security Council (NSC) with the federal Disaster Management and Relief Committee (DMRC) as its technical arm is the agency under the Prime Minister’s Department with the mandate to coordinate disaster management and response involving various sectors and to manage security issues and formulate relevant security policies. While the NIIPC provides technical expertise and inter-agency coordination in the prevention and control of the pandemic the DMRC facilitates logistical arrangements and provisions of relief supply during a public health emergency.

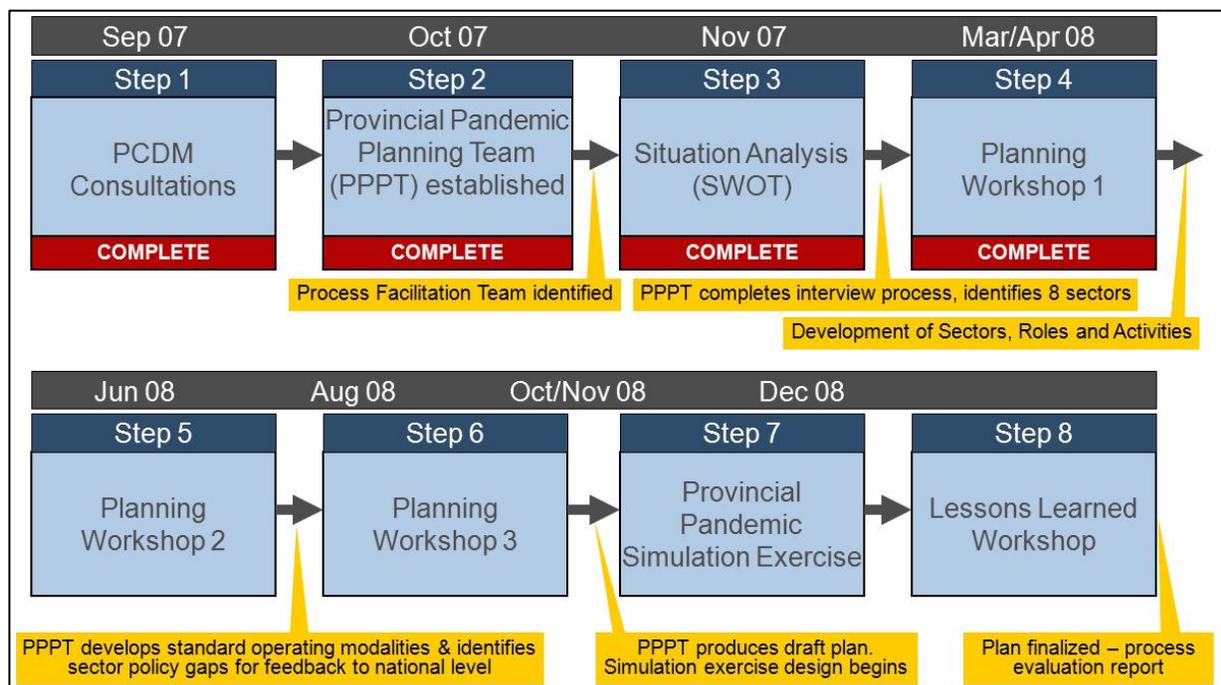
While the MOH has recognized that multisector pandemic preparedness planning should also include BCP of essential services and some activities have been initiated in cooperation with international organisations, there does not appear to have developed a more planned and strategic approach to assure BCP are developed in the essential service sectors.

Cambodia: In Cambodia the importance of continuity of operations planning of non-health sectors was recognized at a rather early stage in 2007 and some work was undertaken with the support of WHO and the UNCT. As a result the National Centre for Disaster Management (NCDM) was officially assigned the responsibility to guide the response planning and coordination activities in the WHO phases 5 and 6 (of the old “WHO” pandemic alert system). Under the NCDM is a National Emergency Coordination Center (NECC) that is specifically mandated to provide the emergency coordination support for pandemic preparedness, response and recovery.

With support from WHO the NCDM established a work plan to develop a multisector, operational pandemic response plans in one province through a comprehensive and process

including a series of workshops and training, involving officials of various departments of the provincial government.

Graph 1: Multisector preparedness planning process used in Siem Reap Province in Cambodia.



Main features of the process included the following:

- (1) Leadership through Disaster Management Governance Structure from National to Commune level, but with a focus on the Province.
- (2) High level political commitment through leadership of Disaster Management through the Office of the Prime Minister
- (3) Inter-sectoral focus for disaster response operations, with private sector and civil society participation
- (4) Decentralized and operational focus for pandemic planning, with, as a first step, a focus on the Province.
- (5) A focus on Cambodian language facilitation and guidance, in order to develop a plan that is locally owned, locally understood, and that is responsive to local conditions

The process was led by a Provincial Planning Team under the Direction of the Provincial Disaster Management Committee (chaired by the Provincial Governor). Sector participants included disaster management, health, security, water and energy, transport, food security, public information, finance and civil society and private sector. Strategic and policy advice is provided through WHO. The process was facilitated by a WHO facilitation team and a representative from the National Disaster Management Committee. The aim was to gain experience with the process of developing multisector pandemic preparedness plans in one province before adopting the approach in other provinces and at national level.

While the multisector approach in the pilot province was much more time consuming and challenging as originally foreseen, it was finally successfully completed and the identified sectors developed action plans in order to assure that relevant preparedness and response capacities could be built in the province. The plans developed in a participatory manner were tested in a functional simulation exercise in the province in early 2009 in order to identify gaps and to test the validity of the planned measures.

While important and significant lessons were learned during the planning process as well as in the simulation exercise, it proved to be very difficult to adopt the process in other provinces or at national level due to the lack of support to continue assisting the NCDM, which was lacking funding as well as the human resources in order to continue this work on its own. Currently all ministries are asked to assign focal points who will be asked to play a key role in future activities to develop preparedness measures in the essential service sectors and guidelines for Continuity of Operations planning have been disseminated to the Ministries. In January 2011 a “Multisector Pandemic Preparedness: Continuity of Operations Planning Workshop” was held in the original pilot province in order to initiate the planning process for the various national essential service sectors. The planning will build on plans those sectors have already developed in preparedness for various natural disasters.

Brunei Darussalam: Similar to most other AMS multisector pandemic preparedness planning in Brunei Darussalam focused on health impacts and issues and was the sole responsibility of the MOH. Through their participation in the ASEAN project and the ATWG PPR, the MOH recognized the need to promote continuity of operations planning for the non-health impacts to other sectors. The Government assigned the responsibility to coordinate this multisector pandemic preparedness planning process to the National Disaster Management Centre, which in August 2009 asked UNOCHA and the Business Continuity Management Institute in Singapore to organize a Multisector Pandemic Preparedness Orientation Meeting for various line ministries in order to introduce the relevant non-health issues and give an overview about continuity of operations planning for a pandemic. Although the workshop provided to many participants a good understanding of the issues, it is not clear whether the NDMC was able to continue the work. However, in the “National Progress Report on the Implementation of the Hyogo Framework for Action (2009 – 2011)” published in April 2011 reference is made on (i) the integration of disease outbreaks and pandemics into a multihazard and multisector preparedness approach under the responsibility of the NDMC.

Thailand: The Ministry of Public Health (MOPH) and the Subcommittee on National Influenza Pandemic Preparedness have been in charge of directing the national efforts on pandemic preparedness and response. The National Disaster Prevention and Mitigation Committee under the Ministry of Interior at policy level and the Department of Disaster Prevention and Mitigation (DDPM) at strategic level are responsible for disaster preparedness and response, including all types of hazards. The national committee on Avian Influenza and Pandemic Influenza with representations of other sectors serves as central mechanism for multi-sector coordination of pandemic preparedness. A National Strategic Plan on AI & PI Preparedness and Response was developed for 2005 – 2007 and revised for 2008 – 2010, the latest revision is currently in the process of being finalized. Thailand’s National Disaster Prevention and Mitigation Plan 2010-14 also encompasses pandemics.

From 2008 until now simulation exercises involving other sectors have been conducted in all provinces in Thailand, however mostly with a focus on the health issues. A number of large companies in Thailand have developed specific BCPs dealing with the potential impacts of a pandemic. The Bank of Thailand spearheaded the preparation of BCPs for pandemic influenza, setting a framework for other local banks. Major state enterprises in energy, PTT (Petrochemical Company), EGAT (main public energy generating authority) utilized their emergency response committees to organize pandemic preparedness planning and many more have conducted similar activities. This was done not in response to a request of the government, but independent of it and it involved also not a process exploring interdependencies and sharing experience and information among each other.

The Ministry of Labour carried out in cooperation and with support of ILO numerous trainings (covering up to in 5,000 large and small factories in 20 industrial estates) for SMEs on pandemic preparedness and in some cases on BCP throughout the country. Assessments of factories were carried out in order to advise on how to improve hygiene and preventions measures, but also how to possibly restructure workflow and processes in a way to reduce the risk of contamination, close/direct person to person contacts and the opportunities for infection at the workplace. A self-learning guide for BCP has been developed in 2009 and based on this some government sectors have also developed BCPs. While numerous activities dealing with BCPs and workplace preparedness have taken place, it was not based on a specific strategic approach with a national mechanisms in place to proactively coordinate this work and initiate business continuity planning in all sectors, including those that have not started this process.

However, the MOPH is now very much promoting to put more emphasis in future on such activities and has proposed to include specific measures and goals in the new version of the national preparedness strategy, which will be widened, covering not only influenza but more broadly Emerging Infectious Diseases (EID). The goals are to assure that the new national plan will provide a framework for synchronized development, address gaps and weaknesses identified and ensure sustainable capacities and cooperation. The plan will promote whole-of-society involvement, multisector and international cooperation, and BCP development and active multisector participation in the development and implementation of the plan. It is planned to mainstream Public Health Emergency (PHE) preparedness & response into national disaster management mechanisms and to expand business continuity planning in non-health sectors by extending partnership in BCP training & consultancies, and encouraging BCP experience sharing.

Indonesia: Indonesia has been the country most hit with human cases and deaths from Avian Influenza H5N1. Being the world's largest archipelago, it has around 17,000 islands (over 6,000 of which are inhabited) and spans over 5,000 km from east to west. Health and veterinary services and related infrastructure vary markedly across the country and the challenges regarding communication and logistics in cases of emergencies or outbreaks are significant, further complicated by other issues as cultural and religious diversity, etc.

There have been confirmed clusters of human to human transmission in 2006 and 2007 in Indonesia, although the numbers were low. For some time information about the number of human cases were not obtainable due to political considerations, but since the elections in 2010 and the change of government, this problem does not exist any longer.

In March 2006 the President of Indonesia issues a decree establishing the National Committee for Avian Influenza Control and Pandemic Influenza Preparedness, known as KOMNAS FBPI. It is an intersectoral Ministerial-level committee, headed by the Coordinating Minister for People's Welfare, with 14 members, including the Ministers of Agriculture and Health, the Chief Commander of the Indonesian National Army, the Head of the Indonesian Police, and the Chairman of the Indonesian Red Cross.

KOMNAS focused originally on 1) research and development, 2) animal health, 3) human health, 4) vaccines, 5) anti-viral medicines, and 6) mass communication and public information. Through the participation of KOMNAS officials in the ATWG PPR, it started to support since 2007 and more so in 2008 at the additional focus on multisector pandemic preparedness planning. In August 2007, KOMNAS FBPI issued "Influenza Pandemic Preparedness Plan Guidelines" for the Government of Indonesia, identifying the following five major objectives:

- To provide the capacity, ability and mechanism to respond to Pandemic Phases 3 to 6, and the recovery phase;
- To coordinate strategies to prevent, delay and mitigate the spread of influenza;
- To minimize morbidity and mortality;
- To minimize economic losses;
- To minimize social and cultural disruptions.

While two of those objectives focused on non-health sector preparedness, KOMNAS lacked the required expertise, skills and manpower to provide sufficient guidance to other sectors, as was confirmed through an assessment UNOCHA carried out in Jakarta in conjunction with an WHO assessment in 2007. There was also a lack of clarity of the role of the previous disaster preparedness and response agency BAKORNAS in pandemic preparedness and response and the specific roles and responsibilities of KOMNAS versus BAKORNAS.

Despite such weaknesses Indonesia plaid and important role in supporting the work carried out by the ATWG PPR and it volunteered to pilot test the developed indicator system for the assessment of national multisector pandemic preparedness capacities in 2009. As the assessment was carried out a few months after the occurrence of Pandemic (H1N1) 2009, it limited the resources available to prepare the pilot assessment as well as the availability of assessors, as it was originally planned that the assessment would be carried out involving teams of all other AMS. Despite those problems the assessment took place during one week in June 2009 and produced some importance lessons that were later on used to revise the assessment methodology. In general the assessment confirmed the results obtained by the UNOCHA/WHO assessment carried out two years earlier.

In 2007 the Government approved the Disaster Management Law which offers a holistic approach to the disaster management cycle (pre-, during, and post disasters) and required the creation of a National Disaster Management Agency (BNPB), which was established in 2008 to coordinate these strategies. In the pre-disaster phase, the new agency coordinates all contingency, preparedness, mitigation, prevention and Disaster Risk Reduction (DRR) activities.

While biological hazards and epidemics are theoretically included in the scope of work of BNPB, its focus has so far very much been on the natural disasters Indonesia frequently experiences.

In 2008/9 the IFRC/PMI humanitarian pandemic preparedness initiative (H2P) worked at community sensitization and mobilization for preventing and mitigating the humanitarian consequences of high impact epidemics. Based on an Indonesian adaptation of the IFRC global manual for humanitarian pandemic preparedness, PMI conducted a countrywide training which resulted in some 3,360 district volunteers been trained. The International Organisation for Migration (IOM) worked together with the MOH and KOMNAS in 10 provinces to provide assistance to displaced and migrant populations which are recognized as more vulnerable to disasters. In the second half of 2010, the International Labor Organisation (ILO) started in cooperation with the Ministry of Health and the ministry of Manpower and Transmigration (MOMT) a project to develop private sector business continuity plans targeting small and medium enterprises through the big manufacturer which contracts them, particularly in East and Central Java and Jakarta.

In 2011, the Government of Indonesia integrated through a presidential decree pandemic preparedness into a national policy and strategy for the control of Zoonoses. KOMNAS ceased to exist in March 2010 and was finally replaced by the National Commission for Zoonoses Control, which is again chaired by the Coordinating Minister for People's Welfare. Thus, there is a large degree of continuity in the structural set up, now dealing with a broader range of emerging diseases and also closer linked to a "One Health" approach, indicating the commitment of the government to continue the work carried out in previous years, recognising the importance of the multisector and WOS approach. The tasks of the committee are:

- Coordinate and synchronize the formulation of national policies and programs for zoonoses control;
- Coordinate and synchronize the implementation and supervision of zoonoses control
- Direct the implementation of zoonoses control policy and programs by the Provincial and District/City Commissions for Zoonoses Control;
- Evaluate the implementation of zoonoses control at the national level.

Indonesia has achieved much in its efforts against avian influenza and in preparedness for a pandemic and has initiated a number of activities in order to strengthen pandemic preparedness of other sectors and the essential services, including the development of BCP. However, due to a lack of expertise and resources, including required skilled human resources this work as not been carried out yet in a well-planned strategic manner, but depended more on the availability of donor funding for certain areas, geographic locations and groups. The strategy seems to be to continue this work under a new and broadened framework targeting Emerging Infectious Diseases with a "One Health" approach that would involve mainly the animal and human health sectors as well as the ecosystem interface, which is not yet clearly defined.

SR of Vietnam:

Vietnam has been the first country that was affected heavily by Avian Influenza H5N1, not only in poultry, but also with human cases that showed a high case fatality rate. While the number of

human cases and deaths declined over the years, the virus is still considered to be entrenched in the country and the government of Viet Nam has always taken this threat very seriously. This was also due to the fact that the outbreaks of Avian Influenza occurred just as the outbreak of Severe Acute Respiratory Syndrome (SARS), which was just dissipating had had a major impact on humans, the health system and the economy in Viet Nam in the months before.

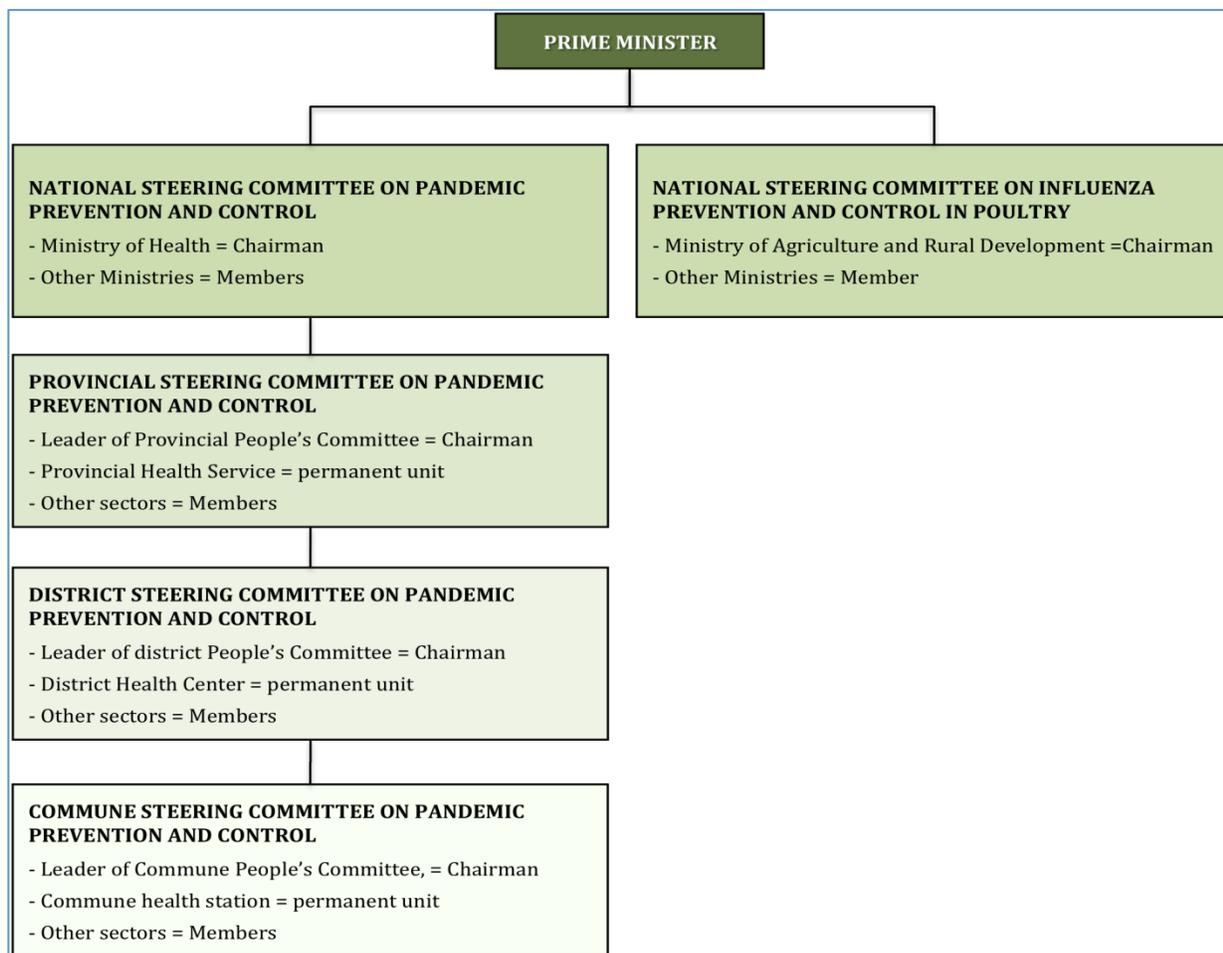
A National Steering Committee for Avian Influenza (NSCAI) was established in January 2004. The director was the Minister of the Ministry of Agriculture and Rural Development (MARD), with the Vice-Ministers of MARD and the MOH being the Vice-Directors and nine additional members from the Ministries of Finance, Trade, Public Security, Communication and Transport, Environment and natural Resources, Information and Culture, Foreign Affairs, MARD and MOH.

In February 2006 the National Steering Committee on Human Influenza (NSCHI) was created. The NSCHI has three Vice-Directors from the MOH and the National Institute of Hygiene and Epidemiology (NIHE) and 18 other members from various Ministries and the National Red Cross, not including any of the mass organizations such as Women's Union, Farmer's Union, etc. Also in 2006 the "Partnership on Avian and Human Influenza" (PAHI) was created. The Partnership has 26 signatories including GoV, the UN System, World Bank and other international donors, international non-governmental organizations, research organizations and others. The partnership coordinates and supports through a small unit activities related to prevention, preparedness and response activities of the government as outlined in the national plan, also called the "Green Book".

In November 2007 the "DECISION OF THE PRIME MINISTER ON SUPPLEMENTING, STRENGTHENING THE NATIONAL STEERING COMMITTEE ON PREVENTION AND CONTROL OF HUMAN INFLUENZA PANDEMIC" was issued. The directors and Vice-Directors are unchanged in comparison with the NSCHI. In addition to the MoH it comprises members of 14 other ministries as well as the Viet Nam Red Cross.

The "NATIONAL ACTION PLAN ON PREVENTION OF THE 2009 INFLUENZA PANDEMIC IN HUMAN IN VIETNAM" issued on 12th June 2009 by the Minister of Health finally describes the roles and responsibilities of the various ministries and members of the National Steering Committee in order to respond to pandemic (H1N1) 2009. In this document some references can be found to maintain essential activities and normal operations (Ministry of Finance, Ministry of Industry and Trade, Ministry of Transportation). However, the main focus is still on the health issues and support functions to be provided to the MOH in order to respond to the outbreak and to limit the spread as much as possible. No specific guidance has been provided with regards to continuity of operations planning in order to maintain operations and thus assure that essential services would continue to function.

Graph 2: National coordination structure for HPAI and pandemic influenza in Viet Nam.



The following describes the roles and responsibilities of the various ministries:

Ministry of Health

MoH delivers reports on pandemic prevention and control measures to the Central Party Secretariat, the Prime Minister, the Central Party Office, and the Government Office. MoH reports on the pandemic situation in the world to the public and the media; and works with the media to promote prevention and control measures. MoH developed and implemented the National Action Plan for Influenza A(H1N1) Pandemic Prevention and Control; and instructed leaders of provincial and municipal people's committees to hold meetings of their Steering Committee for Human Influenza Pandemic Prevention and Control to implement pandemic-related interventions.

MoH provided direction to departments of health, preventive medicine centres and hospitals for controlling the pandemic. MoH supported localities with medications, chemicals, specialized materials and personal protective equipment.

Ministry of Foreign Affairs

The Ministry of Foreign Affairs coordinated with MoH to disseminate information on the pandemic situation to international embassies in Vietnam as well as Governments of other countries to ensure information sharing about H1N1 in Vietnam, to harmonize actions with other countries and the

international community, and to help minimize the socioeconomic impact of the pandemic in Vietnam. The Ministry of Foreign Affairs was responsible for directing passenger entry and exit and international communications to ensure no adverse impacts on diplomatic activities between Vietnam and other countries.

Ministry of Public Security

The Ministry of Public Security coordinated with MoH in conducting isolation of suspected patients; providing a list of people coming from outbreak areas so that their health status could be monitored; and monitoring the pandemic situation to prevent inaccurate communications from causing public concern. The Ministry worked on border health quarantine and immigration.

Ministry of Information and Communication

The Ministry of Information and Communication regulated the dissemination, communication and promotion of the situation through the media, and communicated with international organizations to prevent negative impacts on socio-economic activities, international exchanges, tourism, and public opinion. The Ministry kept the

public updated on the global and national situation and prevention and control measures through mass media broadcasts. 7 The Ministry provided prompt reports to the National Steering Committee when urgent interventions were needed.

Ministry of Defence

The Ministry of Defence coordinated with MoH for land border quarantine, and provided communications about prevention and control measures for people in remote and mountainous areas. The military coordinated with local health authorities regarding establishing field hospitals, and established task forces and mobile rapid response teams to support localities in emergency care, admission, and classification of patients.

Ministry of Finance

The Ministry of Finance allocated funding for pandemic prevention, control, response, treatment and isolation.

Ministry of Transportation

The Ministry of Transport implemented health screening and surveillance using public transport to help with detection and isolation of suspected cases. The Ministry coordinated activities among transport units to support health units in transporting patients and relief supplies under the direction of the Chair of National Steering Committee for Human Influenza Pandemic Prevention and Control. To help ensure staff safety and continuity of services, the Ministry of Transport gave instructions to agencies and the Department of Health on applying protective measures for staff who might be at high risk of contact with passengers infected with H1N1.

Ministry of Industry and Trade

The Ministry of Industry and Trade assigned staff to be on duty on a rotating basis to maintain human resources as stand-ins for ill staff to ensure people's essential daily needs such as power and water were met, and to increase stockpiles of food, fuel and essential equipment to ensure the availability of

adequate supplies. The Ministry of Industry and Trade coordinated with MoH to promote the production and import of medical equipment for responding to the pandemic.

Ministry of Education and Training

The Ministry of Education and Training coordinated with the health sector in communicating about outbreak prevention and control measures, and encouraging pupils and students to share information with others in the community. The Ministry implemented enhanced health monitoring for students at schools through timely notifications to local health authorities as soon as suspected H1N1 cases are identified at a school. This allowed response measures to be undertaken if necessary, closing schools temporarily to avoid transmission in the community.

The Government Office

The Government Office coordinated with MoH to deliver regular reports to the Prime Minister on the situation. Advice was provided to the Prime Minister on allocating resources for pandemic preparedness and response working with the Chair of the National Steering Committee for Human Influenza Pandemic Prevention and Control.

Mass Media Agencies

The “Nhan Dan” newspaper, Vietnam News Agency, Vietnam Television, and the Voice of Vietnam, as members of the Communication Sub-committee, and other press and news agencies coordinated with MoH to provide updated information about the pandemic situation and prevention and control measures through mass media channels.

Vietnam Red Cross National Headquarters

The Vietnam Red Cross deployed mobile relief workers to support health units in transport, admission, and emergency care of patients. It distributed information to people in the community to promote detection of suspected cases and application of preventive measures. The Vietnam Red Cross coordinated with international organizations to support Vietnam with protective equipment and materials and facilities for emergency care, transport of patients and field hospitals.

Similar arrangements to those used in response to Influenza A (H1N1) will be utilized when any new potentially serious pandemic agents threaten Vietnam.

In April 2011 the MOH of Viet Nam, supported by a Consultant of WHO and with funding of the CFIA has carried out an assessment of the national multisector pandemic preparedness status, including a short mission to one province. In brief the assessment confirmed that there is a very strong mechanism and structure to assure a coordinated response to outbreaks, including measures to prevent infection or its spread, hygiene messages and information campaigns filtering through to all sectors and all administrative levels, from national to provincial, district and communes, involving the mass organisations as well. However, it does not include any specific instructions or even guidance on continuity of operations planning, which for most respondents in that assessment seemed to have been an alien concept. While there might not yet have been specific activities been implemented in order to broaden the spectrum or pandemic preparedness towards preparedness planning for the non-health impacts on operation of essential services, at national level it appears that awareness on the importance of continuity of operations planning has influenced the draft of the new national strategy.

The “INTEGRATED NATIONAL OPERATIONAL PROGRAM FOR AVIAN AND HUMAN INFLUENZA AND EMERGING INFECTIOUS DISEASES, 2011-2015” (the second version of the “Green Book”) is currently being drafted and it includes very promising references towards planning focusing on non-health impacts and continuity of operations planning in order to assure maintenance of services.

The following is a collection of very important quotes in the draft:

“National experiences during the pandemic (H1N1) 2009 have reinforced the need for sustained, well-coordinated, multi-sector, multi-disciplinary, community-based actions to address high impact disease threats that arise at the animal-human-environment interface.”

“... the capacity to respond to large-scale events and multiple, simultaneous public health threats would be improved with further integration of parallel systems for addressing natural disasters and pandemics at provincial levels and below.”

“Simulation exercises have proved important in mobilising authorities, the health sector and communities. However, multi-sectoral exercises are required at district and provincial levels to ensure alignment of pandemic plans, and maintenance of essential services.”

It is evident that the new version of the national programme point into three directions:

- (1) To move towards and integration of pandemics into a broader system and framework for multihazard disaster preparedness,
- (2) To assure involvement of all sectors and a “Whole of Society” approach towards preparedness for a pandemic or other zoonoses, and
- (3) To prepared planning and working on zoonotic diseases with a “One Health” approach.

The new national operational plan is supposed to be finalised later this year and it will have to be seen whether there will be more specific details describing on how to achieve those goals.

Lessons learned

Continuity of operations or business continuity planning has been a very new even strange concept for most governments in the ASEAN region. While in 2006 and early 2007 most countries considered pandemic preparedness and response a health issue with the MOH being the main or even sole responsible authority to organize the preparedness and response measures, many governments have not only acknowledged but recognized the value and importance of other sectors and especially the essential service sectors developing their own preparedness plans, including BCPs.

Countries such as Lao PDR and Cambodia, while still very poor and among the least developed countries have undertaken tremendous efforts in order to familiarize officials of their ministries and to some degree even provincial authorities with the concept of BCP. They have assigned responsibility to coordinate a more strategic approach involving all essential sectors and their key service providers in the process or have envisioned to do so in future. Training of ministry officials has been carried out and while the progress has been difficult and slow, it has resulted in officials understanding the concept and the methodology, governments further realizing the

value of BCP beyond pandemic preparedness planning and some ministries have even managed to develop operational BCPs. In the mentioned countries it has been understood that BCPs although developed in the context of pandemic preparedness planning are multihazard in nature and will possibly strengthen broader resilience and preparedness for other hazards.

In Thailand, Lao PDR, Cambodia, Indonesia and Vietnam pandemic preparedness has been linked or even been integrated into the disaster preparedness and response system and the government and Ministries of Health are promoting to continue involving as multisector and WOS approach, including BCP in future pandemic or EID preparedness work and to include respective objectives and activities in national plans and strategies. This is especially remarkable in face of the fact that in most countries the work has only been initiated in 2008 and external funding and other kind of support has very much come to an end by now, still the government want to maintain and continue with those efforts.

The fact that ASEAN also continues promoting the integration of pandemic preparedness into disaster preparedness, a multisector/Whole of Society and multihazard approach and the inclusion of business continuity planning provides additional motivation and support to in-country efforts.

More progress with business continuity planning and potential opportunities to activate such plans in case of the occurrence of other hazards and slow onset disasters might help making a case for the value of this approach far beyond pandemics. However, at the current stage most countries have not yet sufficiently progressed with their BCP efforts and recent natural disasters could not benefit from additional impact mitigation capacities that might be built by it. The added value of the multisector preparedness planning approach, including other line ministries and private sector would require some more time and effort in order to successfully progress to a stage where it becomes applicable for other disaster occurrences. The fact that many countries in the ASEAN region want to continue working with this approach and progress further is very encouraging, because it provides a very important and fundamental basis for potential success: the interest and commitment of governments and ministries of health. In the absence of continuing external funding and support main attempts to enable the continuation of the work that has been initiated is to (i) integrate multisector pandemic preparedness and business continuity planning into a multihazard disaster preparedness approach (ASEAN, Cambodia, Lao PDR, Thailand, Brunei Darussalam, Indonesia) and (ii) to utilize a similar multisector and WOS approach for a “One Health” concept of a more integrated cooperation of animal health/agricultural sector, human health sector and the “ecosystem interface”.

What can be learned and adopted from the experience in multisector pandemic preparedness planning?

Certain characteristics can describe the specific approach used for multisector, “Whole of Society” (WOS) preparedness planning. There might be certain other important areas of work for which the approach used for multisector pandemic preparedness planning might be of value. This would apply mainly with regards to two different directions:

1. Applicability of the approach for a multi-hazard (disaster) preparedness approach.
2. Applicability of the approach for other complex health (or other) issues.

The following table attempts to briefly describe how the main characteristics could apply to those two areas and add value to achieve success.

Applicability of the approach for a multi-hazard (disaster) preparedness approach	Applicability of the approach for other complex health (or other) issues
1. In pandemic preparedness planning the issue at hand was a “health issue”, but the multisector approach involved other sectors as well and not only in regards to supporting the health sector response, but with a focus on preparing measures that could prevent or at least mitigate the impact.	
Disaster Risk Reduction and preparedness need to involve many different sectors, which could suffer from the impact of a natural or other disaster. Defining the main issues that need to be considered, the potential different impacts might help those sectors to better visualise the problem and initiate a more effective and better coordinated planning approach. A well planned and coordinated, strategic approach, defining the main issues to deal with and bringing all relevant sectors and layers of society together would add significantly to the possible success that could be achieved with regards to strengthening DRR, preparedness, response and recovery capacities.	With regards to a “One Health” approach or other approaches dealing with complex health issues (communicable or non-communicable diseases) it might be important to identify more clearly the main important impacts on drivers resulting in future health challenges (EIDs or other). This might involve actors and sectors that do not yet consider the issue to be relevant for their own work and from their point of view. It might also identify important drivers that should be addressed by the planned interventions, which might not be traditional (animal or human) health issues, but might prove to be of utmost importance. BCP was never considered an important activity for pandemic preparedness in the beginning, but after more careful examination of the relevant issues this view has changed in many countries.
2. In addition it involved all level of society, from national to provincial, district and commune level, involving different levels of administration as well as civil society.	
Similarly to the above, the multisector WOS approach describes basically, while appearing more complex and challenging, a much more strategic and in the end successful and effective (even efficient) approach in order to strengthen DRR, preparedness, response and recovery capacities, It moves from a rather “patchy” approach of various actors implementing some activities in some sectors and some locations without strategic plan and not necessarily in a very coordinated manner to a strategically planned approach that could assure the desired coverage of the relevant sectors and actors in a shorter period of time, finally requiring less investment.	Complex health issues that cross different sectors benefit from a well-coordinated and strategic approach. The multisector WOS approach provided such kind of planned coordination of various supporting actors, partners as well as “support receiving actors”. While this might appear to be more challenging at the very beginning, it can assure more effective coverage and involvement of the relevant sectors and layers of society. The problem might be to assure a “neutral” and effective coordinator who would be accepted and able to work well with the multitude of involved actors and partners.
3. In addition to the public sector, this approach also involved private service providers and thus the private sector in general was very important.	
Private companies are as much a victim of the different types of disaster (natural, economic, manmade, etc.) as the public sector or the population. Larger companies have already	Similar to the relevance of disasters for risk management and BCP efforts of the private sector, health impacts might provide such a threat or at the other hand opportunities. A

<p>recognised the importance and efficiency of investing in Risk Management, BCP and any measures that could either prevent or mitigate impacts of hazards and disasters on their operations or on their clients. Private sector is willing and interested to support or cooperate with governments and international organisations, however there is too little planned effort made to bring them at the table and to pan a strategic approach.</p>	<p>well-coordinated approach and a well-defined strategy on how to involve which kind of private actor might be of great benefit for complex health issues to be tackled, including in developing countries.</p>
<p>4. The impacts of a severe pandemic on various sectors is to a good degree unknown, no previous or recorded experience exists that could guide the preparedness planning. Therefore it was important to imagine the type and degree of possible impacts and to develop “scenarios” visualizing those impacts in order to provide the basis for preparedness measures to be planned.</p>	
<p>While there is a lot of experience with the impacts of a multitude of natural disasters and some other emergencies, the changing world brings up new and previously unknown threats or changes in the location, severity or other characteristics of the known threats. While a number of known threats may have unknown impacts, which might be already acknowledged and addressed by some, there might be even the need to scree the horizon for “unknown unknowns”, which could be of sufficient probability and severity of impact that could justify to consider preparedness planning.</p> <p>A more comprehensive approach, addressing known and unknown threats and going beyond the borders of “natural disasters” might be warranted and even necessary in future to respond to the changing world (population, food security, water security, climate change, etc.).</p>	<p>While many diseases will never create serious non-health impacts, many other have done so, both communicable as well as non-communicable diseases. However, this was never dealt with by a comprehensive approach from the very beginning. From the identification of new diseases or trends and their impacts on other sectors, society and economy or vice versa exploring the impacts of other relevant topics (population, food security, water security, climate change, etc.) can have by becoming important drivers that might result in new diseases developing or in changing trends of existing health problems. A well-defined and strategic approach (one health or others) dealing with certain important health issues might be of great benefit for all sectors, society as well as economies.</p> <p>Thus, the OH approach many countries are now embarking on might be a valuable next step to continue involving other sectors and trying to identify significant drivers, possible impacts or important inter-relationships that might be of utmost importance to be addressed.</p>
<p>5. The fact that a pandemic would spread over time and would have different degrees of impact in different locations at a certain point of time has implications for preparedness planning. Pandemic preparedness measures would be defined in relation to those different variables. As a consequence, the planned measures should be scalable in order to respond to increasing severity of the impact, preferable with definition of triggers that would initiate the next level of measures to be implemented. In addition to triggering response measures, it should also trigger either the next level of preparedness measures to prevent or mitigate the next escalation of impact or to initiate such measures in locations that have not yet been affected with the same degree of impact. Further to general preparedness plans, BCPs are valuable tools to either assure continuity of operations not only of service providers, but also of governments and ministries or a faster recovery after a serious disaster has hit.</p>	
<p>Developing plans that define specific</p>	<p>The impact of direct and indirect health</p>

<p>preventive or mitigation measures for different hazards, specifically slow onset disasters, would enable national and local governments to initiate action before the full impact might arrive. This could include taking measures in locations that are not yet affected, but which will in the days or weeks to come. Thus, pre-defined measures for relevant locations preferable with different sets of action, depending on the experienced or assumed severity would be of great benefit for numerous types of hazards. During the floods in Pakistan, significant damages and possibly loss of life and livestock could have been avoided if such plans would have been in place and activated in time before the full extent of the floods finally swept south.</p> <p>BCPs or Continuity of Operations Plans can help to significantly limit the possibly impact of a disaster on operations of com[anise and services, which can be very relevant in order to assure that the response and recovery capacities of a government are not unduly restricted or impacted on. Even if it might not be possible to prevent or mitigate the impact on services or operations, having BCPs available will enable services and possibly public authorities and government departments re-establish their functions faster.</p> <p>It might not be a far-fetched thought that the governmental functions in Haiti could have been recovered much faster if the government, the ministries including all departments and other public authorities and services would have had BCPs. A fundamental benefit of developing BCPs is that all relevant units have t define their most vital and critical functions and the various inputs they need to carry them out. This understanding about one's own operations and possible measures to bypass obstacles, work around solutions and recovery strategies can significantly fasten the time until operations and services can resume.</p>	<p>threats could affect various sectors and affect operations of services and organisations that might not be aware of such a possibility. While the pandemic (H1N1) 2009 was not severe enough to demonstrate significant disruption of essential or other services, the experience with multisector pandemic preparedness planning showed that the indirect impacts of a pandemic were not well understood or visible to many. After explaining the possibilities that such a health threat could in different ways affect the continuity of operations of other sectors, many actors have recognised the importance and value of developing plans and identifying measures to prevent or mitigate the impact. This might be a very similar situation with other EIDs or other complex health threats and changing trends, which might also have indirect impacts on other sectors and services. It would be worthwhile to at least explore the possibility of such additional affects that might warrant the involvement of other sectors and also the development of specific preparedness plans according to identified possible scenarios.</p>
<p>6. As modern societies and economies have become very interrelated and connected, it is important to take preparedness planning to a further level. In addition to estimating the consequences of the primary non-health impact (high level of workforce absenteeism) on the own operations, it is important to consider other secondary non-health impacts in case of other service providers not being able to maintain their operations. As a result of such a situation, supplies or important support services such as IT or telecommunication might suddenly become unavailable, adding additional problems to be considered and prepared for. Thus, the multisector WOS approach requires interrelated service providers to develop BCPs as well in order to minimize those risks. The BCPs of all service providers would also</p>	

need to account not only for the expected primary non-health impact, but for those potential secondary non-health impacts as well. Pandemic preparedness planning focused not only on the development of preparedness plans. It also involved testing the in simulation exercises to identify gaps and enable the planners to take appropriate action in order to fill those as much as possible.

The work undertaken in any countries and regions and by numerous international organisations has among others brought various actors together in an unprecedented way. Private and public service providers have worked together, exchanged their experience and offered cooperation and assistance. Even big companies with well-developed risk management structures and BCPs recognised the importance of their interdependencies with other services providers and sectors, requiring cooperation and communication across sectors. In addition to cooperate in the development of plans, it has been recognised that testing of plans is of utmost importance not only within the organisation, but involving other key actors in the sector as well. Some countries have carried out sector-wide simulation exercises for example in the finance sector.

The approach could be of the same value for general disaster preparedness and many private companies and organisations are more than willing to be part of a coordinated preparedness approach guided by governments or others. This would also apply with regards to the OH approach or other work addressing complex health issues, although the number of sectors and actors to work with might be more limited in number. Providing and sharing information across sectors and involving various different actors might be adding many more benefits that currently known. The experience with the multisector and WOS pandemic preparedness approach has shown this in the case of pandemic influenza and it should also be the case in the case of EIDs r other important new or changing health issues.

7. Working through/with regional associations can add value and more effectiveness towards bilateral support provided to governments (e.g. in developing countries).

The dual approach of working bilaterally with governments and at the same times with their regional association has proven to create more impact and synergy in the case of ASEAN especially, but not exclusively with regards to poor and developing member states. While countries might be willing to work with international organisations on a bilateral basis, they feel more compelled to implement activities and to progress with specific action if they have agreed and committed themselves to do so within their regional association.

While cooperation with governments might address and support other types of issues that cooperating with regional associations, these different levels and layers might enable each other and provide additional support. Policy and framework agreements, standardisation and harmonisation of practices and approaches, which can be achieved at regional level might help moving activities in countries and make it more effective. The definition of regional standards or indicators and agreement of conducting assessments of national capacities and gaps has helped in the ASEAN region to move multisector pandemic preparedness forward in many member states. Such action could easily be replicated with regards to general disaster preparedness or preparedness planning for other hazards, followed by clearly defined activities in order to fill the identified gaps among the member states, involving the cooperation of other member states in addition to external support of international organisations and donors.

With regards to newly formulated concepts and approaches such as the OH approach, this dual track might be even more valuable and important. As many countries approach the OH concept differently, without a common definition on terms and contents such as regarding the "ecosystem interface" it might be most helpful to steer those different approaches towards more communality trough a parallel regional approach. The work and the approach of ASEAN and international organisations for multisector pandemic preparedness would be of utmost value for the future development and implementation of the OH approach in the ASEAN region and possibly other regions as well.