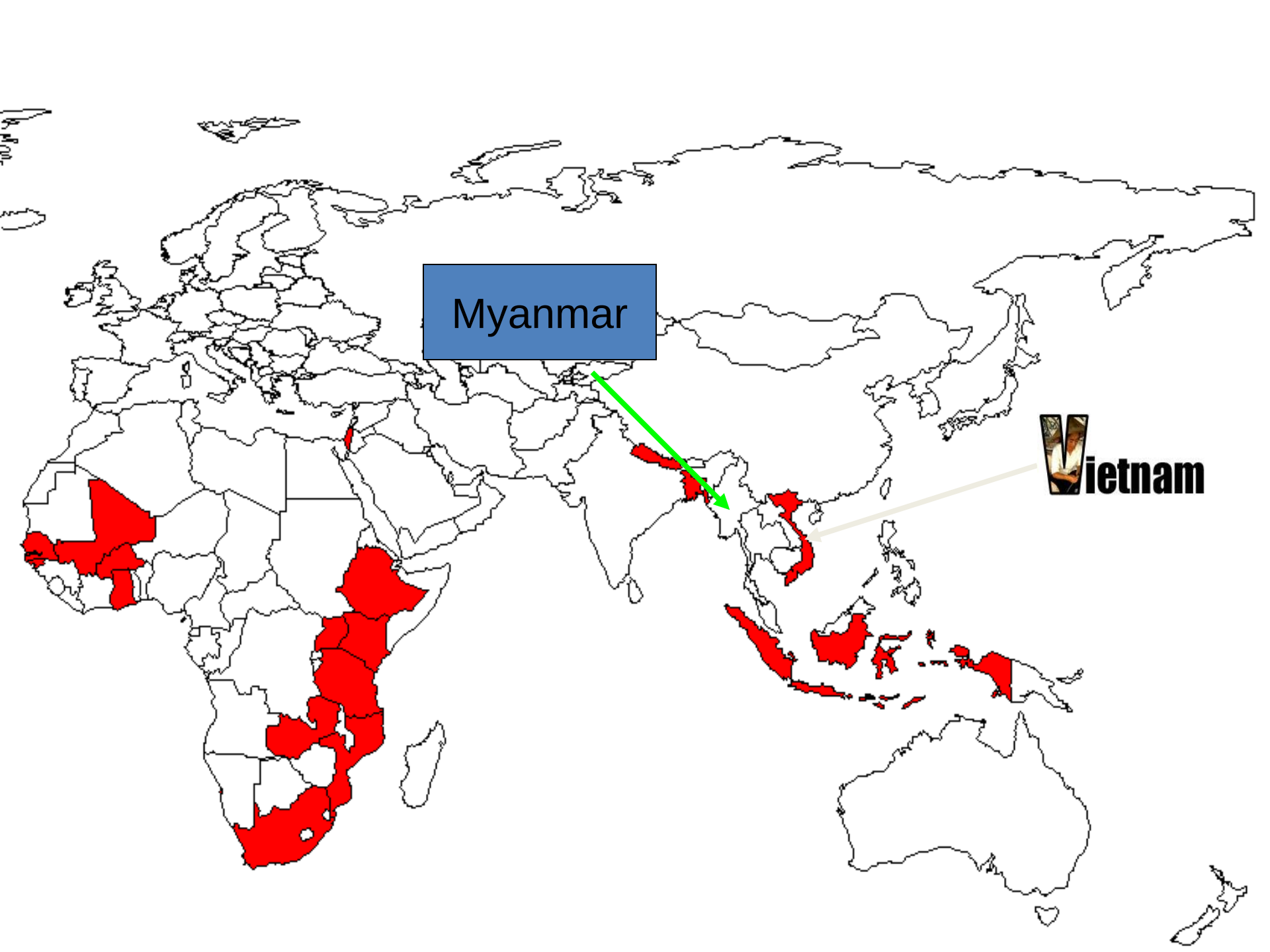
Identification and clarification of risk, immediate notification and verification by staff at Point of Entries

Nguyen Dang Vung, Assoc. Prof, PhD, MD, MSc


ကျန်းမာရေးဝန်ထမ်းသင်တန်း
နေပြည်တော်ကောင်စီနယ်မြေ

Somethings about my country- Viet Nam


Myanmar
Vietnam

HANOI MEDICAL UNIVERSITY

General Information (2017):

Population (2017): 95.4 million

(50.9% female, 49.1% male)

Land Areas: 331,210 km^2

(**Myanmar**: 676,578 $km^{2)}$

GDP percapita (PPP): 6,421 US$

((**Myanmar**: 6,360)

Literacy: 93%

LEB: 73 years

(men: 71, women: 75.6)

1 USD = 22,650 VND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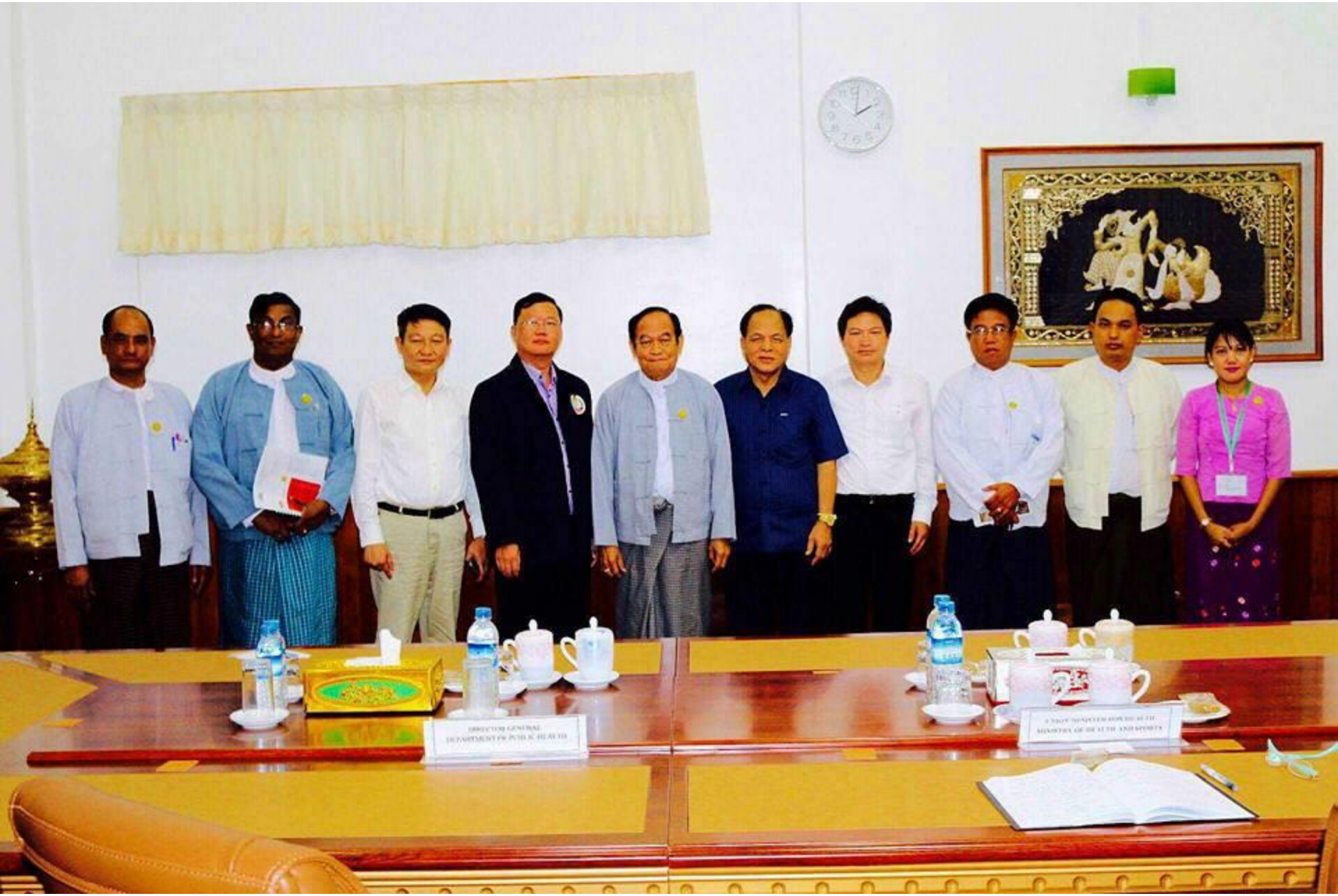
TÍCH CỰC HƯỞNG ỨNG
"NÓI KHÔNG VỚI TIÊU CỰC TRONG THI CỬ VÀ BỆNH THÀNH TÍCH TRONG GIÁO DỤC"


DỰ ÁN PHÒNG CHỐNG BỆNH TRUYỀN NHIỄM
KHU VỰC TIỂU VÙNG SÔNG MÊ KÔNG GIAI ĐOẠN 2
VIỆN VỆ SINH DỊCH TỄ
TÂY NGUYÊN
CHỦ TRÌ
DANANG




MINISTRY OF HEALTH


Next step
• Regional workshop
• Exchange of trainer
• Round table discussion
• Biosafety / Training curriculum
MEKONG BASIN DISEASE SURVEILLANCE (MBDS)
Mandalay Hill Resort Hotel
Mandalay, Myanmar
14th October,

Content

I. Introduction
II. Definitions
III. Classification of infective microorganism.
IV. Principle of bio-risk assessment
V. Bio-risk assessment of cross border coordinators

I. Introduction

- The emerging and re-emerging disease pose a major threat to the world population.
- There is no single country in the world who can deal with those emerging and re-emerging disease alone.
- In this context, the Mekong Basin Disease Surveillance (MBDS) network renewed and signed a Memorandum of Understanding (MoU) to enhance disease surveillance and response across the border in 2015.

Memorandum of Understanding (MOU)

Among the Health Ministries of the Six Mekong Basin Countries on

The Mekong Basin Disease Surveillance (MBDS) Cooperation

The MBDS Preamble:

- Recognizing the current emerging threats of pandemic disease from animals to humans and wildlife to humans including the continuous outbreak of Ebola in West Africa; and new strains of Avian Influenza
- Recognizing the ever-increasing role for regional and multi-sector public health collaboration;
- Recognizing the role of other partners in the promotion of health in our region; and
- Recognizing that sharing information and joint outbreak investigation is the key factor for rapid response and disease control for cross-border collaboration.

This Memorandum of Understanding (MOU) is a revision of the second MOU on the Mekong Basin Disease Surveillance signed since May 2007. This third MOU was jointly prepared and approved by the Ministry of Health of the Kingdom of Cambodia, the People's Republic of China, the Lao People's Democratic Republic, the Republic of the Union of Myanmar, the Kingdom of Thailand, and the Socialist Republic of Viet Nam. The purpose of this MOU is to continue and reinforce the implementation, policy and strategic framework of the Mekong Basin Disease Surveillance (MBDS) in order to support and facilitate disease surveillance cooperation in the sub-region. Encourage MBDS countries and health leaders to incorporate MBDS activities into annual operational plans. Under this MOU, the health leaders agree that:

1. The cooperation aims to strengthen national and regional capabilities in disease surveillance, risk assessment, and outbreak preparedness and response to priority diseases listed in Item 2 of this MOU and to any public health emergencies of international concerns as stated in International Health Regulation (IHR 2005) in order that they can be rapidly and effectively controlled. This would also constitute an opportunity to implement core capacity under the IHR and provide essential information for the development of health and social policy to finally reduce the burden arising from these diseases.
2. The priority diseases are HIV/AIDS, Plague, TB, Malaria, Severe diarrhea (including cholera), Vaccine Preventable Diseases, Rabies, Emerging diseases like SARS and highly Pathogenic Avian Influenza e.g. H5N1, H7N9, H5N6 and others influenza transmitted from animal to human, and outbreak of emerging/re-emerging infectious diseases with global, regional and sub-regional significance.
3. The scope of cooperation includes health system development, multi-sector collaboration and laboratory capacity strengthening and networking, human resource development, information technology development and exchange, cross-border activities, and joint outbreak responses relevant to the regional and global health agenda.
4. The MBDS cooperation recognizes and promotes other existing cooperation on disease surveillance and response. Partnership building is one of the main priorities of this MBDS cooperation. It welcomes the involvement of other institutions.
5. The MBDS cooperation is led by an Executive Board (EB). Members are assigned by each of the ministry of health and representative from each country Each EB member identified enlists country coordinators (CC) who is in charge of implementation and follow-up of regular activities.
6. The chairmanship of the MBDS cooperation will be chaired by each MBDS Ministry of Health in rotation each year.
7. MBDS Coordination Office will continue to be based in Thailand, in the most effective and economical manner.
8. Short term and long term action plan will be developed and approved by the Executive Board. This will provide the milestones for the implementation. The action plan can be revised at each meeting of the Executive Board.
9. MBDS Health Ministries commit to strongly support and actively participate in cooperative activities. MBDS Health Ministry also commits to mobilize available resources, including national and international honorable board members, together to support cooperative activities.
10. In order to maintain the sustainable network in long time, cooperative MBDS Health Ministry will consider and establish the mechanism to mobilize resources to support the related priority activities in each country.
11. This MOU will be effective from the date of official endorsement by all six ministries. The MOU can be revised with the agreement of the Health Ministries of the six Mekong Basin Countries.

Signed in Geneva, Switzerland on the 18 May 2015, in six originals in the English language all texts being equally authentic.

.....
(H.E. Prof. Eng Huot)
Secretary of State

for the Ministry of Health
of the Kingdom of Cambodia

.....
(H.E. Dr. Li Bin)
Minister

for the National Health and Family Planning
Commission of the People's Republic of China

.....
(H.E. Asc. Prof. Dr. Som Ock Kingsada)
Vice Minister

for the Ministry of Health
of the Lao People's Democratic Republic

.....
(H.E. Dr. Than Aung)
Minister

for the Ministry of Health
of the Republic of the Union of Myanmar

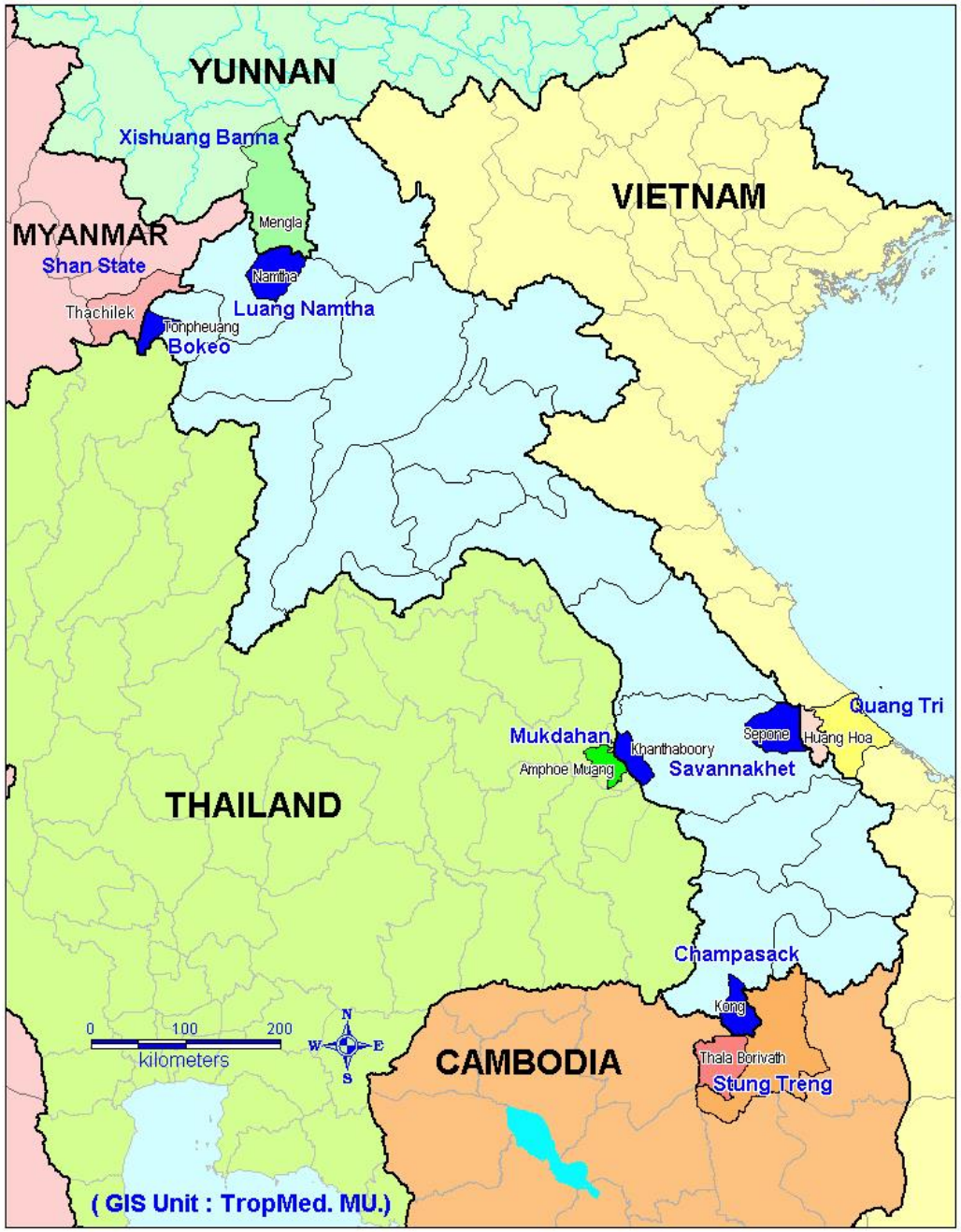
.....
(H.E. Prof. Dr. Rajata Rajatanavin)
Minister

for the Ministry of Public Health
of the Kingdom of Thailand

.....
(H.E. Prof. Dr. Nguyễn Thị Kim Tiến)
Minister

for the Ministry of Health
of the Socialist Republic of Viet Nam

MBDS CROSS-BORDER PROJECT SITES



I. Introduction

- The biosafety manual to enhance biosafety procedures at Points of Entry (POE) includes the topics as below:

- Basic knowledge for Biosafety
- Infection Prevention Control (IPC) of Health Care Facility in Cross Border
- Waste disposal
- Incident, accident preparedness and response
- Role of national / sub national level Preparedness and Stockpile
- Surveillance system for border region (WHO-DO- What-When)
- Biosafety poster for Sub-National Health Care Personnel

I. Introduction

- The biosafety manual to enhance biosafety procedures at Points of Entry (POE) includes the topics as below:

- **Basic knowledge for Biosafety: identification, classification, principle of bio-risk and actions of staff at POE.**

- Infection Prevention Control (IPC) of Health Care Facility in Cross Border
- Waste disposal
- Incident, accident preparedness and response
- Role of national / sub national level Preparedness and Stockpile
- Surveillance system for border region (WHO-DO- What-When)
- Biosafety poster for Sub-National Health Care Personnel

II. Definitions

- **Bio-risk:** the combination of the probability of occurrence of harm and the severity of that harm where the source of harm is a biological agent or toxin.

Examples of biological agents:

- **Bacterial agents (disease**):

- Bacillus anthracis (anthrax)
- Yersinia pestis (plague)
- Francisella tularensis (tularemia)

- **Viral agents (disease):**

- Foot and Mouth disease virus

(foot and mouth disease)

-Variola major virus (smallpox)

- Marburg virus and Ebola virus (hemorrhagic fever)

- **Toxin:**

- Botulinum Toxin (from Clostridium botulinum)
- Ricin (from castor beans)

- **Risk assessment:** a risk assessment could be defined as a procedure that analyses a particular process or situation in order to determine the likelihood and consequences of a certain adverse event.
- **Biohazard:** A danger or source of danger; the potential to cause harm.

II. Definitions

- **Severity:** The degree of injuries/harm that can occur while performing a specific work activity
- **Likelihood:** The probability of any accident/incident that might happen as a result of performing a specific work activity
- **Risk** is the likelihood that a person may be harmed or suffers adverse health effects if exposed to a hazard

III. Classifications

Based on hazard, principle characteristic and the route of transmission, infective microorganisms are divided into 4 risk groups:

- Risk group 1: no or very low individual and community risk.
- Risk group 2: moderate individual risk, low community risk.
- Risk group 3: high individual risk, low community risk.
- Risk group 4: high individual and community risk

III. Classifications

Risk group 1: no or very low individual and community risk.

- A microorganism that is unlikely to cause human disease or animal disease.
- Example: bacillus subtilis, common moulds, yeasts…

III. Classifications

Risk group 2: moderate individual risk, low community risk.

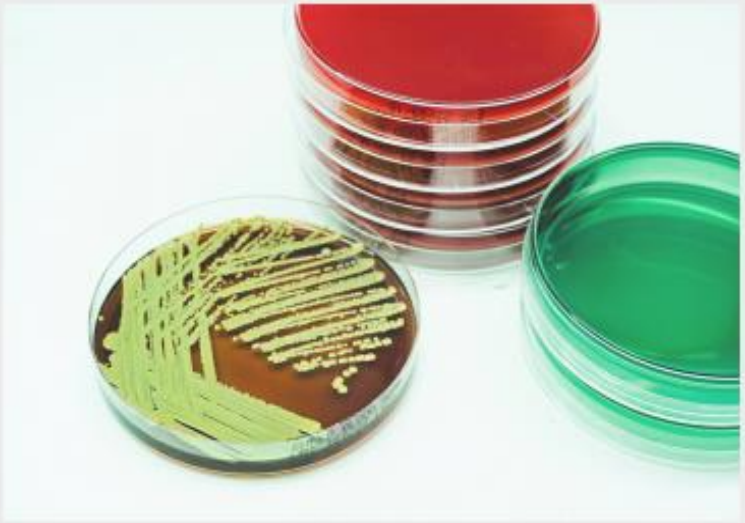
- A pathogen that can cause human and animal disease but is unlikely to be a serious hazard to laboratory workers, the community and environment.
- Effective treatment and preventive measures are available and the risk of spread of infection is limited.
- Example: staphylococcus, streptococcus, shigella, vibrio, poliovirus,…

III. Classifications

Risk Group 1 (RG1)

Agents that are not associated with disease in healthy adult humans.

Examples: Eschericia coli-K12, Bacillus subtilis



Risk Group 2 (RG2)

Agents that are associated with human disease which is rarely serious and for which preventive or therapeutic interventions are often available.

Examples: Clinical samples, Staphylococcus aureus, HBV, E. coli 0157

III. Classifications

Risk group 3: high individual risk, low community risk.

- A pathogen that usually causes serious human or animal disease but does not ordinarily spread from one infected individual to another.
- Effective treatment and preventive measures are available.
- Example: brucella, mycobacterium, pasteurella, chlamydia, many arboviruses,…

III. Classifications

Risk group 4: high individual and community risk.

- A pathogen that usually causes serious human or animal disease and that can be readily transmitted from one individually to another, directly or indirectly.
- Effective treatment and preventive measures are not available.
- Example: Marburg virus, Ebola virus, Lassa fever, Crimean-Congo hemorrhagic fever virus,…

III. Classifications

Risk Group 3 (RG3)

Agents that are associated with serious or lethal human disease for which preventive or therapeutic interventions may be available.

Examples: Mycobacterium tuberculosis, Brucella sp., VEE, West Nile Virus

Risk Group 4 (RG4)

Agents that are likely to cause serious or lethal human disease for which preventive or therapeutic interventions are not usually available

Examples: Ebola, Marburg, CCHFV

IV. Principle of bio-risk assessment

- There are many tools available to assist in the assessment of risk for a given procedure, however the most important component is professional judgement.

IV. Principle of bio-risk assessment

- Risk assessments should be performed by the individuals most familiar with the specific characteristics of the organisms being considered for use, the equipment and procedures to be employed.
- Risk assessments should be reviewed routinely and revised when necessary, taking into consideration the acquisition of new data having a bearing on the degree of risk and other relevant new information from the scientific literature.

IV. Principle of bio-risk assessment

- List of microbiological organisms by risk groups is a helpful tools available for performing bio-risk assessment
- This list should be developed by country's Ministry of Health. If not, the website of the American Biosafety Association is very useful and updated source of information.

IV. Principle of bio-risk assessment

The factors should be considered :

- Pathogenicity of the agent and infectious dose;
- Potential outcome of exposure;
- Routes of infection (parenteral, airborne, ingestion);
- Stability of the agent in the environment;

IV. Principle of bio-risk assessment

The factors should be considered :

- Concentration of the agent and volume of concentrated material to be manipulated;
- Presence of a suitable host (human or animal);
- Information available from animal studies and reports of laboratory-acquired infections or clinical reports;
- Local availability of effective prophylaxis or therapeutic interventions.

IV. Principle of bio-risk assessment

Risk prioritization

- Risks are classified into three levels: high, medium, and low based on the formula

Risk = Likelihood x Consequence

IV. Principle of bio-risk assessment

Likelihood and Consequence

Likelihood	**Remote (1)**	Not likely to occur (Zero incident)
	Occasional (2)	Possible or known to occur
	Frequent (3)	Common or repeating occurrence

IV. Principle of bio-risk assessment

Likelihood and Consequence

Conse-quence	**Minor**	No injury to personnel or harm to the environment Light injury or ill-health that requires first aid treatment only (includes minor cuts and bruises, irritation, ill- health with temporary discomfort
	Moderate	Injury requiring medical treatment ill-health leading to disability (includes lacerations, burns, sprains, minor fractures, dermatitis)
	Major	Death Serious injury or life-threatening occupational disease (includes amputations, major fractures, multiple injuries, occupational cancer, acute poisoning and fatal diseases)

IV. Principle of bio-risk assessment

Matrix for levels of risk

Consequence	Likelihood		
	Remote (1)	Occasional (2)	Frequent (3)
Minor (1)	Low Risk (1)	Low Risk (2)	Medium Risk (3)
Moderate (2)	Low Risk (2)	Medium Risk (4)	High Risk (6)
Major (3)	Medium Risk (3)	High Risk (6)	High Risk (9)

Components of a biological –hazard assessment when people use biological-weapon

- Establish a safe base of operations: uphill and upwind safe area
- Asess explosive hazards
- Assess chemical hazards (if combined)
- Gather all relevant information:

  + Explosions

  + Victims's symptoms

  + Time from exposure to onset of symptoms

  + Smell

  + Observable agents/materials, devices, containers or debris

- Model potential downwind risk and hazard area
- Determine potential victims of risk:
  + Consider evacuation
  + Consider shelter on site
- Develop an Incident Action Plan which include:
  + Operational objectives
  + Site safety plan
  + Evidence recovery plan

- Select the appropriate level of PPE
- Identify or utilize available detection and monitoring equipment
- Determine evidence-recovery equipment and teams
- Ensure that the scence is photographed or limited prior to being distured
- Screen evidence for combined biological & chemical hazards and collect samples for lab analysis
- Coordinate sample preparation with receiving laboratory

V. Bio-risk assessment of cross border coordinators

- To utilize information related to the virulent of biological substances.
- The useful information include:

➢ notification or guidelines of authorities;

➢ transmission routes of pathogens;

➢ way to contact or distance to the suspected substances.

V. Bio-risk assessment of cross border coordinators (Continued)

- To participate a training course in bio-risk assessment when possible.
- To keep in touch with bio-risk assessment or related laboratory experts for asking for advice or cooperation is also a important.

V. Bio-risk assessment of cross border coordinators

Transport of infectious substances

- Tracking and monitoring the transport of infectious substance at the point of entry to ensure the compliance with local or national requirements.
- In situations where national requirements do not exist, international modal regulations should be followed.

V. Bio-risk assessment of cross border coordinators

Transport of infectious substances

Infectious materials must be shipped according to applicable transport regulations. Compliance with the rules will:

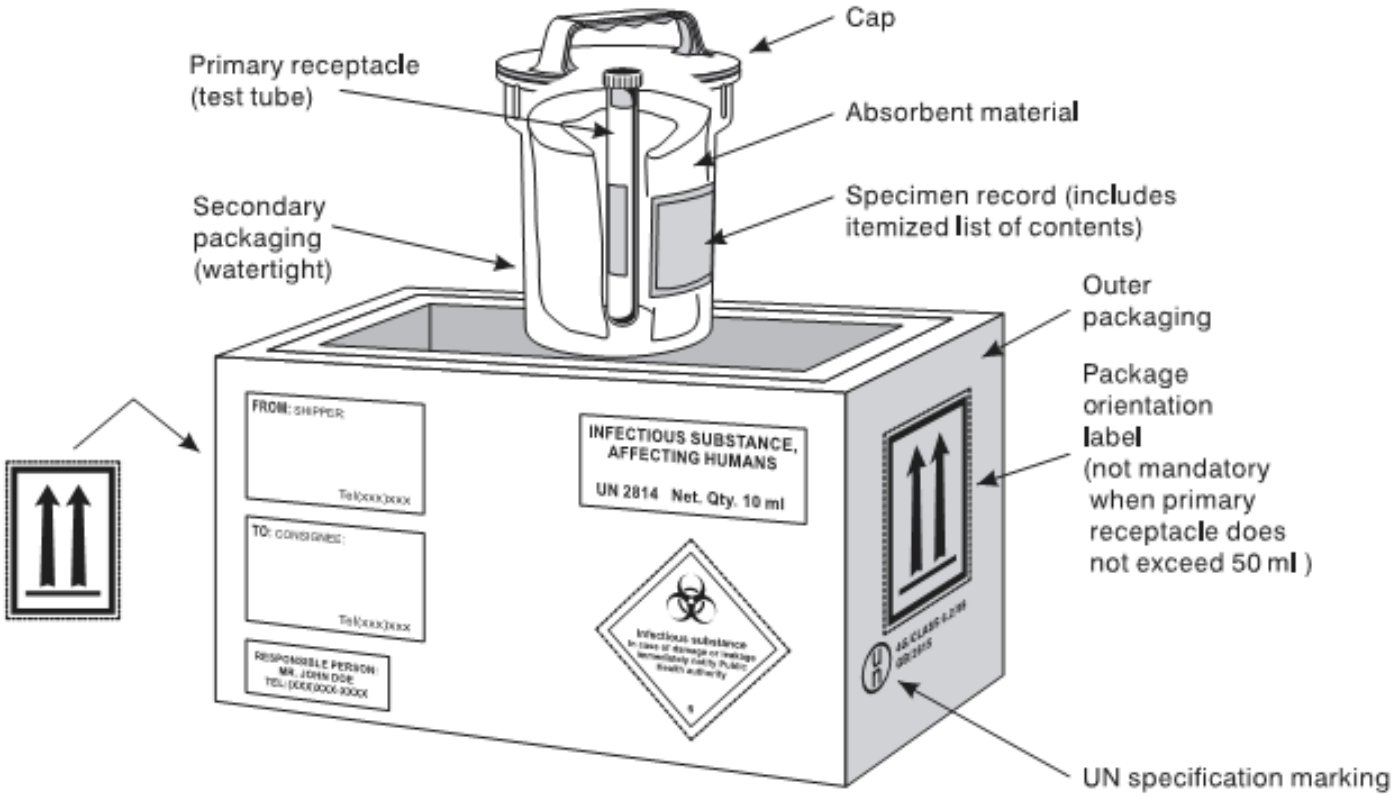
1. Reduce the likelihood that packages will be damaged and leak;
2. Reduce the exposures resulting in possible infections;
3. Improve the efficiency of package delivery.

V. Bio-risk assessment of cross border coordinators

Transport of infectious substances

Example of triple packing system

Packing and labelling of Category A infectious substances

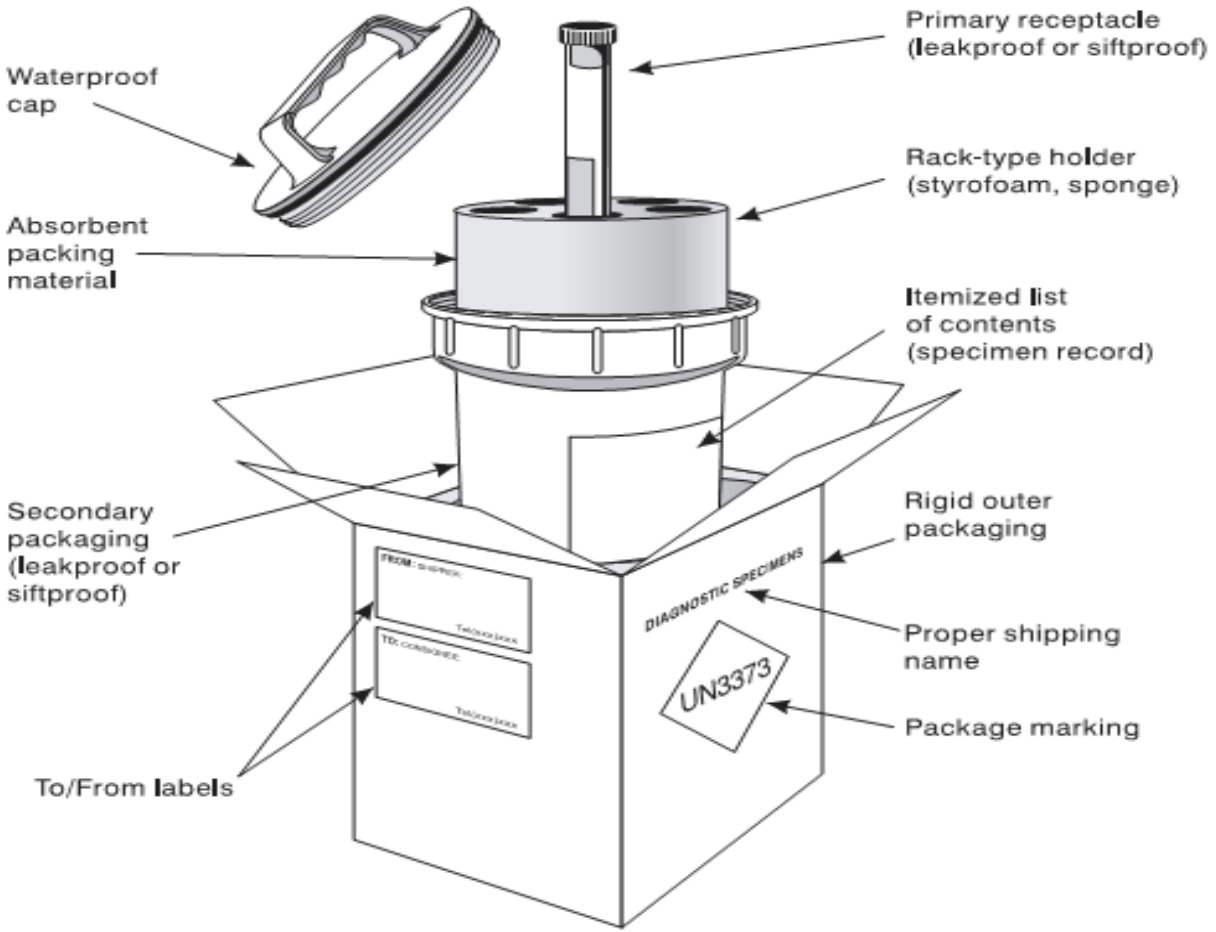


V. Bio-risk assessment of cross border coordinators

Transport of infectious substances

Example of triple packing system

Packing and labelling of Category B infectious substances




Thank You!