Technical Assistance Consultant's Report

Project Number: 48118-002
June 2016

Cambodia, Lao People's Democratic Republic, Myanmar, Viet Nam: Greater Mekong Subregion Health Security Project (Part 2/4)

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For Asian Development Bank

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Asian Development Bank

ADB PPTA 8842-REG - Project Proposal

Project number: 48118-REG

2016

Proposed Loans and Grant

The Kingdom of Cambodia, The Lao People's Democratic Republic, The Union of the Republic of Myanmar, and The Socialist Republic of Viet Nam: Greater Mekong Subregion Health Security Project

For
Asian Development Bank
by
Conseil Santé

CURRENCY EQUIVALENTS
(as of 7 April 2016)

Currency Unit	–	riel (KHR)
KHR1.00	=	$0.000248
$1.00	=	KR4,029

Currency Unit	–	Kip (KN)
KN1.00	=	$0.000123
$1.00	=	KN8,096

Currency Unit	–	kyat (MMK)
MMK1.00	=	$0.00085
$1.00	=	KR1,170

Currency Unit	–	dong (VND)
VND1.00	=	$0.0000445
$1.00	=	VND22,145

NOTES

(i) The fiscal year (FY) of the Governments of Cambodia, Lao People's Democratic Republic, Myanmar and Viet Nam ends on 31 December. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2017 ends on 31 December 2017.
(ii) In this report, "$" refers to US dollars.

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Abbreviations

ADB	–	Asian Development Bank
ADF	–	Asian development fund
AIDS	–	acquired immunodeficiency syndrome
APLMA	–	Asia Pacific Leaders Malaria Alliance
APSED	–	Asia Pacific strategy for emerging diseases
ART	–	anti-retroviral treatment
ASEAN	–	Association of South East Asian Nations
ARI	–	acute respiratory infection
BOD	–	burden of diseases
CDC	–	communicable disease control
CDC1	–	first GMS regional communicable diseases control project
CDC2	–	second GMS regional communicable diseases control project
CDCD	–	Communicable Diseases Control Department (MOH Cambodia)
CLMV	–	Cambodia, Laos, Myanmar, Viet Nam
COP	–	community of practice
CTA	–	chief technical advisor
DMF	–	design and monitoring framework
DOTS	–	direct observed treatment – short course
DPIC	–	Department of Planning and International Cooperation, MOH Laos
EGDP	–	ethnic group development plan
EHF	–	Ebola hemorrhagic fever
EID	–	emerging infectious diseases
EIRR	–	economic internal rate of return
FETP	–	field epidemiology training program
FMA	–	financial management assessment
GDP	–	gross domestic product
GAP	–	gender action plan
GDPM	–	General Department of Preventive Medicine
GF	–	Global Fund to Fight HIV, Tuberculosis, and Malaria
HFMD	–	Hand, foot and mouth disease
HIV	–	Human immunodeficiency virus
HPAI		Highly pathogenic avian influenza
HTM	–	HIV/AIDS, Tuberculosis and Malaria
DHIS	–	Department of Planning and Health Information Systems (MOH Cambodia)
DOTS	–	directly observed treatment – short course
DPH	–	Department of Public Health, MOH Myanmar
EA	–	executing agency
FETP	–	field epidemiology training program
FMA	–	Financial management assessment
GMS	–	Greater Mekong Subregion
HFMD	–	hand, foot and mouth disease
HIV	–	human immunodeficiency virus
HIS	–	health information system
HMT	–	HIV, malaria and tuberculosis
HPAI	–	highly pathogenic avian influenza
IHR	–	international health regulations
IPC	–	infection prevention and control
MDG	–	millennium development goals
MDRTB	–	multi-drug resistant tuberculosis
MERS	–	Middle East respiratory syndrome
MEV	–	migrants and mobile people, ethnic minorities, and other vulnerable groups
MMA	–	Myanmar Medical Association
MNCH	–	maternal, newborn and child health

MOH	–	Ministry of Health
NCD	–	non communicable disease
NFP	–	national focal point
NGO	–	nongovernmental organization
NHL	–	National Health Laboratory, MOH Myanmar
NIHE	–	National Institute of Hygiene and Epidemiology, Viet Nam
NIPH	–	National Institute of Public Health, Cambodia
NPV	–	net present value
NTD	–	neglected tropical diseases
OD	–	operational district
ODA	–	official development assistance
PAM	–	project administration manual
PLHIV	–	persons living with HIV
PMU	–	project management unit
PPMES	–	project performance monitoring and evaluation system
PPTA	–	project preparatory technical assistance
PSA	–	poverty and social analysis
RCU	–	regional cooperation unit
RRT	–	rapid response team
SARS	–	severe acute respiratory syndrome
SOE	–	statement of expenditure
SOP	–	standard operating procedure
STD	–	sexually transmitted diseases
STI	–	sexually transmitted infections
SWIM	–	sector-wide management
TA	–	technical assistance
TB	–	tuberculosis
UN	–	United Nations
UHC	–	universal health coverage
WHO	–	World Health Organization

Summary

Public health security requires (i) specific public health security systems; (ii) general health sector capacity; and (iii) broader government and public support. The project builds on these 3 pillars.

The Governments of Cambodia, Laos, Myanmar and Viet Nam are proposing support from the Asian Development Bank (ADB) for the Greater Mekong Subregion (GMS) Health Security Project (the project). ADB provided project preparatory technical assistance to help prepare the project, including this summary of health analysis for the 4 countries and 4 country health analyses. Preparation of the health analysis entailed review of sector documents, field visits, collection of information using questionnaires, workshops, and discussions of findings and recommendations with government representatives, partners, and other stakeholders.

Emerging infectious diseases (EIDs) like avian influenza, SARS, MERS and Ebola hemorrhagic fever (EHF) and recurrent diseases like cholera have the potential to spread quickly around the globe, with major economic and sometimes devastating human impact. Other diseases of global importance like HIV, TB, malaria, and dengue spread less quickly but do not stop at borders and cause major impact at household level. Drug resistance is potentially one of the most threatening emerging problems to deal with common bacterial infections, HIV/AIDS, malaria, tuberculosis, and hospital-acquired infections.

The GMS, with a population of about 327 million people in 2014, half of whom live in Cambodia, Laos, Myanmar and Viet Nam (CLMV countries) has emerged from years of poverty and conflict. With better connectivity and attractive investment conditions, industrialization has increased rapidly in CLMV countries, resulting in major migration and rapid urbanization. Per capita income has increased, poverty has halved and health MDGs have mostly been achieved in CLMV countries. However, institutional, financial and social reforms have been lagging, and inequity has increased except perhaps in Cambodia, with the lowest per capita income of the CLMV countries.

The GMS has been an epicenter of several outbreaks of EIDs, and is highly vulnerable to outbreaks and epidemics of infectious diseases. It has long borders, connectivity to major urban hubs, and a large burden of infectious diseases that spreads across borders including malaria, tuberculosis, and dengue, and a concentrated HIV epidemic cause major impoverishment. Common infections such as diarrheal diseases and pneumonia still cause most childhood mortality. Hospital-based infections and drug resistance are of particular concern.

To improve public health security, CLMV countries are committed to achieve core capacities based on the International Health Regulations (IHR) 2005 and implement the Asia Pacific Strategy for Emerging Diseases (APSED) 2010, as well as the regional strategies for the control of dengue, malaria, tuberculosis and HIV/AIDS. Despite major political commitments and support from partners, specific capacity to deal with EIDs and other health threats of regional significance is inadequate in all CLMV countries, although Viet Nam scored relatively high based on IHE evaluation instruments.

Public health security is as good as its weakest link. It requires specific public health security capacities, the focus of IHR/APSED, and general health system capacity. All CLMV countries have made major progress building up national public health systems to achieve universal health coverage (UHC) as one of the sustainable development goals 2030, and are engaged in various health sector reform processes. However, demand for public health services is low due

to problems of access, quality and affordability of services. Health systems in CLMV countries have been chronically underfunded and understaffed in rural areas. In particular, migrants and mobile people, poor ethnic minorities, and other vulnerable groups often do not access public health services while being at risk of having and spreading infectious diseases. Not reaching these groups will affect goals of UHC and public health security.

In CLMV countries, ministries of health have built up public health security systems with a focus on surveillance and response and zoonosis. However, other elements of public health security, including laboratory diagnostics, hospital infection prevention and control, and linkages to communities, other sectors, private services and other countries have made less progress.

To assist CLMV countries meet their obligations under IHR/APSED and a number of other treaties and agreements, it is proposed that the project supports expanding the surveillance and response system including risk analysis, GMS and cross-border cooperation, port-of-entry services, piloting syndromic reporting at village level, and community preparedness; and help strengthen the public health system in terms of laboratory services and hospital infection prevention and control (IPC). In Viet Nam, the project will support integration of district health services.

Within the targeted 13 provinces in Cambodia,12 provinces in Laos, 36 provinces in Viet Nam, and 6 states/region in Myanmar, districts have been selected based on presence of borders, ethnic minorities, and poverty.

In each country, the Ministry of Health (MOH) will be the executing agency. Implementing agencies include departments in charge of surveillance and response and hospital IPC, and national laboratories. Targeted provincial and state/region health offices will also be implementing agencies. In view of staff and administrative constraints, a project management unit (PMU) is proposed. The total project cost is estimated at $128 million for ADB out of a total of $135 million.

The main project risk is that project-facilitated health services do not reach vulnerable groups in border areas. This risk will need to be mitigated through participatory planning, mainstreaming outreach in annual operational plans and budgets, and logistic and technical support. Other project risks are limited financial management and procurement capacities for external aid, in particular in MOH Myanmar. The PMU will need to build up MOH capacity in these areas.

I. Introduction

1. The Greater Mekong Subregion (GMS) covers the Kingdom of Cambodia, the People's Republic of China[1], the Lao People's Democratic Republic, the Republic of the Union of Myanmar, and the Socialist Republic of Viet Nam. Of its total population of 327 million people in 2014, which is close to Europe's population, about 168 million or half the GMS population, live in Cambodia, Laos, Myanmar and Viet Nam (CLMV countries). Unlike China and Thailand, CLMV countries have yet to achieve core capacities for the control of emerging infectious diseases (EIDs), and control other major public health threats based on international standards and strategies of the World Health Organization (WHO), and have requested assistance of the Asian Development Bank (ADB) to support addressing critical gaps in core capacities for the control of EIDs.

2. ADB has been assisting CLMV countries with communicable diseases control (CDC), including the control of EIDs and major regional infectious diseases including HIV/AIDS, tuberculosis and malaria (HTM), dengue, and neglected tropical diseases (NTDs). This assistance was provided through the GMS Economic Development Program, and regional and country-specific assistance.[2] ADB seeks to combine CDC assistance under one umbrella, and has included the GMS Health Security Project (the Project) in its GMS partnership strategy and country partnership strategies. The project is estimated to cost $135 million. ADB will finance $128 million including $21 million ADF loan for Cambodia, $8 million ADF grant and $4 million ADF loan for Laos, $15 million ADF loan for Myanmar, and $80 million ADF loan for Viet Nam. The Governments will provide about 5% in direct counterpart funds, plus indirect contributions. The project is scheduled for approval in 2016. The problem tree and design and monitoring framework are in Appendix 1 and 2.

3. ADB approved project preparatory technical assistance (PPTA) to help prepare the project. ADB engaged the consulting firm Conseil Santé to carry out the PPTA. The final report consists of 3 parts. Part I provides the health situation analysis. Part II presents the project proposal and the project administration manual. Part III presents assessments and plans for gender, safeguards, and project economics, financial management, and procurement.

II. Context

a. Global Health Threats

4. The Center for Disease Control, Atlanta, lists about 50 emerging or re-emerging diseases (EIDs).[3] An EID is defined as: *An infectious disease that is newly recognized as occurring in humans; one that has been recognized before but is newly appearing in a different population or geographic area than previously affected; one that is newly affecting many more individuals; and/or one that has developed new attributes (e.g., resistance or virulence)*.[4]

5. The GMS countries will experience about 1,000 outbreaks each year requiring investigation and response. Most recent epidemics have been small, and/or with less mortality, but typically high economic impact compared to the number of cases because of the control measures. If it involves the productive sector, even a relatively small outbreak may result in substantial economic losses. While capacity to deal with outbreaks and small epidemics has

[1] Yunnan Province and Guangxi Zhuang Autonomous Region
[2] See Table 7 for a list of projects
[3] Center for Disease Control, Atlanta.
[4] International Organization of Migration. 2003. *Microbial Threats to Health: Emergence, Detection and Response.* 2003. Adapted by Center for Disease Control, Atlanta.

improved substantially, health experts warn that another pandemic will happen sooner or later, likely of viral origin such as the influenza virus. Unfortunately, no one knows when that happens.

6. What experts do know is there are many viruses circulating that can cause major epidemics or indeed a pandemic, and also drug resistant bacteria and parasites. The major problem is that microbes multiply, mutate and re-assort rapidly. Most of these new strains are not viable, or the immune system can swiftly deal with it, but sometimes a new virus or multi-drug resistant bacteria develops and spreads for which modern technology has yet to find a cure. Many RNA viruses including influenza, polio, HIV, dengue and measles viruses cause or caused a major burden of disease and are likely to continue doing so unless control measures are in place.

7. In terms of risk factors, the general view is that on the one hand improved hygiene and sanitation has reduced the burden of infectious diseases, and hence the risk of escalation. On the other hand, the livestock industry, poor farm biosafety, misuse of medicines, congested working and living conditions, increased use of meat products, and connectivity are some examples of possible risk factors that need to be understood and mitigated. Some of the new EIDs are of animal origin (zoonosis), like avian influenza which is still circulating in poultry. Biological terrorism also raises new concerns.

8. What we all know is that if the first cases are missed for a week or so, and the infection can be easily transmitted between people and is highly pathogenic, such as in the case of Ebola hemorrhagic fever (EHF), it can quickly escalate to the point of a national disaster, with martial law, closure of businesses and schools, restrictions of movement, shortages of food and water, shortages of utilities and health services, and isolation of affected populations. In fact, Ebola is a good candidate as it has shown to do well in more urban settings, and some patients probably remain infectious after recovery.

9. Another reason why it is important to quickly identify the first cases of any EID is that all countries lack a surge capacity for treating victims of EIDs. For example, Australia could barely handle the surge in cases from a mild swine flu outbreak. In GMS countries, the surge capacity ranges from zero to few beds. The world emergency teams can barely handle one major outbreak in one country at a time, as was evident in recent EHF outbreak in West Africa. Rather than wanting to create special intensive care units, countries will need to consider alternative solutions, relating to prevention, surveillance, and community preparedness and selfreliance. Fortunately, most EID outbreaks are either self-limiting or can be brought under control with basic measures such as social distancing, contact tracing and closing schools and businesses.

10. An EID outbreak usually causes major economic impacts and an EID pandemic causes a global economic meltdown. It is likely that as countries develop, the human impact of epidemics will decline and the economic impact will increase.

11. Other infections of regional significance include HIV/AIDS, TB, malaria, dengue, and NTDs. These diseases may particularly affect migrants and mobile people like business people, tourists and other travelers, cross-border ethnic minority groups, and other vulnerable groups (MEV) such as youth. A major concern is the spread of hospital acquired infections and drug resistance. Some of these diseases are considered EIDs, according to the US Center of Diseases Control definition. EIDs, major communicable diseases, and drug resistant infections require regional cooperation to bring them under control.

b. Public Health Security

12. The WHO, in 2007, defined health security as a set of activities, both proactive and reactive, to minimize vulnerability to acute public health events that endanger the collective health of national populations. [5] Public health security has gained prominence, along with universal health coverage (UHC) (or personal health security), as two complementary public health goals.[6]

13. WHO warns that new EIDs pose a constant threat to the region. Better connectivity, urban development, and social and environment changes will accelerate the spread of infections, requiring much better national preparedness and regional cooperation to bring these under control. Public health security took on new dimensions following the outbreaks of SARS in 2003 and avian influenza in 2004, in Southeast Asia. Recent outbreaks of EHF in West Africa in 2014, Middle East respiratory syndrome in South Korea in 2015, and Zika infection in Brazil in 2016 indicate that these EIDs pose a constant threat to the region and can have major health and economic impacts.

14. The organization at global and regional level is complex. WHO provides leadership for the health sector, but UN agencies or regional organizations such as ASEAN will provide leadership for major outbreaks considered a disaster. There are multiple surveillance systems and response networks operating more or less in parallel that need to be coordinated in times of emergencies. Government agencies such as CDC Atlanta, research institutions such as Institute Pasteur, pharmaceutical companies and funding agencies also engage in basic research, and develop new vaccines and medicines

15. At national and subnational levels, public health security system is one of those areas that require a multisectoral approach. The Ministry of Health (MOH) is primarily responsible for public health security in many countries, but works closely with other ministries such as Agriculture and Labor, and WHO. In case of a major epidemic, a National Disaster Committee may take the lead in overall coordination of the response sometimes requiring the armed forces, local government, and utilities to come in, as well as the UN through specialized disaster relief agencies.

16. The International Health Regulations (IHR 2005) of the WHO provide a strong and legally binding standard for the control of EIDs and other serious public health threats, such as the spread of drug resistant infections.[7] WHO regions also have regional strategies in place. For example, WHO's Asia-Pacific Strategy for Emerging Diseases (APSED) (2005, 2010)[8] and other WHO regional strategies for the control of various major diseases, and for strengthening laboratory services and improving infection prevention and control (IPC) provide a good framework for building GMS health security.

17. The control of emerging and other infectious diseases can't function if the basic health system is not in place.[9] This includes capacities both within and outside the health sector.[10] IHR and regional strategies are not designed to deal with basic health system gaps. Hence, for

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5 WHO. *World Health Report: A Safer Future? Global Public Health Security in the 21th century.* 2007. Geneva.
6 William Aldis. *Health Security as a Public Health Concept: A Critical Analysis*. Health Policy and Planning, 2008.
7 WHO. 2005. *International Health Regulations*. Geneva.
8 WHO. 2010. *Asia Pacific Strategy for Emerging Diseases*. Manila.
9 WHO. 2007. *World Health Report*. Geneva
10 William Aldis. 2008. *Health security as a public health concept: a critical analysis*. In Health Policy and Planning 2008; 23:369–375.

public health security assessment, countries need to be assessed in terms of (i) general health system capacity, and (ii) specific disease surveillance and outbreak response capacity.

c. GMS Development

18. The GMS has a population of about 327 million people in 2014, close to that of Europe. About half that population, 168 million people, lives in Cambodia, Laos, Myanmar, and Viet Nam (CLMV countries). The countries have emerged from years of poverty and conflict. CLMV countries are moving towards a more or less state-controlled market economy. The political and administrative setting is important for public health security, as it presents both strengths in terms of leadership and commitment to public health, and institutional weaknesses that impact on public and private services.

19. CLMV countries have had robust economic development in the past few years or longer. Current overall gross domestic product (GDP) growth is about 7% per year despite a global economic slowdown. Per capita income has increased rapidly. The resource-rich region is surrounded by economic power houses and increasingly engaged in the global economy. Regional connectivity and integration have increased rapidly. CLMV countries are industrializing, along with major investment in infrastructure, plantations and services. The region now includes large urban conglomerates and peri-urban manufacturing hubs in addition to rice paddies and cash crops in river valleys and lowlands, and subsistence farming in low population highlands.

20. As shown in table 1, GMS per capita income has increased rapidly while population growth was slow. The relatively young population, in particular in Cambodia and Laos, will benefit from a lower dependency ratio. Population density and the percentage of agricultural land under cultivation are low in Laos and Myanmar, which has implications for the cost of rural access. The population is predominantly Buddhist with Chinese, Indian, and Tibetan-Burmese roots. Laos, Myanmar and Yunnan China have large ethnic minority populations that often live in mountains.

Table 1: GMS Growth and Connectivity Indicators

Indicators	Cambodia	Laos	Myanmar	Viet Nam	China*	Thailand
GDP growth 2014 %	7.1	7.5	8.5	6.0	7.3	0.9
GDP per capita 1992 ($)	320	410	320	690	2,240	480
GDP per capita 2014 ($)	1,095	1,794	1,204	2,052	7,590	5,977
Poverty (% <$1.25 per day)	20.5	27.6	28	20.7	4.6	13.2
Population 1992 million	12.7	5.2	51.1	90.8	78.1	62.8
Population 2014 million	15.3	6.9	53.4	92.8	91.0	67.7
Ethnic minority population %	10	35	32	14	12	10
Land Area in 1000 sq. km	181	237	677	633	513	332
Agricultural land %	32.9	10.1	19.2	35.1	54.8	43.3
Population density 2014 per sqkm	87	29	35	293	145	133
Urban population 2013 %	20	37	33	32	53	48
Net migration 2012 per million inhabitants	-150	-118	-474	-200	-1800	+100
International migration 2010 per million inhabitants	336	19	89	69	686	1,157
Emigration rate of tertiary educated population age 25+ to OECD countries in 2000	21.5	37.2	3.9	27.0	3.8	2.2

Tourist arrivals 2013, millions	4.2	2.5	2.0	7.6	55.7	26.5
Cellphone coverage 2012 % adults	129	65	10	148	80	127

Source: World Bank 2014 except on ethnic minorities, which is from government sources.
*Yunnan Province and Guangxi Zhuang Autonomous Region except for migration statistics

21. CLMV countries have achieved the MDG target of reducing poverty by half from 1990-2015. Typical for countries in transition, inequality has increased, except perhaps in Cambodia. CLMV countries are committed to the UN goal of poverty eradication, and have developed policies and allocated funds for poverty reduction. However, institutional, financial and social reforms have been lagging. Political and social structures are family oriented and states have difficulty implementing policies aimed at social accountability and solidarity despite strong socialist roots. Poverty affects people's access to health services, which is essential for public health security.

22. Extreme poverty, with income of less than $1.25 per day, has roughly halved to less than 5% of the GMS population. Based on the new poverty line of $1.90 in 2015, about one quarter of the people in Cambodia, Laos and Myanmar are poor, and much less in other countries. Even so, this implies that there are still substantial populations living below the poverty line who have less food intake and cannot afford to pay for medical services. Three quarter of the people in Cambodia and Myanmar are considered poor or near poor, at less than $3 income per person per day.

23. Most of the poor live in rural areas and are subsistence farmers or landless workers. The GMS includes many ethnic minority groups, in particular living in the mountains and hills. Poverty among these groups is higher than national averages. Some of these groups live in socio-economic and physical isolation and do not have access to health services, in part because of cultural practices, and acceptability and affordability of health services. Infections in these communities are less likely to be reported and managed quickly.

24. Poverty and income opportunities also stimulate marginal groups to move out of traditional settings into often poor living conditions in plantations, industrial zones and urban slums. Most migration is internal and seasonal. Many of these migrants are poor and less educated, including large numbers of ethnic minorities. Migration abroad is much less, but large numbers of educated persons and language skills seek employment abroad. About 6% of migrants are below 20 years of age and are often victim of exploitation at work but much less of sexual exploitation. However, trafficking in women is a scourge in the GMS. Tourism has also increased substantially. Internet and cell phone coverage stimulates education but also facilitates lifestyle changes.

25. This regional integration is likely to impact on the spread of EIDs, and a possible increase in major infections such as HIV/AIDS, TB, and dengue. More effort is needed in analyzing and anticipating the social impact of this regional integration and economic growth. For example, public health officials often do not know how many migrants there are living and working in their area of responsibility, do not access factories, casinos, and labor camps, and do not have a budget for health services for migrants. Poverty and social analysis was conducted for each country and reported in Part III.

III. Sector summary

a. General Sector Performance

26. CLMV countries are in a demographic and epidemiological transition, with an increase in non-communicable diseases (NCDs) and accidents and injuries linked to aging and lifestyle changing. However, among children and the poor, the major burden of diseases (BOD) in GMS countries is still infections including influenza, dengue, diarrheal and respiratory infections, and neglected tropical diseases (NTDs), along with malnutrition and perinatal conditions. In any case, most infectious diseases will need ongoing investment to keep them under control.

27. Because of a clear commitment towards millennium development goals (MDGs), a country's performance in the MDGs reflects a country's past efforts and constraints in primary health care. As shown in table 2, GMS countries have more or less achieved MDG 4, mortality rate of children and infants decreased by 50% between 1990 and 2015. There are major variations in these indicators by income and ethnic group, as discussed in the poverty and social analysis and ethnic group development plans of this PPTA. Reducing child malnutrition, under MDG 1, has been slower, in particular in Cambodia and Myanmar. Child care practices probably play a role in addition to food security and infectious disease control. Reducing maternal mortality, MDG 5, has also been challenging as it is highly dependable on access to medical services including obstetric surgery. Despite major government efforts, MDG 5 is yet to be achieved in Cambodia, Lao, and Myanmar.

Table 2: Health MDG Status

	Cambodia	Laos	Myanmar	Viet Nam	China	Thailand
Underweight < age 5 yrs.	23.9	26.5	22.6	12.1	3.4	9.2
Child mortality < age 5 yrs.	42.5	41.9	62.4	21.7	14.6	12.3
Maternal mortality ratio	161	197	178	54	27	20
Total fertility rate 2013	2.9	3.0	2.3	1.7	1.7	1.4
HIV Prevalence 15-49 yrs. %	0.6	0.1	0.8	0.5	0.1	1.1
HIV deaths /100,000	17.1	6.4	21.6	12.1	2.8	31
Malaria cases suspected '000	152	339	2,601	3,116	5,555	1,803
Malaria cases confirmed '000	21	46	334	17	4	33
Malaria deaths /100,000	1.7	4.4	5.4	0.1	0.0	0.2
TB Incidence per 100,000	390	189	369	140	171	68
TB deaths /100,000	66	53	135	19	3	12

WHO (latest data available) http://apps.who.int/gho/data/

28. For MDG 6, halting HIV/AIDS and other infectious diseases, major progress has been made in reducing the epidemic in the most affected countries, Even so, the epidemic continues as a concentrated epidemic in at risk groups such as drug users, sex workers, and men having sex with men. The prevalence of TB is also very high. A major concern is multi-drug resistant TB, the treatment of which is much costlier. With new global commitments and investments, the malaria prevalence has declined dramatically, even in Myanmar where it was the top ranked

health problem. Countries are preparing for elimination and intensified control. The main concern is artemisinin drug resistance, which emerged in several GMS border areas.

29. Table 3 shows the annual infection burden based on latest data in CLMV countries as reported through national surveillance systems. These data are likely inaccurate. Some diseases are more likely to be attended by the private sector, which is not reflected in these data. The group of HIV, TB and malaria have much better surveillance systems and are likely more accurate. Acute respiratory infections (ARIs) including influenza like conditions are the most common reported illness, and may be mixed up with EIDs, hence ARI diagnosis needs attention from a public health security point of view. Second, diarrheal diseases are often linked to food poisoning. A high level of childhood infections, even polio, suggests that children still get childhood infections despite high immunization coverage levels (except in Laos), which may indicate access and/or quality of care problems of importance for public health security. Many of the reported dengue cases are likely not dengue due to lack of diagnostic testing capacity. Lastly, NTDs including Japanese encephalitis and leptospirosis and scrub typhus are common but often misdiagnosed and mistreated. CLMV countries experienced a few cases of EIDs, in particular highly pathogenic avian influenza (HPAI) caused by infected poultry. There have been outbreaks of food poisoning, dengue, malaria, cholera, and hand, foot and mouth disease (HFMD). It is likely that many isolated infection cases and some outbreaks were missed or misdiagnosed, or overestimated for specific diseases, hence there is need to improve staff capacity, diagnostics, and surveillance.

Table 3: CLMV Annual Infectious Disease Burden, 2015 or Latest Data

Diagnostic Category	Cambodia	Laos	Myanmar	Viet Nam
	Yearly cases, average or latest data available			
Acute flaccid paralysis incl polio	108	24	2	1,655*
Fever & rash (measles like)	2,891	519	1,869	55,067
Measles	0	56	6	256
Neonatal tetanus	10	19	30	47
Tetanus all ages	-	21	1,372	360
Diphtheria	10	140	87	76
Pertussis	10	7	158	309
Dengue fever	14,033	1,668	Na	379,992
Acute watery diarrhea	66,078	41,290	354,024	3,591,395
Acute bloody diarrhea	na	5,870	108,346	168,238
Food poisoning	na	949	6,864	5,664
Typhoid Fever	na	1,367	4,541	4,396
Anthrax	-	4	53	472
Acute jaundice syndrome	806	691	6,706	Na
Meningitis	na	292	1,425	894
Acute encephalitis syndrome	2,577	35	na	15,547
Plague	-	-	-	6
Acute respiratory infections	712,709	3,357	2,779,392	1,455,712
Avian influenza	9	na	na	30
SARS like	-	9071	-	-
Hand Food and Mouth Disease	na	na	na	112,370
Leptospirosis	na	na	na	55
Rabies	6	1	211	426
Malaria new cases confirmed	25,152	48,071	152,159	15,752
TB new cases	43,059	30,840	138,352	49,929
HIV/AIDS new cases	1,599	3,781	7,000	72,510
HIV/AIDS total PLHIV	75,000	6,400	189,000	258,524

Source: Ministries of Health, WHO, UNAIDS. *including cases due to Japanese Encephalitis

b. IHR/APSED Performance

30. Public health security is as good as its weakest link. Within the GMS, PR China and Thailand have comprehensive national health security systems in place, and seek to further enhance public health security through regional cooperation, cross-border cooperation, and CDC in border areas. A practical way to assess performance of the public health security system is by assessing the progress in building core capacities of the IHR 2005 and implementing the strategic areas of APSED (2005, 2010) and other WHO strategies for CDC[11] using the WHO standard questionnaire of some 350 questions,, while keeping in mind the limitations of this instrument.

31. The data in Table 4 suggests that CLMV countries scored 69% on average, implying that two-thirds of IHR requirements are in place, and one third remains unaccomplished, while the due date for compliance is 2016. For comparison, Cambodia, Laos and Viet Nam scored 46% in 2012. In 2015, the highest scores were for coordination, surveillance and zoonosis, while in 2012 for three countries this was zoonosis, surveillance, and response. The lowest scores were for human resources and chemical and radiological hazards, while in 2013 for three countries this was risk communication, and chemical and radiological hazard.

Table 4: IHR Core Capacities Assessment 2016

Core Capacity	Cambodia	Laos	Myanmar	Viet Nam	Average 2016
Legislation	50	60	60	100	68
Coordination	55	89	94	100	85
Surveillance	80	81	73	88	81
Response	48	58	67	89	66
Preparedness	60*	71	48	95	69
Risk communication	42	62	40	100	61
Human resources	40*	44	43	100	57
Laboratory	40	78	77	100	74
Ports of entry	76	61	56	100	73
Zoonosis	78	69	92	100	85
Food safety	67	80	46	100	73
Chemical	30*	41	39	88	50
Radiological	30*	47	47	100	56
Total score	**53**	**66**	**60**	**96**	**69**

Source: PPTA, from MOH and other ministries based on IHR-based Questionnaire. *Expert estimate only

32. While there are substantial country-to-country variations, progress may be summarized as follows: (i) all CLMV countries have surveillance and outbreak response systems for notifiable diseases and any other outbreak, but want to deepen this to include syndromic reporting from village level upward, initiate reporting from the private sector, and improve data management; (ii) laboratory services have been expanded but need better quality, biosafety, standards, and supplies; (iii) cooperation for control of zoonosis (“one health”) is reportedly good; (iv) infection prevention control (IPC), for which WHO has formulated a regional program, has received less attention and funding and much remains to be done to improve hospital hygiene and infectious case management; (v) risk communications have improved, in particular linked to emergencies; (vi) pandemic preparedness remains limited, with no surge capacity in

[11] Including bi-regional strategies for HIV/AIDS, malaria, tuberculosis, dengue, laboratory, and health financing.

case of major outbreaks[12]; (vii) regional preparedness, alert, and response (including information exchange) is also inadequate, amongst others due to political sensitivities, and (viii) APSED monitoring needs to be strengthened further, possibly with independent evaluation of progress. WHO has estimated financing gaps in implementing APSED, which are substantial, in particular for laboratory services, emergency capacity and, for unknown reasons the costliest, for community preparedness.

33. Perhaps IHR/APSED areas under direct control of CDC/public health departments have improved most, reaching about 80% compliance, while areas involving other countries, ministries, community and departments have done less well, including laboratories and hospitals, community level, and intersectoral and inter-country cooperation. Also marginal communities not accessing health services, in particular ethnic minorities in border areas and migrants in economic zones need to be engaged in EID preparedness and CDC. GMS strategic planning for CDC also needs to be enhanced. IHR capacity building and roll out of APSED strategic areas face a range of challenges as summarized in the next paragraphs. Details are on the countries health analyses.

34. **Legislation and Policy**. The IHR 2005 of WHO provides a strong and legally binding standard for the control of EIDs and other serious public health threats, such as the spread of drug resistant infections. WHO's APSED and other WHO regional strategies for disease control and health system development provide a good framework for building GMS health security. The CLMV governments are fully committed to comply with IHR, and made major progress in implementing APSED. GMS countries have legislation requiring the public to report cases of suspicious infections. Good health services that have the public confidence are therefore essential to achieve public health security.

35. **Surveillance**. All CLMV countries have national disease surveillance systems for instance, weekly or monthly reporting depending on the type of suspected disease. Data collection may be based on health facility records, hospital sentinel stations, or voluntary event reporting and is incomplete, in particular not including cases and events identified by the communities and the private sector. Suspected case of EIDs and outbreaks of other diseases are mostly not identified through the indicator-based surveillance system, but through event reporting, for example using toll free phone numbers. The current surveillance systems are largely not computerized at district level and below, which is one factor in late reporting of cases and events. Each MOH lacks in staff training and quality control so doesn't really know what zero reporting of suspicious infections means. Other surveillance systems for particular diseases have better quality data and separate reporting mechanisms and are not interlinked. The national surveillance systems are also not well linked with the general health management information systems.

36. Even if MOH can put meaning to its own surveillance data, it is lacking information from communities and the private sector. Many patients also seek health care abroad. In the current set-up, people not accessing or reporting to public health services when sick, for any reason, means a gap in surveillance and impact on infection control. MOH may assume the network of diagnostic services is functioning when it isn't. Each MOH is interested in developing community-based disease surveillance, e.g., through syndromic reporting, and shows some initiative or aspiration for improving private sector reporting.

[12] Even developed countries like Australia lack a major surge capacity, as was clear during the swine flu outbreak. Also international surge capacity response was quickly exhausted with one major Ebola outbreak. Hence the focus should be on prevention of major outbreaks.

37. **Outbreak Response**. All CLMV countries have central, provincial/state and district rapid response teams. Availability of transport, protective gear, and emergency funds for outbreak investigation varies. The performance of RRTs needs to be improved. The current teams are mostly clinicians. RRTs may need to become professional public health teams providing outbreak response, and otherwise work on community prevention, reporting and preparedness. RRTs could also include mobile diagnostic services, in particular for hard to reach MEVs.

38. **Outbreak Preparedness**. All ministries of health have national preparedness plans for suspected EID cases and outbreaks and have gained experience testing these pans through real case scenarios and simulation exercises. However, preparedness at lower levels is much less, and awareness about the presentation and risks, handling and reporting of suspected EIDs is reportedly limited. Larger hospitals lack the means for preparedness. The sad reality is that CLMV countries lack surge capacity and that developed countries and international agencies lack capacity to handle a major epidemic except for diagnoses and producing vaccines. An alternative country pandemic plan relying on self-reliance and sustainability should be considered.

39. **Human Resources Development**. All CLMV countries have realized the importance of competent staff, and have initiated or participated in field epidemiology training programs (FETP). These used to be provided overseas, but are now organized in country in partnership with overseas universities. The aim is to train sufficient FETP graduates to be posted to all provinces/states. At district level, CLMV countries have recognized the need for assistant FETP, and are at various stages of rolling out such a program. One major issue is current lack of facilities for FETP in all four countries.

40. **Port of Entry**. Port of entry checkpoints are under the authority of other ministries, although ministries of health have varying responsibilities for quarantine services. The general impression is that international airports have fairly good border checkpoint and quarantine services, but not seaports and land border crossing. Quarantine service is difficult as the chance of finding serious infections at border checkpoints is quite small. Hence, this does not warrant major investments in quarantine facilities in border areas. Most cases of suspected EID or other serious infection will show up or be identified in the hospitals. Viet Nam has decided to add nine border quarantine centers, for which funds have been allocated from the state budget.

41. **Zoonosis.** After the avian influenza outbreak, all CLMV countries have addressed the challenge of control of zoonotic events. This includes legislation, intersectoral coordination, improving surveillance systems, simulation exercises, risk communication, case management, and laboratory diagnoses; and outside the health sector other measures such as licensing, checking of farms, and containing smuggling. However, avian influenza is still circulating in poultry and has caused few human cases. One key issue is information exchange, which does happen regularly. Other important zoonotic diseases including rabies do need more attention.

42. **Food Safety.** Food safety has scored high in the IHR core capacity assessment. However, outbreaks of diarrheal diseases, dysentery, cholera, and other water- or food-borne infections are among the most commonly reported surveillance events, often linked to contaminated sources. Of particular concern is the sanitation of markets, including central markets attracting tourists. These markets often fall short of hygiene, sanitation and waste disposal. While MOH has authority over disease prevention, markets are not under jurisdiction of MOH. At household level, urban slum dwellers and about 30% of rural people still lack access

to clean water and sanitation. Ministries are in various stages of improving food legislation, standards, and inspection.

43. **Chemical and Radiological Hazards**. Global agencies have been involved in the appraisal of these hazards, but no substantial assessment has been done in CLMV countries. Responsibilities among ministries and uniformed services for the prevention and monitoring of these hazards, and management of event response are less clear. Ministerial focal points have been established. Prevention rules, surveillance and preparedness plans are being developed.

44. **Laboratory services**. Laboratory services are a large and complex subsector with multiple functions coming together to produce safe, reliable, and useful diagnostics. The WHO has proposed a Regional Plan for Improving Laboratory Services. All CLMV countries have national policies and/or plans for strengthening laboratory services. Laboratory services are led by long established national institution with high professional standards: the National Public Health Laboratory in Cambodia, the National Center for Laboratory and Epidemiology in Laos, the National Health Laboratory in Myanmar, and the National Institute of Hygiene and Epidemiology in Viet Nam. Besides, there are several active research institutions and foundations. Pasteur Institutes, WHO, CDC Atlanta and other reference laboratories provide diagnostic support for EIDs. Specimen transport arrangements need to be improved.

45. Provincial/state laboratory services were appraised (Part I). The main issues are biosafety and reliability and accuracy of testing. A system of biosafety and quality improvement needs to be put in place including basic facilities, staff training, supplies, equipment calibration and maintenance. This needs to be re-enforced with quality assurance and regular laboratory audit (inspection). Upgrading laboratory services needs to be selective in view of human resources constraints. Viet Nam is planning to combine preventive and curative laboratories at district level.

46. **Infection Prevention and Control.** Hospitals are the most likely recipients of patients with an EID, and also pose a major concern as a source for the spread of these diseases (e.g., MERS in Korea). Health facilities also contribute to nosocomial infections and drug resistance. The World Alliance for Patient Safety was launched in October 2004 to facilitate the development of patient safety policy and practice. In 2005, the Alliance launched the first Global Patient Safety Challenge with the theme 'Clean Care is Safer Care'.[13] The risk of acquiring a health care associated infection is estimated to be 5–20 times higher in developing countries and 3–20 times higher for neonates.[14]

47. In CLMV countries, the IHR core capacity for "response" scores low because hospitals do not meet IPC standards. WHO's bi-regional strategy for IPC aims to make all health facilities hygienic places that can handle infectious patients properly without risk of spreading infections or grooming drug resistance. IPC roll out has been initiated in central and provincial or state/region hospitals, through infection control committees, focal points, scholarships, staff training and SOPs. Quarantine beds are available tertiary hospitals, but mostly not at provincial/state level.

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[13] Donaldson, L. (2005). Patient Safety: "Do No Harm", in: Perspectives in Health, The magazine of the Pan American Health Organization. (http://www.paho.org/English/DD/PIN/Number21

[14] Mugrditchian, SD., Khanum, S., 2006. "Placing patient safety at the heart of quality in health care in south-east Asia". International Hospital Federation Reference Book 2006/2007 021. http://www.ihf-fih.org/pdf/21-24.pdf

48. **Regional Cooperation**. WHO leads the public health security agenda at global and regional levels and works closely with governments at national and sometimes subnational levels.
To implement IHR and deal with other diseases of global importance, APSED gives importance to regional and cross-border cooperation. The main rationale for regional cooperation in public health security is that infections can easily spread across borders. This requires timely exchange of information on suspected cases of notifiable and other highly contagious diseases and sometimes cooperation for timely outbreak control. However, insufficient efforts are made by national governments for such cooperation due lack of protocols. Progress has been made with informal information exchanges among national CDC units and border provinces. Governments have agreed on formulating guidelines and standard operating procedures (SOPs).

49. A second important purpose of regional cooperation is to learn from one another. In earlier projects, the regional workshops and technical forums proved very useful. Setting up community of practice (COP) however requires champions who can devote time running these KM activities. KM activities should help improve GMS disease control strategies. Other benefits of regional cooperation are networking and confidence/team building among officials and experts, and improve leverage and efficiency of CDC. To guide GMS cooperation, a regional steering committee was established some 12 years ago, with the host GMS country sharing this. A regional cooperation unit based in MOH, Laos, serves as the secretariat of the regional steering committee and is, among others, focusing on administering workshops and forums, sharing technical information, and facilitating information exchange and cross-border cooperation among countries.

50. Border areas in CLMV countries are a contrasting mix of forested highlands with isolated ethnic minorities; and strategic valleys or lowland with busy borders towns and sometimes industrial zones and casinos along economic corridors. Every day, many local people cross borders for work, in addition to busses, trucks, tourists, and visitors of casinos. MEVs often have less access to CDC and may not use CDC programs for a variety of reasons, such as customs, physical access, poverty, migrant status, language problems, and work conditions.

51. Cross-border migrant workers returning home have limited access to regular health services. The Cambodia International Organization of Migration has been piloting TB screening programs for cross-border migrants. The practical notion is that there are only few entry points where large numbers of people cross the border, after which they disperse. Offering people with health problems voluntary screening facilities at borders may help identify new cases.

52. A cross-border survey undertaken in the first GMS CDC project found that about half of all provinces in Cambodia, Laos and Viet Nam was engaged in cross-border activities. China has had bilateral agreements in place with Myanmar, Laos and Viet Nam for cross-border control activities of HIV/AIDS, TB, and malaria. Thailand also has sponsored cross border activities with Myanmar, Cambodia and Laos. These are examples of effective collaboration.

53. In summary, infectious diseases do not respect borders, and need regional and cross-border cooperation for their control. For example, migrants returning with HIV or TB need continuity of treatment, to avoid complications and drug resistance. Similarly, control of EIDs requires quick regional and global coordination involving law enforcement and many other groups.

54. Regional coordination should be fully government-owned and institutionalized including office, staff and operations paid by the government. Cross-border cooperation is gaining momentum but needs to be integrated into routine CDC. National aid coordination mechanisms for public health security are in place but coordination needs to be improved, and public health security needs to be mainstreamed and funded in sector plans.

c. Communicable diseases control

55. **HIV/AIDS Control**. The dramatic reversal of the HIV epidemic in Cambodia, Myanmar, Thailand and Viet Nam was achieved through a comprehensive strategic approach, substantial external aid, and increasingly also domestic funding. However, about 30%-60% of people needing HIV treatment still go without it in the CLMV countries and they can infect others. HIV vaccines are still being developed. Coverage of HIV/AIDS treatment centers in Laos, Myanmar and Viet Nam is low, causing poor patient compliance. Antiretroviral drugs resistance is an emerging public health concern. While HIV prevention is one of the most cost-effective interventions, many hotspots along economic corridors and in border areas are not reached by the HIV/AIDS program.

56. **Tuberculosis control**. Tuberculosis is a disease that builds up in populations exposed to war, poor living conditions, and lack of nutrition and TB services. In the GMS, it is common among the poor, isolated, elderly and sick, including those with HIV/AIDS. The main control strategies are treatment of infective persons, active or passive case-finding and hospital diagnoses. Patients usually access the TB control program to receive the Direct Observed Treatment-Short course (DOTS), delivered as closely to the patient as possible to ensure high patient compliance with treatment and high cure rate to avoid development of multi-drug resistant TB (MDRTB). A new and hopefully more protective vaccine is being developed to replace the BCG vaccine.

57. CLMV countries are still in the global list of countries with a large burden of TB. Cambodia, Myanmar and Lao have respectively 60,000, 230,000 and 6,000 new TB patients each year, of whom two thirds are detected and treated. National TB programs have close to 100% coverage but lack funds for case finding and treatment, in particular for MEVs. Deployment of GeneXpert and digital X-ray machines in district hospitals and mobile clinics will increase case detection among high risk groups, but this requires that identified people can be included in the treatment program. Also migrant workers who start TB treatment abroad often do not have access to treatment on return to their home country. Cambodia and Myanmar national TB control programs report HIV co-infection in respectively 6.3% and 9.2% of TB patients. Cambodia and Lao national TB control programs report MDRTB in respectively 1.4% and 5% of TB patients. Treatment of MDRTB costs about $1,400 per person compared to ordinary DOTS costing $25 per person. The spread of MRTB is a real global health risk.

58. **Malaria Control**. Widespread use of insecticide treated bed nets (ITB), better diagnoses and treatment, and various forms of vector control have reduced the malaria burden. Development of a malaria vaccine has proved to be very difficult. Most malaria is now found among people living and working in the forested highlands of GMS countries. Myanmar has by far the highest burden of malaria. The annual malaria morbidity rate reduced 4-fold from about 25/1,000 cases in 1990, to 6.4/1,000 cases in 2013.

59. The Global Fund still is the global financier of malaria control, in particular for supply of bed nets, case detection, treatment, and targeting hotspots. To deal with drug resistant malaria in Asia, WHO is leading an Asia Pacific effort for malaria elimination in Asia by 2030 – no malaria, no resistance. The GMS is the center of artemisinin resistant malaria, which has

developed in border areas,[15] probably linked to migrants, mobility, and substandard medicines and treatment. If drug resistance spreads to Africa, it will cause havoc. The Asia-Pacific Leaders Malaria Alliance was established in 2012 to generate political commitment, financing and cooperation for malaria elimination in Asia Pacific. ADB is the secretariat for APLMA. ADB is also managing the Regional Malaria and Other Communicable Disease Threats Trust Fund to finance malaria projects in Asia Pacific, but future plans for APLMA and the fund are under discussion.

60. **Dengue Control**. The GMS has seen a rapid increase in dengue since the 1990th. During a visit to the Mon state hospital in summer, two thirds of the overcrowded children ward was occupied by dengue victims. The worst year for dengue on record in Cambodia was 2007, when 39,851 cases with 407 deaths were reported. In Viet Nam, over 100,000 cases were reported annually before the start of the National Target Program (NTP) in 2010.

61. Countries have adopted the WHO Global Strategy Framework for Dengue Control. The WHO Asia Pacific Dengue Strategic Plan (2008-2015) proposed a standard framework for dengue surveillance, integrated vector management, case management, social mobilization and communication, outbreak response, and research. The newly formulated Regional Dengue Framework provides an implementation roadmap. Vector control has been difficult to maintain. A key strategy is to extend the surveillance system down to the community level, and use syndromic reporting for timely reporting of any suspected case of dengue, followed by quick response.

62. **Childhood infections**. Childhood infections including polio and measles caused epidemics with high mortality and rapidly spread across borders. Based on the Global Vaccine Action Plan (2011-2020), 5-8 antigens are included in the immunization programs for children below one year of age. Full immunization coverage is about 85% in Cambodia, 45% in Laos, 85% in Myanmar, and 95% in Viet Nam. In particular in Laos, there are pockets of low immunization coverage in MEVs. Immunization also fails to protect a large number of children due to problems of cold chain or immunization technique.

63. Other infections of regional significance. Major progress has been made in the control of parasitic NTDs but less so in the control of Japanese Encephalitis. Hand, foot and mouth disease (HFMD) has been spreading from Viet Nam to neighboring countries. Fever studies also indicate high prevalence of brucellosis, leptospirosis, and scrub typhus. Treatment for these conditions is available if properly diagnosed.

d. Health system issues

64. **Coverage**. In 1978, GMS countries committed to Health for All through Primary Health Care, which is essential health care based on the needs of the community, and provided in partnership with the community.[16] In 2015, government adopted the sustainable development goals, including UHC. UHC requires all people to have access to affordable quality health care, which in turn depend on community conditions, sector management, governance and financing. Coverage, or use of services by population, is a proxy of both demand and supply of services. Table 5 shows coverage for specific health services that are typically receiving major

[15] Notably in the Cambodia-Thai area of Pailin and Chantanaburi provinces, the Myanmar-Thai area of Kayin state and Tak province, Dak Nong and Bhinh Phuoc provinces in Viet Nam, and Bago and Thanintharyi regions in Myanmar.

[16] WHO. 1978. Alma Ata Health for All Declaration.

assistance. Even for these services, indicators for Laos and Myanmar are lower, suggesting that many people do not access public services and hence are outside the surveillance system.

Table 5: GMS Health Services Coverage, 2012*

Indicator	Cambodia	Laos	Myanmar	Viet Nam	China	Thailand
Birth attended by skilled personnel (%)	71	40	64	86	95	99
Measles immunization rate at 12 months	90	82	86	98	99	99
Contraceptive prevalence rate	51	50	40	88	78	79
Antenatal care rate for 4 visits or more	80	37	71	60	95	80
TB treatment success rate of TB patients with spear positive sputum	94	90	85	91		81
Antiretroviral coverage of HIV+ patients	84	51	48	58		76

Source: WHO; * or nearest date

65. **Access to Care**. GMS governments have rapidly expanded basic health services, basically by adding and upgrading health centers/commune health stations, so that every administrative area has a facility.[17] Physical access to health services in CLMV countries is now much less of a problem with the construction of rural access road and the development of a network of health facilities and village health workers. There still are inaccessible pockets in Cambodia, Lao and Myanmar, in particular during the rainy season, and access may also be affected by security problems and in plantations and industrial and entertainment zones. In terms of access to specific services, CLMV Governments have made major progress in improving coverage for maternal and child health, immunization, and HIV, TB and Malaria, but even these programs do not reach certain MEVs (which in turn affects MDGs). Specific services may be missing such as for immunization, laboratory tests, or emergency services.

66. **Quality of Care**. Quality of service delivery has not kept pace with rapid expansion of infrastructure. Household surveys show that the use of rural public health services is low in all CLMV countries. Many patients prefer private services or self-treatment, or traditional medicine. Large public hospitals in urban areas are typically overcrowded, for both outpatient and inpatient care. Low demand for rural public health services, as per records, may simply mean that the services are managed off-the-books as a publicly subsidized private clinic, or that staff are referring patients to their own private clinic, but this is unusual in these countries. More common issues of rural health services are lack of recurrent budget to operate the services, poor facilities and hygiene including lack of water and sanitation, staff absenteeism, poor quality of care, and high costs of services relative to perceived value. Staff absenteeism may be caused by lack of income opportunities to compensate for low government salaries, high transport costs, lack of housing and security problems.

67. **Affordability of Care**. Lack of recurrent budget to operate health services usually means high out-of-pocket spending. The indigent and the poor often refrain from accessing public health services due to (perceived) high costs. CLMV governments have initiated mechanisms to compensate providers for free health care using mutual funds, donations, health equity funds, and health insurance, but it seems that the indigent and the poor can often not benefit from these.
Poor migrant workers lacking registration may also be denied free health services.

[17] Cambodia plans health services based on health districts named “operational districts”.

68. **Sector Governance**. In Laos and Viet Nam, health services are devolved to provincial level. Cambodia MOH is using health management agreements between MOH and operational districts (ODs). Myanmar is planning further devolution to state/region level. Devolution offers better owned and customized management, but poses risks in terms of lack of capacity, non-adherence to MOH policy and monitoring, and a focus on symbolic investments. Among some local governments, hospitals are seen as good sources for generating revenue.

69. Health sector management in CLMV countries still need to strengthen core capacities in planning and budgeting, resource management, and monitoring. Bottom-up planning and budgeting has been introduced but remains fragmented with separate vertical programs and lack of financial flexibility. Sector-wide approaches are being rolled outed. Cambodia MOH has introduced sector-wide implementation, and Lao MOH health reform plans also amount to a sector-wide program approach. The new Myanmar Government also favors a comprehensive planning approach. For all countries, a problem is how to link central and local government priorities, plans, and budgets.

70. Resource management, of staff, logistics, finance and supplies, is an increasing problem in CLMV MOH, perhaps because of increasing demands of leaders, complexity in a devolved set up, oversights and conditions, and fragmentation. A new generation, of MOH managers are better training and more competent but somehow find it hard to make the system more efficiently. Partners, since the late 1990th, have concentrated on few diseases and subsectors. This so-called “package” approach is driven by political desires to demonstrate impact of aid, and undermines local ownership and responsiveness. Partners are now trying to fix management problems by investing in governance, but still have less appreciation for the role of communities in improving health services, which is important for hard-to-reach populations.

71. Communities have been engaged in health services through various channels including religious and social organizations, village health committees, community health workers, mobile clinics, campaigns and public works. While local health center staff, as community members, continue to be informally active in local communities, reduced community engagement undermines their intermediary role in public health security. Intense engagement of communities is especially important in the least mainstreamed traditional communities, but government conditions are often lacking to do so effectively. Cambodia has successfully explored public-private partnership, and contracted NGOs to circumvent some of the public sector restrictions to engage with remote ethnic minorities. Similar approaches should be considered for migrant communities that are now often out of reach of government programs.

72. Myanmar is a special case having a new Government after many years of command economy. Appraisal of the old system is probably less relevant, but the “Health in Transition” report for Myanmar says that “transparency and accountability are new terms arriving with the current civilian government.” While the government machinery was a big black box, what made the system work for so many years of accommodation and self-reliance were the professional ethics, dedication and persistence of health workers, for example community midwives taking initiative to rebuild their health centers after cyclone Nargis from whatever material they could find. This is the backbone of rebuilding Myanmar’s health sector. Hopefully, reform measures such as a participatory planning process, transparency, and accountability will push through.

73. Based on the new constitution, the government plans to form regional legislatures for actual devolution of authority. Based on the National Comprehensive Development Plan (NCDP) 2011-2031, comprehensive 5-year health sector plans will be formulated. However, within this framework, planning is done by individual departments, although under the umbrella

of an overarching consultation process. The result is a health system largely managed like vertical programs except for matters like personnel and financial management. There have been voices to return to the earlier People's Health Plans approach, more of an integrated and bottom up planning process. Various intersectoral collaboration mechanisms are also in place, in particular for food and drugs, occupational hazards, and disaster management.

74. The role of NGOs and the private sector is important in Myanmar to achieve UHC. Collaboration with NGOs and the private sector is limited. A good example is the public-private partnership for the national TB control program. The MMA plays a key role in quality standards in the private sector. The Population Services International has helped develop the Sun Quality Health Network or urban areas and Sun Primary Health for rural areas engaging over 3000 providers in almost 300 townships. Based on the 2012 Social Security Law, a universal social protection system is to be developed. A new concept paper prepared by government officials and partners proposes a basic health care package for the entire population provided free of charge except for the formal sector. Hopefully, interventions for public health security will be part of this. .

75. **Financing**. In 2001, the Commission on Macroeconomics and Health of WHO estimated that a basic package of health services in the least developed countries would cost $34 per capita.[18] In 2004, per capita health expenditure in Cambodia was $30, Laos $10, and Viet Nam $21. In 2013, per capita health expenditures in Cambodia was $67, Lao $32, Myanmar $14, and Viet Nam $111 (Table 6). Health spending has not kept pace with overall economic growth. Of major concern is that much of this spending is out-of-pocket. Unless this is resolved, UHC is unlikely to be achieved, and so is public health security in the absence of a strong private sector. Low government financing of public health services has demotivated staff and dilapidated health facilities, thereby reducing sector efficiency and impact. It will take substantial investments to recover from years of neglect.

Table 6: GMS Health Expenditure (2013)

Indicator	Cambodia	Laos	Myanmar	Viet Nam	China	Thailand
Total health expenditure per capita $	67	32	14	111	367	264
Total health expenditure as share of GDP %	7.5	2.0	1.8	6.0	5.6	4.6
Public share of total health expenditure %	20.5	49.3	27.2	41.9	55.8	80.1
Share of public budget spend on health %	7.7	3.5	1.5	9.3	12.6	17.0
External Aid share of total health expenditure %	13.3	26.8	15.3	2.2	0.1	3.8
Out of pocket share of private spending	75.1	78.8	93.7	85.0	76.7	56.7

Source: World Bank, 2013

76. **Health Information System** (HIS). In Cambodia, the Department of Planning and Health Information Systems has a comprehensive health information system (HIS). It realizes the problem of capturing health information for MEVs and is considering options to track these groups. The MOH infectious diseases surveillance system aims to expand to full public sector coverage, and as started including the private sector. Eventually, MOH Cambodia is looking forward to a web-based, comprehensive HIS for all formal health services.

77. In Viet Nam, MOH has placed strong emphasis on the HIS.[19] Challenges to be addressed include horizontal and vertical fragmentation and quality problems. Most of the 127

[18] WHO. 2001. Report on Macroeconomics and Health.
[19] MOH Viet Nam Strategic Implementation Plan for Developing the Health Statistics in the Period 2011-2020.

indicators are collected manually and eventually in Excel files through a series of logbooks. There is no platform for integration of clinical, diseases control program, prevention, and lab data at any level. Data on private health services is also lacking. The surveillance system is managed separately for 28 notifiable diseases.[20] The used software, e-CDS[21], allows for upgrading. Advancing IT requires equipment and training at district and commune levels.

78. In Laos, MOH is rolling out a nationwide HIS, based on the Oslo district HIS software. MCH monitoring has been integrated in the HIS, but not yet CDC. Provincial capacity to collect, report and use data is improving but is also affected by multiple resource constraints.

79. In Myanmar, MOH has a comprehensive health management information system, with separate collection systems for surveillance and most priority programs. Most state/region health offices are capable of analyzing their health data. There are three major problems. Data are mostly managed manually up to district levels. Data quality is unreliable, and services provided by NGOs, military, other agencies and the private sector are not captured.

e. Development Coordination

80. **Coordination**. The International Health regulations (IHR (2005) of WHO provides a strong and legally binding standard for the control of EIDs and other serious public health threats, such as the spread of drug resistant infections. In the GMS, the IHR is implemented through the APSED (2005, 2010). WHO has also demonstrated strong technical leadership in formulating regional control strategies for health security related areas including for the control of HTM, dengue, and NTDs; and also related health systems such as for MNCH, laboratory services, and health financing. The international health partnership (IHP) for health and ASEAN also provide relevant aid coordination.

81. Aid coordination in CLMV MOH takes place at strategic sectoral level, and at operational subsector level, such as for MNCH, nutrition, HIV, TB and malaria. MOH and WHO manage IHR/APSED coordination mechanisms in each country but partners like ADB, USAID can do better in coordinating. Aid coordination at provincial level is increasing, often also involving NGOs. This is a practical development facilitating the combination of resources to address system gaps.

82. All ministries of health of CLMV countries have put sector development and reform and aid coordination structures in place which may be summarized as follows:

(i) MOH Cambodia, based on sector wide management (SWIm), is implementing a succession of comprehensive Health Sector Programs (HSP) 1, 2 and 3, financed by the Government and a consortium of partners led by the World Bank. ADB provide parallel funding for CDC under the HSP umbrella.

(ii) In Laos, MOH has a sector-wide coordination mechanism and since 2009 a sector program approach[22] and in 2013 introduced the health sector reform strategy and framework toward UHC with support of ADB, the World Bank and WHO.

(iii) In Myanmar, MOH converted the Country Coordinating Mechanism set up under the Global Fund into the Myanmar Health Sector Coordination Committee, under which all subsector technical groups work.

(iv) In Viet Nam, MOH chairs the Health Partnership Group since 2004 to improve strategic planning, monitoring, coordination and efficiency of the entire health

[20] Circular 48 /2010/TT-BYT of Ministry of Health on infectious disease reporting.
[21] e–CDS - Electronic communicable disease surveillance (system), developed by ADB funded project (ADB 47)
[22] ADB. 2009. *Health Sector Development Program, Lao PDR*. Manila

sector. It includes representatives of all partners and NGOs. MOH also issues the joint annual health reviews (JAHR).

83. Key partners in CDC in the GMS, including both national and regional support, include the following:

ASEAN provides high level political commitment for regional health security;

(i) WHO provides technical leadership for IHR/APSED and CDC in general;
(ii) USAID is phasing out HIV support and rolling out the Global Health Security Agenda;
(iii) The Global Fund provides major supports for HMT control;
(iv) UNICEF, UNFPA and the 3D fund in Myanmar support MNCH;
(v) The Global Alliance for Vaccines and Immunization (GAVI) supports new vaccines;
(vi) UNICEF supports women's rights, MNCH, immunization, and water and sanitation;
(vii) UNAIDS and UNFPA support the HIV program and reproductive health;
(viii) The World Bank supports hospital infection control and CDC in general.

A short list of major GMS health projects is in Table 7.

Table 7: Major Development Partners or Regional CDC

Location	Development Partners	Project Name	Duration	Amount ($ million)
GMS	ADB, DFAD, DfID	Second GMS Communicable Diseases Control Project Extension – Regional Part	2015 – 2017	5.0
	ADB, DFAD, DfID	Regional Capacity Building Technical Assistance for Malaria Elimination and CDC	2016 – 2017	12.0
CAMBODIA	ADB, DFAD, DfID	Second GMS Communicable Diseases Control Project and Extension	2010 – 2017	14.0
	AFD, BTC, DfID, DfID, Korea	Health Sector Support Program Phase II and III	2009 – 2015	149.8
	UNFPA, UNICEF, World Bank		2016 – 2020	TBD
	GF	Malaria, TB, HIV/AIDS control projects		
LAO PDR	ADB, DFAD, DfID	Second GMS Communicable Diseases Control Project and Extension	2010 – 2017	15.0
	ADB	Strengthening HIV/AIDS Prevention Capacity in the GMS	2012 – 2018	5.0
	GF	Malaria, TB, HIV/AIDS control projects	2016 – 2017	25.2
	ADB	Health Sector Governance Program	2015 – 2020	23.0
	EU/UNICEF	Multisector Nutrition Support Program in the Lao PDR	2016 – 2020	55.5
	Lux Development	Lao-Luxembourg Health Sector Support Programme Phase II	2014 – 2020	25.5
	World Bank	Health Governance and Nutrition Development Project	2015 – 2020	26.4
	WHO	Systems Strengthening Program/Support for Health Sector Reform	2015 – 2020	15.0
MYANMAR	ADB, DFAD, DfID	Malaria and CDC Project in the GMS including regional support	2016 – 2017	5.2
	ADB, JFPR	Strengthening HIV Prevention Capacity in the GMS	2015 – 2018	10.0
	GF	Malaria, TB, HIV/AIDS control projects	2016 – 2017	
	WHO	WHO Program for Health Systems Strengthening and CDC		
	3MDG			
	World Bank			
VIET NAM	ADB, DFAT, DfID	Second GMS CDC Project and Extension	2010 – 2017	29.5
	ADB	Strengthening HIV/AIDS Prevention Capacity in the GMS	2012 – 2018	15.3
	ADB	Second Health Care in the Central Highlands	2014 – 2019	50.0
	China	Construction of the Hanoi University of Pharmacy	2013 – 2017	45.0
	GF	Regional Initiative to Prevent Artemisinin-Resistant Malaria	2014 – 2016	15.0
	ADB	Second Health Care in the Central Highlands	2014 – 2019	50.0
	Korea	Building Hanoi Medical University		45.0
	World Bank	Health Professional Education and Training for Health System Reform	2014 – 2020	116.0
	World Bank	North-East and Red River Delta Regions Health System Support Project	2013 – 2019	150.0
	World Bank	Hospital Waste Management Support Project	2011 – 2017	150.0

3MDG: 3 Millennium Goal Development fund; ADB: Asian Development Bank; AFD: Agence Française de Développement; BTC: Belgium Technical Cooperation; DFAT: Department of Foreign Assistance and T; DfID: Department for International Development; GAVI: Global Agency for Vaccines and Immunization; GF: Global Fund to Fight AIDS, Tuberculosis and Malaria; GIZ: Deutsche Internationale Zusammenarbeit; EU: European Union; JFPR: Japan Fund for Poverty Reduction, JICA: Japan International Cooperation Agency; KOICA: Korean Office for International Cooperation and Assistance; UNICEF: United Nations Children's Fund; UNFPA: United Nations Population Fund; UNICEF: United Nations Children's Fund; WHO: World Health Organization; USAID: United States Agency for International Development.
Sources: Ministries of Health of Cambodia, Lao PDR, Myanmar, and Viet Nam; ADB; internet sources.

84. **Financing.** Since the 1990s, external aid to the health sectors in Cambodia, Lao and Viet Nam has been increasing steadily (Table 8) until recently, but is declining as a percentage of public health spending, with a rapid increased in both domestic public and private health spending.

Table 8: Trends in Official Development Assistance (ODA) for Health

ODA Disbursement Indicators	Year	Cambodia	Laos	Myanmar	Viet Nam	Source
Health ODA per capita	2005	8	7	1	2	WHO
	2010	14	9	2	3	WHO
	2014	13	9	5	3	OECD
Health ODA as % Total ODA	2005	23	15	30	7	WB
	2010	26	13	28	8	WB
	2013	25	14	7	6	WB/WHO
Health ODA as % of public health spending	2005	114	233	200	20	WHO
	2010	82	60	100	9	WHO
	2014	62	18	19	7	OECD/WB
Public health spending per capita	2005	7	3	0.5	10	WHO
	2010	17	15	2	32	WHO
	2013	21	49	27	42	WB
Private health spending per capita	2005	28	18	5	27	WHO
	2010	28	31	15	51	WHO
	2013	75	79	94	85	WB
Total health spending as % GDP	2013	8	2	2	6	WB

Sources: WHO. *Official Development Assistance for Health*. 2010; Organization for Economic Co-operation and Development Assistance Committee; *Development Cooperation at a Glance, Statistics by Region. 4 Asia*. 2016; World Bank: *World Development Indicators*. 2014

Note: The table presents disbursement data. Commitments are less stable but more forward looking.

85. Main global drivers of health assistance in this millennium have been the HIV/AIDS epidemic, and MNCH, in a rush to achieve MDGs by 2015. This compares to earlier drivers such as family planning, malaria, infrastructure, and human resource development, and possible future drivers including governance and hospitals. In the GMS, there is a shift to financing income- generating hospitals based on the shift in the BOD to NCDs for which governments seek ODA. Hopefully, a low BOD of communicable diseases will not be used to justify low spending on CDC, as ongoing investments will be needed to keep the BOD for communicable diseases low.

86. The Global Fund for HTM increased its funding from 6% to 38% between 1990 and 2010, before it started to decline.[23] Even so, funding for HTM control is insufficient to conduct full scale prevention, case finding and treatment of all identified cases. As countries graduate to middle income status, financing of HMT by the Global Fund and bilateral agencies is likely to decline.

87. The outbreaks of SARS and HPAI triggered commitments from ADB, European Union, Japan, USA, and other partners to increase funding for the control EIDs, but only a portion of commitments have materialized. Since the Ebola outbreak in 2014, external support for EIDs is being re-prioritized. The proposed USA-led Global Health Security Agenda is expected to mobilize substantial funds for the prevention of EIDs. Several foundations and networks have

[23] http://www.healthdata.org/news-release/global-health-funding-reaches-new-high-funding-priorities-shift.

been active in capacity building for IHR/APSED, including the training program in epidemiology and public health interventions network (TEPHENET), the Rockefeller Foundation supporting the Mekong Basin Disease Surveillance program (GMS networking and cross-border disease surveillance and cooperation) and the global Disease Surveillance Network Initiative,[24] and the Child Health and Mortality Prevention Surveillance Network of the Bill and Melinda Gates Foundation.[25]

88. The control of childhood infections (immunization), dengue (and other related viruses), ARIs (also to differentiate from EIDs), diarrheal diseases (including cholera), and NTDs (including Japanese encephalitis) receive much less assistance. The funding for the management of drug resistance, including for MDRTB and artemisinin, is also insufficient, and so is the funding of dealing with substandard and fake drugs. Note that these diseases, unlike HMT, mostly affect children.

89. Australia, European bilateral agencies, the classical financiers of primary health care and district health systems, have largely phased out from the region, with the European Union taking on a broader role in budget support. Japan still continues with a focus on human resources and MNCH. In general, Asian bilateral agencies are more focused on infrastructure development. ADB Nongovernment organizations play complementary roles to governments such as service delivery for vulnerable groups and community education. NGOs and the private sector offer new possibilities for mobilizing resources and improving performance.

90. The evolving global market, communication networks and information technology have increased visibility of beneficiaries, local leaders, ministries and funding agencies. On a global platform local leader face increased competition and demand for performance, participation, transparency and accountability.

91. As domestic financing is increasing, and external aid is declining and becomes less significant in health sector financing, it is important to understand how these funds are leveraged for learning and impact. CDC programs need to be better mainstreamed, and included in provincial plans with linkages to MEVs as an essential part of regional health security.

92. **ADB assistance**. In the GMS, ADB has supported (i) hospital development, (ii) primary health care, (iii) CDC; (iv) human resources development; (v) health sector reform, and (vi) studies and pilots.

93. For CDC in CLMV countries, ADB supported 7 projects, including 4 for HIV, 3 for CDC, and one for model health village development. In 2000, ADB supported the Community Action for HIV Prevention Project of $11 million with a grant from the Japan Fund for Poverty Reduction (JFPR). ADB supported a $20 million HIV Prevention Among Youth Project in Viet Nam. ADB currently supports a GMS HIV/AIDS project for Laos and Viet Nam,[26] and a GMS HIV/AIDS project in Myanmar.[27] In 2005, ADB and WHO/WPRO supported the first GMS Regional CDC Project,[28] and in 2009, ADB supported the Second GMS CDC project for $54 million,[29] which was extended to 2017 for malaria control and CDC with a supplementary grant

[24] Moore, M et al. *Promising Pathways for Regional Disease Surveillance Networks*. Emerg Health Threats J. 2013.
[25] Moses S. *With Rockefeller long gone, who's watching out for new pandemics*. Inside Philanthropy. 2016
[26] ADB. 2012. *Strengthening Capacity for HIV/AIDS Prevention in the GMS.* Manila
[27] ADB. 2012. *Strengthening Capacity for HIV/AIDS Prevention in Myanmar.* Manila
[28] ADB. 2004. *GMS Regional Communicable Diseases Control Project.* Manila.
[29] ADB 2009. *Second GMS Communicable Diseases Control Project*. Manila.

of $9.5 million (Cambodia $4 million, Laos $3 million, and Viet Nam $2.5 million).[30] ADB wishes to integrate EID, HTM and CDC assistance such as Dengue control into one GMS program under sector-wide approaches.

94. TAs relevant to CDC were provided for studies on ethnic minorities and migrants, MNCH and immunization teaching videos, demand for immunization, vaccine financing, e-Health, SARS, AI, HIV, malaria control, and dengue control. In addition, PPTAs and capacity building TAs were provided. ADB and WHO/WPRO have been working together in CDC through various projects.[31]

95. CLMV countries also receive support from ADB's regional malaria and other communicable diseases trust fund supported by bilateral partners to support malaria control with a focus on artemisinin resistance, including capacity building of national regulatory agencies for drug control. ADB also manages the Asia Pacific Leaders Malaria Alliance (APMLA) secretariat to mobilize support for malaria control and eradication.

96. ADB GMS projects are coordinated through the GMS steering committee (which includes WHO), workshops, and a regional coordination unit (RCU) based in MOH, Laos. ADB projects are informally coordinated with other partners. ADB staff at resident missions participate in partner meetings. At strategic level, coordination for regional health security takes places through WHO regional offices. ADB has been supporting the formulation of GMS strategies on HPAI, dengue, malaria, Japanese encephalitis, NTDs, laboratory services, and cross-border cooperation.

97. **Lessons learnt**. Important lessons have been identified in ADB GMS CDC projects. Foremost, ministries of health, ADB and WHO have built up a strong partnership in GMS CDC Frank discussions and team work have generated a strong network based on mutual trust and respect. CDC1 and CDC2 projects have been evaluated as satisfactory, and were considered relevant, effective, efficient, and likely sustainable.

98. Provinces did take initiative in cross-border cooperation but less so in targeting MEVs in border areas. Provincial plans and budget didn't specifically address MEV. Possible reasons for not targeting certain high risk groups are political sensitivities, lack of interest in MEVs, insufficient logistic and financial support, lack of MEV interest, and simply poor access. This is still a major issue in the many mountainous parts of Myanmar and Lao, border areas of Cambodia, and perhaps the northern mountains and central highlands in Viet Nam. However, targeting MEVs in border areas is essential to achieve public health security, as well as lagging MDGs, and UHC by 2030. Project support can facilitate logistics, but probably more important is provincial/state commitment to target MEVs and inclusion of funds for MEVs in the provincial/state annual plans and budgets. There are also strategic cross-border challenges, such as how to provide continuum of care for cross-border migrants to help reduce treatment failure and the risk of drug resistance.

99. Each MOH has core competencies for surveillance and response and related areas, but has its own national priorities and staff constraints that slow down the rolling out of a more strategic regional approach to GMS public health security and CDC, with more effective regional information sharing and cooperation and aid coordination. This requires institutionalizing regional cooperation in terms of providing full-time MOH staff with clear responsibilities and

[30] ADB. 2014. *Malaria and CDC Project in the GMS*. Manila
[31] ADB TAs listed in Table 12

budget, as part of MOH GMS and ASEAN commitments. This may also require supporting WHO to provide technical assistance. WHO currently supports one person to improve GMS IHR/APSED mentoring, which could be scaled up for regional cooperation and strategic work for CDC.

100. Administrative capacities of ministries of health have improved in Cambodia, Myanmar and Viet Nam, but, remain fragile in Myanmar in spite of long administrative exposure. All CLMV countries experience staff constraints, as government salaries are not competitive and require staff to have other means. This necessitated project management units (PMU) but did little to build capacity in MOH. Provincial capacity for planning and budgeting, financial management, and project implementation has also improved over the years but capacity varies. The devolved set up needs to be analyzed as it adds complexity to administration, in terms of accountability and systems. However, provincial project activities are generally small, fit well with general services, and can readily be inspected. One other concern has been the procurement of laboratory equipment, which needs to be of high quality and based on careful assessment of justification of the services, availability of equipment, staff capacity, and maintenance and supplies support. Using the pooled fund (a share of each grant) for financing regional activities was very practical, but can no longer be accommodated by ADB. ADB has indicated it will consider regional TA.

IV. The project

a. Impact and Outcome

101. The proposed project goal is strengthened GMS health security, with indicators of (I) zero major outbreak of emerging or other epidemic disease in excess of 100 fatalities, (ii) outbreaks have less than 0.5% impact on GDP in any quarter of the year, and (iii) increased treatment of vulnerable groups for communicable diseases. The design and monitoring framework is in Appendix 1.

102. The proposed project outcomes are (I) improved coverage of GMS public health security system and compliance with IHR/APSED and (ii) CDC coverage increased in vulnerable groups in CLMV border areas, in particular for migrants, ethnic minorities, and other vulnerable groups (MEVs) as prioritized by the Governments.

b. Outputs

103. The proposed project outputs are: (i) increased GMS collaboration and MEV access to CDC in border areas; (ii) strengthened national surveillance and response system; and (iii) improved capacity to diagnose and manage infectious diseases.

(i) **Strengthened regional, cross-border, and intersectoral CDC.** MOH has made progress with regional information sharing and intersectoral and cross-border cooperation for CDC. In border areas, MEVs are more likely to get and spread infectious diseases and are less using formal health services. Under this component, it is proposed that the Project supports (i) regional, cross-border, and inter-sectoral information sharing and coordination of outbreak control among GMS countries, (ii) regional capacity for evidence-based CDC, (iii) development of better disease control strategies for MEVs in border areas, and (iv) increased CDC for MEVs in hotspots along economic corridors in targeted border areas. Support is needed for information exchange, simulation exercises, joint outbreak control, strategic planning for MEV disease control strategies in border areas, outreach to MEVs, and improving access of MEVs to CDC.

(ii) **Strengthened national disease surveillance and outbreak response**. MOH has a functioning surveillance system for notifiable diseases in place, and surveillance of HIV, malaria and tuberculosis is strong. However, the system needs to be futher computerized, extended to reach all health centers and communities by employing syndromic reporting, and data management has to be improved. Linkages or integration among surveillance systems with HMIS/DHIS will also be considered. MOH also needs to improve capacity for risk analysis, community preparedness, and disease outbreak response. Under this component, it is proposed that the Project supports (i) syndromic reporting at community level, (ii) web-based reporting including information technology support, (iii) linking of disease surveillance systems, including linking clinical and laboratory surveillance, (iv) improving capacity for risk analysis, risk communication, and community preparedness, (v) improving capacity of outbreak response teams including transport, and (vi) improving screening and quarantine capacity at border points of entry and quarantine centers. Support is needed for system design, training information technolology equipment, vehicles, training, and equipment for screening and outbreak control.

(iii) **Improved laboratory services and hospital infection prevention and control.** District facilities are unable to comply with internationally acceptable levels of biosafety or to guarantee the accuracy of their laboratory testing.. Underlying problems are substandard training of laboratory staff, lack of quality control, and insufficient facilities, equipment, and supplies. The quality assurance systems are in a nascent stage, and there are no national laboratory audit systems. Nosocomial or hospital-acquired infections are becoming a major public health threat. Under this component, it is proposed that the Project supports improving biosafety and quality of laboratory services and expanding services for CDC. Inputs will be (i) staff training for provincial and district hospitals for internal quality improvement, (ii) preparing standard operating procedures, (iii) providing basic equipment, supplies and minor repairs for laboratories and schools, (iii) setting up external quality assurance and audit system for compliance with national biosafety and quality guidelines, and (iv) setting up a laboratory network. For infection control in hospitals, the Project will support roll out of IPC through training in hospital hygiene and special case management, provision of basic equipment and minor repairs of wards.

104. Table 9 summarizes proposed project location along the borders of CLMV countries including with China and Thailand. The 67 project provinces (states/region in Myanmar) and 338 districts were broadly selected based on clusters of high risk border areas along economic corridors, and specifically based on (i) borders, (ii) large groups of MEVs and related CDC risks, and (iii) support from other partners.

105. The project is targeting districts with a total population of 4.0 million people in Cambodia, 1.4 million people in Laos, 2.2 million people in Myanmar, and 20.1 million people in Viet Nam, a total of 27.7 million people. The actual number of beneficiaries may be around 10% of this number, about 3 million people. About half of the populations in targeted districts are poor and/or belong to ethnic minority groups. The Country Poverty and Social Analysis (Part III) provides details.

Table 9: GMS Health Security Project Target Population

Target/Output	Cambodia	Laos	Myanmar	Viet Nam
Provinces*	13	12	6	36
Border provinces*	12	12	6	25
Districts**	40	55	30	360
Border districts	23	36	6	82
Poor districts	11	29	3	56
Targeted districts	40	36	12	250
Provincial hospitals*	13	12	6	36
District hospitals	44	55	30	360
Provincial population*	7,616,783	3,353,910	11,149,932	40,000,000
Ethnic minorities in provinces*	3,700,000	2,600,000	8,500,000	9,200,000
Poor people in provinces*	1,500,000	400,000	3,000,000	6,800,000
Targeted district population	4,000,000	1,434,267	2,196,930	20,080,038
Border district population	3,600,000	1,434,267	700,000	13,120,000

Source: MOH statistics 2015.
*States/Region in Myanmar; **operational districts in Cambodia

c. Investment and Financing Plans

106. The project is estimated to cost $132.0 million. Total costs for Cambodia, Lao PDR, Myanmar and Viet Nam are respectively $22.8 million, $12.6 million, $12.6 million, and $84.0 million. This includes taxes and duties totaling $9.1 million, contingencies totaling 7.2 million, and financial charges during project implementation totaling an estimated 3.4 million (Table 10). Appendix 4 provides the cost estimates by sub-outputs and categories.

Table 10: Project Investment Plan by Output
($ million)

Item		Cambodia	Lao PDR	Myanmar	Viet Nam	Total[a]
A.	**Base Costs, including Recurrent Costs**[a]					
	1. Regional Coordination and CDC in border areas	4.9	3.8	3.0	4.3	16.0
	2. Surveillance and Response	4.3	2.9	2.6	18.2	28.0
	3. Laboratory and Infection Prevention and Control	10.2	4.6	4.4	48.5	67.7
	Subtotal (A)	**19.5**	**11.2**	**10.6**	**71.0**	**112.3**
B.	**Taxes**[b]	**1.5**	**0.6**	**0.9**	**6.1**	**9.1**
C.	**Contingencies**[c]	**1.2**	**0.7**	**0.7**	**4.6**	**7.2**
D.	**Financing Charges**[d]	**0.6**	**0.1**	**0.4**	**2.3**	3.4
	Total (A+B+C)	**22.8**	**12.6**	**12.6**	**84.0**	**132.0**

[a] In mid-2015 prices.
[b] Note: taxes and duties are paid from both ADB and government sources.
[c] Physical contingencies computed at 5%. Price contingencies computed at 1% annually.
[d] Interest during construction for ADB loan of 1% per year for disbursed loan amounts to be charged to the loan.
ADB = Asian Development Bank, CDC = communicable disease control, Lao PDR = Lao People's Democratic

Republic.
Sources: Ministries of Health of Cambodia, the Lao PDR, and Viet Nam; ADB.

107. The Governments have requested ADB to provide a total $117.0 million in loan and $8.0 million in grants from its Special Funds resources to help finance the project. The Government of Cambodia, the Lao PDR, Myanmar and Viet Nam have each requested a loan of respectively $21.0 million, $4.0 million, $12.0 million, and $80.0 million, with a 32-year term, including a grace period of 8 years, an interest rate of 1.0% per annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions set forth in the draft loan agreement; and the Lao PDR has requested a grant of $8.0 million (Table 11). The Governments of Cambodia, the Lao PDR, Myanmar and Viet Nam will respectively provide counterpart funds of 1.8 million, $0.6 million, $0.6 million, and Viet Nam $4.0 million - in taxes and duties and Government contributions in kind and in cash (staff benefits, facilities, recurrent costs). The budget for the Myanmar part may be increased to $14.9 million, including an ADB share of $14.5 million and a government share of $0.4 million.

Table 11: Financing Plan
($ million)

Source	Cambodia	Lao PDR	Myanmar	Viet Nam	Total[a]
Asian Development Bank Loan	21.0	4.0	12.0	80.0	117.0
Asian Development Bank Grant	-	8.0.	-	-	8.0
Government counterpart	1.8	0.6	0.6	4.0	7.0
Total (A+B+C)	**22.8**	**12.6**	**12.6**	**84.0**	**132.0**

Sources: Governments of Cambodia, the Lao PDR, Myanmar, and Viet Nam; and the Asian Development Bank.

d. Implementation Arrangements

108. The MOH in each country will be the Executing Agency responsible for in-country project implementation and coordination with other GMS countries. Each Executing Agency has an oversight committee for the project in the form of an MOH steering committee or equivalent, which will meet at least twice a year to review and direct project implementation and address any issues. Regional oversight will be provided by the regional steering committee, which will meet annually with representation of the 4 countries, ADB and WHO. Project directors and managers will also meet at least every 6 months to discuss project implementation.

109. In Cambodia, the executing agency (EA) will be represented by the Health Sector Support Program/Department of Planning and Health Information Systems, headed by the Secretary of State. In the Lao PDR, the EA will be represented by the Department of Planning and International Cooperation headed by the Director General. In Myanmar, the EA will be represented by the Departments of Public Health and Medical Services, each headed by a Director General. In Viet Nam, the EA will be represented by the General Department of Preventive Medicine headed by the Director General. The organogram is provided in the project administration manual (PAM).

110. Prior to loan negotiations, each MOH will appoint a senior MOH official as project director responsible for project planning, implementation, monitoring, reporting, and liaison with ADB for the project. In Cambodia, Lao PDR and Viet Nam, provincial health departments, and in Myanmar state/regional health departments will be implementing agencies. In addition, one or more national institutions in each country will also be implementing agencies. The

implementation arrangements are summarized in Table 12 and are described in more detail in the PAM.[32]

111. In each country, a project implementation unit (PMU) will be established, which, headed by the project director, will include, as a minimum, a deputy project director, a project manager/coordinator for day to day project management, a qualified accountant and assistants, a procurement expert, a gender and social safeguards expert, a monitoring and evaluation expert, an information technology expert, a surveillance expert, a laboratory improvement expert, and an infection prevention and control expert. These may either be employed staff seconded to the project, or contracted consultants. Proposed details of PMU staffing are provided in the PAM

112. A regional coordination unit (RCU) hosted by MOH, Lao PDR, will be financed by a regional TA for the first 1-2 project years, with possible further grant financing thereafter. The RCU will function as the secretariat for the regional steering committee, assist in organizing GMS events, facilitate country cooperation, stimulate knowledge management, track project implementation, and assist project staff. CLMV countries will finance hosting and participation in regional workshops and forums and other knowledge management activities.

113. The Project will be implemented over a period of 5-year beginning 1 January 2017 or as soon as possible thereafter depending on the date of loan effectiveness, and ending 31 December 2021.[33] The project completion date is 30 June 2022. The project implementation schedule is included in the PAM.

Table 12: Implementation Arrangements

Aspects	Arrangements
Implementation period	1 January 2017 – 31 December 2021
Estimated project completion date	30 June 2022
Project management	
(i) Oversight bodies	(i) Ministries of Health Steering Committees or equivalent chaired by the Minister of Health or a deputy and including heads of departments, and, as appropriate, representatives of other ministries and partners and technical experts on invitation. (ii) Regional Steering Committee chaired by the Vice-Minister of Health of the host country, and including representatives of participating countries, ADB and WHO as members
(ii) Executing agencies	Ministry of Health of Cambodia, represented by the Department of Planning and Health Information Systems (DHIS) Ministry of Health of the Lao PDR, represented by the Department of Planning and International Cooperation (DPIC) Ministry of Health, Myanmar, represented by the Departments of Public Health (DPH) and the Department of Medical Services (DMS) Ministry of Health, Viet Nam, represented by the General Department of Preventive Medicine and Environmental Health (GDPM)
(iii) Implementing agencies	Cambodia: Communicable Diseases Control Department (CDCD), Department of Hospital Services (DHS) National Institute of Public Health (NIPH) 13 Provincial Health Departments (PHD) Lao PDR: Department of Communicable Diseases Control (DCDC) National Center for Laboratory and Epidemiology (NCLE) Department of Health Care (DHC) 12 Provincial Health Departments (PHD)

[32] The Project Administration Manual will be a linked document for government approval.
[33] Based on expected loan approval in October 2016.

Aspects	Arrangements		
(iv) Project management units	Myanmar National Health Laboratory (NHL) 5 State Health Department and 1 Regional Health Department (S/RHD) Viet Nam: Viet Nam Administration of Medical Services (VAMS) National Institute of Hygiene and Epidemiology (NIHE), Institute Pasteur Ho Chi Minh City 36 Provincial Health Departments (PHD) Cambodia: CDCD, MOH Lao PDR: DPIC, MOH Myanmar: DPH and NHL, MOH Viet Nam: GDPM, MOH		
Procurement		**Contracts**	**$ million**
Cambodia	ICB	3	3.6
	NCB	10	3.5
	Shopping	34	2.3
Lao PDR	ICB	1	1.3
	NCB	13	2.8
	Shopping	27	0.1
Myanmar	ICB	0	0.0
	NCB	16	4.8
	Shopping	19	0.5
Viet Nam	ICB	11	55.6
	NCB	8	4.1
	Shopping	72	3.4
Consulting services		**Contracts**	**$ million**
Cambodia	International: CTA, team leader, Laboratory improvement, laboratory equipment, procurement	5	1.3
	National: Deputy TL, project manager, GSS, PME, administrator, accountant, procurement, IT, surveillance, lab, IPC	10	1.0
	Studies and Services	19	2.5
Lao PDR	International: CTA, Lab,	2	0.6
	National: Deputy CTA, GSS, procurement, PME surveillance, lab, IPC, PME	7	0.5
	Accounting firm, studies	8	0.5
Myanmar	International: CTA??, Lab, procurement	2	0.2
	National: Deputy CTA, GSS, IT, surveillance, lab, procurement, accounting, PME	7	1.0
	Studies and Services	6	0.8
Viet Nam	International: CTA, TL, LQI, procurement	3	0.7
	National: Deputy CTA, M&E, GSS, accounting, procurement, CD, LQI,	7	0.8
	Audit, studies and services	15	2.2
Regional [34]	None		
Advance action	Preparation of project annual operational plans for first project year, and PMUs		
Disbursement[a]	The loans and grant proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time) and detailed arrangements agreed upon between the government and ADB. Five percent of the loan and grant amount will be managed by ADB for regional activities.		

ADB = Asian Development Bank, CD = community development, ECM = EID Case management, GSS = Gender and Social Safeguards; ICB = international competitive bidding; IPC = Infection Prevention and Control, LE = laboratory equipment, LQI = laboratory quality improvement; MOH = Ministry of Health, NCB = national competitive bidding; PME = Project Monitoring and Evaluation; SS = single source, WHO = World Health Organization.
Sources: Governments of Cambodia, the Lao PDR, Myanmar, and Viet Nam; and the Asian Development Bank.

[34] Regional consultants are financed from TA, including regional coordinator and support team, APSED expert, laboratory expert, IPC expert, and procurement expert, and MEV studies.

114. Procurement details including packages, risk and plan have been detailed in the PAM. Packages are for transport, communication, outbreak control, laboratory, and hospital hygiene, and are provided in the PAM. Each MOH will prepare an annual procurement plan, and submit this for approval to ADB before the start of the fiscal year. All ADB-financed procurement will be in accordance with ADB's *Procurement Guidelines* (2015), as amended from time to time. Procurement of goods will use international competitive bidding procedures if over $1,000,000, national competitive bidding if $1000,000 or less, or shopping if less than $100,000 (subject to government rules). Procurement of packages above $10,000 shall be advertised. Minor repairs of facilities for installation of equipment and improvement of biosafety will use shopping or force account. Vehicles may be procured through the United Nations system acceptable to ADB.

115. Each country has identified specific consultant requirements as per PAM. International experts include chief technical adviser, laboratory quality improvement expert, and procurement expert for the initial project period. National experts include project manager, accountant, procurement, and experts for gender and social safeguards, laboratory, surveillance, infection prevention and control, information technology, and monitoring and evaluation. All consultants will be engaged in accordance with ADB's *Guidelines on the Use of Consultants* (2013), as amended from time to time. The above consultants will be engaged through individual selection. The audit firms and Lao accounting firm will be selected using the least cost selection method. Firms to conduct studies will be selected using the simplified technical proposal and the quality and cost-based selection method. Capacity building of counterparts is included in the assignment of consultants. The indicative terms of reference of the consultants is in the PAM.

116. The project loan (and grant proceeds for Lao) will be disbursed in accordance with ADB's *Loan Disbursement Handbook (2012)*, as amended from time to time. While the PAM provides details on flow of funds, the understanding is that foreign funds, in any case, need to pass through the central bank to be converted to local currency. Accordingly, but subject to further discussion, MEF Cambodia and MOF Lao will open imprest accounts in the State Bank, and authorize MOH and provincial implementing agencies to opening subaccounts at any commercial bank acceptable to ADB.[35] MOF Myanmar, and MOF Viet Nam will open pass-through accounts at the State Bank, and authorize MOH to open an imprest account at any bank acceptable to ADB, and authorize provinces/states/region to open a project subaccount. In any case, all requests for liquidation and replenishment of imprest account need to pass through the central agency, which among others, requires that financed activities were included in the annual plan and budget. Accordingly, it is important to ensure timely preparation of the project to avoid any delays.

117. The initial amount to be deposited by ADB in the project imprest account will be based on the estimated project expenditure for the first 6 months of project implementation, or 10% of total project costs, whatever is less. Similarly, the subaccount advances will be based on the estimated provincial expenditures for the first 6 months of project implementation, or 10% of the provincial project cost, whatever is less.

118. The statement of expenditure (SOE) procedure may be used to reimburse eligible project expenditures and to liquidate or replenish imprest account advances. Subject to government rules, the SOE procedure is applicable to individual payments not exceeding $100,000 equivalent per payment and to liquidate advances made into the imprest account as per covenants, and for each subaccount not exceeding $50,000 equivalent. The MOH will

[35] Lao MOF will maintain a separate account for grant proceeds.

ensure timely release of funds to the provincial subaccounts. Detailed arrangements to establish the imprest account and SOE procedure will be made in accordance with ADB's *Loan Disbursement Handbook (2013)* as amended from time to time. Sufficient supporting documentation must be kept at each level to substantiate all expenditures incurred from the loan proceeds. The release of funds will be subject to the project accomplishment reports of the provinces and national level.

119. Each MOH and implementing provincial health departments/states will maintain separate project records and accounts that are adequate to identify goods and services financed from the proceeds of the ADB loan. Except in Myanmar, the EAs have implemented similar projects financed by ADB and others during the last 10 years, and financial management capacity is considered adequate.

120. Each Government will cause to conduct annual audit of all accounts and financial statements, SOEs and revenues, and imprest account related to the Project, in accordance with auditing standards acceptable to ADB and using international accounting and auditing standards as a benchmark. Each Government may either use the national state auditor or a qualified firm. Audited financial statements and project accounts, together with the report of the auditor, including the auditor's opinion on the use of loan proceeds, compliance with covenants, and the use of the imprest account and SOE procedures, will be submitted within 6 months of the close of the financial year.

e. Monitoring, Evaluation,

121. **Reporting.** Each MOH, as the EA, will provide ADB will an inception report and updated PAM including PPMES within 3 months of loan/grant effectiveness. Thereafter, each MOH will provide ADB with quarterly progress reports in a format consistent with ADB's project performance reporting system within 30 days of the end of each quarter. [36] MOH will provide ADB with annual reports within 30 days of the end of each year including (i) progress made against established targets, including quality of activities; (ii) project resources and constraints including PMU capacity, (iii) problems in project activities and actions taken to resolve issues including targeting of MEVs; (iv) compliance with loan covenants; (v) updated implementation schedule of activities for the next 12 months; (vi) updated procurement plan, and (vi) financial statements. ADB will also monitor audit reports.

122. Each MOH will submit a project completion report based on ADB standards within 6 months of physical completion of the project, including assessment of quantified and qualified project performance, compliance with safeguards and loan covenants, and an evaluation in terms of project relevance, effectiveness, efficiency and sustainability.[37] ADB will also conduct a thorough project evaluation with the help of a consultant. ADB's Independent Evaluation Department may also select the project for evaluation, and ADB's inspection department may select the project for financial audit.

123. **Review**. Each MOH and ADB will jointly carry out an inception review to discuss any adjustments in the PAM, jointly carry out a mid-term review to appraise project progress and make adjustments in scope, DMF, and implementation arrangements as needed, and jointly carry out a project completion review in preparation of the project completion report. ADB will conduct project implementation reviews at least twice a year. Particular project risks such as

[36] PPMES information at http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool
[37] PCR information at: http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar

reaching MEVs in border areas, regional and cross border cooperation, procurement of laboratory equipment, and financial management will receive special attention.

124. **PPMES**. Within 3 months of loan/grant effectiveness, the Executing Agencies in the CLMV countries will, through their respective PMUs, establish a comprehensive but simple PPMES acceptable to ADB (to do this in 3 months requires advance action by EA and ADB). The EAs will be responsible for project M&E. Within 6 months of implementation, a baseline indicator study at community level and health facility level will have been conducted to refine and expand verifiable indicators of project outputs, outcome and impact. Where feasible, data will be disaggregated by gender and ethnic group. The baseline assessment will be used as the basis for the data collection and analysis for the midterm and final impact evaluation studies. The final impact study will be the basis for the project completion report.

125. In support of a comprehensive program approach, the DMF indicators are based on each MOH's program indicators. The PPMES will be integrated with the MOH health management information system. Particular attention will be given to monitoring use of services by MEVs, which is linked to the Government's efforts to improve health equity as part of the universal health coverage attend under the sustainable development goals. The PAM provides a list of proposed indicators based on the DMF.

126. According to the DMF, monitoring is proposed at impact, outcome, output, activity and input levels. This requires data collection at regional/national, provincial/district, health facility/community level, and team and project levels (table 13). Performance will be affected by external conditions (interlopers) that need to be taken into consideration.

Table 13: Monitoring and Evaluation Levels

Design	Level	Indicator groups	Sources	interlopers
Impact	National/regional	Diseases reported	Surveillance, Surveys	Unpredictability of some diseases
Outcome	Provincial/district	APSED/CDC coverage: people treated/served	Health services and community care statistics	Demand affected by access to health services
Output	Health facility/ community level	Services and community status	Facilities and communities covered	Staff, funds and supplies
Activity	Team level	Health team/project activities	Linking facilities, mapping, outreach, training health workers, cross-border work	Private sector
Input	Project level	Project inputs	Staff, equipment, transport, supplies, funds	Other inputs

127. To monitor impact, the project will collect data from surveillance systems and large household surveys and medical and economic statistics. These will show whether there were outbreaks of diseases, case fatalities etc., and whether there was an increase in demand for health services. Two issues are that several diseases may or may not occur depending on many factors, and that many cases may be missed. Outputs are the products in control of the project. It is expected that the project can improve services at community and facility levels including linkages with major disease control programs. These need to be collected by the provincial IAs.

128. The interventions, in addition to improving surveillance and response, laboratory services and hospital hygiene, will include (i) outreach programs for isolated ethnic groups in border areas including public health information, participatory planning, basic treatment, referral,

village hygiene and vector control, and other activities relevant to local CDC situations; (ii) mobile clinics for some high risk ethnic groups, migrant camps and work sites in border areas for HIV awareness, screening, counseling and referral. The PPMES will monitor each participating MEV community using both quantitative and qualitative targets. At community, health facility, district, and provincial levels, benchmarks will be established and targets agreed to. Disaggregated baseline indicators for inputs, activities and outputs will be updated and reported quarterly through the EAs quarterly progress reports. Outcome data will be reported on a yearly basis.

129. A format for project management monitoring, in addition to DMF based project monitoring, is included under PPMES in the PAM. This involved monitoring of project support, PPMES , gender action plan, ethnic group development plan, procurement risk mitigation plan, financial risk mitigation plan, environmental management plan, governance and communication strategy, and reviews and submission of reports.

130. Each MOH will be responsible for monitoring covenants. Compliance with project covenants will be reported in the quarterly and annual reports prepared by the PMU. ADB loan review missions will review and report on project covenants at least once a year, and more often if needed. The loan covenants can be found in the loan agreement.

131. During project preparation, EGDPs were prepared. The project will be targeting MEVs under Output 1 and needs to ensure that provincial AOPs and budgets include project activities for MEVs. The PMES will reflect this in its design.

132. CLMV governments plan the overall concept of gender mainstreaming and one sector-wide GAP. Indicators provided in the project GAP may need to be adjusted.[38] Each PMU will have an expert to help update the GAP and monitoring progress. The PMU needs to ensure that GAP recommendations are reflected in AOPs of the EA and implementing agencies (IA), and are adequately budgeted.

V. Due diligence

a. Technical

133. Technical challenges at regional level include the need for strong leadership for strengthening and sustaining regional and cross-border cooperation. At national level, technically challenging areas include the development of strategies to improve access to health services for MEVs, syndromic reporting, quality improvement of laboratory services, and behavioral change for infection control in hospitals. At provincial level, technical challenges include implementation of plans to reach out to MEVs. The Project provides for capacity building and initial support in these areas through technical assistance, and also includes several assurances.

b. Economic and Financial

134. Strengthening surveillance and response capacity for CDC has helped curb disease outbreaks[39] resulting in major reduction of economic losses. Studies indicate a benefit cost ratio

[38] ADB's Handbook on Social Analysis: A Working Document, is available at: http://www.adb.org/Documents/Handbooks/social-analysis/default.asp, *Staff Guide to Consultation and Participation*: http://www.adb.org/participation/toolkit-staff-guide.asp, and, *CSO Sourcebook: A Staff Guide to Cooperation with Civil Society Organizations*: http://www.adb.org/Documents/Books/CSO-Staff-Guide/default.asp

[39] Ministries of health use WHO criteria for epidemics and disease-specific number of cases to define outbreaks.

of 10 and up. Some10% of the people in border districts will directly benefit from Project investments, with migrants, youth and ethnic minorities as priority beneficiaries.

135. The economic analysis provides the rationale for public sector involvement, counterfactual scenario, opportunity costs, possible financial effect of the Project, and expected public sector behavior. It also summarizes potential cost benefit ratios and cost-effectiveness of these type of interventions. The benefits of the Project will come from (i) helping prevent major epidemics; (ii) productivity gains from a reduced burden of diseases; (iii) productivity gains from improved achievements in education, especially through less absenteeism and reduced dropout rates; and (iv) public and private savings in health expenditures, including indirect costs. Only items (i) and (ii) were considered in the calculation of the economic internal rate of return (EIRR) of xx%, which is at the lower end of the scale as reported in the international literature. The net present value for the project activities in the Lao PDR based on items (i) and (ii) is close to zero due to the relative high cost of prevention in small remote populations.

136. The Project's recurrent costs following project completion represents less than 1% of domestic health spending in the CLMV countries. The governments will need to continue supporting supplies and in-service training, and have confirmed their commitments to reflect these changes in the health budget.

c. Governance

137. Ministries of health of Cambodia, Lao PDR and Viet Nam have gained substantial experience in implementing ADB-assisted projects. These countries have MOH staff with training and experience in ADB procedures. Myanmar has limited experience in ADB standards for financial management and procurement. MOH will receive training in ADB procedures. The Governments have given assurances that capable government staff will be appointed in a timely manner. The Governments support delegation of implementation and related financial management to the provinces/states. Most procurement will be done at central level.

138. There were no major governance issues during implementation of CDC1 and CDC2. The same PMUs will be used for the Project in Cambodia, the Lao PDR and Viet Nam, and in Myanmar the PMU shares oversight with another ADB project. ADB's specific policy requirements and supplementary measures are described in the project administration manual.

d. Poverty and Social

139. Improved connectivity is facilitating the spread of communicable diseases such as EIDs, HIV, tuberculosis, malaria, dengue and NTDs. People in border districts and migrants are less informed about these health hazards, and have less access to services. By helping improve regional health and economic security, and reach out to marginalized groups in border areas, the Project will contribute to improving the health, learning and productivity of the poor; help protect the poor against catastrophic events; and contribute to universal health coverage. The targeted border districts have a higher proportion of families living below or near the poverty line who depend heavily on the availability of a healthy labor force in the family.

140. The proposed project's gender categorization is "effective gender mainstreaming." Gender mainstreaming will help improve CDC outcomes and address gender issues. Priority will be given to education of women and girls as the usual custodians for the prevention, detection and care of sick family members, and to training female staff. To ensure the effectiveness of gender mainstreaming and gender-related outcomes in the Project, a Project Gender Action Plan (GAP) has been agreed with each MOH that is aligned with sector-wide gender equality commitments in these countries. Each MOH will fully incorporate the various gender

mainstreaming features of GAP in the government's project design documents, and provincial annual operational plans. National gender and social safeguards expert will be engaged. These key features are also mirrored in the project DMF, loan assurances, and PAM, including disaggregated monitoring by gender. The GAP and Ethnic Group Development Plan are in the PAM. The analysis is in Part III.

e. Safeguards

141. Ethnic minorities in the proposed project areas will be positively affected given the type of project activities. The Project is categorized B for indigenous people. Ethnic minority groups constitute about 30% of the population in the targeted border provinces and 50% in the targeted border districts in four countries, more so in Myanmar and the Lao PDR. They suffer disproportionately from common communicable diseases, and have less access to health care because of physical, financial, language, and cultural barriers. Under sub-output 1, MEVs will benefit from improving preparedness for emerging diseases, education, screening, disease control, and referral for services. To address shortfall of health workers in these locations, the project supports training of village health workers. If funds allow, each MOH may also consider providing scholarships for ethnic minority students to become mid-level health workers in their own communities.

142. The project will not entail land acquisition or civil works except for minor repair of laboratories and wards. The proposed project is categorized C for involuntary resettlement. A resettlement framework has been prepared in the event of a change of project scope.

143. The Project is categorized as B for environment, as it involves improving laboratory and hospital waste management. IEEs and an Environmental Framework have been prepared. Each province will prepare an EMP covering all project activities during implementation.

f. Stakeholder Participation

144. MOH will undertake various activities to implement the communication strategy, as presented in the PAM. MOH will share general project information. Much emphasis is given to aid coordination in all four countries. The project will be rolled out as part of comprehensive sector plans and program, and stakeholder will be kept informed through regular aid coordination mechanism already in place. Receiving less attention, but probably more essential, is internal government coordination. Sharing project information, and sector activities in general among departments, sectors, and governments needs to be improved further. The Project supports various activities, including funds for cross-border cooperation among all GMS countries, to improve this.

145. Public health staff insufficiently recognize and appreciate the role and capacity of communities in disease control. The Project will provide staff orientation and expect staff to engage with communities. Communities will be engaged in IPC, community preparedness, and syndromic reporting. MEVs will be targeted for outreach and referral. Under output 1, a participatory approach is proposed, in terms of priority setting, collecting basic information, implementing activities, and joint monitoring. Omnipresent infections like influenza, dengue and diarrheal diseases can be used to improve outbreak response, and benefits will become more visible. The Project combines prevention with tangible benefits to people to get buy in, in terms of better diagnostics, surveillance and response, and linking communities with health services.

146. For many years, ethnic minorities have been consulted and there is a better understanding of their priorities and issues, e.g., through implementation of the Model Healthy

Village activity,[40] the GMS Strengthening Strategies for Malaria Control Project,[41] and other disease management and HIV and infrastructure projects. However, regular government services often fail to engage isolated ethnic minorities except for measles and polio campaigns because of physical, social and financial hurdles. The Project will make outbreak response vehicles and motorcycles available that can reach remote border areas.

147. The growth of migrant labor is a more recent phenomenon. Most migration is internal, but there are also increasing numbers of migrants from and to abroad, often illegal and with language problems. Efforts to document and address the specific health priorities of migrants are few to date, and tend to be limited to specialized agencies such as the International Organization of Migration and the International Labor Organization. There is little information on the actual health status and health behavior of migrants. As such, there is a recognized need to enhance exchange of views with migrants to achieve at a better understanding of their health priorities.

148. Consultation of migrants is complicated: they often work in off-bounds plantations, factories and casinos and many are not registered or illegal, making them reluctant to report to health services. The government does not yet fully recognize the value of migrant workers as a major contributor to the economy, and as a group with specific needs and vulnerabilities, including labor rights, and specific health risks. Migrants face challenging working and living conditions making it more difficult for them to take part in participatory planning activities, or to engage them in health services. MOH will need to facilitate the project by obtaining clearances and participation from the Ministry of Labor and other concerned agencies, and also adjust health budgets to reach out to migrant populations.

149. To prepare the project implementation plan, each provincial/state office will first conduct a needs assessment with the help of the PMU. This will involve mapping of MEVs, field visits and consultations. The provincial/state project team will lead a participatory planning process to prepare a five-year project plan and annual project plans for MEV outreach as part of the regular provincial annual health plan. Investments will have to satisfy project criteria in terms of agreed scope, target groups, social dimensions, facilities, staff capacity, and sustainability.

150. Consultants engaged under the project including CTA and gender and social development expert will be particularly assigned to CDC in border areas and outreach to MEVs. The participatory planning process will also be included in the annual operational plans and budgeted accordingly. The team will also conduct participatory monitoring and reporting on the project website. The project design and implementation progress will be accessible on the website of the regional coordination unit: gmshealthsecurityprojectrcu@gmail.com

VI. Risks and mitigating measures

151. The Project builds on the experiences gained in CDC1, CDC2, and HIV projects and is considered low risk for Cambodia, Lao PD and Viet Nam. MOH Myanmar has limited ADB experience, and is considered moderate to high risk. Regional technical assistance will be provided to engage international consultants during the first project year to ensure a quick project start-up. In addition, Myanmar MOH will be assisted with upfront financial management and procurement training. Strengthening regional disease prevention and surveillance has considerable front-end costs. However, these costs will be offset by substantial benefits from

[40] ADB. Second GMS Regional Communicable Diseases Control Project. 2009.
[41] ADB. GMS Strengthening Malaria Control for Ethnic Minorities. 2005.

regional disease control, technology transfer, and strengthened national commitment for health sector development, all of which will have long-term value across the region. Several risk and mitigating measures are summarized in table 14.

Table 14: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Inadequate focus on achieving results	• Identify focal point for MEV, GAP and EGP in each PHO • Identify most at risk MEVs and poor ethnic minorities in border areas. • Provide experts and train and assist PHOs • Use participatory planning, implementation, and monitoring with MEVs. • Include plans in AOPs and provincial budgets. • Monitor activities and compliance
Weak implementation capacity	• Ensure timely availability of technical experts and consultants. • Conduct detailed planning and monitoring of project activities. • Provide mentoring
Lengthy administrative procedures	• Prepare clear procurement arrangements. • Provide staff training and support from experts and ADB. • Ensure support of core ministries and provinces for timely processing.
Governance and corruption	• PMUs and PHDs receive training in ADB's Anticorruption Policy and relevant Government policies, regulations and guidelines on anticorruption. • Conduct spot checks of SOEs and supply contracts. • Ensure public visibility of the Project, including complaint and grievance system.
Insufficient effort in regional cooperation	• Institutionalize regional CDC cooperation as a fully resourced unit in each MOH. • Support WHO and regional networks in rolling out regional strategies for CDC. • Publish results, improve visibility of cooperation, and report to regional leaders.
Not sustaining project investments	• Ensure interventions are appropriate for the provinces with minimal overheads. • Ensure mainstreaming and funding of project activities in AOPs, including targeting of ethnic groups, training, and monitoring.

ADB = Asian Development Bank, AOP = Annual Operational Plan, CDC = communicable diseases control, GAP = Gender Action Plan, EGDP = Ethnic Group Development Plan, MOH = Ministry of Health, PHO = provincial health department or state/regional health department, PMU = project management unit, SOE = statement of expenditure, WHO = World Health Organization.
Source: Asian Development Bank.

152. Financial management assessments (FMAs) were conducted in early 2016 in accordance with ADB's *Guidelines for the Financial Management and Analysis of Projects and the Financial Due Diligence: A Methodology Note*. The FMA concluded that the financial management risk was moderate except for Myanmar, which was high. Hence, financial risk management plans were prepared. Details are provided in Part III. To ensure that loan proceeds are disbursed in accordance with ADB's *Loan Disbursement Handbook,* online training for project staff on disbursement policies and procedures is recommended.[42]

153. The procurement risk assessments concluded that procurement risk was moderate except in Myanmar, which was high. A procurement risk mitigation plan was prepared and is provided in Part III. An international and a national procurement expert will be engaged for the project in each country. Procurement of laboratory equipment will be done centrally.

[42] Disbursement eLearning. http://wpqr4.adb.org/disbursement_elearning

154. Overall, the proposed project is considered to be low-risk in terms of (i) technical investments; (ii) safeguard categorization B or C; and (iii) participation of provinces/states/region and partners. Administrative risk is considered modest in view of MOH/PMU staff constraints.

VII. Assurances

155. Thee governments and the ministries of health have assured ADB that relevant government policies, programs, standards and procedures are in place, and that implementation of the Project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and financial disbursement as described in detail in the project administration manual and loan documents. The governments and the ministries of health have agreed with ADB on certain covenants for the project, which are set forth in the related legal agreement. Following specific areas may be considered.

156. Each MOH will ensure timely preparation of the project national and provincial/state AOPs as part of sectoral AOPs.

157. Each MOH will ensure adequate targeting of MEVs by including substantive plans for MEVs in AOPs and budgets and mobilizing resources to implement these plans.

158. Each MOH will fully commit to agreed regional activities including developing standards for information exchange and cross-border activities.

159. Each MOH will ensure that the Ethnic Group Development Plan is owned and updated by the executing agencies, and implemented in a timely manner with adequate resources for implementation.

160. Each MOH will ensure that a Gender Action Plan is owned and updated by the executing agencies, and implemented in a timely manner with adequate resources for implementation.

161. Each MOH will screen any proposed civil works and ensure that involuntary resettlement impacts are avoided. In case of change of scope agreed by ADB, ADB's resettlement guidelines will be followed as indicated in the resettlement frameworks.

162. Each MOH will ensure that the operation of all health facilities will comply with all applicable laws and regulations of the respective countries and with ADB's environmental policies and regulations. Each provincial health department/state/region health department will conduct initial environmental examination before any civil work, and prepare an environmental management plan. For concurrence of ADB.

163. Each Government will apply sound accounting standards according to internationally accepted practices. Each Government will submit annual audited reports within six months of the last date of the previous project year.

164. ADB's *Anticorruption Policy* (1998, as amended to date) [43] was discussed with each MOH. Consistent with its commitment to good governance, accountability and transparency, ADB reserves the right to investigate, directly or through its agents, any violations of the

[43] Available at: http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf

Anticorruption Policy relating to the project.[44] All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants, and other service providers. Individuals and/or entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.[45]

165. To support these efforts, relevant provisions are included in the loan and grant agreements and the bidding documents for the project. Risks associated with project management, including procurement and disbursement, will be mitigated by the engagement of competent accountants and procurement experts. The Project will also establish a website in which it will disclose implementation progress; bid notifications and their results; and provide grievance mechanism against any corrupt practice. References on ADB's Anticorruption Policy can be accessed through the following link: http://www.adb.org/Integrity/. and on the ADB website.

[44] Anticorruption Policy: http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf
[45] ADB's Integrity Office web site: http://www.adb.org/integrity/unit.asp

Appendix 1: Design and Monitoring Framework

Design Summary	Indicators, Baselines, and Targets	Sources	Assumptions and Risks
Impact			
GMS public health security strengthened	• No major outbreak of emerging or other epidemic in excess of 100 case fatalities • Outbreaks have less than 0.5% GDP impact in any quarter of the year • Proportion of cases with infectious diseases presenting at health facilities who are migrants, women and children, youth and ethnic groups increased by 20% (specific baseline to be provided)	• Economic reports • National CDC reports • Provincial health statistics • Health facility records in targeted hotpots in border districts	Assumptions: • Other nations make similar control efforts • interventions are effective Risks: Emergence of new, highly pathogenic and highly infectious diseases and of drug-resistant infection
Outcomes			
Improved GMS public health security system performance;	By December 2021: • APSED compliance increases from 70% to 90% average	• WHO IHR/APSED assessment • National CDC program reports • Provincial Health statistics • Health facility report	Assumptions: • Government and local authorities sustain adequate financial and administrative support
Outputs			
Output 1: Improved GMS collaboration and CDC in border areas 1.1: Strengthened regional, cross-border and intersectoral collaboration and knowledge sharing 1.2 Linked migrants, mobile people, isolated ethnic groups, and other vulnerable groups to CDC program	• Suspected cases of notifiable communicable diseases reported among GMS countries within 24 hrs • Each province conducts cross border and intersectoral disease control activities • Disease control for MMPs and ethnic groups enhanced and integrated in CDC programs by 2020	• Reports of regional steering committee, workshops, forums • Report of CDC program performance and campaigns in MEVs • Report of sentinel stations in public places such as labor camps, factories market and schools, and in isolated villages in border areas	Assumptions: • Governments prepared to share information on reported diseases • Ministries agree to budget for staff and resources to sustain regional cooperation • Local authorities support reaching MEVs • Resources of other programs are available
Output 2: Strengthened national surveillance and	• By 2020, 100% of public hospitals, 80% of health centers report	Report of web-based surveillance and response reporting	Assumptions: • Availability of staff and vehicle for outbreak

response system	gender disaggregated notifiable diseases within 12 hrs compared to respectively 80% and 50% in 2014 • By 2020, all reported disease outbreaks in targeted provinces investigated within 24hr compared to 80% in 2014 with gender-balanced outbreak response team	system.	response teams Risks: • Internet connectivity, and IT maintenance • Weak private provider participation
Output 3: Improved diagnostic and management capacity of infectious diseases 3.1: Improved laboratory biosafety and quality diagnostics 3.2: Improved hospitals management of infectious diseases	• 80% of Female and male laboratory staff meeting national laboratory quality and biosafety competencies, from about 60% at present • 80% of trained male and female staff hospital staff meeting IPC standards, from about 30% at present • 80% of trained male and female hospital staff meeting quality standards for case management, from about 50% at present	• Baseline and end-of-project assessments in targeted laboratories • Before and after IPC and case management assessment in targeted hospitals	Assumptions: • National or local governments provide sufficient budget for equipment maintenance and supplies. Risks: • Hospitals lack sufficient staff and facilities
Output 4. Results-based project management 4.1 Efficient and effective project management 4.2 Integrated and sustained project investments 4.3 Good governance	Results-based planning and monitoring is used Project investments are approved and sustained based on comprehensive annual plans and budgets to improve services Compliance with good governance, safeguards and gender action plan	Project management assessment based on quarterly and annual project implementation reports, financial records, interviews, and field visits	**Assumption:** PMUs engage competent consultants PMUs are competent in project implementation **Risks:** External interferes with PMU performance
Activities with Milestones			**Inputs:**
A1. Improved Regional Collaboration for Health Security in the GMS. 1.1 Organize annual national and regional steering committee meetings and workshops for project review and guidance 1.2 Conduct annual technical forums and COP on GMS CDC priorities 1.3 Conduct annual regional, cross-border and intersectoral events such as joint outbreak investigation, technical assistance and training consensus on regional database and establish information exchange of notifiable communicable diseases by Q2, 2018 1.4 Conduct mapping and survey of MEVs in border areas by Q2 2017 1.5 Conduct participatory planning with target groups and local staff to			**Asian Development Bank**: Cambodia ADF Loan $21.0 million Lao PDR ADF Loan $12.0 million Myanmar ADF Loan $12.0 million Viet Nam ADF Loan $80.0 million

improve CDC coverage by Q3 2017 1.6 Design studies of innovative strategies to improve CDC in MEVs by Q4 2017. 1.7 Mobilize national program resources for CDC and use project resources to extend services in hotspots using government services, CBOs, by Q1, 2018 1.8 Implement CDC extension program from Q2 2018 onwards 1.9 Conduct specific disease control campaigns in border areas on a need basis 1.10 Evaluate CDC among MEVs through survey and study by Q2 2020	**Government of Cambodia** $1.8 million **Government of Lao PDR** $0.6 million **Government of Myanmar** $ 0.6 million
A2: Strengthened Surveillance and Response Capacity for Disease Outbreaks 2.1 Review the surveillance and response systems by Q1, 2017 2.2 Strengthen monitoring of surveillance and response system by Q1, 2017 2.3 Plan and prepare surveillance and response improvements by Q2 2017 2.4 Procure or upgrade IT equipment by Q1 2018 2.5 Provide GIS software for surveillance by Q1 2018 2.6 Provide IT connection by Q1 2018 2.7 Provide IT training to focal points, IT users and FETP scholars by Q1, 2018 2.8 Harmonize surveillance indicators and systems for CDC by Q1 2019 2.9 Provide outbreak investigation funds from project and government sources by Q1 2017 2.10 Train outbreak response teams also using simulation exercises in Q2 2017 2.11 Provide training in risk analysis and communication in Q3 2017 2.12 Procure vehicles and outbreak response gear by Q4 2017 2.13 Conduct public information campaigns in Q4 2017	**Government of Viet Nam** $4.0 million Total: $132.0 million Additional Regional TA Grant of $2 million is proposed
A3: Improved Diagnostic and Management Capacity for Infectious Diseases 3.1 Procure laboratory supplies by Q1, 2017 3.2 Review laboratory strategy, plan, guidelines, standards and SOPs by Q3, 2017 3.3 Conduct detailed assessments of laboratory staff development by Q4, 2017 3.4 Conduct detailed assessment of laboratory performance by Q4, 2017 3.5 Conduct workshops to review findings and develop standards by Q1, 2018 3.6 Prepare comprehensive laboratory improvement plan for targeted laboratories as part of annual operational plans by Q2, 2018 3.7 Improve pre- and in-service training of laboratory staff by Q3, 2018 3.8 Strengthen laboratory quality improvement program by Q3 2018 3.9 Procure equipment for laboratories in 2018 and 2019 3.10 Conduct laboratory studies in 2019-2020 3.11 Perform detailed hospital IPC and case management assessments by Q4, 2017 3.12 Prepare detailed hospital IPC and case management plans by Q1, 2018 3.13 Establish IPC focal point and committee by Q1, 2018 3.14 Conduct training of hospital staff from Q2-Q4, 2018 3.15 Provide equipment and supplies in 2018 and 2019 3.16 Strengthen IPC monitoring in hospitals from Q1, 2018 onwards	

A4: Results-based Project Management 4.1 Engage CTA, deputy CTA, and experts for gender and social development, laboratory biosafety and quality management, project implementation, procurement, and financial management by Q2, 2017 4.2 Identify and track parameters of effectiveness, efficiency, integration, sustainability, and other qualities for results-based project management by Q3, 2017 4.3 Organize a workshop to plan for a results-based participatory project planning and implementation process to ensure project criteria are met by Q3, 2017 4.4 Conduct assessment of CDC baselines in border areas and identify and link milestones and actions to be taken to achieve implementation plans by Q4, 2017 4.5 Train all provinces in integrating investments and safeguards in provincial plans by Q1, 2018 4.6 Provinces develop AOPS and implementation plans by Q2, 2018	

Hotspots: markets and labor sites along or near economic corridors including local people, people from nearby villages, migrant workers, and mobile people

AOP = annual operational plan; CDC = communicable disease control; CLMV = Cambodia, Lao PDR, Myanmar, Viet Nam; CTA = chief technical adviser; IPC = infection prevention and control; MEV = migrant and mobile populations, ethnic minorities, and other vulnerable groups; MMP= migrants and mobile people; GMS= Greater Mekong Subregion; Lao PDR = Lao People's Democratic Republic; Q = quarter; TA = technical assistance

Source: Asian Development Bank.

Appendix 2: List of Linked Documents

Reference documents available upon request

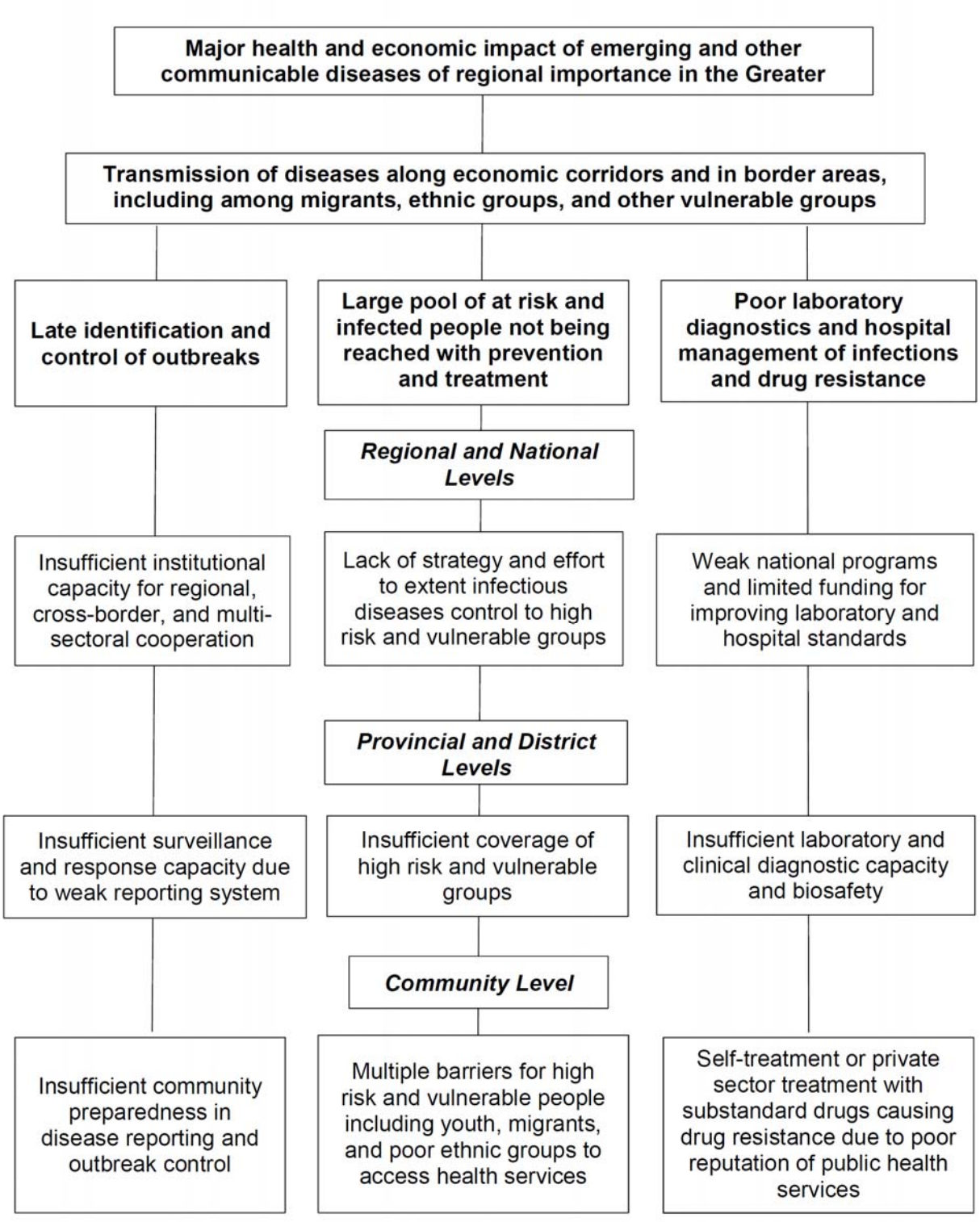
Appendix 3: Surveillance and Response Issues and Options in CLMV countries

Area	Function	Issues	Options
Governance	Policies and plans	Partly incomplete legislation and plans	Provide technical assistance to complete plans
	Organization	No strong oversight Lack of authority and autonomy of surveillance and response unit	Revive oversight committee
	Coordination	National Focal Points in place but have many other responsibilities	Assign Deputy as full time deputy NFP, provide more stewardship
	Financing	Insufficient emergency funds	Make emergency funds available in each province
	Aid coordination	Fragmented aid	Develop one program finance by all partners
	IHR/APSED monitoring	Insufficient monitoring	Strengthen IHR/APSED monitoring arrangements
Preparedness, Surveillance and Response	Surveillance	Fragmented surveillance systems, lack of computerization	Improve information technology Ensure information exchange among surveillance systems
	Risk assessment	Limited capacity for risk assessment	WHO training in risk assessment
	Response	Lack of transport to reach outbreak sites Lack of equipment and outdated PPE	Provide vehicles to provinces/districts and motorcycles to health centers Provide equipment and gear
	Risk communication	Insufficient quality of risk communication	Provide technical assistance and training
		Not reaching vulnerable groups including ethnic minorities and migrants	Develop a special program to reach these groups through participatory planning and linking groups with services
	Pandemic preparedness	Insufficient dissemination of preparedness plans	Conduct simulation exercises in all provinces/states
Human Resources Development	Field epidemiology	FETPs are just starting up	Increase scholarships to cover all provinces/states and support national FETPs
		Insufficient district capacity in surveillance and response	Provide 3 months assistant FETP training
Cooperation with other sectors	Ports of entry	Focus on airports	More attention to seaports and land crossings
	Food safety	Lack of diagnostic capacity at central level and in provinces/states	Improve toxicology at central level and microbiology at provincial/state level
		Outdated guidelines and SOPs	WHO to help update list of food additives and other information
		Insufficient dissemination of information	Make standards available on website and provide orientation
	Chemical and radiological	Unclear response arrangements	Assign one agency to respond and coordinate

	hazards	Lack of diagnostic capacity	Provide basic diagnostic equipment and train staff
Laboratory services	CDC diagnoses	(Discussed in another section)	(Discussed in another section)
Services in Border areas	Reaching vulnerable groups		
Cooperation with other countries	Regional cooperation		
	Cross-border cooperation		

Sources: CLMV CDCD/PHD, WHO Country Offices, PPTA assessment.

Appendix 4: Problem Tree



Appendix 5: Results Framework

GMS Health Security Sector Outcomes		GMS Health Security Outputs		ADB GMS Health Sector Operations	
Impact/Outcomes with ADB Contribution	**Indicators with Targets & Baselines**	**Outputs with ADB Contribution**	**Indicators with Incremental Targets**	**Planned and Ongoing ADB Interventions**	**Main Outputs Expected from ADB Contributions**
Impact by 2025: GMS public health security enhanced **Outcome by 2020:** GMS Health Security System achieved IHR/APSED standards Migrants, ethnic minorities and other vulnerable group (MEVs) in border areas accessed services for communicable diseases control (CDC)	**Impact indicators** Zero major outbreaks of emerging or other epidemic disease in excess of 100 fatalities Outbreaks have less than 0.5% impact on GDP in any quarter of the year Migrants, ethnic minorities and other vulnerable group (MEVs) in border areas receiving treatment for HIV and TB doubled **Outcome indicators** IHR/APSED compliance increases from 70% to 90% average Coverage of disease control interventions in MEVs increases from 60% to 80% average	Enhanced GMS collaboration and CDC in border areas by 2020: Strengthened national surveillance and response system by 2020 Improved diagnostic and management capacity of infectious diseases by 2020:	GMS countries report all suspected cases of notifiable communicable within 24 hrs (from zero) Each province conducts cross border and intersectoral disease control activities MEVs reached with CDC programs doubled by 2020 By 2020, all targeted public hospitals conduct web-based reporting of notifiable diseases within 12 hrs and case investigation within 24 hrs compared to 80% in 2014 Targeted laboratories meeting national quality and biosafety standards increases from 30% to 60% Targeted hospitals meeting 60% of IPC and case management standards increased from 30% to 80%	**Planned key activity areas:** GMS Health Security Project $125 million: Cambodia $21.0 million ADF loan; Laos $8 million grant and $4 million ADF loan Myanmar $12.0 million ADF loan Viet Nam $80.0 million ADF loan **ADB Projects in the pipeline with estimated amounts:** tbd **Ongoing ADB projects with approved amounts:** Second GMS CDC Project $63.5 million Strengthening HIV Prevention Capacity in the GMS Project $20.3 million Regional Capacity Building TA for Malaria Elimination and CDC capacity building Project $17.2 million	**Planned key activity areas:** Regional, cross-border and intersectoral collaboration for CDC among all GMS countries; including joint planning to reach MEVs; Outreach program to link MEVs with CDC program Web-based surveillance system including community syndromic reporting, and rapid outbreak response Laboratories with better biosafety and quality of diagnostic tests Hospital with better infection prevention and control and case management of infectious diseases **Planned projects:** tbd **Ongoing projects:** HIV prevention Malaria control

Source: ADB.
CDC = Communicable Diseases Control; GMS = Greater Mekong Subregion; HMT = HIV/AIDS, Malaria and Tuberculosis

ADB PPTA 8842-REG - Project Proposal

Project number: 48118-REG

September 2016

Proposed Loans and Grant

The Kingdom of Cambodia, The Lao People's Democratic Republic, The Union of the Republic of Myanmar, and The Socialist Republic of Viet Nam: Greater Mekong Subregion Health Security Project

For
Asian Development Bank
by
Conseil Santé

CURRENCY EQUIVALENTS
(as of 7 April 2016)

Currency Unit	–	riel (KHR)
KHR1.00	=	$0.000248
$1.00	=	KR4,029

Currency Unit	–	Kip (KN)
KN1.00	=	$0.000123
$1.00	=	KN8,096

Currency Unit	–	kyat (MMK)
MMK1.00	=	$0.00085
$1.00	=	KR1,170

Currency Unit	–	dong (VND)
VND1.00	=	$0.0000445
$1.00	=	VND22,145

NOTES

(i) The fiscal year (FY) of the Governments of Cambodia, Lao People's Democratic Republic, Myanmar and Viet Nam ends on 31 December. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2017 ends on 31 December 2017.
(ii) In this report, "$" refers to US dollars.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

Table of contents

Abbreviations

ADB	–	Asian Development Bank
ADF	–	Asian development fund
AIDS	–	acquired immunodeficiency syndrome
APLMA	–	Asia Pacific Leaders Malaria Alliance
APSED	–	Asia Pacific strategy for emerging diseases
ART	–	anti-retroviral treatment
ASEAN	–	Association of South East Asian Nations
ARI	–	acute respiratory infection
BOD	–	burden of diseases
CDC	–	communicable disease control
CDC1	–	first GMS regional communicable diseases control project
CDC2	–	second GMS regional communicable diseases control project
CDCD	–	Communicable Diseases Control Department (MOH Cambodia)
CLMV	–	Cambodia, Laos, Myanmar, Viet Nam
COP	–	community of practice
CTA	–	chief technical advisor
DMF	–	design and monitoring framework
DOTS	–	direct observed treatment – short course
DPIC	–	Department of Planning and International Cooperation, MOH Laos
EGDP	–	ethnic group development plan
EHF	–	Ebola hemorrhagic fever
EID	–	emerging infectious diseases
EIRR	–	economic internal rate of return
FETP	–	field epidemiology training program
FMA	–	financial management assessment
GDP	–	gross domestic product
GAP	–	gender action plan
GDPM	–	General Department of Preventive Medicine
GF	–	Global Fund to Fight HIV, Tuberculosis, and Malaria
HFMD	–	Hand, foot and mouth disease
HIV	–	Human immunodeficiency virus
HPAI		Highly pathogenic avian influenza
HTM	–	HIV/AIDS, Tuberculosis and Malaria
DHIS	–	Department of Planning and Health Information Systems (MOH Cambodia)
DOTS	–	directly observed treatment – short course
DPH	–	Department of Public Health, MOH Myanmar
EA	–	executing agency
FETP	–	field epidemiology training program
FMA	–	Financial management assessment
GMS	–	Greater Mekong Subregion
HFMD	–	hand, foot and mouth disease
HIV	–	human immunodeficiency virus
HIS	–	health information system
HMT	–	HIV, malaria and tuberculosis
HPAI	–	highly pathogenic avian influenza
IHR	–	international health regulations
IPC	–	infection prevention and control
MDG	–	millennium development goals
MDRTB	–	multi-drug resistant tuberculosis
MERS	–	Middle East respiratory syndrome
MEV	–	migrants and mobile people, ethnic minorities, and other vulnerable groups
MMA	–	Myanmar Medical Association
MNCH	–	maternal, newborn and child health

MOH	–	Ministry of Health
NCD	–	non communicable disease
NFP	–	national focal point
NGO	–	nongovernmental organization
NHL	–	National Health Laboratory, MOH Myanmar
NIHE	–	National Institute of Hygiene and Epidemiology, Viet Nam
NIPH	–	National Institute of Public Health, Cambodia
NPV	–	net present value
NTD	–	neglected tropical diseases
OD	–	operational district
ODA	–	official development assistance
PAM	–	project administration manual
PLHIV	–	persons living with HIV
PMU	–	project management unit
PPMES	–	project performance monitoring and evaluation system
PPTA	–	project preparatory technical assistance
PSA	–	poverty and social analysis
RCU	–	regional cooperation unit
RRT	–	rapid response team
SARS	–	severe acute respiratory syndrome
SOE	–	statement of expenditure
SOP	–	standard operating procedure
STD	–	sexually transmitted diseases
STI	–	sexually transmitted infections
SWIM	–	sector-wide management
TA	–	technical assistance
TB	–	tuberculosis
UN	–	United Nations
UHC	–	universal health coverage
WHO	–	World Health Organization

Summary

Public health security requires (i) specific public health security systems; (ii) general health sector capacity; and (iii) broader government and public support. The project builds on these 3 pillars.

The Governments of Cambodia, Laos, Myanmar and Viet Nam are proposing support from the Asian Development Bank (ADB) for the Greater Mekong Subregion (GMS) Health Security Project (the project). ADB provided project preparatory technical assistance to help prepare the project, including this summary of health analysis for the 4 countries and 4 country health analyses. Preparation of the health analysis entailed review of sector documents, field visits, collection of information using questionnaires, workshops, and discussions of findings and recommendations with government representatives, partners, and other stakeholders.

Emerging infectious diseases (EIDs) like avian influenza, SARS, MERS and Ebola hemorrhagic fever (EHF) and recurrent diseases like cholera have the potential to spread quickly around the globe, with major economic and sometimes devastating human impact. Other diseases of global importance like HIV, TB, malaria, and dengue spread less quickly but do not stop at borders and cause major impact at household level. Drug resistance is potentially one of the most threatening emerging problems to deal with common bacterial infections, HIV/AIDS, malaria, tuberculosis, and hospital-acquired infections.

The GMS, with a population of about 327 million people in 2014, half of whom live in Cambodia, Laos, Myanmar and Viet Nam (CLMV countries) has emerged from years of poverty and conflict. With better connectivity and attractive investment conditions, industrialization has increased rapidly in CLMV countries, resulting in major migration and rapid urbanization. Per capita income has increased, poverty has halved and health MDGs have mostly been achieved in CLMV countries. However, institutional, financial and social reforms have been lagging, and inequity has increased except perhaps in Cambodia, with the lowest per capita income of the CLMV countries.

The GMS has been an epicenter of several outbreaks of EIDs, and is highly vulnerable to outbreaks and epidemics of infectious diseases. It has long borders, connectivity to major urban hubs, and a large burden of infectious diseases that spreads across borders including malaria, tuberculosis, and dengue, and a concentrated HIV epidemic cause major impoverishment. Common infections such as diarrheal diseases and pneumonia still cause most childhood mortality. Hospital-based infections and drug resistance are of particular concern.

To improve public health security, CLMV countries are committed to achieve core capacities based on the International Health Regulations (IHR) 2005 and implement the Asia Pacific Strategy for Emerging Diseases (APSED) 2010, as well as the regional strategies for the control of dengue, malaria, tuberculosis and HIV/AIDS. Despite major political commitments and support from partners, specific capacity to deal with EIDs and other health threats of regional significance is inadequate in all CLMV countries, although Viet Nam scored relatively high based on IHE evaluation instruments.

Public health security is as good as its weakest link. It requires specific public health security capacities, the focus of IHR/APSED, and general health system capacity. All CLMV countries have made major progress building up national public health systems to achieve universal health coverage (UHC) as one of the sustainable development goals 2030, and are engaged in various health sector reform processes. However, demand for public health services is low due

to problems of access, quality and affordability of services. Health systems in CLMV countries have been chronically underfunded and understaffed in rural areas. In particular, migrants and mobile people, poor ethnic minorities, and other vulnerable groups often do not access public health services while being at risk of having and spreading infectious diseases. Not reaching these groups will affect goals of UHC and public health security.

In CLMV countries, ministries of health have built up public health security systems with a focus on surveillance and response and zoonosis. However, other elements of public health security, including laboratory diagnostics, hospital infection prevention and control, and linkages to communities, other sectors, private services and other countries have made less progress.

To assist CLMV countries meet their obligations under IHR/APSED and a number of other treaties and agreements, it is proposed that the project supports expanding the surveillance and response system including risk analysis, GMS and cross-border cooperation, port-of-entry services, piloting syndromic reporting at village level, and community preparedness; and help strengthen the public health system in terms of laboratory services and hospital infection prevention and control (IPC). In Viet Nam, the project will support integration of district health services.

Within the targeted 13 provinces in Cambodia,12 provinces in Laos, 36 provinces in Viet Nam, and 6 states/region in Myanmar, districts have been selected based on presence of borders, ethnic minorities, and poverty.

In each country, the Ministry of Health (MOH) will be the executing agency. Implementing agencies include departments in charge of surveillance and response and hospital IPC, and national laboratories. Targeted provincial and state/region health offices will also be implementing agencies. In view of staff and administrative constraints, a project management unit (PMU) is proposed. The total project cost is estimated at $128 million for ADB out of a total of $135 million.

The main project risk is that project-facilitated health services do not reach vulnerable groups in border areas. This risk will need to be mitigated through participatory planning, mainstreaming outreach in annual operational plans and budgets, and logistic and technical support. Other project risks are limited financial management and procurement capacities for external aid, in particular in MOH Myanmar. The PMU will need to build up MOH capacity in these areas.

I. Introduction

1. The Greater Mekong Subregion (GMS) covers the Kingdom of Cambodia, the People's Republic of China[1], the Lao People's Democratic Republic, the Republic of the Union of Myanmar, and the Socialist Republic of Viet Nam. Of its total population of 327 million people in 2014, which is close to Europe's population, about 168 million or half the GMS population, live in Cambodia, Laos, Myanmar and Viet Nam (CLMV countries). Unlike China and Thailand, CLMV countries have yet to achieve core capacities for the control of emerging infectious diseases (EIDs), and control other major public health threats based on international standards and strategies of the World Health Organization (WHO), and have requested assistance of the Asian Development Bank (ADB) to support addressing critical gaps in core capacities for the control of EIDs.

2. ADB has been assisting CLMV countries with communicable diseases control (CDC), including the control of EIDs and major regional infectious diseases including HIV/AIDS, tuberculosis and malaria (HTM), dengue, and neglected tropical diseases (NTDs). This assistance was provided through the GMS Economic Development Program, and regional and country-specific assistance.[2] ADB seeks to combine CDC assistance under one umbrella, and has included the GMS Health Security Project (the Project) in its GMS partnership strategy and country partnership strategies. The project is estimated to cost $135 million. ADB will finance $128 million including $21 million ADF loan for Cambodia, $8 million ADF grant and $4 million ADF loan for Laos, $15 million ADF loan for Myanmar, and $80 million ADF loan for Viet Nam. The Governments will provide about 5% in direct counterpart funds, plus indirect contributions. The project is scheduled for approval in 2016. The problem tree and design and monitoring framework are in Appendix 1 and 2.

3. ADB approved project preparatory technical assistance (PPTA) to help prepare the project. ADB engaged the consulting firm Conseil Santé to carry out the PPTA. The final report consists of 3 parts. Part I provides the health situation analysis. Part II presents the project proposal and the project administration manual. Part III presents assessments and plans for gender, safeguards, and project economics, financial management, and procurement.

II. Context

a. Global Health Threats

4. The Center for Disease Control, Atlanta, lists about 50 emerging or re-emerging diseases (EIDs).[3] An EID is defined as: *An infectious disease that is newly recognized as occurring in humans; one that has been recognized before but is newly appearing in a different population or geographic area than previously affected; one that is newly affecting many more individuals; and/or one that has developed new attributes (e.g., resistance or virulence)*.[4]

5. The GMS countries will experience about 1,000 outbreaks each year requiring investigation and response. Most recent epidemics have been small, and/or with less mortality, but typically high economic impact compared to the number of cases because of the control measures. If it involves the productive sector, even a relatively small outbreak may result in substantial economic losses. While capacity to deal with outbreaks and small epidemics has

[1] Yunnan Province and Guangxi Zhuang Autonomous Region
[2] See Table 7 for a list of projects
[3] Center for Disease Control, Atlanta.
[4] International Organization of Migration. 2003. *Microbial Threats to Health: Emergence, Detection and Response.* 2003. Adapted by Center for Disease Control, Atlanta.

improved substantially, health experts warn that another pandemic will happen sooner or later, likely of viral origin such as the influenza virus. Unfortunately, no one knows when that happens.

6. What experts do know is there are many viruses circulating that can cause major epidemics or indeed a pandemic, and also drug resistant bacteria and parasites. The major problem is that microbes multiply, mutate and re-assort rapidly. Most of these new strains are not viable, or the immune system can swiftly deal with it, but sometimes a new virus or multi-drug resistant bacteria develops and spreads for which modern technology has yet to find a cure. Many RNA viruses including influenza, polio, HIV, dengue and measles viruses cause or caused a major burden of disease and are likely to continue doing so unless control measures are in place.

7. In terms of risk factors, the general view is that on the one hand improved hygiene and sanitation has reduced the burden of infectious diseases, and hence the risk of escalation. On the other hand, the livestock industry, poor farm biosafety, misuse of medicines, congested working and living conditions, increased use of meat products, and connectivity are some examples of possible risk factors that need to be understood and mitigated. Some of the new EIDs are of animal origin (zoonosis), like avian influenza which is still circulating in poultry. Biological terrorism also raises new concerns.

8. What we all know is that if the first cases are missed for a week or so, and the infection can be easily transmitted between people and is highly pathogenic, such as in the case of Ebola hemorrhagic fever (EHF), it can quickly escalate to the point of a national disaster, with martial law, closure of businesses and schools, restrictions of movement, shortages of food and water, shortages of utilities and health services, and isolation of affected populations. In fact, Ebola is a good candidate as it has shown to do well in more urban settings, and some patients probably remain infectious after recovery.

9. Another reason why it is important to quickly identify the first cases of any EID is that all countries lack a surge capacity for treating victims of EIDs. For example, Australia could barely handle the surge in cases from a mild swine flu outbreak. In GMS countries, the surge capacity ranges from zero to few beds. The world emergency teams can barely handle one major outbreak in one country at a time, as was evident in recent EHF outbreak in West Africa. Rather than wanting to create special intensive care units, countries will need to consider alternative solutions, relating to prevention, surveillance, and community preparedness and selfreliance. Fortunately, most EID outbreaks are either self-limiting or can be brought under control with basic measures such as social distancing, contact tracing and closing schools and businesses.

10. An EID outbreak usually causes major economic impacts and an EID pandemic causes a global economic meltdown. It is likely that as countries develop, the human impact of epidemics will decline and the economic impact will increase.

11. Other infections of regional significance include HIV/AIDS, TB, malaria, dengue, and NTDs. These diseases may particularly affect migrants and mobile people like business people, tourists and other travelers, cross-border ethnic minority groups, and other vulnerable groups (MEV) such as youth. A major concern is the spread of hospital acquired infections and drug resistance. Some of these diseases are considered EIDs, according to the US Center of Diseases Control definition. EIDs, major communicable diseases, and drug resistant infections require regional cooperation to bring them under control.

b. Public Health Security

12. The WHO, in 2007, defined health security as a set of activities, both proactive and reactive, to minimize vulnerability to acute public health events that endanger the collective health of national populations. [5] Public health security has gained prominence, along with universal health coverage (UHC) (or personal health security), as two complementary public health goals.[6]

13. WHO warns that new EIDs pose a constant threat to the region. Better connectivity, urban development, and social and environment changes will accelerate the spread of infections, requiring much better national preparedness and regional cooperation to bring these under control. Public health security took on new dimensions following the outbreaks of SARS in 2003 and avian influenza in 2004, in Southeast Asia. Recent outbreaks of EHF in West Africa in 2014, Middle East respiratory syndrome in South Korea in 2015, and Zika infection in Brazil in 2016 indicate that these EIDs pose a constant threat to the region and can have major health and economic impacts.

14. The organization at global and regional level is complex. WHO provides leadership for the health sector, but UN agencies or regional organizations such as ASEAN will provide leadership for major outbreaks considered a disaster. There are multiple surveillance systems and response networks operating more or less in parallel that need to be coordinated in times of emergencies. Government agencies such as CDC Atlanta, research institutions such as Institute Pasteur, pharmaceutical companies and funding agencies also engage in basic research, and develop new vaccines and medicines

15. At national and subnational levels, public health security system is one of those areas that require a multisectoral approach. The Ministry of Health (MOH) is primarily responsible for public health security in many countries, but works closely with other ministries such as Agriculture and Labor, and WHO. In case of a major epidemic, a National Disaster Committee may take the lead in overall coordination of the response sometimes requiring the armed forces, local government, and utilities to come in, as well as the UN through specialized disaster relief agencies.

16. The International Health Regulations (IHR 2005) of the WHO provide a strong and legally binding standard for the control of EIDs and other serious public health threats, such as the spread of drug resistant infections.[7] WHO regions also have regional strategies in place. For example, WHO's Asia-Pacific Strategy for Emerging Diseases (APSED) (2005, 2010)[8] and other WHO regional strategies for the control of various major diseases, and for strengthening laboratory services and improving infection prevention and control (IPC) provide a good framework for building GMS health security.

17. The control of emerging and other infectious diseases can't function if the basic health system is not in place.[9] This includes capacities both within and outside the health sector.[10] IHR and regional strategies are not designed to deal with basic health system gaps. Hence, for

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5 WHO. *World Health Report: A Safer Future? Global Public Health Security in the 21th century.* 2007. Geneva.
6 William Aldis. *Health Security as a Public Health Concept: A Critical Analysis*. Health Policy and Planning, 2008.
7 WHO. 2005. *International Health Regulations*. Geneva.
8 WHO. 2010. *Asia Pacific Strategy for Emerging Diseases*. Manila.
9 WHO. 2007. *World Health Report*. Geneva
10 William Aldis. 2008. *Health security as a public health concept: a critical analysis*. In Health Policy and Planning 2008; 23:369–375.

public health security assessment, countries need to be assessed in terms of (i) general health system capacity, and (ii) specific disease surveillance and outbreak response capacity.

c. GMS Development

18. The GMS has a population of about 327 million people in 2014, close to that of Europe. About half that population, 168 million people, lives in Cambodia, Laos, Myanmar, and Viet Nam (CLMV countries). The countries have emerged from years of poverty and conflict. CLMV countries are moving towards a more or less state-controlled market economy. The political and administrative setting is important for public health security, as it presents both strengths in terms of leadership and commitment to public health, and institutional weaknesses that impact on public and private services.

19. CLMV countries have had robust economic development in the past few years or longer. Current overall gross domestic product (GDP) growth is about 7% per year despite a global economic slowdown. Per capita income has increased rapidly. The resource-rich region is surrounded by economic power houses and increasingly engaged in the global economy. Regional connectivity and integration have increased rapidly. CLMV countries are industrializing, along with major investment in infrastructure, plantations and services. The region now includes large urban conglomerates and peri-urban manufacturing hubs in addition to rice paddies and cash crops in river valleys and lowlands, and subsistence farming in low population highlands.

20. As shown in table 1, GMS per capita income has increased rapidly while population growth was slow. The relatively young population, in particular in Cambodia and Laos, will benefit from a lower dependency ratio. Population density and the percentage of agricultural land under cultivation are low in Laos and Myanmar, which has implications for the cost of rural access. The population is predominantly Buddhist with Chinese, Indian, and Tibetan-Burmese roots. Laos, Myanmar and Yunnan China have large ethnic minority populations that often live in mountains.

Table 1: GMS Growth and Connectivity Indicators

Indicators	Cambodia	Laos	Myanmar	Viet Nam	China*	Thailand
GDP growth 2014 %	7.1	7.5	8.5	6.0	7.3	0.9
GDP per capita 1992 ($)	320	410	320	690	2,240	480
GDP per capita 2014 ($)	1,095	1,794	1,204	2,052	7,590	5,977
Poverty (% <$1.25 per day)	20.5	27.6	28	20.7	4.6	13.2
Population 1992 million	12.7	5.2	51.1	90.8	78.1	62.8
Population 2014 million	15.3	6.9	53.4	92.8	91.0	67.7
Ethnic minority population %	10	35	32	14	12	10
Land Area in 1000 sq. km	181	237	677	633	513	332
Agricultural land %	32.9	10.1	19.2	35.1	54.8	43.3
Population density 2014 per sqkm	87	29	35	293	145	133
Urban population 2013 %	20	37	33	32	53	48
Net migration 2012 per million inhabitants	-150	-118	-474	-200	-1800	+100
International migration 2010 per million inhabitants	336	19	89	69	686	1,157
Emigration rate of tertiary educated population age 25+ to OECD countries in 2000	21.5	37.2	3.9	27.0	3.8	2.2

Tourist arrivals 2013, millions	4.2	2.5	2.0	7.6	55.7	26.5
Cellphone coverage 2012 % adults	129	65	10	148	80	127

Source: World Bank 2014 except on ethnic minorities, which is from government sources.
*Yunnan Province and Guangxi Zhuang Autonomous Region except for migration statistics

21. CLMV countries have achieved the MDG target of reducing poverty by half from 1990-2015. Typical for countries in transition, inequality has increased, except perhaps in Cambodia. CLMV countries are committed to the UN goal of poverty eradication, and have developed policies and allocated funds for poverty reduction. However, institutional, financial and social reforms have been lagging. Political and social structures are family oriented and states have difficulty implementing policies aimed at social accountability and solidarity despite strong socialist roots. Poverty affects people's access to health services, which is essential for public health security.

22. Extreme poverty, with income of less than $1.25 per day, has roughly halved to less than 5% of the GMS population. Based on the new poverty line of $1.90 in 2015, about one quarter of the people in Cambodia, Laos and Myanmar are poor, and much less in other countries. Even so, this implies that there are still substantial populations living below the poverty line who have less food intake and cannot afford to pay for medical services. Three quarter of the people in Cambodia and Myanmar are considered poor or near poor, at less than $3 income per person per day.

23. Most of the poor live in rural areas and are subsistence farmers or landless workers. The GMS includes many ethnic minority groups, in particular living in the mountains and hills. Poverty among these groups is higher than national averages. Some of these groups live in socio-economic and physical isolation and do not have access to health services, in part because of cultural practices, and acceptability and affordability of health services. Infections in these communities are less likely to be reported and managed quickly.

24. Poverty and income opportunities also stimulate marginal groups to move out of traditional settings into often poor living conditions in plantations, industrial zones and urban slums. Most migration is internal and seasonal. Many of these migrants are poor and less educated, including large numbers of ethnic minorities. Migration abroad is much less, but large numbers of educated persons and language skills seek employment abroad. About 6% of migrants are below 20 years of age and are often victim of exploitation at work but much less of sexual exploitation. However, trafficking in women is a scourge in the GMS. Tourism has also increased substantially. Internet and cell phone coverage stimulates education but also facilitates lifestyle changes.

25. This regional integration is likely to impact on the spread of EIDs, and a possible increase in major infections such as HIV/AIDS, TB, and dengue. More effort is needed in analyzing and anticipating the social impact of this regional integration and economic growth. For example, public health officials often do not know how many migrants there are living and working in their area of responsibility, do not access factories, casinos, and labor camps, and do not have a budget for health services for migrants. Poverty and social analysis was conducted for each country and reported in Part III.

III. Sector summary

a. General Sector Performance

26. CLMV countries are in a demographic and epidemiological transition, with an increase in non-communicable diseases (NCDs) and accidents and injuries linked to aging and lifestyle changing. However, among children and the poor, the major burden of diseases (BOD) in GMS countries is still infections including influenza, dengue, diarrheal and respiratory infections, and neglected tropical diseases (NTDs), along with malnutrition and perinatal conditions. In any case, most infectious diseases will need ongoing investment to keep them under control.

27. Because of a clear commitment towards millennium development goals (MDGs), a country's performance in the MDGs reflects a country's past efforts and constraints in primary health care. As shown in table 2, GMS countries have more or less achieved MDG 4, mortality rate of children and infants decreased by 50% between 1990 and 2015. There are major variations in these indicators by income and ethnic group, as discussed in the poverty and social analysis and ethnic group development plans of this PPTA. Reducing child malnutrition, under MDG 1, has been slower, in particular in Cambodia and Myanmar. Child care practices probably play a role in addition to food security and infectious disease control. Reducing maternal mortality, MDG 5, has also been challenging as it is highly dependable on access to medical services including obstetric surgery. Despite major government efforts, MDG 5 is yet to be achieved in Cambodia, Lao, and Myanmar.

Table 2: Health MDG Status

	Cambodia	Laos	Myanmar	Viet Nam	China	Thailand
Underweight < age 5 yrs.	23.9	26.5	22.6	12.1	3.4	9.2
Child mortality < age 5 yrs.	42.5	41.9	62.4	21.7	14.6	12.3
Maternal mortality ratio	161	197	178	54	27	20
Total fertility rate 2013	2.9	3.0	2.3	1.7	1.7	1.4
HIV Prevalence 15-49 yrs. %	0.6	0.1	0.8	0.5	0.1	1.1
HIV deaths /100,000	17.1	6.4	21.6	12.1	2.8	31
Malaria cases suspected '000	152	339	2,601	3,116	5,555	1,803
Malaria cases confirmed '000	21	46	334	17	4	33
Malaria deaths /100,000	1.7	4.4	5.4	0.1	0.0	0.2
TB Incidence per 100,000	390	189	369	140	171	68
TB deaths /100,000	66	53	135	19	3	12

WHO (latest data available) http://apps.who.int/gho/data/

28. For MDG 6, halting HIV/AIDS and other infectious diseases, major progress has been made in reducing the epidemic in the most affected countries, Even so, the epidemic continues as a concentrated epidemic in at risk groups such as drug users, sex workers, and men having sex with men. The prevalence of TB is also very high. A major concern is multi-drug resistant TB, the treatment of which is much costlier. With new global commitments and investments, the malaria prevalence has declined dramatically, even in Myanmar where it was the top ranked

health problem. Countries are preparing for elimination and intensified control. The main concern is artemisinin drug resistance, which emerged in several GMS border areas.

29. Table 3 shows the annual infection burden based on latest data in CLMV countries as reported through national surveillance systems. These data are likely inaccurate. Some diseases are more likely to be attended by the private sector, which is not reflected in these data. The group of HIV, TB and malaria have much better surveillance systems and are likely more accurate. Acute respiratory infections (ARIs) including influenza like conditions are the most common reported illness, and may be mixed up with EIDs, hence ARI diagnosis needs attention from a public health security point of view. Second, diarrheal diseases are often linked to food poisoning. A high level of childhood infections, even polio, suggests that children still get childhood infections despite high immunization coverage levels (except in Laos), which may indicate access and/or quality of care problems of importance for public health security. Many of the reported dengue cases are likely not dengue due to lack of diagnostic testing capacity. Lastly, NTDs including Japanese encephalitis and leptospirosis and scrub typhus are common but often misdiagnosed and mistreated. CLMV countries experienced a few cases of EIDs, in particular highly pathogenic avian influenza (HPAI) caused by infected poultry. There have been outbreaks of food poisoning, dengue, malaria, cholera, and hand, foot and mouth disease (HFMD). It is likely that many isolated infection cases and some outbreaks were missed or misdiagnosed, or overestimated for specific diseases, hence there is need to improve staff capacity, diagnostics, and surveillance.

Table 3: CLMV Annual Infectious Disease Burden, 2015 or Latest Data

Diagnostic Category	Cambodia	Laos	Myanmar	Viet Nam
	Yearly cases, average or latest data available			
Acute flaccid paralysis incl polio	108	24	2	1,655*
Fever & rash (measles like)	2,891	519	1,869	55,067
Measles	0	56	6	256
Neonatal tetanus	10	19	30	47
Tetanus all ages	-	21	1,372	360
Diphtheria	10	140	87	76
Pertussis	10	7	158	309
Dengue fever	14,033	1,668	Na	379,992
Acute watery diarrhea	66,078	41,290	354,024	3,591,395
Acute bloody diarrhea	na	5,870	108,346	168,238
Food poisoning	na	949	6,864	5,664
Typhoid Fever	na	1,367	4,541	4,396
Anthrax	-	4	53	472
Acute jaundice syndrome	806	691	6,706	Na
Meningitis	na	292	1,425	894
Acute encephalitis syndrome	2,577	35	na	15,547
Plague	-	-	-	6
Acute respiratory infections	712,709	3,357	2,779,392	1,455,712
Avian influenza	9	na	na	30
SARS like	-	9071	-	-
Hand Food and Mouth Disease	na	na	na	112,370
Leptospirosis	na	na	na	55
Rabies	6	1	211	426
Malaria new cases confirmed	25,152	48,071	152,159	15,752
TB new cases	43,059	30,840	138,352	49,929
HIV/AIDS new cases	1,599	3,781	7,000	72,510
HIV/AIDS total PLHIV	75,000	6,400	189,000	258,524

Source: Ministries of Health, WHO, UNAIDS. *including cases due to Japanese Encephalitis

b. IHR/APSED Performance

30. Public health security is as good as its weakest link. Within the GMS, PR China and Thailand have comprehensive national health security systems in place, and seek to further enhance public health security through regional cooperation, cross-border cooperation, and CDC in border areas. A practical way to assess performance of the public health security system is by assessing the progress in building core capacities of the IHR 2005 and implementing the strategic areas of APSED (2005, 2010) and other WHO strategies for CDC[11] using the WHO standard questionnaire of some 350 questions,, while keeping in mind the limitations of this instrument.

31. The data in Table 4 suggests that CLMV countries scored 69% on average, implying that two-thirds of IHR requirements are in place, and one third remains unaccomplished, while the due date for compliance is 2016. For comparison, Cambodia, Laos and Viet Nam scored 46% in 2012. In 2015, the highest scores were for coordination, surveillance and zoonosis, while in 2012 for three countries this was zoonosis, surveillance, and response. The lowest scores were for human resources and chemical and radiological hazards, while in 2013 for three countries this was risk communication, and chemical and radiological hazard.

Table 4: IHR Core Capacities Assessment 2016

Core Capacity	Cambodia	Laos	Myanmar	Viet Nam	Average 2016
Legislation	50	60	60	100	68
Coordination	55	89	94	100	85
Surveillance	80	81	73	88	81
Response	48	58	67	89	66
Preparedness	60*	71	48	95	69
Risk communication	42	62	40	100	61
Human resources	40*	44	43	100	57
Laboratory	40	78	77	100	74
Ports of entry	76	61	56	100	73
Zoonosis	78	69	92	100	85
Food safety	67	80	46	100	73
Chemical	30*	41	39	88	50
Radiological	30*	47	47	100	56
Total score	**53**	**66**	**60**	**96**	**69**

Source: PPTA, from MOH and other ministries based on IHR-based Questionnaire. *Expert estimate only

32. While there are substantial country-to-country variations, progress may be summarized as follows: (i) all CLMV countries have surveillance and outbreak response systems for notifiable diseases and any other outbreak, but want to deepen this to include syndromic reporting from village level upward, initiate reporting from the private sector, and improve data management; (ii) laboratory services have been expanded but need better quality, biosafety, standards, and supplies; (iii) cooperation for control of zoonosis (“one health”) is reportedly good; (iv) infection prevention control (IPC), for which WHO has formulated a regional program, has received less attention and funding and much remains to be done to improve hospital hygiene and infectious case management; (v) risk communications have improved, in particular linked to emergencies; (vi) pandemic preparedness remains limited, with no surge capacity in

[11] Including bi-regional strategies for HIV/AIDS, malaria, tuberculosis, dengue, laboratory, and health financing.

case of major outbreaks[12]; (vii) regional preparedness, alert, and response (including information exchange) is also inadequate, amongst others due to political sensitivities, and (viii) APSED monitoring needs to be strengthened further, possibly with independent evaluation of progress. WHO has estimated financing gaps in implementing APSED, which are substantial, in particular for laboratory services, emergency capacity and, for unknown reasons the costliest, for community preparedness.

33. Perhaps IHR/APSED areas under direct control of CDC/public health departments have improved most, reaching about 80% compliance, while areas involving other countries, ministries, community and departments have done less well, including laboratories and hospitals, community level, and intersectoral and inter-country cooperation. Also marginal communities not accessing health services, in particular ethnic minorities in border areas and migrants in economic zones need to be engaged in EID preparedness and CDC. GMS strategic planning for CDC also needs to be enhanced. IHR capacity building and roll out of APSED strategic areas face a range of challenges as summarized in the next paragraphs. Details are on the countries health analyses.

34. **Legislation and Policy**. The IHR 2005 of WHO provides a strong and legally binding standard for the control of EIDs and other serious public health threats, such as the spread of drug resistant infections. WHO's APSED and other WHO regional strategies for disease control and health system development provide a good framework for building GMS health security. The CLMV governments are fully committed to comply with IHR, and made major progress in implementing APSED. GMS countries have legislation requiring the public to report cases of suspicious infections. Good health services that have the public confidence are therefore essential to achieve public health security.

35. **Surveillance**. All CLMV countries have national disease surveillance systems for instance, weekly or monthly reporting depending on the type of suspected disease. Data collection may be based on health facility records, hospital sentinel stations, or voluntary event reporting and is incomplete, in particular not including cases and events identified by the communities and the private sector. Suspected case of EIDs and outbreaks of other diseases are mostly not identified through the indicator-based surveillance system, but through event reporting, for example using toll free phone numbers. The current surveillance systems are largely not computerized at district level and below, which is one factor in late reporting of cases and events. Each MOH lacks in staff training and quality control so doesn't really know what zero reporting of suspicious infections means. Other surveillance systems for particular diseases have better quality data and separate reporting mechanisms and are not interlinked. The national surveillance systems are also not well linked with the general health management information systems.

36. Even if MOH can put meaning to its own surveillance data, it is lacking information from communities and the private sector. Many patients also seek health care abroad. In the current set-up, people not accessing or reporting to public health services when sick, for any reason, means a gap in surveillance and impact on infection control. MOH may assume the network of diagnostic services is functioning when it isn't. Each MOH is interested in developing community-based disease surveillance, e.g., through syndromic reporting, and shows some initiative or aspiration for improving private sector reporting.

[12] Even developed countries like Australia lack a major surge capacity, as was clear during the swine flu outbreak. Also international surge capacity response was quickly exhausted with one major Ebola outbreak. Hence the focus should be on prevention of major outbreaks.

37. **Outbreak Response**. All CLMV countries have central, provincial/state and district rapid response teams. Availability of transport, protective gear, and emergency funds for outbreak investigation varies. The performance of RRTs needs to be improved. The current teams are mostly clinicians. RRTs may need to become professional public health teams providing outbreak response, and otherwise work on community prevention, reporting and preparedness. RRTs could also include mobile diagnostic services, in particular for hard to reach MEVs.

38. **Outbreak Preparedness**. All ministries of health have national preparedness plans for suspected EID cases and outbreaks and have gained experience testing these pans through real case scenarios and simulation exercises. However, preparedness at lower levels is much less, and awareness about the presentation and risks, handling and reporting of suspected EIDs is reportedly limited. Larger hospitals lack the means for preparedness. The sad reality is that CLMV countries lack surge capacity and that developed countries and international agencies lack capacity to handle a major epidemic except for diagnoses and producing vaccines. An alternative country pandemic plan relying on self-reliance and sustainability should be considered.

39. **Human Resources Development**. All CLMV countries have realized the importance of competent staff, and have initiated or participated in field epidemiology training programs (FETP). These used to be provided overseas, but are now organized in country in partnership with overseas universities. The aim is to train sufficient FETP graduates to be posted to all provinces/states. At district level, CLMV countries have recognized the need for assistant FETP, and are at various stages of rolling out such a program. One major issue is current lack of facilities for FETP in all four countries.

40. **Port of Entry**. Port of entry checkpoints are under the authority of other ministries, although ministries of health have varying responsibilities for quarantine services. The general impression is that international airports have fairly good border checkpoint and quarantine services, but not seaports and land border crossing. Quarantine service is difficult as the chance of finding serious infections at border checkpoints is quite small. Hence, this does not warrant major investments in quarantine facilities in border areas. Most cases of suspected EID or other serious infection will show up or be identified in the hospitals. Viet Nam has decided to add nine border quarantine centers, for which funds have been allocated from the state budget.

41. **Zoonosis.** After the avian influenza outbreak, all CLMV countries have addressed the challenge of control of zoonotic events. This includes legislation, intersectoral coordination, improving surveillance systems, simulation exercises, risk communication, case management, and laboratory diagnoses; and outside the health sector other measures such as licensing, checking of farms, and containing smuggling. However, avian influenza is still circulating in poultry and has caused few human cases. One key issue is information exchange, which does happen regularly. Other important zoonotic diseases including rabies do need more attention.

42. **Food Safety.** Food safety has scored high in the IHR core capacity assessment. However, outbreaks of diarrheal diseases, dysentery, cholera, and other water- or food-borne infections are among the most commonly reported surveillance events, often linked to contaminated sources. Of particular concern is the sanitation of markets, including central markets attracting tourists. These markets often fall short of hygiene, sanitation and waste disposal. While MOH has authority over disease prevention, markets are not under jurisdiction of MOH. At household level, urban slum dwellers and about 30% of rural people still lack access

to clean water and sanitation. Ministries are in various stages of improving food legislation, standards, and inspection.

43. **Chemical and Radiological Hazards**. Global agencies have been involved in the appraisal of these hazards, but no substantial assessment has been done in CLMV countries. Responsibilities among ministries and uniformed services for the prevention and monitoring of these hazards, and management of event response are less clear. Ministerial focal points have been established. Prevention rules, surveillance and preparedness plans are being developed.

44. **Laboratory services**. Laboratory services are a large and complex subsector with multiple functions coming together to produce safe, reliable, and useful diagnostics. The WHO has proposed a Regional Plan for Improving Laboratory Services. All CLMV countries have national policies and/or plans for strengthening laboratory services. Laboratory services are led by long established national institution with high professional standards: the National Public Health Laboratory in Cambodia, the National Center for Laboratory and Epidemiology in Laos, the National Health Laboratory in Myanmar, and the National Institute of Hygiene and Epidemiology in Viet Nam. Besides, there are several active research institutions and foundations. Pasteur Institutes, WHO, CDC Atlanta and other reference laboratories provide diagnostic support for EIDs. Specimen transport arrangements need to be improved.

45. Provincial/state laboratory services were appraised (Part I). The main issues are biosafety and reliability and accuracy of testing. A system of biosafety and quality improvement needs to be put in place including basic facilities, staff training, supplies, equipment calibration and maintenance. This needs to be re-enforced with quality assurance and regular laboratory audit (inspection). Upgrading laboratory services needs to be selective in view of human resources constraints. Viet Nam is planning to combine preventive and curative laboratories at district level.

46. **Infection Prevention and Control.** Hospitals are the most likely recipients of patients with an EID, and also pose a major concern as a source for the spread of these diseases (e.g., MERS in Korea). Health facilities also contribute to nosocomial infections and drug resistance. The World Alliance for Patient Safety was launched in October 2004 to facilitate the development of patient safety policy and practice. In 2005, the Alliance launched the first Global Patient Safety Challenge with the theme 'Clean Care is Safer Care'.[13] The risk of acquiring a health care associated infection is estimated to be 5–20 times higher in developing countries and 3–20 times higher for neonates.[14]

47. In CLMV countries, the IHR core capacity for "response" scores low because hospitals do not meet IPC standards. WHO's bi-regional strategy for IPC aims to make all health facilities hygienic places that can handle infectious patients properly without risk of spreading infections or grooming drug resistance. IPC roll out has been initiated in central and provincial or state/region hospitals, through infection control committees, focal points, scholarships, staff training and SOPs. Quarantine beds are available tertiary hospitals, but mostly not at provincial/state level.

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[13] Donaldson, L. (2005). Patient Safety: "Do No Harm", in: Perspectives in Health, The magazine of the Pan American Health Organization. (http://www.paho.org/English/DD/PIN/Number21

[14] Mugrditchian, SD., Khanum, S., 2006. "Placing patient safety at the heart of quality in health care in south-east Asia". International Hospital Federation Reference Book 2006/2007 021. http://www.ihf-fih.org/pdf/21-24.pdf

48. **Regional Cooperation**. WHO leads the public health security agenda at global and regional levels and works closely with governments at national and sometimes subnational levels.
To implement IHR and deal with other diseases of global importance, APSED gives importance to regional and cross-border cooperation. The main rationale for regional cooperation in public health security is that infections can easily spread across borders. This requires timely exchange of information on suspected cases of notifiable and other highly contagious diseases and sometimes cooperation for timely outbreak control. However, insufficient efforts are made by national governments for such cooperation due lack of protocols. Progress has been made with informal information exchanges among national CDC units and border provinces. Governments have agreed on formulating guidelines and standard operating procedures (SOPs).

49. A second important purpose of regional cooperation is to learn from one another. In earlier projects, the regional workshops and technical forums proved very useful. Setting up community of practice (COP) however requires champions who can devote time running these KM activities. KM activities should help improve GMS disease control strategies. Other benefits of regional cooperation are networking and confidence/team building among officials and experts, and improve leverage and efficiency of CDC. To guide GMS cooperation, a regional steering committee was established some 12 years ago, with the host GMS country sharing this. A regional cooperation unit based in MOH, Laos, serves as the secretariat of the regional steering committee and is, among others, focusing on administering workshops and forums, sharing technical information, and facilitating information exchange and cross-border cooperation among countries.

50. Border areas in CLMV countries are a contrasting mix of forested highlands with isolated ethnic minorities; and strategic valleys or lowland with busy borders towns and sometimes industrial zones and casinos along economic corridors. Every day, many local people cross borders for work, in addition to busses, trucks, tourists, and visitors of casinos. MEVs often have less access to CDC and may not use CDC programs for a variety of reasons, such as customs, physical access, poverty, migrant status, language problems, and work conditions.

51. Cross-border migrant workers returning home have limited access to regular health services. The Cambodia International Organization of Migration has been piloting TB screening programs for cross-border migrants. The practical notion is that there are only few entry points where large numbers of people cross the border, after which they disperse. Offering people with health problems voluntary screening facilities at borders may help identify new cases.

52. A cross-border survey undertaken in the first GMS CDC project found that about half of all provinces in Cambodia, Laos and Viet Nam was engaged in cross-border activities. China has had bilateral agreements in place with Myanmar, Laos and Viet Nam for cross-border control activities of HIV/AIDS, TB, and malaria. Thailand also has sponsored cross border activities with Myanmar, Cambodia and Laos. These are examples of effective collaboration.

53. In summary, infectious diseases do not respect borders, and need regional and cross-border cooperation for their control. For example, migrants returning with HIV or TB need continuity of treatment, to avoid complications and drug resistance. Similarly, control of EIDs requires quick regional and global coordination involving law enforcement and many other groups.

54. Regional coordination should be fully government-owned and institutionalized including office, staff and operations paid by the government. Cross-border cooperation is gaining momentum but needs to be integrated into routine CDC. National aid coordination mechanisms for public health security are in place but coordination needs to be improved, and public health security needs to be mainstreamed and funded in sector plans.

c. Communicable diseases control

55. **HIV/AIDS Control**. The dramatic reversal of the HIV epidemic in Cambodia, Myanmar, Thailand and Viet Nam was achieved through a comprehensive strategic approach, substantial external aid, and increasingly also domestic funding. However, about 30%-60% of people needing HIV treatment still go without it in the CLMV countries and they can infect others. HIV vaccines are still being developed. Coverage of HIV/AIDS treatment centers in Laos, Myanmar and Viet Nam is low, causing poor patient compliance. Antiretroviral drugs resistance is an emerging public health concern. While HIV prevention is one of the most cost-effective interventions, many hotspots along economic corridors and in border areas are not reached by the HIV/AIDS program.

56. **Tuberculosis control**. Tuberculosis is a disease that builds up in populations exposed to war, poor living conditions, and lack of nutrition and TB services. In the GMS, it is common among the poor, isolated, elderly and sick, including those with HIV/AIDS. The main control strategies are treatment of infective persons, active or passive case-finding and hospital diagnoses. Patients usually access the TB control program to receive the Direct Observed Treatment-Short course (DOTS), delivered as closely to the patient as possible to ensure high patient compliance with treatment and high cure rate to avoid development of multi-drug resistant TB (MDRTB). A new and hopefully more protective vaccine is being developed to replace the BCG vaccine.

57. CLMV countries are still in the global list of countries with a large burden of TB. Cambodia, Myanmar and Lao have respectively 60,000, 230,000 and 6,000 new TB patients each year, of whom two thirds are detected and treated. National TB programs have close to 100% coverage but lack funds for case finding and treatment, in particular for MEVs. Deployment of GeneXpert and digital X-ray machines in district hospitals and mobile clinics will increase case detection among high risk groups, but this requires that identified people can be included in the treatment program. Also migrant workers who start TB treatment abroad often do not have access to treatment on return to their home country. Cambodia and Myanmar national TB control programs report HIV co-infection in respectively 6.3% and 9.2% of TB patients. Cambodia and Lao national TB control programs report MDRTB in respectively 1.4% and 5% of TB patients. Treatment of MDRTB costs about $1,400 per person compared to ordinary DOTS costing $25 per person. The spread of MRTB is a real global health risk.

58. **Malaria Control**. Widespread use of insecticide treated bed nets (ITB), better diagnoses and treatment, and various forms of vector control have reduced the malaria burden. Development of a malaria vaccine has proved to be very difficult. Most malaria is now found among people living and working in the forested highlands of GMS countries. Myanmar has by far the highest burden of malaria. The annual malaria morbidity rate reduced 4-fold from about 25/1,000 cases in 1990, to 6.4/1,000 cases in 2013.

59. The Global Fund still is the global financier of malaria control, in particular for supply of bed nets, case detection, treatment, and targeting hotspots. To deal with drug resistant malaria in Asia, WHO is leading an Asia Pacific effort for malaria elimination in Asia by 2030 – no malaria, no resistance. The GMS is the center of artemisinin resistant malaria, which has

developed in border areas,[15] probably linked to migrants, mobility, and substandard medicines and treatment. If drug resistance spreads to Africa, it will cause havoc. The Asia-Pacific Leaders Malaria Alliance was established in 2012 to generate political commitment, financing and cooperation for malaria elimination in Asia Pacific. ADB is the secretariat for APLMA. ADB is also managing the Regional Malaria and Other Communicable Disease Threats Trust Fund to finance malaria projects in Asia Pacific, but future plans for APLMA and the fund are under discussion.

60. **Dengue Control**. The GMS has seen a rapid increase in dengue since the 1990th. During a visit to the Mon state hospital in summer, two thirds of the overcrowded children ward was occupied by dengue victims. The worst year for dengue on record in Cambodia was 2007, when 39,851 cases with 407 deaths were reported. In Viet Nam, over 100,000 cases were reported annually before the start of the National Target Program (NTP) in 2010.

61. Countries have adopted the WHO Global Strategy Framework for Dengue Control. The WHO Asia Pacific Dengue Strategic Plan (2008-2015) proposed a standard framework for dengue surveillance, integrated vector management, case management, social mobilization and communication, outbreak response, and research. The newly formulated Regional Dengue Framework provides an implementation roadmap. Vector control has been difficult to maintain. A key strategy is to extend the surveillance system down to the community level, and use syndromic reporting for timely reporting of any suspected case of dengue, followed by quick response.

62. **Childhood infections**. Childhood infections including polio and measles caused epidemics with high mortality and rapidly spread across borders. Based on the Global Vaccine Action Plan (2011-2020), 5-8 antigens are included in the immunization programs for children below one year of age. Full immunization coverage is about 85% in Cambodia, 45% in Laos, 85% in Myanmar, and 95% in Viet Nam. In particular in Laos, there are pockets of low immunization coverage in MEVs. Immunization also fails to protect a large number of children due to problems of cold chain or immunization technique.

63. Other infections of regional significance. Major progress has been made in the control of parasitic NTDs but less so in the control of Japanese Encephalitis. Hand, foot and mouth disease (HFMD) has been spreading from Viet Nam to neighboring countries. Fever studies also indicate high prevalence of brucellosis, leptospirosis, and scrub typhus. Treatment for these conditions is available if properly diagnosed.

d. Health system issues

64. **Coverage**. In 1978, GMS countries committed to Health for All through Primary Health Care, which is essential health care based on the needs of the community, and provided in partnership with the community.[16] In 2015, government adopted the sustainable development goals, including UHC. UHC requires all people to have access to affordable quality health care, which in turn depend on community conditions, sector management, governance and financing. Coverage, or use of services by population, is a proxy of both demand and supply of services. Table 5 shows coverage for specific health services that are typically receiving major

[15] Notably in the Cambodia-Thai area of Pailin and Chantanaburi provinces, the Myanmar-Thai area of Kayin state and Tak province, Dak Nong and Bhinh Phuoc provinces in Viet Nam, and Bago and Thanintharyi regions in Myanmar.

[16] WHO. 1978. Alma Ata Health for All Declaration.

assistance. Even for these services, indicators for Laos and Myanmar are lower, suggesting that many people do not access public services and hence are outside the surveillance system.

Table 5: GMS Health Services Coverage, 2012*

Indicator	Cambodia	Laos	Myanmar	Viet Nam	China	Thailand
Birth attended by skilled personnel (%)	71	40	64	86	95	99
Measles immunization rate at 12 months	90	82	86	98	99	99
Contraceptive prevalence rate	51	50	40	88	78	79
Antenatal care rate for 4 visits or more	80	37	71	60	95	80
TB treatment success rate of TB patients with spear positive sputum	94	90	85	91		81
Antiretroviral coverage of HIV+ patients	84	51	48	58		76

Source: WHO; * or nearest date

65. **Access to Care**. GMS governments have rapidly expanded basic health services, basically by adding and upgrading health centers/commune health stations, so that every administrative area has a facility.[17] Physical access to health services in CLMV countries is now much less of a problem with the construction of rural access road and the development of a network of health facilities and village health workers. There still are inaccessible pockets in Cambodia, Lao and Myanmar, in particular during the rainy season, and access may also be affected by security problems and in plantations and industrial and entertainment zones. In terms of access to specific services, CLMV Governments have made major progress in improving coverage for maternal and child health, immunization, and HIV, TB and Malaria, but even these programs do not reach certain MEVs (which in turn affects MDGs). Specific services may be missing such as for immunization, laboratory tests, or emergency services.

66. **Quality of Care**. Quality of service delivery has not kept pace with rapid expansion of infrastructure. Household surveys show that the use of rural public health services is low in all CLMV countries. Many patients prefer private services or self-treatment, or traditional medicine. Large public hospitals in urban areas are typically overcrowded, for both outpatient and inpatient care. Low demand for rural public health services, as per records, may simply mean that the services are managed off-the-books as a publicly subsidized private clinic, or that staff are referring patients to their own private clinic, but this is unusual in these countries. More common issues of rural health services are lack of recurrent budget to operate the services, poor facilities and hygiene including lack of water and sanitation, staff absenteeism, poor quality of care, and high costs of services relative to perceived value. Staff absenteeism may be caused by lack of income opportunities to compensate for low government salaries, high transport costs, lack of housing and security problems.

67. **Affordability of Care**. Lack of recurrent budget to operate health services usually means high out-of-pocket spending. The indigent and the poor often refrain from accessing public health services due to (perceived) high costs. CLMV governments have initiated mechanisms to compensate providers for free health care using mutual funds, donations, health equity funds, and health insurance, but it seems that the indigent and the poor can often not benefit from these.
Poor migrant workers lacking registration may also be denied free health services.

[17] Cambodia plans health services based on health districts named “operational districts”.

68. **Sector Governance**. In Laos and Viet Nam, health services are devolved to provincial level. Cambodia MOH is using health management agreements between MOH and operational districts (ODs). Myanmar is planning further devolution to state/region level. Devolution offers better owned and customized management, but poses risks in terms of lack of capacity, non-adherence to MOH policy and monitoring, and a focus on symbolic investments. Among some local governments, hospitals are seen as good sources for generating revenue.

69. Health sector management in CLMV countries still need to strengthen core capacities in planning and budgeting, resource management, and monitoring. Bottom-up planning and budgeting has been introduced but remains fragmented with separate vertical programs and lack of financial flexibility. Sector-wide approaches are being rolled outed. Cambodia MOH has introduced sector-wide implementation, and Lao MOH health reform plans also amount to a sector-wide program approach. The new Myanmar Government also favors a comprehensive planning approach. For all countries, a problem is how to link central and local government priorities, plans, and budgets.

70. Resource management, of staff, logistics, finance and supplies, is an increasing problem in CLMV MOH, perhaps because of increasing demands of leaders, complexity in a devolved set up, oversights and conditions, and fragmentation. A new generation, of MOH managers are better training and more competent but somehow find it hard to make the system more efficiently. Partners, since the late 1990th, have concentrated on few diseases and subsectors. This so-called “package” approach is driven by political desires to demonstrate impact of aid, and undermines local ownership and responsiveness. Partners are now trying to fix management problems by investing in governance, but still have less appreciation for the role of communities in improving health services, which is important for hard-to-reach populations.

71. Communities have been engaged in health services through various channels including religious and social organizations, village health committees, community health workers, mobile clinics, campaigns and public works. While local health center staff, as community members, continue to be informally active in local communities, reduced community engagement undermines their intermediary role in public health security. Intense engagement of communities is especially important in the least mainstreamed traditional communities, but government conditions are often lacking to do so effectively. Cambodia has successfully explored public-private partnership, and contracted NGOs to circumvent some of the public sector restrictions to engage with remote ethnic minorities. Similar approaches should be considered for migrant communities that are now often out of reach of government programs.

72. Myanmar is a special case having a new Government after many years of command economy. Appraisal of the old system is probably less relevant, but the “Health in Transition” report for Myanmar says that “transparency and accountability are new terms arriving with the current civilian government.” While the government machinery was a big black box, what made the system work for so many years of accommodation and self-reliance were the professional ethics, dedication and persistence of health workers, for example community midwives taking initiative to rebuild their health centers after cyclone Nargis from whatever material they could find. This is the backbone of rebuilding Myanmar’s health sector. Hopefully, reform measures such as a participatory planning process, transparency, and accountability will push through.

73. Based on the new constitution, the government plans to form regional legislatures for actual devolution of authority. Based on the National Comprehensive Development Plan (NCDP) 2011-2031, comprehensive 5-year health sector plans will be formulated. However, within this framework, planning is done by individual departments, although under the umbrella

of an overarching consultation process. The result is a health system largely managed like vertical programs except for matters like personnel and financial management. There have been voices to return to the earlier People's Health Plans approach, more of an integrated and bottom up planning process. Various intersectoral collaboration mechanisms are also in place, in particular for food and drugs, occupational hazards, and disaster management.

74. The role of NGOs and the private sector is important in Myanmar to achieve UHC. Collaboration with NGOs and the private sector is limited. A good example is the public-private partnership for the national TB control program. The MMA plays a key role in quality standards in the private sector. The Population Services International has helped develop the Sun Quality Health Network or urban areas and Sun Primary Health for rural areas engaging over 3000 providers in almost 300 townships. Based on the 2012 Social Security Law, a universal social protection system is to be developed. A new concept paper prepared by government officials and partners proposes a basic health care package for the entire population provided free of charge except for the formal sector. Hopefully, interventions for public health security will be part of this. .

75. **Financing**. In 2001, the Commission on Macroeconomics and Health of WHO estimated that a basic package of health services in the least developed countries would cost $34 per capita.[18] In 2004, per capita health expenditure in Cambodia was $30, Laos $10, and Viet Nam $21. In 2013, per capita health expenditures in Cambodia was $67, Lao $32, Myanmar $14, and Viet Nam $111 (Table 6). Health spending has not kept pace with overall economic growth. Of major concern is that much of this spending is out-of-pocket. Unless this is resolved, UHC is unlikely to be achieved, and so is public health security in the absence of a strong private sector. Low government financing of public health services has demotivated staff and dilapidated health facilities, thereby reducing sector efficiency and impact. It will take substantial investments to recover from years of neglect.

Table 6: GMS Health Expenditure (2013)

Indicator	Cambodia	Laos	Myanmar	Viet Nam	China	Thailand
Total health expenditure per capita $	67	32	14	111	367	264
Total health expenditure as share of GDP %	7.5	2.0	1.8	6.0	5.6	4.6
Public share of total health expenditure %	20.5	49.3	27.2	41.9	55.8	80.1
Share of public budget spend on health %	7.7	3.5	1.5	9.3	12.6	17.0
External Aid share of total health expenditure %	13.3	26.8	15.3	2.2	0.1	3.8
Out of pocket share of private spending	75.1	78.8	93.7	85.0	76.7	56.7

Source: World Bank, 2013

76. **Health Information System** (HIS). In Cambodia, the Department of Planning and Health Information Systems has a comprehensive health information system (HIS). It realizes the problem of capturing health information for MEVs and is considering options to track these groups. The MOH infectious diseases surveillance system aims to expand to full public sector coverage, and as started including the private sector. Eventually, MOH Cambodia is looking forward to a web-based, comprehensive HIS for all formal health services.

77. In Viet Nam, MOH has placed strong emphasis on the HIS.[19] Challenges to be addressed include horizontal and vertical fragmentation and quality problems. Most of the 127

[18] WHO. 2001. Report on Macroeconomics and Health.
[19] MOH Viet Nam Strategic Implementation Plan for Developing the Health Statistics in the Period 2011-2020.

indicators are collected manually and eventually in Excel files through a series of logbooks. There is no platform for integration of clinical, diseases control program, prevention, and lab data at any level. Data on private health services is also lacking. The surveillance system is managed separately for 28 notifiable diseases.[20] The used software, e-CDS[21], allows for upgrading. Advancing IT requires equipment and training at district and commune levels.

78. In Laos, MOH is rolling out a nationwide HIS, based on the Oslo district HIS software. MCH monitoring has been integrated in the HIS, but not yet CDC. Provincial capacity to collect, report and use data is improving but is also affected by multiple resource constraints.

79. In Myanmar, MOH has a comprehensive health management information system, with separate collection systems for surveillance and most priority programs. Most state/region health offices are capable of analyzing their health data. There are three major problems. Data are mostly managed manually up to district levels. Data quality is unreliable, and services provided by NGOs, military, other agencies and the private sector are not captured.

e. Development Coordination

80. **Coordination**. The International Health regulations (IHR (2005) of WHO provides a strong and legally binding standard for the control of EIDs and other serious public health threats, such as the spread of drug resistant infections. In the GMS, the IHR is implemented through the APSED (2005, 2010). WHO has also demonstrated strong technical leadership in formulating regional control strategies for health security related areas including for the control of HTM, dengue, and NTDs; and also related health systems such as for MNCH, laboratory services, and health financing. The international health partnership (IHP) for health and ASEAN also provide relevant aid coordination.

81. Aid coordination in CLMV MOH takes place at strategic sectoral level, and at operational subsector level, such as for MNCH, nutrition, HIV, TB and malaria. MOH and WHO manage IHR/APSED coordination mechanisms in each country but partners like ADB, USAID can do better in coordinating. Aid coordination at provincial level is increasing, often also involving NGOs. This is a practical development facilitating the combination of resources to address system gaps.

82. All ministries of health of CLMV countries have put sector development and reform and aid coordination structures in place which may be summarized as follows:

(i) MOH Cambodia, based on sector wide management (SWIm), is implementing a succession of comprehensive Health Sector Programs (HSP) 1, 2 and 3, financed by the Government and a consortium of partners led by the World Bank. ADB provide parallel funding for CDC under the HSP umbrella.

(ii) In Laos, MOH has a sector-wide coordination mechanism and since 2009 a sector program approach[22] and in 2013 introduced the health sector reform strategy and framework toward UHC with support of ADB, the World Bank and WHO.

(iii) In Myanmar, MOH converted the Country Coordinating Mechanism set up under the Global Fund into the Myanmar Health Sector Coordination Committee, under which all subsector technical groups work.

(iv) In Viet Nam, MOH chairs the Health Partnership Group since 2004 to improve strategic planning, monitoring, coordination and efficiency of the entire health

[20] Circular 48 /2010/TT-BYT of Ministry of Health on infectious disease reporting.
[21] e–CDS - Electronic communicable disease surveillance (system), developed by ADB funded project (ADB 47)
[22] ADB. 2009. *Health Sector Development Program, Lao PDR*. Manila

sector. It includes representatives of all partners and NGOs. MOH also issues the joint annual health reviews (JAHR).

83. Key partners in CDC in the GMS, including both national and regional support, include the following:

ASEAN provides high level political commitment for regional health security;

(i) WHO provides technical leadership for IHR/APSED and CDC in general;
(ii) USAID is phasing out HIV support and rolling out the Global Health Security Agenda;
(iii) The Global Fund provides major supports for HMT control;
(iv) UNICEF, UNFPA and the 3D fund in Myanmar support MNCH;
(v) The Global Alliance for Vaccines and Immunization (GAVI) supports new vaccines;
(vi) UNICEF supports women's rights, MNCH, immunization, and water and sanitation;
(vii) UNAIDS and UNFPA support the HIV program and reproductive health;
(viii) The World Bank supports hospital infection control and CDC in general.

A short list of major GMS health projects is in Table 7.

Table 7: Major Development Partners or Regional CDC

Location	Development Partners	Project Name	Duration	Amount ($ million)
GMS	ADB, DFAD, DfID	Second GMS Communicable Diseases Control Project Extension – Regional Part	2015 – 2017	5.0
	ADB, DFAD, DfID	Regional Capacity Building Technical Assistance for Malaria Elimination and CDC	2016 – 2017	12.0
CAMBODIA	ADB, DFAD, DfID	Second GMS Communicable Diseases Control Project and Extension	2010 – 2017	14.0
	AFD, BTC, DfID, DfID, Korea	Health Sector Support Program Phase II and III	2009 – 2015	149.8
	UNFPA, UNICEF, World Bank		2016 – 2020	TBD
	GF	Malaria, TB, HIV/AIDS control projects		
LAO PDR	ADB, DFAD, DfID	Second GMS Communicable Diseases Control Project and Extension	2010 – 2017	15.0
	ADB	Strengthening HIV/AIDS Prevention Capacity in the GMS	2012 – 2018	5.0
	GF	Malaria, TB, HIV/AIDS control projects	2016 – 2017	25.2
	ADB	Health Sector Governance Program	2015 – 2020	23.0
	EU/UNICEF	Multisector Nutrition Support Program in the Lao PDR	2016 – 2020	55.5
	Lux Development	Lao-Luxembourg Health Sector Support Programme Phase II	2014 – 2020	25.5
	World Bank	Health Governance and Nutrition Development Project	2015 – 2020	26.4
	WHO	Systems Strengthening Program/Support for Health Sector Reform	2015 – 2020	15.0
MYANMAR	ADB, DFAD, DfID	Malaria and CDC Project in the GMS including regional support	2016 – 2017	5.2
	ADB, JFPR	Strengthening HIV Prevention Capacity in the GMS	2015 – 2018	10.0
	GF	Malaria, TB, HIV/AIDS control projects	2016 – 2017	
	WHO	WHO Program for Health Systems Strengthening and CDC		
	3MDG			
	World Bank			
VIET NAM	ADB, DFAT, DfID	Second GMS CDC Project and Extension	2010 – 2017	29.5
	ADB	Strengthening HIV/AIDS Prevention Capacity in the GMS	2012 – 2018	15.3
	ADB	Second Health Care in the Central Highlands	2014 – 2019	50.0
	China	Construction of the Hanoi University of Pharmacy	2013 – 2017	45.0
	GF	Regional Initiative to Prevent Artemisinin-Resistant Malaria	2014 – 2016	15.0
	ADB	Second Health Care in the Central Highlands	2014 – 2019	50.0
	Korea	Building Hanoi Medical University		45.0
	World Bank	Health Professional Education and Training for Health System Reform	2014 – 2020	116.0
	World Bank	North-East and Red River Delta Regions Health System Support Project	2013 – 2019	150.0
	World Bank	Hospital Waste Management Support Project	2011 – 2017	150.0

3MDG: 3 Millennium Goal Development fund; ADB: Asian Development Bank; AFD: Agence Française de Développement; BTC: Belgium Technical Cooperation; DFAT: Department of Foreign Assistance and T; DfID: Department for International Development; GAVI: Global Agency for Vaccines and Immunization; GF: Global Fund to Fight AIDS, Tuberculosis and Malaria; GIZ: Deutsche Internationale Zusammenarbeit; EU: European Union; JFPR: Japan Fund for Poverty Reduction, JICA: Japan International Cooperation Agency; KOICA: Korean Office for International Cooperation and Assistance; UNICEF: United Nations Children's Fund; UNFPA: United Nations Population Fund; UNICEF: United Nations Children's Fund; WHO: World Health Organization; USAID: United States Agency for International Development.
Sources: Ministries of Health of Cambodia, Lao PDR, Myanmar, and Viet Nam; ADB; internet sources.

84. **Financing.** Since the 1990s, external aid to the health sectors in Cambodia, Lao and Viet Nam has been increasing steadily (Table 8) until recently, but is declining as a percentage of public health spending, with a rapid increased in both domestic public and private health spending.

Table 8: Trends in Official Development Assistance (ODA) for Health

ODA Disbursement Indicators	Year	Cambodia	Laos	Myanmar	Viet Nam	Source
Health ODA per capita	2005	8	7	1	2	WHO
	2010	14	9	2	3	WHO
	2014	13	9	5	3	OECD
Health ODA as % Total ODA	2005	23	15	30	7	WB
	2010	26	13	28	8	WB
	2013	25	14	7	6	WB/WHO
Health ODA as % of public health spending	2005	114	233	200	20	WHO
	2010	82	60	100	9	WHO
	2014	62	18	19	7	OECD/WB
Public health spending per capita	2005	7	3	0.5	10	WHO
	2010	17	15	2	32	WHO
	2013	21	49	27	42	WB
Private health spending per capita	2005	28	18	5	27	WHO
	2010	28	31	15	51	WHO
	2013	75	79	94	85	WB
Total health spending as % GDP	2013	8	2	2	6	WB

Sources: WHO. *Official Development Assistance for Health*. 2010; Organization for Economic Co-operation and Development Assistance Committee; *Development Cooperation at a Glance, Statistics by Region. 4 Asia*. 2016; World Bank: *World Development Indicators*. 2014

Note: The table presents disbursement data. Commitments are less stable but more forward looking.

85. Main global drivers of health assistance in this millennium have been the HIV/AIDS epidemic, and MNCH, in a rush to achieve MDGs by 2015. This compares to earlier drivers such as family planning, malaria, infrastructure, and human resource development, and possible future drivers including governance and hospitals. In the GMS, there is a shift to financing income- generating hospitals based on the shift in the BOD to NCDs for which governments seek ODA. Hopefully, a low BOD of communicable diseases will not be used to justify low spending on CDC, as ongoing investments will be needed to keep the BOD for communicable diseases low.

86. The Global Fund for HTM increased its funding from 6% to 38% between 1990 and 2010, before it started to decline.[23] Even so, funding for HTM control is insufficient to conduct full scale prevention, case finding and treatment of all identified cases. As countries graduate to middle income status, financing of HMT by the Global Fund and bilateral agencies is likely to decline.

87. The outbreaks of SARS and HPAI triggered commitments from ADB, European Union, Japan, USA, and other partners to increase funding for the control EIDs, but only a portion of commitments have materialized. Since the Ebola outbreak in 2014, external support for EIDs is being re-prioritized. The proposed USA-led Global Health Security Agenda is expected to mobilize substantial funds for the prevention of EIDs. Several foundations and networks have

[23] http://www.healthdata.org/news-release/global-health-funding-reaches-new-high-funding-priorities-shift.

been active in capacity building for IHR/APSED, including the training program in epidemiology and public health interventions network (TEPHENET), the Rockefeller Foundation supporting the Mekong Basin Disease Surveillance program (GMS networking and cross-border disease surveillance and cooperation) and the global Disease Surveillance Network Initiative,[24] and the Child Health and Mortality Prevention Surveillance Network of the Bill and Melinda Gates Foundation.[25]

88. The control of childhood infections (immunization), dengue (and other related viruses), ARIs (also to differentiate from EIDs), diarrheal diseases (including cholera), and NTDs (including Japanese encephalitis) receive much less assistance. The funding for the management of drug resistance, including for MDRTB and artemisinin, is also insufficient, and so is the funding of dealing with substandard and fake drugs. Note that these diseases, unlike HMT, mostly affect children.

89. Australia, European bilateral agencies, the classical financiers of primary health care and district health systems, have largely phased out from the region, with the European Union taking on a broader role in budget support. Japan still continues with a focus on human resources and MNCH. In general, Asian bilateral agencies are more focused on infrastructure development. ADB Nongovernment organizations play complementary roles to governments such as service delivery for vulnerable groups and community education. NGOs and the private sector offer new possibilities for mobilizing resources and improving performance.

90. The evolving global market, communication networks and information technology have increased visibility of beneficiaries, local leaders, ministries and funding agencies. On a global platform local leader face increased competition and demand for performance, participation, transparency and accountability.

91. As domestic financing is increasing, and external aid is declining and becomes less significant in health sector financing, it is important to understand how these funds are leveraged for learning and impact. CDC programs need to be better mainstreamed, and included in provincial plans with linkages to MEVs as an essential part of regional health security.

92. **ADB assistance**. In the GMS, ADB has supported (i) hospital development, (ii) primary health care, (iii) CDC; (iv) human resources development; (v) health sector reform, and (vi) studies and pilots.

93. For CDC in CLMV countries, ADB supported 7 projects, including 4 for HIV, 3 for CDC, and one for model health village development. In 2000, ADB supported the Community Action for HIV Prevention Project of $11 million with a grant from the Japan Fund for Poverty Reduction (JFPR). ADB supported a $20 million HIV Prevention Among Youth Project in Viet Nam. ADB currently supports a GMS HIV/AIDS project for Laos and Viet Nam,[26] and a GMS HIV/AIDS project in Myanmar.[27] In 2005, ADB and WHO/WPRO supported the first GMS Regional CDC Project,[28] and in 2009, ADB supported the Second GMS CDC project for $54 million,[29] which was extended to 2017 for malaria control and CDC with a supplementary grant

[24] Moore, M et al. *Promising Pathways for Regional Disease Surveillance Networks*. Emerg Health Threats J. 2013.
[25] Moses S. *With Rockefeller long gone, who's watching out for new pandemics*. Inside Philanthropy. 2016
[26] ADB. 2012. *Strengthening Capacity for HIV/AIDS Prevention in the GMS.* Manila
[27] ADB. 2012. *Strengthening Capacity for HIV/AIDS Prevention in Myanmar.* Manila
[28] ADB. 2004. *GMS Regional Communicable Diseases Control Project.* Manila.
[29] ADB 2009. *Second GMS Communicable Diseases Control Project*. Manila.

of $9.5 million (Cambodia $4 million, Laos $3 million, and Viet Nam $2.5 million).[30] ADB wishes to integrate EID, HTM and CDC assistance such as Dengue control into one GMS program under sector-wide approaches.

94. TAs relevant to CDC were provided for studies on ethnic minorities and migrants, MNCH and immunization teaching videos, demand for immunization, vaccine financing, e-Health, SARS, AI, HIV, malaria control, and dengue control. In addition, PPTAs and capacity building TAs were provided. ADB and WHO/WPRO have been working together in CDC through various projects.[31]

95. CLMV countries also receive support from ADB's regional malaria and other communicable diseases trust fund supported by bilateral partners to support malaria control with a focus on artemisinin resistance, including capacity building of national regulatory agencies for drug control. ADB also manages the Asia Pacific Leaders Malaria Alliance (APMLA) secretariat to mobilize support for malaria control and eradication.

96. ADB GMS projects are coordinated through the GMS steering committee (which includes WHO), workshops, and a regional coordination unit (RCU) based in MOH, Laos. ADB projects are informally coordinated with other partners. ADB staff at resident missions participate in partner meetings. At strategic level, coordination for regional health security takes places through WHO regional offices. ADB has been supporting the formulation of GMS strategies on HPAI, dengue, malaria, Japanese encephalitis, NTDs, laboratory services, and cross-border cooperation.

97. **Lessons learnt**. Important lessons have been identified in ADB GMS CDC projects. Foremost, ministries of health, ADB and WHO have built up a strong partnership in GMS CDC Frank discussions and team work have generated a strong network based on mutual trust and respect. CDC1 and CDC2 projects have been evaluated as satisfactory, and were considered relevant, effective, efficient, and likely sustainable.

98. Provinces did take initiative in cross-border cooperation but less so in targeting MEVs in border areas. Provincial plans and budget didn't specifically address MEV. Possible reasons for not targeting certain high risk groups are political sensitivities, lack of interest in MEVs, insufficient logistic and financial support, lack of MEV interest, and simply poor access. This is still a major issue in the many mountainous parts of Myanmar and Lao, border areas of Cambodia, and perhaps the northern mountains and central highlands in Viet Nam. However, targeting MEVs in border areas is essential to achieve public health security, as well as lagging MDGs, and UHC by 2030. Project support can facilitate logistics, but probably more important is provincial/state commitment to target MEVs and inclusion of funds for MEVs in the provincial/state annual plans and budgets. There are also strategic cross-border challenges, such as how to provide continuum of care for cross-border migrants to help reduce treatment failure and the risk of drug resistance.

99. Each MOH has core competencies for surveillance and response and related areas, but has its own national priorities and staff constraints that slow down the rolling out of a more strategic regional approach to GMS public health security and CDC, with more effective regional information sharing and cooperation and aid coordination. This requires institutionalizing regional cooperation in terms of providing full-time MOH staff with clear responsibilities and

[30] ADB. 2014. *Malaria and CDC Project in the GMS*. Manila
[31] ADB TAs listed in Table 12

budget, as part of MOH GMS and ASEAN commitments. This may also require supporting WHO to provide technical assistance. WHO currently supports one person to improve GMS IHR/APSED mentoring, which could be scaled up for regional cooperation and strategic work for CDC.

100. Administrative capacities of ministries of health have improved in Cambodia, Myanmar and Viet Nam, but, remain fragile in Myanmar in spite of long administrative exposure. All CLMV countries experience staff constraints, as government salaries are not competitive and require staff to have other means. This necessitated project management units (PMU) but did little to build capacity in MOH. Provincial capacity for planning and budgeting, financial management, and project implementation has also improved over the years but capacity varies. The devolved set up needs to be analyzed as it adds complexity to administration, in terms of accountability and systems. However, provincial project activities are generally small, fit well with general services, and can readily be inspected. One other concern has been the procurement of laboratory equipment, which needs to be of high quality and based on careful assessment of justification of the services, availability of equipment, staff capacity, and maintenance and supplies support. Using the pooled fund (a share of each grant) for financing regional activities was very practical, but can no longer be accommodated by ADB. ADB has indicated it will consider regional TA.

IV. The project

a. Impact and Outcome

101. The proposed project goal is strengthened GMS health security, with indicators of (I) zero major outbreak of emerging or other epidemic disease in excess of 100 fatalities, (ii) outbreaks have less than 0.5% impact on GDP in any quarter of the year, and (iii) increased treatment of vulnerable groups for communicable diseases. The design and monitoring framework is in Appendix 1.

102. The proposed project outcomes are (I) improved coverage of GMS public health security system and compliance with IHR/APSED and (ii) CDC coverage increased in vulnerable groups in CLMV border areas, in particular for migrants, ethnic minorities, and other vulnerable groups (MEVs) as prioritized by the Governments.

b. Outputs

103. The proposed project outputs are: (i) increased GMS collaboration and MEV access to CDC in border areas; (ii) strengthened national surveillance and response system; and (iii) improved capacity to diagnose and manage infectious diseases.

(i) **Strengthened regional, cross-border, and intersectoral CDC.** MOH has made progress with regional information sharing and intersectoral and cross-border cooperation for CDC. In border areas, MEVs are more likely to get and spread infectious diseases and are less using formal health services. Under this component, it is proposed that the Project supports (i) regional, cross-border, and inter-sectoral information sharing and coordination of outbreak control among GMS countries, (ii) regional capacity for evidence-based CDC, (iii) development of better disease control strategies for MEVs in border areas, and (iv) increased CDC for MEVs in hotspots along economic corridors in targeted border areas. Support is needed for information exchange, simulation exercises, joint outbreak control, strategic planning for MEV disease control strategies in border areas, outreach to MEVs, and improving access of MEVs to CDC.

(ii) **Strengthened national disease surveillance and outbreak response**. MOH has a functioning surveillance system for notifiable diseases in place, and surveillance of HIV, malaria and tuberculosis is strong. However, the system needs to be futher computerized, extended to reach all health centers and communities by employing syndromic reporting, and data management has to be improved. Linkages or integration among surveillance systems with HMIS/DHIS will also be considered. MOH also needs to improve capacity for risk analysis, community preparedness, and disease outbreak response. Under this component, it is proposed that the Project supports (i) syndromic reporting at community level, (ii) web-based reporting including information technology support, (iii) linking of disease surveillance systems, including linking clinical and laboratory surveillance, (iv) improving capacity for risk analysis, risk communication, and community preparedness, (v) improving capacity of outbreak response teams including transport, and (vi) improving screening and quarantine capacity at border points of entry and quarantine centers. Support is needed for system design, training information technolology equipment, vehicles, training, and equipment for screening and outbreak control.

(iii) **Improved laboratory services and hospital infection prevention and control.** District facilities are unable to comply with internationally acceptable levels of biosafety or to guarantee the accuracy of their laboratory testing.. Underlying problems are substandard training of laboratory staff, lack of quality control, and insufficient facilities, equipment, and supplies. The quality assurance systems are in a nascent stage, and there are no national laboratory audit systems. Nosocomial or hospital-acquired infections are becoming a major public health threat. Under this component, it is proposed that the Project supports improving biosafety and quality of laboratory services and expanding services for CDC. Inputs will be (i) staff training for provincial and district hospitals for internal quality improvement, (ii) preparing standard operating procedures, (iii) providing basic equipment, supplies and minor repairs for laboratories and schools, (iii) setting up external quality assurance and audit system for compliance with national biosafety and quality guidelines, and (iv) setting up a laboratory network. For infection control in hospitals, the Project will support roll out of IPC through training in hospital hygiene and special case management, provision of basic equipment and minor repairs of wards.

104. Table 9 summarizes proposed project location along the borders of CLMV countries including with China and Thailand. The 67 project provinces (states/region in Myanmar) and 338 districts were broadly selected based on clusters of high risk border areas along economic corridors, and specifically based on (i) borders, (ii) large groups of MEVs and related CDC risks, and (iii) support from other partners.

105. The project is targeting districts with a total population of 4.0 million people in Cambodia, 1.4 million people in Laos, 2.2 million people in Myanmar, and 20.1 million people in Viet Nam, a total of 27.7 million people. The actual number of beneficiaries may be around 10% of this number, about 3 million people. About half of the populations in targeted districts are poor and/or belong to ethnic minority groups. The Country Poverty and Social Analysis (Part III) provides details.

Table 9: GMS Health Security Project Target Population

Target/Output	Cambodia	Laos	Myanmar	Viet Nam
Provinces*	13	12	6	36
Border provinces*	12	12	6	25
Districts**	40	55	30	360
Border districts	23	36	6	82
Poor districts	11	29	3	56
Targeted districts	40	36	12	250
Provincial hospitals*	13	12	6	36
District hospitals	44	55	30	360
Provincial population*	7,616,783	3,353,910	11,149,932	40,000,000
Ethnic minorities in provinces*	3,700,000	2,600,000	8,500,000	9,200,000
Poor people in provinces*	1,500,000	400,000	3,000,000	6,800,000
Targeted district population	4,000,000	1,434,267	2,196,930	20,080,038
Border district population	3,600,000	1,434,267	700,000	13,120,000

Source: MOH statistics 2015.
*States/Region in Myanmar; **operational districts in Cambodia

c. Investment and Financing Plans

106. The project is estimated to cost $132.0 million. Total costs for Cambodia, Lao PDR, Myanmar and Viet Nam are respectively $22.8 million, $12.6 million, $12.6 million, and $84.0 million. This includes taxes and duties totaling $9.1 million, contingencies totaling 7.2 million, and financial charges during project implementation totaling an estimated 3.4 million (Table 10). Appendix 4 provides the cost estimates by sub-outputs and categories.

Table 10: Project Investment Plan by Output
($ million)

Item		Cambodia	Lao PDR	Myanmar	Viet Nam	Total[a]
A.	**Base Costs, including Recurrent Costs**[a]					
	1. Regional Coordination and CDC in border areas	4.9	3.8	3.0	4.3	16.0
	2. Surveillance and Response	4.3	2.9	2.6	18.2	28.0
	3. Laboratory and Infection Prevention and Control	10.2	4.6	4.4	48.5	67.7
	Subtotal (A)	**19.5**	**11.2**	**10.6**	**71.0**	**112.3**
B.	**Taxes**[b]	**1.5**	**0.6**	**0.9**	**6.1**	**9.1**
C.	**Contingencies**[c]	**1.2**	**0.7**	**0.7**	**4.6**	**7.2**
D.	**Financing Charges**[d]	**0.6**	**0.1**	**0.4**	**2.3**	3.4
	Total (A+B+C)	**22.8**	**12.6**	**12.6**	**84.0**	**132.0**

[a] In mid-2015 prices.
[b] Note: taxes and duties are paid from both ADB and government sources.
[c] Physical contingencies computed at 5%. Price contingencies computed at 1% annually.
[d] Interest during construction for ADB loan of 1% per year for disbursed loan amounts to be charged to the loan.
ADB = Asian Development Bank, CDC = communicable disease control, Lao PDR = Lao People's Democratic

Republic.
Sources: Ministries of Health of Cambodia, the Lao PDR, and Viet Nam; ADB.

107. The Governments have requested ADB to provide a total $117.0 million in loan and $8.0 million in grants from its Special Funds resources to help finance the project. The Government of Cambodia, the Lao PDR, Myanmar and Viet Nam have each requested a loan of respectively $21.0 million, $4.0 million, $12.0 million, and $80.0 million, with a 32-year term, including a grace period of 8 years, an interest rate of 1.0% per annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions set forth in the draft loan agreement; and the Lao PDR has requested a grant of $8.0 million (Table 11). The Governments of Cambodia, the Lao PDR, Myanmar and Viet Nam will respectively provide counterpart funds of 1.8 million, $0.6 million, $0.6 million, and Viet Nam $4.0 million - in taxes and duties and Government contributions in kind and in cash (staff benefits, facilities, recurrent costs). The budget for the Myanmar part may be increased to $14.9 million, including an ADB share of $14.5 million and a government share of $0.4 million.

Table 11: Financing Plan
($ million)

Source	Cambodia	Lao PDR	Myanmar	Viet Nam	Total[a]
Asian Development Bank Loan	21.0	4.0	12.0	80.0	117.0
Asian Development Bank Grant	-	8.0.	-	-	8.0
Government counterpart	1.8	0.6	0.6	4.0	7.0
Total (A+B+C)	**22.8**	**12.6**	**12.6**	**84.0**	**132.0**

Sources: Governments of Cambodia, the Lao PDR, Myanmar, and Viet Nam; and the Asian Development Bank.

d. Implementation Arrangements

108. The MOH in each country will be the Executing Agency responsible for in-country project implementation and coordination with other GMS countries. Each Executing Agency has an oversight committee for the project in the form of an MOH steering committee or equivalent, which will meet at least twice a year to review and direct project implementation and address any issues. Regional oversight will be provided by the regional steering committee, which will meet annually with representation of the 4 countries, ADB and WHO. Project directors and managers will also meet at least every 6 months to discuss project implementation.

109. In Cambodia, the executing agency (EA) will be represented by the Health Sector Support Program/Department of Planning and Health Information Systems, headed by the Secretary of State. In the Lao PDR, the EA will be represented by the Department of Planning and International Cooperation headed by the Director General. In Myanmar, the EA will be represented by the Departments of Public Health and Medical Services, each headed by a Director General. In Viet Nam, the EA will be represented by the General Department of Preventive Medicine headed by the Director General. The organogram is provided in the project administration manual (PAM).

110. Prior to loan negotiations, each MOH will appoint a senior MOH official as project director responsible for project planning, implementation, monitoring, reporting, and liaison with ADB for the project. In Cambodia, Lao PDR and Viet Nam, provincial health departments, and in Myanmar state/regional health departments will be implementing agencies. In addition, one or more national institutions in each country will also be implementing agencies. The

implementation arrangements are summarized in Table 12 and are described in more detail in the PAM.[32]

111. In each country, a project implementation unit (PMU) will be established, which, headed by the project director, will include, as a minimum, a deputy project director, a project manager/coordinator for day to day project management, a qualified accountant and assistants, a procurement expert, a gender and social safeguards expert, a monitoring and evaluation expert, an information technology expert, a surveillance expert, a laboratory improvement expert, and an infection prevention and control expert. These may either be employed staff seconded to the project, or contracted consultants. Proposed details of PMU staffing are provided in the PAM

112. A regional coordination unit (RCU) hosted by MOH, Lao PDR, will be financed by a regional TA for the first 1-2 project years, with possible further grant financing thereafter. The RCU will function as the secretariat for the regional steering committee, assist in organizing GMS events, facilitate country cooperation, stimulate knowledge management, track project implementation, and assist project staff. CLMV countries will finance hosting and participation in regional workshops and forums and other knowledge management activities.

113. The Project will be implemented over a period of 5-year beginning 1 January 2017 or as soon as possible thereafter depending on the date of loan effectiveness, and ending 31 December 2021.[33] The project completion date is 30 June 2022. The project implementation schedule is included in the PAM.

Table 12: Implementation Arrangements

Aspects	Arrangements
Implementation period	1 January 2017 – 31 December 2021
Estimated project completion date	30 June 2022
Project management	
(i) Oversight bodies	(i) Ministries of Health Steering Committees or equivalent chaired by the Minister of Health or a deputy and including heads of departments, and, as appropriate, representatives of other ministries and partners and technical experts on invitation. (ii) Regional Steering Committee chaired by the Vice-Minister of Health of the host country, and including representatives of participating countries, ADB and WHO as members
(ii) Executing agencies	Ministry of Health of Cambodia, represented by the Department of Planning and Health Information Systems (DHIS) Ministry of Health of the Lao PDR, represented by the Department of Planning and International Cooperation (DPIC) Ministry of Health, Myanmar, represented by the Departments of Public Health (DPH) and the Department of Medical Services (DMS) Ministry of Health, Viet Nam, represented by the General Department of Preventive Medicine and Environmental Health (GDPM)
(iii) Implementing agencies	Cambodia: Communicable Diseases Control Department (CDCD), Department of Hospital Services (DHS) National Institute of Public Health (NIPH) 13 Provincial Health Departments (PHD) Lao PDR: Department of Communicable Diseases Control (DCDC) National Center for Laboratory and Epidemiology (NCLE) Department of Health Care (DHC) 12 Provincial Health Departments (PHD)

[32] The Project Administration Manual will be a linked document for government approval.
[33] Based on expected loan approval in October 2016.

Aspects	Arrangements		
(iv) Project management units	Myanmar National Health Laboratory (NHL) 5 State Health Department and 1 Regional Health Department (S/RHD) Viet Nam: Viet Nam Administration of Medical Services (VAMS) National Institute of Hygiene and Epidemiology (NIHE), Institute Pasteur Ho Chi Minh City 36 Provincial Health Departments (PHD) Cambodia: CDCD, MOH Lao PDR: DPIC, MOH Myanmar: DPH and NHL, MOH Viet Nam: GDPM, MOH		
Procurement		**Contracts**	**$ million**
Cambodia	ICB	3	3.6
	NCB	10	3.5
	Shopping	34	2.3
Lao PDR	ICB	1	1.3
	NCB	13	2.8
	Shopping	27	0.1
Myanmar	ICB	0	0.0
	NCB	16	4.8
	Shopping	19	0.5
Viet Nam	ICB	11	55.6
	NCB	8	4.1
	Shopping	72	3.4
Consulting services		**Contracts**	**$ million**
Cambodia	International: CTA, team leader, Laboratory improvement, laboratory equipment, procurement	5	1.3
	National: Deputy TL, project manager, GSS, PME, administrator, accountant, procurement, IT, surveillance, lab, IPC	10	1.0
	Studies and Services	19	2.5
Lao PDR	International: CTA, Lab,	2	0.6
	National: Deputy CTA, GSS, procurement, PME surveillance, lab, IPC, PME	7	0.5
	Accounting firm, studies	8	0.5
Myanmar	International: CTA??, Lab, procurement	2	0.2
	National: Deputy CTA, GSS, IT, surveillance, lab, procurement, accounting, PME	7	1.0
	Studies and Services	6	0.8
Viet Nam	International: CTA, TL, LQI, procurement	3	0.7
	National: Deputy CTA, M&E, GSS, accounting, procurement, CD, LQI,	7	0.8
	Audit, studies and services	15	2.2
Regional [34]	None		
Advance action	Preparation of project annual operational plans for first project year, and PMUs		
Disbursement[a]	The loans and grant proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time) and detailed arrangements agreed upon between the government and ADB. Five percent of the loan and grant amount will be managed by ADB for regional activities.		

ADB = Asian Development Bank, CD = community development, ECM = EID Case management, GSS = Gender and Social Safeguards; ICB = international competitive bidding; IPC = Infection Prevention and Control, LE = laboratory equipment, LQI = laboratory quality improvement; MOH = Ministry of Health, NCB = national competitive bidding; PME = Project Monitoring and Evaluation; SS = single source, WHO = World Health Organization.
Sources: Governments of Cambodia, the Lao PDR, Myanmar, and Viet Nam; and the Asian Development Bank.

[34] Regional consultants are financed from TA, including regional coordinator and support team, APSED expert, laboratory expert, IPC expert, and procurement expert, and MEV studies.

114. Procurement details including packages, risk and plan have been detailed in the PAM. Packages are for transport, communication, outbreak control, laboratory, and hospital hygiene, and are provided in the PAM. Each MOH will prepare an annual procurement plan, and submit this for approval to ADB before the start of the fiscal year. All ADB-financed procurement will be in accordance with ADB's *Procurement Guidelines* (2015), as amended from time to time. Procurement of goods will use international competitive bidding procedures if over $1,000,000, national competitive bidding if $1000,000 or less, or shopping if less than $100,000 (subject to government rules). Procurement of packages above $10,000 shall be advertised. Minor repairs of facilities for installation of equipment and improvement of biosafety will use shopping or force account. Vehicles may be procured through the United Nations system acceptable to ADB.

115. Each country has identified specific consultant requirements as per PAM. International experts include chief technical adviser, laboratory quality improvement expert, and procurement expert for the initial project period. National experts include project manager, accountant, procurement, and experts for gender and social safeguards, laboratory, surveillance, infection prevention and control, information technology, and monitoring and evaluation. All consultants will be engaged in accordance with ADB's *Guidelines on the Use of Consultants* (2013), as amended from time to time. The above consultants will be engaged through individual selection. The audit firms and Lao accounting firm will be selected using the least cost selection method. Firms to conduct studies will be selected using the simplified technical proposal and the quality and cost-based selection method. Capacity building of counterparts is included in the assignment of consultants. The indicative terms of reference of the consultants is in the PAM.

116. The project loan (and grant proceeds for Lao) will be disbursed in accordance with ADB's *Loan Disbursement Handbook (2012)*, as amended from time to time. While the PAM provides details on flow of funds, the understanding is that foreign funds, in any case, need to pass through the central bank to be converted to local currency. Accordingly, but subject to further discussion, MEF Cambodia and MOF Lao will open imprest accounts in the State Bank, and authorize MOH and provincial implementing agencies to opening subaccounts at any commercial bank acceptable to ADB.[35] MOF Myanmar, and MOF Viet Nam will open pass-through accounts at the State Bank, and authorize MOH to open an imprest account at any bank acceptable to ADB, and authorize provinces/states/region to open a project subaccount. In any case, all requests for liquidation and replenishment of imprest account need to pass through the central agency, which among others, requires that financed activities were included in the annual plan and budget. Accordingly, it is important to ensure timely preparation of the project to avoid any delays.

117. The initial amount to be deposited by ADB in the project imprest account will be based on the estimated project expenditure for the first 6 months of project implementation, or 10% of total project costs, whatever is less. Similarly, the subaccount advances will be based on the estimated provincial expenditures for the first 6 months of project implementation, or 10% of the provincial project cost, whatever is less.

118. The statement of expenditure (SOE) procedure may be used to reimburse eligible project expenditures and to liquidate or replenish imprest account advances. Subject to government rules, the SOE procedure is applicable to individual payments not exceeding $100,000 equivalent per payment and to liquidate advances made into the imprest account as per covenants, and for each subaccount not exceeding $50,000 equivalent. The MOH will

[35] Lao MOF will maintain a separate account for grant proceeds.

ensure timely release of funds to the provincial subaccounts. Detailed arrangements to establish the imprest account and SOE procedure will be made in accordance with ADB's *Loan Disbursement Handbook (2013)* as amended from time to time. Sufficient supporting documentation must be kept at each level to substantiate all expenditures incurred from the loan proceeds. The release of funds will be subject to the project accomplishment reports of the provinces and national level.

119. Each MOH and implementing provincial health departments/states will maintain separate project records and accounts that are adequate to identify goods and services financed from the proceeds of the ADB loan. Except in Myanmar, the EAs have implemented similar projects financed by ADB and others during the last 10 years, and financial management capacity is considered adequate.

120. Each Government will cause to conduct annual audit of all accounts and financial statements, SOEs and revenues, and imprest account related to the Project, in accordance with auditing standards acceptable to ADB and using international accounting and auditing standards as a benchmark. Each Government may either use the national state auditor or a qualified firm. Audited financial statements and project accounts, together with the report of the auditor, including the auditor's opinion on the use of loan proceeds, compliance with covenants, and the use of the imprest account and SOE procedures, will be submitted within 6 months of the close of the financial year.

e. Monitoring, Evaluation,

121. **Reporting.** Each MOH, as the EA, will provide ADB will an inception report and updated PAM including PPMES within 3 months of loan/grant effectiveness. Thereafter, each MOH will provide ADB with quarterly progress reports in a format consistent with ADB's project performance reporting system within 30 days of the end of each quarter. [36] MOH will provide ADB with annual reports within 30 days of the end of each year including (i) progress made against established targets, including quality of activities; (ii) project resources and constraints including PMU capacity, (iii) problems in project activities and actions taken to resolve issues including targeting of MEVs; (iv) compliance with loan covenants; (v) updated implementation schedule of activities for the next 12 months; (vi) updated procurement plan, and (vi) financial statements. ADB will also monitor audit reports.

122. Each MOH will submit a project completion report based on ADB standards within 6 months of physical completion of the project, including assessment of quantified and qualified project performance, compliance with safeguards and loan covenants, and an evaluation in terms of project relevance, effectiveness, efficiency and sustainability.[37] ADB will also conduct a thorough project evaluation with the help of a consultant. ADB's Independent Evaluation Department may also select the project for evaluation, and ADB's inspection department may select the project for financial audit.

123. **Review**. Each MOH and ADB will jointly carry out an inception review to discuss any adjustments in the PAM, jointly carry out a mid-term review to appraise project progress and make adjustments in scope, DMF, and implementation arrangements as needed, and jointly carry out a project completion review in preparation of the project completion report. ADB will conduct project implementation reviews at least twice a year. Particular project risks such as

[36] PPMES information at http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool
[37] PCR information at: http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar

reaching MEVs in border areas, regional and cross border cooperation, procurement of laboratory equipment, and financial management will receive special attention.

124. **PPMES**. Within 3 months of loan/grant effectiveness, the Executing Agencies in the CLMV countries will, through their respective PMUs, establish a comprehensive but simple PPMES acceptable to ADB (to do this in 3 months requires advance action by EA and ADB). The EAs will be responsible for project M&E. Within 6 months of implementation, a baseline indicator study at community level and health facility level will have been conducted to refine and expand verifiable indicators of project outputs, outcome and impact. Where feasible, data will be disaggregated by gender and ethnic group. The baseline assessment will be used as the basis for the data collection and analysis for the midterm and final impact evaluation studies. The final impact study will be the basis for the project completion report.

125. In support of a comprehensive program approach, the DMF indicators are based on each MOH's program indicators. The PPMES will be integrated with the MOH health management information system. Particular attention will be given to monitoring use of services by MEVs, which is linked to the Government's efforts to improve health equity as part of the universal health coverage attend under the sustainable development goals. The PAM provides a list of proposed indicators based on the DMF.

126. According to the DMF, monitoring is proposed at impact, outcome, output, activity and input levels. This requires data collection at regional/national, provincial/district, health facility/community level, and team and project levels (table 13). Performance will be affected by external conditions (interlopers) that need to be taken into consideration.

Table 13: Monitoring and Evaluation Levels

Design	Level	Indicator groups	Sources	interlopers
Impact	National/regional	Diseases reported	Surveillance, Surveys	Unpredictability of some diseases
Outcome	Provincial/district	APSED/CDC coverage: people treated/served	Health services and community care statistics	Demand affected by access to health services
Output	Health facility/ community level	Services and community status	Facilities and communities covered	Staff, funds and supplies
Activity	Team level	Health team/project activities	Linking facilities, mapping, outreach, training health workers, cross-border work	Private sector
Input	Project level	Project inputs	Staff, equipment, transport, supplies, funds	Other inputs

127. To monitor impact, the project will collect data from surveillance systems and large household surveys and medical and economic statistics. These will show whether there were outbreaks of diseases, case fatalities etc., and whether there was an increase in demand for health services. Two issues are that several diseases may or may not occur depending on many factors, and that many cases may be missed. Outputs are the products in control of the project. It is expected that the project can improve services at community and facility levels including linkages with major disease control programs. These need to be collected by the provincial IAs.

128. The interventions, in addition to improving surveillance and response, laboratory services and hospital hygiene, will include (i) outreach programs for isolated ethnic groups in border areas including public health information, participatory planning, basic treatment, referral,

village hygiene and vector control, and other activities relevant to local CDC situations; (ii) mobile clinics for some high risk ethnic groups, migrant camps and work sites in border areas for HIV awareness, screening, counseling and referral. The PPMES will monitor each participating MEV community using both quantitative and qualitative targets. At community, health facility, district, and provincial levels, benchmarks will be established and targets agreed to. Disaggregated baseline indicators for inputs, activities and outputs will be updated and reported quarterly through the EAs quarterly progress reports. Outcome data will be reported on a yearly basis.

129. A format for project management monitoring, in addition to DMF based project monitoring, is included under PPMES in the PAM. This involved monitoring of project support, PPMES , gender action plan, ethnic group development plan, procurement risk mitigation plan, financial risk mitigation plan, environmental management plan, governance and communication strategy, and reviews and submission of reports.

130. Each MOH will be responsible for monitoring covenants. Compliance with project covenants will be reported in the quarterly and annual reports prepared by the PMU. ADB loan review missions will review and report on project covenants at least once a year, and more often if needed. The loan covenants can be found in the loan agreement.

131. During project preparation, EGDPs were prepared. The project will be targeting MEVs under Output 1 and needs to ensure that provincial AOPs and budgets include project activities for MEVs. The PMES will reflect this in its design.

132. CLMV governments plan the overall concept of gender mainstreaming and one sector-wide GAP. Indicators provided in the project GAP may need to be adjusted.[38] Each PMU will have an expert to help update the GAP and monitoring progress. The PMU needs to ensure that GAP recommendations are reflected in AOPs of the EA and implementing agencies (IA), and are adequately budgeted.

V. Due diligence

a. Technical

133. Technical challenges at regional level include the need for strong leadership for strengthening and sustaining regional and cross-border cooperation. At national level, technically challenging areas include the development of strategies to improve access to health services for MEVs, syndromic reporting, quality improvement of laboratory services, and behavioral change for infection control in hospitals. At provincial level, technical challenges include implementation of plans to reach out to MEVs. The Project provides for capacity building and initial support in these areas through technical assistance, and also includes several assurances.

b. Economic and Financial

134. Strengthening surveillance and response capacity for CDC has helped curb disease outbreaks[39] resulting in major reduction of economic losses. Studies indicate a benefit cost ratio

[38] ADB's Handbook on Social Analysis: A Working Document, is available at: http://www.adb.org/Documents/Handbooks/social-analysis/default.asp, *Staff Guide to Consultation and Participation*: http://www.adb.org/participation/toolkit-staff-guide.asp, and, *CSO Sourcebook: A Staff Guide to Cooperation with Civil Society Organizations*: http://www.adb.org/Documents/Books/CSO-Staff-Guide/default.asp

[39] Ministries of health use WHO criteria for epidemics and disease-specific number of cases to define outbreaks.

of 10 and up. Some10% of the people in border districts will directly benefit from Project investments, with migrants, youth and ethnic minorities as priority beneficiaries.

135. The economic analysis provides the rationale for public sector involvement, counterfactual scenario, opportunity costs, possible financial effect of the Project, and expected public sector behavior. It also summarizes potential cost benefit ratios and cost-effectiveness of these type of interventions. The benefits of the Project will come from (i) helping prevent major epidemics; (ii) productivity gains from a reduced burden of diseases; (iii) productivity gains from improved achievements in education, especially through less absenteeism and reduced dropout rates; and (iv) public and private savings in health expenditures, including indirect costs. Only items (i) and (ii) were considered in the calculation of the economic internal rate of return (EIRR) of xx%, which is at the lower end of the scale as reported in the international literature. The net present value for the project activities in the Lao PDR based on items (i) and (ii) is close to zero due to the relative high cost of prevention in small remote populations.

136. The Project's recurrent costs following project completion represents less than 1% of domestic health spending in the CLMV countries. The governments will need to continue supporting supplies and in-service training, and have confirmed their commitments to reflect these changes in the health budget.

c. Governance

137. Ministries of health of Cambodia, Lao PDR and Viet Nam have gained substantial experience in implementing ADB-assisted projects. These countries have MOH staff with training and experience in ADB procedures. Myanmar has limited experience in ADB standards for financial management and procurement. MOH will receive training in ADB procedures. The Governments have given assurances that capable government staff will be appointed in a timely manner. The Governments support delegation of implementation and related financial management to the provinces/states. Most procurement will be done at central level.

138. There were no major governance issues during implementation of CDC1 and CDC2. The same PMUs will be used for the Project in Cambodia, the Lao PDR and Viet Nam, and in Myanmar the PMU shares oversight with another ADB project. ADB's specific policy requirements and supplementary measures are described in the project administration manual.

d. Poverty and Social

139. Improved connectivity is facilitating the spread of communicable diseases such as EIDs, HIV, tuberculosis, malaria, dengue and NTDs. People in border districts and migrants are less informed about these health hazards, and have less access to services. By helping improve regional health and economic security, and reach out to marginalized groups in border areas, the Project will contribute to improving the health, learning and productivity of the poor; help protect the poor against catastrophic events; and contribute to universal health coverage. The targeted border districts have a higher proportion of families living below or near the poverty line who depend heavily on the availability of a healthy labor force in the family.

140. The proposed project's gender categorization is "effective gender mainstreaming." Gender mainstreaming will help improve CDC outcomes and address gender issues. Priority will be given to education of women and girls as the usual custodians for the prevention, detection and care of sick family members, and to training female staff. To ensure the effectiveness of gender mainstreaming and gender-related outcomes in the Project, a Project Gender Action Plan (GAP) has been agreed with each MOH that is aligned with sector-wide gender equality commitments in these countries. Each MOH will fully incorporate the various gender

mainstreaming features of GAP in the government's project design documents, and provincial annual operational plans. National gender and social safeguards expert will be engaged. These key features are also mirrored in the project DMF, loan assurances, and PAM, including disaggregated monitoring by gender. The GAP and Ethnic Group Development Plan are in the PAM. The analysis is in Part III.

e. Safeguards

141. Ethnic minorities in the proposed project areas will be positively affected given the type of project activities. The Project is categorized B for indigenous people. Ethnic minority groups constitute about 30% of the population in the targeted border provinces and 50% in the targeted border districts in four countries, more so in Myanmar and the Lao PDR. They suffer disproportionately from common communicable diseases, and have less access to health care because of physical, financial, language, and cultural barriers. Under sub-output 1, MEVs will benefit from improving preparedness for emerging diseases, education, screening, disease control, and referral for services. To address shortfall of health workers in these locations, the project supports training of village health workers. If funds allow, each MOH may also consider providing scholarships for ethnic minority students to become mid-level health workers in their own communities.

142. The project will not entail land acquisition or civil works except for minor repair of laboratories and wards. The proposed project is categorized C for involuntary resettlement. A resettlement framework has been prepared in the event of a change of project scope.

143. The Project is categorized as B for environment, as it involves improving laboratory and hospital waste management. IEEs and an Environmental Framework have been prepared. Each province will prepare an EMP covering all project activities during implementation.

f. Stakeholder Participation

144. MOH will undertake various activities to implement the communication strategy, as presented in the PAM. MOH will share general project information. Much emphasis is given to aid coordination in all four countries. The project will be rolled out as part of comprehensive sector plans and program, and stakeholder will be kept informed through regular aid coordination mechanism already in place. Receiving less attention, but probably more essential, is internal government coordination. Sharing project information, and sector activities in general among departments, sectors, and governments needs to be improved further. The Project supports various activities, including funds for cross-border cooperation among all GMS countries, to improve this.

145. Public health staff insufficiently recognize and appreciate the role and capacity of communities in disease control. The Project will provide staff orientation and expect staff to engage with communities. Communities will be engaged in IPC, community preparedness, and syndromic reporting. MEVs will be targeted for outreach and referral. Under output 1, a participatory approach is proposed, in terms of priority setting, collecting basic information, implementing activities, and joint monitoring. Omnipresent infections like influenza, dengue and diarrheal diseases can be used to improve outbreak response, and benefits will become more visible. The Project combines prevention with tangible benefits to people to get buy in, in terms of better diagnostics, surveillance and response, and linking communities with health services.

146. For many years, ethnic minorities have been consulted and there is a better understanding of their priorities and issues, e.g., through implementation of the Model Healthy

Village activity,[40] the GMS Strengthening Strategies for Malaria Control Project,[41] and other disease management and HIV and infrastructure projects. However, regular government services often fail to engage isolated ethnic minorities except for measles and polio campaigns because of physical, social and financial hurdles. The Project will make outbreak response vehicles and motorcycles available that can reach remote border areas.

147. The growth of migrant labor is a more recent phenomenon. Most migration is internal, but there are also increasing numbers of migrants from and to abroad, often illegal and with language problems. Efforts to document and address the specific health priorities of migrants are few to date, and tend to be limited to specialized agencies such as the International Organization of Migration and the International Labor Organization. There is little information on the actual health status and health behavior of migrants. As such, there is a recognized need to enhance exchange of views with migrants to achieve at a better understanding of their health priorities.

148. Consultation of migrants is complicated: they often work in off-bounds plantations, factories and casinos and many are not registered or illegal, making them reluctant to report to health services. The government does not yet fully recognize the value of migrant workers as a major contributor to the economy, and as a group with specific needs and vulnerabilities, including labor rights, and specific health risks. Migrants face challenging working and living conditions making it more difficult for them to take part in participatory planning activities, or to engage them in health services. MOH will need to facilitate the project by obtaining clearances and participation from the Ministry of Labor and other concerned agencies, and also adjust health budgets to reach out to migrant populations.

149. To prepare the project implementation plan, each provincial/state office will first conduct a needs assessment with the help of the PMU. This will involve mapping of MEVs, field visits and consultations. The provincial/state project team will lead a participatory planning process to prepare a five-year project plan and annual project plans for MEV outreach as part of the regular provincial annual health plan. Investments will have to satisfy project criteria in terms of agreed scope, target groups, social dimensions, facilities, staff capacity, and sustainability.

150. Consultants engaged under the project including CTA and gender and social development expert will be particularly assigned to CDC in border areas and outreach to MEVs. The participatory planning process will also be included in the annual operational plans and budgeted accordingly. The team will also conduct participatory monitoring and reporting on the project website. The project design and implementation progress will be accessible on the website of the regional coordination unit: gmshealthsecurityprojectrcu@gmail.com

VI. Risks and mitigating measures

151. The Project builds on the experiences gained in CDC1, CDC2, and HIV projects and is considered low risk for Cambodia, Lao PD and Viet Nam. MOH Myanmar has limited ADB experience, and is considered moderate to high risk. Regional technical assistance will be provided to engage international consultants during the first project year to ensure a quick project start-up. In addition, Myanmar MOH will be assisted with upfront financial management and procurement training. Strengthening regional disease prevention and surveillance has considerable front-end costs. However, these costs will be offset by substantial benefits from

[40] ADB. Second GMS Regional Communicable Diseases Control Project. 2009.
[41] ADB. GMS Strengthening Malaria Control for Ethnic Minorities. 2005.

regional disease control, technology transfer, and strengthened national commitment for health sector development, all of which will have long-term value across the region. Several risk and mitigating measures are summarized in table 14.

Table 14: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Inadequate focus on achieving results	• Identify focal point for MEV, GAP and EGP in each PHO • Identify most at risk MEVs and poor ethnic minorities in border areas. • Provide experts and train and assist PHOs • Use participatory planning, implementation, and monitoring with MEVs. • Include plans in AOPs and provincial budgets. • Monitor activities and compliance
Weak implementation capacity	• Ensure timely availability of technical experts and consultants. • Conduct detailed planning and monitoring of project activities. • Provide mentoring
Lengthy administrative procedures	• Prepare clear procurement arrangements. • Provide staff training and support from experts and ADB. • Ensure support of core ministries and provinces for timely processing.
Governance and corruption	• PMUs and PHDs receive training in ADB's Anticorruption Policy and relevant Government policies, regulations and guidelines on anticorruption. • Conduct spot checks of SOEs and supply contracts. • Ensure public visibility of the Project, including complaint and grievance system.
Insufficient effort in regional cooperation	• Institutionalize regional CDC cooperation as a fully resourced unit in each MOH. • Support WHO and regional networks in rolling out regional strategies for CDC. • Publish results, improve visibility of cooperation, and report to regional leaders.
Not sustaining project investments	• Ensure interventions are appropriate for the provinces with minimal overheads. • Ensure mainstreaming and funding of project activities in AOPs, including targeting of ethnic groups, training, and monitoring.

ADB = Asian Development Bank, AOP = Annual Operational Plan, CDC = communicable diseases control, GAP = Gender Action Plan, EGDP = Ethnic Group Development Plan, MOH = Ministry of Health, PHO = provincial health department or state/regional health department, PMU = project management unit, SOE = statement of expenditure, WHO = World Health Organization.
Source: Asian Development Bank.

152. Financial management assessments (FMAs) were conducted in early 2016 in accordance with ADB's *Guidelines for the Financial Management and Analysis of Projects and the Financial Due Diligence: A Methodology Note*. The FMA concluded that the financial management risk was moderate except for Myanmar, which was high. Hence, financial risk management plans were prepared. Details are provided in Part III. To ensure that loan proceeds are disbursed in accordance with ADB's *Loan Disbursement Handbook,* online training for project staff on disbursement policies and procedures is recommended.[42]

153. The procurement risk assessments concluded that procurement risk was moderate except in Myanmar, which was high. A procurement risk mitigation plan was prepared and is provided in Part III. An international and a national procurement expert will be engaged for the project in each country. Procurement of laboratory equipment will be done centrally.

[42] Disbursement eLearning. http://wpqr4.adb.org/disbursement_elearning

154. Overall, the proposed project is considered to be low-risk in terms of (i) technical investments; (ii) safeguard categorization B or C; and (iii) participation of provinces/states/region and partners. Administrative risk is considered modest in view of MOH/PMU staff constraints.

VII. Assurances

155. Thee governments and the ministries of health have assured ADB that relevant government policies, programs, standards and procedures are in place, and that implementation of the Project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and financial disbursement as described in detail in the project administration manual and loan documents. The governments and the ministries of health have agreed with ADB on certain covenants for the project, which are set forth in the related legal agreement. Following specific areas may be considered.

156. Each MOH will ensure timely preparation of the project national and provincial/state AOPs as part of sectoral AOPs.

157. Each MOH will ensure adequate targeting of MEVs by including substantive plans for MEVs in AOPs and budgets and mobilizing resources to implement these plans.

158. Each MOH will fully commit to agreed regional activities including developing standards for information exchange and cross-border activities.

159. Each MOH will ensure that the Ethnic Group Development Plan is owned and updated by the executing agencies, and implemented in a timely manner with adequate resources for implementation.

160. Each MOH will ensure that a Gender Action Plan is owned and updated by the executing agencies, and implemented in a timely manner with adequate resources for implementation.

161. Each MOH will screen any proposed civil works and ensure that involuntary resettlement impacts are avoided. In case of change of scope agreed by ADB, ADB's resettlement guidelines will be followed as indicated in the resettlement frameworks.

162. Each MOH will ensure that the operation of all health facilities will comply with all applicable laws and regulations of the respective countries and with ADB's environmental policies and regulations. Each provincial health department/state/region health department will conduct initial environmental examination before any civil work, and prepare an environmental management plan. For concurrence of ADB.

163. Each Government will apply sound accounting standards according to internationally accepted practices. Each Government will submit annual audited reports within six months of the last date of the previous project year.

164. ADB's *Anticorruption Policy* (1998, as amended to date) [43] was discussed with each MOH. Consistent with its commitment to good governance, accountability and transparency, ADB reserves the right to investigate, directly or through its agents, any violations of the

[43] Available at: http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf

Anticorruption Policy relating to the project.[44] All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants, and other service providers. Individuals and/or entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.[45]

165. To support these efforts, relevant provisions are included in the loan and grant agreements and the bidding documents for the project. Risks associated with project management, including procurement and disbursement, will be mitigated by the engagement of competent accountants and procurement experts. The Project will also establish a website in which it will disclose implementation progress; bid notifications and their results; and provide grievance mechanism against any corrupt practice. References on ADB's Anticorruption Policy can be accessed through the following link: http://www.adb.org/Integrity/. and on the ADB website.

[44] Anticorruption Policy: http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf
[45] ADB's Integrity Office web site: http://www.adb.org/integrity/unit.asp

Appendix 1: Design and Monitoring Framework

Design Summary	Indicators, Baselines, and Targets	Sources	Assumptions and Risks
Impact			
GMS public health security strengthened	• No major outbreak of emerging or other epidemic in excess of 100 case fatalities • Outbreaks have less than 0.5% GDP impact in any quarter of the year • Proportion of cases with infectious diseases presenting at health facilities who are migrants, women and children, youth and ethnic groups increased by 20% (specific baseline to be provided)	• Economic reports • National CDC reports • Provincial health statistics • Health facility records in targeted hotpots in border districts	Assumptions: • Other nations make similar control efforts • interventions are effective Risks: Emergence of new, highly pathogenic and highly infectious diseases and of drug-resistant infection
Outcomes			
Improved GMS public health security system performance;	By December 2021: • APSED compliance increases from 70% to 90% average	• WHO IHR/APSED assessment • National CDC program reports • Provincial Health statistics • Health facility report	Assumptions: • Government and local authorities sustain adequate financial and administrative support
Outputs			
Output 1: Improved GMS collaboration and CDC in border areas 1.1: Strengthened regional, cross-border and intersectoral collaboration and knowledge sharing 1.2 Linked migrants, mobile people, isolated ethnic groups, and other vulnerable groups to CDC program	• Suspected cases of notifiable communicable diseases reported among GMS countries within 24 hrs • Each province conducts cross border and intersectoral disease control activities • Disease control for MMPs and ethnic groups enhanced and integrated in CDC programs by 2020	• Reports of regional steering committee, workshops, forums • Report of CDC program performance and campaigns in MEVs • Report of sentinel stations in public places such as labor camps, factories market and schools, and in isolated villages in border areas	Assumptions: • Governments prepared to share information on reported diseases • Ministries agree to budget for staff and resources to sustain regional cooperation • Local authorities support reaching MEVs • Resources of other programs are available
Output 2: Strengthened national surveillance and	• By 2020, 100% of public hospitals, 80% of health centers report	Report of web-based surveillance and response reporting	Assumptions: • Availability of staff and vehicle for outbreak

response system	gender disaggregated notifiable diseases within 12 hrs compared to respectively 80% and 50% in 2014 • By 2020, all reported disease outbreaks in targeted provinces investigated within 24hr compared to 80% in 2014 with gender-balanced outbreak response team	system.	response teams Risks: • Internet connectivity, and IT maintenance • Weak private provider participation
Output 3: Improved diagnostic and management capacity of infectious diseases 3.1: Improved laboratory biosafety and quality diagnostics 3.2: Improved hospitals management of infectious diseases	• 80% of Female and male laboratory staff meeting national laboratory quality and biosafety competencies, from about 60% at present • 80% of trained male and female staff hospital staff meeting IPC standards, from about 30% at present • 80% of trained male and female hospital staff meeting quality standards for case management, from about 50% at present	• Baseline and end-of-project assessments in targeted laboratories • Before and after IPC and case management assessment in targeted hospitals	Assumptions: • National or local governments provide sufficient budget for equipment maintenance and supplies. Risks: • Hospitals lack sufficient staff and facilities
Output 4. Results-based project management 4.1 Efficient and effective project management 4.2 Integrated and sustained project investments 4.3 Good governance	Results-based planning and monitoring is used Project investments are approved and sustained based on comprehensive annual plans and budgets to improve services Compliance with good governance, safeguards and gender action plan	Project management assessment based on quarterly and annual project implementation reports, financial records, interviews, and field visits	**Assumption:** PMUs engage competent consultants PMUs are competent in project implementation **Risks:** External interferes with PMU performance
Activities with Milestones			**Inputs:**
A1. Improved Regional Collaboration for Health Security in the GMS. 1.1 Organize annual national and regional steering committee meetings and workshops for project review and guidance 1.2 Conduct annual technical forums and COP on GMS CDC priorities 1.3 Conduct annual regional, cross-border and intersectoral events such as joint outbreak investigation, technical assistance and training consensus on regional database and establish information exchange of notifiable communicable diseases by Q2, 2018 1.4 Conduct mapping and survey of MEVs in border areas by Q2 2017 1.5 Conduct participatory planning with target groups and local staff to			**Asian Development Bank**: Cambodia ADF Loan $21.0 million Lao PDR ADF Loan $12.0 million Myanmar ADF Loan $12.0 million Viet Nam ADF Loan $80.0 million

improve CDC coverage by Q3 2017 1.6 Design studies of innovative strategies to improve CDC in MEVs by Q4 2017. 1.7 Mobilize national program resources for CDC and use project resources to extend services in hotspots using government services, CBOs, by Q1, 2018 1.8 Implement CDC extension program from Q2 2018 onwards 1.9 Conduct specific disease control campaigns in border areas on a need basis 1.10 Evaluate CDC among MEVs through survey and study by Q2 2020	**Government of Cambodia** $1.8 million **Government of Lao PDR** $0.6 million **Government of Myanmar** $ 0.6 million
A2: Strengthened Surveillance and Response Capacity for Disease Outbreaks 2.1 Review the surveillance and response systems by Q1, 2017 2.2 Strengthen monitoring of surveillance and response system by Q1, 2017 2.3 Plan and prepare surveillance and response improvements by Q2 2017 2.4 Procure or upgrade IT equipment by Q1 2018 2.5 Provide GIS software for surveillance by Q1 2018 2.6 Provide IT connection by Q1 2018 2.7 Provide IT training to focal points, IT users and FETP scholars by Q1, 2018 2.8 Harmonize surveillance indicators and systems for CDC by Q1 2019 2.9 Provide outbreak investigation funds from project and government sources by Q1 2017 2.10 Train outbreak response teams also using simulation exercises in Q2 2017 2.11 Provide training in risk analysis and communication in Q3 2017 2.12 Procure vehicles and outbreak response gear by Q4 2017 2.13 Conduct public information campaigns in Q4 2017	**Government of Viet Nam** $4.0 million Total: $132.0 million Additional Regional TA Grant of $2 million is proposed
A3: Improved Diagnostic and Management Capacity for Infectious Diseases 3.1 Procure laboratory supplies by Q1, 2017 3.2 Review laboratory strategy, plan, guidelines, standards and SOPs by Q3, 2017 3.3 Conduct detailed assessments of laboratory staff development by Q4, 2017 3.4 Conduct detailed assessment of laboratory performance by Q4, 2017 3.5 Conduct workshops to review findings and develop standards by Q1, 2018 3.6 Prepare comprehensive laboratory improvement plan for targeted laboratories as part of annual operational plans by Q2, 2018 3.7 Improve pre- and in-service training of laboratory staff by Q3, 2018 3.8 Strengthen laboratory quality improvement program by Q3 2018 3.9 Procure equipment for laboratories in 2018 and 2019 3.10 Conduct laboratory studies in 2019-2020 3.11 Perform detailed hospital IPC and case management assessments by Q4, 2017 3.12 Prepare detailed hospital IPC and case management plans by Q1, 2018 3.13 Establish IPC focal point and committee by Q1, 2018 3.14 Conduct training of hospital staff from Q2-Q4, 2018 3.15 Provide equipment and supplies in 2018 and 2019 3.16 Strengthen IPC monitoring in hospitals from Q1, 2018 onwards	

A4: Results-based Project Management 4.1 Engage CTA, deputy CTA, and experts for gender and social development, laboratory biosafety and quality management, project implementation, procurement, and financial management by Q2, 2017 4.2 Identify and track parameters of effectiveness, efficiency, integration, sustainability, and other qualities for results-based project management by Q3, 2017 4.3 Organize a workshop to plan for a results-based participatory project planning and implementation process to ensure project criteria are met by Q3, 2017 4.4 Conduct assessment of CDC baselines in border areas and identify and link milestones and actions to be taken to achieve implementation plans by Q4, 2017 4.5 Train all provinces in integrating investments and safeguards in provincial plans by Q1, 2018 4.6 Provinces develop AOPS and implementation plans by Q2, 2018	

Hotspots: markets and labor sites along or near economic corridors including local people, people from nearby villages, migrant workers, and mobile people

AOP = annual operational plan; CDC = communicable disease control; CLMV = Cambodia, Lao PDR, Myanmar, Viet Nam; CTA = chief technical adviser; IPC = infection prevention and control; MEV = migrant and mobile populations, ethnic minorities, and other vulnerable groups; MMP= migrants and mobile people; GMS= Greater Mekong Subregion; Lao PDR = Lao People's Democratic Republic; Q = quarter; TA = technical assistance

Source: Asian Development Bank.

Appendix 2: List of Linked Documents

Reference documents available upon request

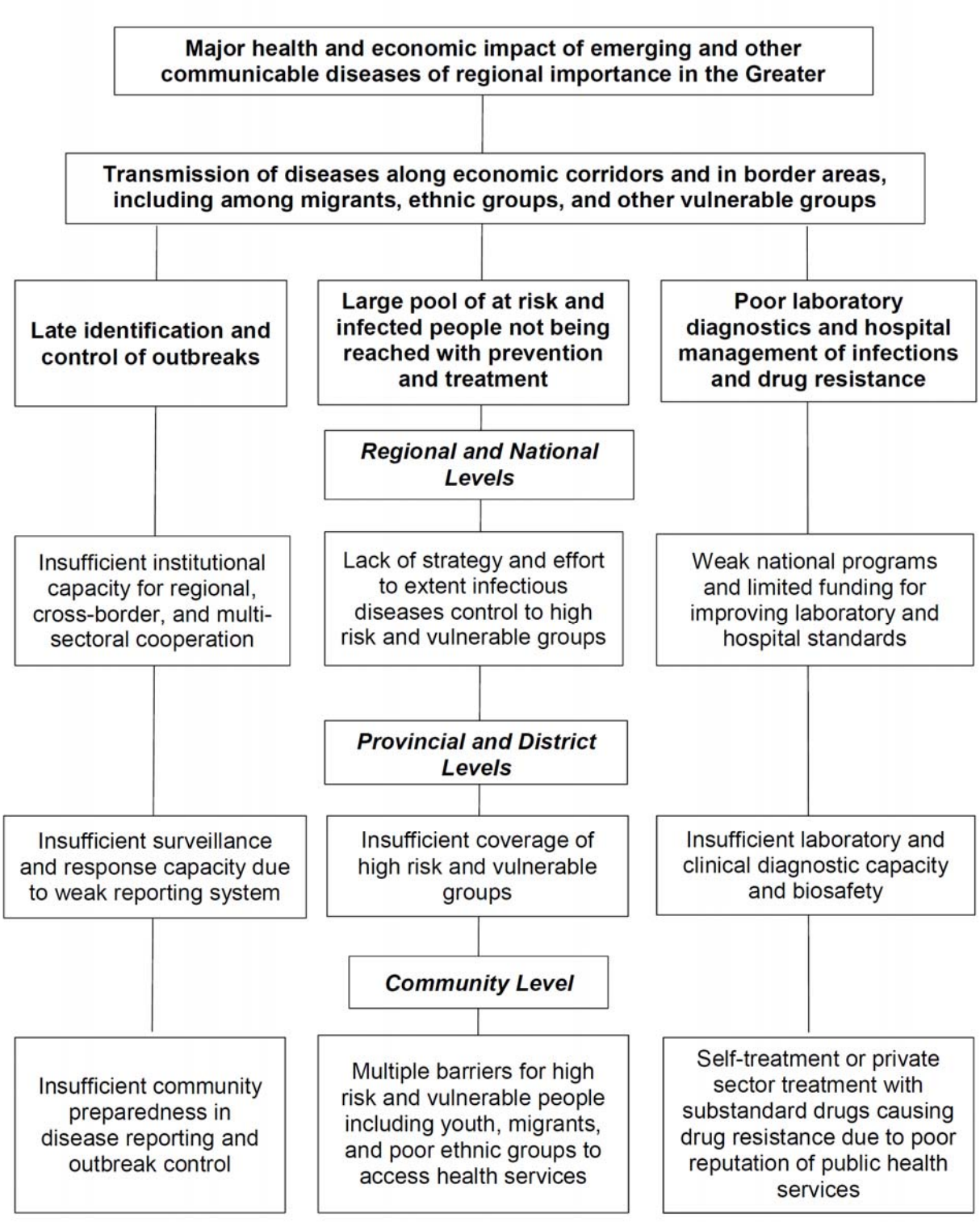
Appendix 3: Surveillance and Response Issues and Options in CLMV countries

Area	Function	Issues	Options
Governance	Policies and plans	Partly incomplete legislation and plans	Provide technical assistance to complete plans
	Organization	No strong oversight Lack of authority and autonomy of surveillance and response unit	Revive oversight committee
	Coordination	National Focal Points in place but have many other responsibilities	Assign Deputy as full time deputy NFP, provide more stewardship
	Financing	Insufficient emergency funds	Make emergency funds available in each province
	Aid coordination	Fragmented aid	Develop one program finance by all partners
	IHR/APSED monitoring	Insufficient monitoring	Strengthen IHR/APSED monitoring arrangements
Preparedness, Surveillance and Response	Surveillance	Fragmented surveillance systems, lack of computerization	Improve information technology Ensure information exchange among surveillance systems
	Risk assessment	Limited capacity for risk assessment	WHO training in risk assessment
	Response	Lack of transport to reach outbreak sites Lack of equipment and outdated PPE	Provide vehicles to provinces/districts and motorcycles to health centers Provide equipment and gear
	Risk communication	Insufficient quality of risk communication	Provide technical assistance and training
		Not reaching vulnerable groups including ethnic minorities and migrants	Develop a special program to reach these groups through participatory planning and linking groups with services
	Pandemic preparedness	Insufficient dissemination of preparedness plans	Conduct simulation exercises in all provinces/states
Human Resources Development	Field epidemiology	FETPs are just starting up	Increase scholarships to cover all provinces/states and support national FETPs
		Insufficient district capacity in surveillance and response	Provide 3 months assistant FETP training
Cooperation with other sectors	Ports of entry	Focus on airports	More attention to seaports and land crossings
	Food safety	Lack of diagnostic capacity at central level and in provinces/states	Improve toxicology at central level and microbiology at provincial/state level
		Outdated guidelines and SOPs	WHO to help update list of food additives and other information
		Insufficient dissemination of information	Make standards available on website and provide orientation
	Chemical and radiological	Unclear response arrangements	Assign one agency to respond and coordinate

	hazards	Lack of diagnostic capacity	Provide basic diagnostic equipment and train staff
Laboratory services	CDC diagnoses	(Discussed in another section)	(Discussed in another section)
Services in Border areas	Reaching vulnerable groups		
Cooperation with other countries	Regional cooperation		
	Cross-border cooperation		

Sources: CLMV CDCD/PHD, WHO Country Offices, PPTA assessment.

Appendix 4: Problem Tree



Appendix 5: Results Framework

GMS Health Security Sector Outcomes		GMS Health Security Outputs		ADB GMS Health Sector Operations	
Impact/Outcomes with ADB Contribution	**Indicators with Targets & Baselines**	**Outputs with ADB Contribution**	**Indicators with Incremental Targets**	**Planned and Ongoing ADB Interventions**	**Main Outputs Expected from ADB Contributions**
Impact by 2025: GMS public health security enhanced **Outcome by 2020:** GMS Health Security System achieved IHR/APSED standards Migrants, ethnic minorities and other vulnerable group (MEVs) in border areas accessed services for communicable diseases control (CDC)	**Impact indicators** Zero major outbreaks of emerging or other epidemic disease in excess of 100 fatalities Outbreaks have less than 0.5% impact on GDP in any quarter of the year Migrants, ethnic minorities and other vulnerable group (MEVs) in border areas receiving treatment for HIV and TB doubled **Outcome indicators** IHR/APSED compliance increases from 70% to 90% average Coverage of disease control interventions in MEVs increases from 60% to 80% average	Enhanced GMS collaboration and CDC in border areas by 2020: Strengthened national surveillance and response system by 2020 Improved diagnostic and management capacity of infectious diseases by 2020:	GMS countries report all suspected cases of notifiable communicable within 24 hrs (from zero) Each province conducts cross border and intersectoral disease control activities MEVs reached with CDC programs doubled by 2020 By 2020, all targeted public hospitals conduct web-based reporting of notifiable diseases within 12 hrs and case investigation within 24 hrs compared to 80% in 2014 Targeted laboratories meeting national quality and biosafety standards increases from 30% to 60% Targeted hospitals meeting 60% of IPC and case management standards increased from 30% to 80%	**Planned key activity areas:** GMS Health Security Project $125 million: Cambodia $21.0 million ADF loan; Laos $8 million grant and $4 million ADF loan Myanmar $12.0 million ADF loan Viet Nam $80.0 million ADF loan **ADB Projects in the pipeline with estimated amounts:** tbd **Ongoing ADB projects with approved amounts:** Second GMS CDC Project $63.5 million Strengthening HIV Prevention Capacity in the GMS Project $20.3 million Regional Capacity Building TA for Malaria Elimination and CDC capacity building Project $17.2 million	**Planned key activity areas:** Regional, cross-border and intersectoral collaboration for CDC among all GMS countries; including joint planning to reach MEVs; Outreach program to link MEVs with CDC program Web-based surveillance system including community syndromic reporting, and rapid outbreak response Laboratories with better biosafety and quality of diagnostic tests Hospital with better infection prevention and control and case management of infectious diseases **Planned projects:** tbd **Ongoing projects:** HIV prevention Malaria control

Source: ADB.
CDC = Communicable Diseases Control; GMS = Greater Mekong Subregion; HMT = HIV/AIDS, Malaria and Tuberculosis

Project Administration Manual

Project Number: {XXXXX}
Loan and Grant Numbers: {LXXXX; GXXXX; TAXXXX}
{Month Year}

Kingdom of Cambodia
Lao People's Democratic Republic
Republic of the Union of Myanmar
Socialist Republic Of Viet Nam

Greater Mekong Subregion Health Security Project

CURRENCY EQUIVALENTS
(as of 7 April 2016)

Currency Unit	–	riel (KHR)
KHR1.00	=	$0.000248
$1.00	=	KR4,029

Currency Unit	–	kip (KN)
KN1.00	=	$0.000123
$1.00	=	KN8,096

Currency Unit	–	kyat (MMK)
VND1.00	=	$0.00085
US$1.00	=	MMK1,170

Currency Unit	–	Vietnam dong (VND)
VND1.00	=	$0.0000445
US$1.00	=	VND22,145

NOTES

(i) The fiscal year (FY) of the Governments of Cambodia, Lao, Myanmar and Viet Nam and their agencies end on 31 December. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2017 ends on 31 December 2017.

(ii) In this report, "$" refers to US dollars.

This Project Administration Manual is a document of the borrowers and grant recipient. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the “terms of use” section of this website.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

CONTENTS

Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with the policies and procedures of the government and Asian Development Bank (ADB). The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Ministries of Health of Cambodia, Lao, Myanmar and Viet Nam and their implementing agencies are wholly responsible for the implementation of ADB-financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the Governments and ADB. ADB staff is responsible for supporting implementation including compliances by Ministries of Health of Cambodia, Lao, Myanmar and Viet Nam and their implementing agencies of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At loan/grant negotiations, the borrowers, the grant recipient and ADB shall agree to the PAM and ensure consistency with all the loan and grant agreements. Such agreements shall be reflected in the minutes of the loan and grant negotiations. In the event of any discrepancy or contradiction between the PAM and loan and grant agreements, the provisions of the loan and grant agreements shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval, they will be subsequently incorporated in the PAM.

a The name of the operational financing document may vary on a project-to-project basis; this reference shall be deemed to encompass such variations, e.g., a Framework Financing Agreement, as applicable

Acronyms

ADB	–	Asian Development Bank
APSED	–	Asia Pacific Strategy for Emerging Diseases
CDC	–	Communicable Diseases Control
CLMV	–	Cambodia, Lao PDR, Myanmar, Viet Nam
CMS	–	Central Medical Stores
DCDC	–	Department of CDC
DHC	–	Department of Health Care
DHS	–	Department of Hospital Services
DPIC	–	Department of Planning and International Cooperation
DPHIS	–	Department of Planning and Health Information Systems
GDPM	–	General Department of Preventive Medicine
GFHMT	–	Global Fund for HIV/AIDS, Malaria and Tuberculosis
GMS	–	Greater Mekong Subregion
HCMC	–	Ho Chi Minh City
IHECH	–	Institute of Hygiene and Epidemiology Central Highlands
IHR	–	International Health Regulations
IPC	–	Infection Prevention and Control
MEF	–	Ministry of Economy and Finance
MEV	–	Migrants, Mobile People, Ethnic Minorities, and other Vulnerable Groups
MOF	–	Ministry of Finance
MOH	–	Ministry of Health
MOPH	–	Ministry of Public Health
MSA	–	Medical Services Administration
NCHADS	–	National Center for HIV/AIDS, Dermatology and STI
NCPME	–	National Center for Parasitology, Malaria, and Epidemiology
NGO	–	Non Government Organization
NHL	–	National Health Laboratory
NIHE	–	National Institute of Hygiene and Epidemiology
NIPH	–	National Institute of Public Health
NT	–	Nha Trang
NTP	–	National Tuberculosis Program
PMU	–	Project Management Unit
SBV	–	State Bank of Viet Nam
VAMS	–	Viet Nam Administration of Medical Services

I. PROJECT DESCRIPTION

A. Project Rationale, Location, and Beneficiaries

1. Emerging infectious diseases including Severe Acute Respiratory Syndrome (SARS), Highly Pathogenic Avian Influenza (HPAI) and Ebola Hemorrhagic Fever (EHF) that can cause major case fatality and serious economic shocks. Less urgent but often fatal infectious diseases that spread around the globe, including HIV/AIDS, tuberculosis, malaria, dengue, and drug resistant and hospital-acquired bacterial infections also cause high fatality and impoverishment. The Greater Mekong Subregion (GMS) comprising approximately 326 million, about half of whom live in Cambodia, Lao PDR, Myanmar and Viet Nam (CLMV countries), remains highly vulnerable for outbreaks of these diseases.

2. The GMS has seen rapid economic growth for many year, driven by global integration, connectivity and industrialization. This has among other resulted in new industrial zones and urbanization, and changing lifestyle and mobility, and has increased the intensity and risk of the spread of infectious diseases. To prevent or timely control outbreaks of infectious diseases requires all communities to be connected with surveillance and response. In particular, migrants and mobile people, people not using health services like the poor and ethnic minorities, and other vulnerable groups (MEV) in border areas and along economic corridors are probably more at risk. These diseases easily cross borders and require regional cooperation to bring them under control.

3. To mitigate these risks, CLMV countries aim to achieve core capacities of the International Health Regulations (IHR) and implement strategic areas of the Asia Pacific Strategy for Emerging Diseases under leadership of the World Health Organization. CLMV countries have requested the Asian Development Bank (ADB) to help improve this process. Under the GMS Economic Development Program, ADB has proposed to finance a total of $135 million for the GMS Health Security Project including $21 million for Cambodia, $12 million for Lao PDR, $12 million for Myanmar, and $80 million for Viet Nam. The Governments will provide $7 million in counterpart funds. ADB has financed multiple communicable diseases control (CDC) projects in the GMS.

B. Impact and Outcome

4. The proposed project goal is strengthened GMS health security, with indicators of (i) zero major outbreak of emerging or other epidemic disease in excess of 100 fatalities, (ii) outbreaks have less than 0.5% impact on GDP in any quarter of the year, and (iii) increased treatment of vulnerable groups for communicable diseases. The design and monitoring framework is in Appendix 1.

5. The proposed project outcomes are (i) improved coverage of GMS public health security system and compliance with IHR/APSED and (ii) CDC coverage increased in vulnerable groups in CLMV border areas, in particular for migrants, ethnic minorities, and other vulnerable groups (MEVs) as prioritized by the Governments.

C. Outputs

6. The proposed project outputs are: (i) increased GMS collaboration and MEV access to CDC in border areas; (ii) strengthened national surveillance and response system; and (iii) improved capacity to diagnose and manage infectious diseases.

(i) **Strengthened regional, cross-border, and intersectoral CDC.** MOH has made progress with regional information sharing and intersectoral and cross-border cooperation for CDC. In border areas, MEVs are more likely to get and spread infectious diseases and are less using formal health services. Under this component, it is proposed that the Project supports (i) regional, cross-border, and inter-sectoral information sharing and coordination of outbreak control among GMS countries, (ii) regional capacity for evidence-based CDC, (iii) development of better disease control strategies for MEVs in border areas, and (iv) increased CDC for MEVs in hotspots along economic corridors in targeted border areas. Support is needed for information exchange, simulation exercises, joint outbreak control, strategic planning for MEV disease control strategies in border areas, outreach to MEVs, and improving access of MEVs to CDC.

(ii) **Strengthened national disease surveillance and outbreak response**. MOH has a functioning surveillance system for notifiable diseases in place, and surveillance of HIV, malaria and tuberculosis is strong. However, the system needs to be futher computerized, extended to reach all health centers and communities by employing syndromic reporting, and data management has to be improved. Linkages or integration among surveillance systems with HMIS/DHIS will also be considered. MOH also needs to improve capacity for risk analysis, community preparedness, and disease outbreak response. Under this component, it is proposed that the Project supports (i) syndromic reporting at community level, (ii) web-based reporting including information technology support, (iii) linking of disease surveillance systems, including linking clinical and laboratory surveillance, (iv) improving capacity for risk analysis, risk communication, and community preparedness, (v) improving capacity of outbreak response teams including transport, and (vi) improving screening and quarantine capacity at border points of entry and quarantine centers. Support is needed for system design, training information technolology equipment, vehicles, training, and equipment for screening and outbreak control.

(iii) **Improved laboratory services and hospital infection prevention and control.** District facilities are unable to comply with internationally acceptable levels of biosafety or to guarantee the accuracy of their laboratory testing.. Underlying problems are substandard training of laboratory staff, lack of quality control, and insufficient facilities, equipment, and supplies. The quality assurance systems are in a nascent stage, and there are no national laboratory audit systems. Nosocomial or hospital-acquired infections are becoming a major public health threat. Under this component, it is proposed that the Project supports improving biosafety and quality of laboratory services and expanding services for CDC. Inputs will be (i) staff training for provincial and district hospitals for internal quality improvement, (ii) preparing standard operating procedures, (iii) providing basic equipment, supplies and minor repairs for laboratories and schools, (iii) setting up external quality assurance and audit system for compliance with national biosafety and quality guidelines, and (iv) setting up a laboratory network. For infection control in hospitals, the Project will support roll out of IPC through training

in hospital hygiene and special case management, provision of basic equipment and minor repairs of wards.

7. The proposed project locations are provinces and districts along the borders and economic corridors. Selection of project provinces is based on underserved and poor and therefore at risk populations. The list of project provinces is in Appendix 2.

D. Special Features

8. The Project addresses gaps in IHR core capacity, that are considered GMS priorities. The public health security risk partly stems from lack of coverage of MEVs with public health services. However, MEV engagement, outreach and referral is a challenging part of the project that will need full government commitment and support.

9. Countries have done well in terms of strengthening core IHR capacities within CDC departments but less so with partners in hospitals, communities, countries and private sector. The project will support to bring surveillance down to community level, improve information sharing in the region, cross-border and across sectors, and start to engage the private sector. CDC departments will need to adopt a broader approach to public health surveillance beyond their immediate responsibilities. This requires much more partnership and networking.

10. For hospitals and laboratory services, the project focuses on improving quality of services that exist, rather adding more. The Governments will need to improve supplies for diagnostics and hygiene, enforce SOPs to improve biosafety, and procure equipment that is of high quality.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

11. Table x shows project readiness activities. Contract actions includes preparation of TORs for consultants, which is yet to be completed and approved. Governments cannot advertise these until they have a budget. Establishing project implementation arrangements refers to appointing a project director and government staff, establishing a PMU, and opening project accounts. The last two items can't be done unless there is a budget. Project Directors have been nominated in Cambodia and Viet Nam, with Laos and Myanmar likely to follow soon.

12. Government budget inclusion needs to be done when the annual plan and budget is being planned, e.g., in September each year. If it is delayed, project spending may have to wait for one year, in particular in Cambodia.

13. With regional project, the country loans can only become effective if at least two countries have signed and provided the legal opinion. It is likely that effectiveness will be fast in Cambodia and Laos, and delay in Viet Nam.

Table 1: Project Readiness Activities

Indicative Activities	Months						Responsible Individual/Unit/Agency/ Government
	Sep	Oct	Nov	Dec	Jan	Feb	
Advance contracting actions	▓	▓	▓	▓			MOH EAs
Establish project implementation arrangements incl PMMES	▓	▓	▓	▓			MOH EAs
ADB Board approval			▓				ADB SERD
Loan {grant} signing				▓			ADB RM, OGC
Government legal opinion provided					▓		MOJ
Government budget inclusion	▓	▓	▓	▓	▓		MOP/MPI/MEF
Loans and grant effectiveness					▓	▓	ADB SERD OGC

Sources: ADB, MOH
ADB-=Asian Development Bank; EA=Executing Agencies; MEF = Ministry of Economy and Finance, Cambodia; MOH = Ministry of Health, Cambodia, Lao, Myanmar, Viet Nam; MOJ = Ministry of Justice or equivalent; MOP = Ministry of Planning, Myanmar; MPI = Ministry if Planning and Investment, Lao and Viet Nam; PMU = Project Management Unit; OGC = Office of the General Council; ADB; RM=Resident Missions; SERD = Southeast Asia Regional Department, ADB;

B. Overall Project Implementation Plan

14. The Project Implementation Plan is provided in Appendix 3.

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations: Roles and Responsibilities

15. The Project Implementation Organizations are as follows.

Table 2: Cambodia Project Implementation Organization

Project Implementation Organizations	Management Roles and Responsibilities
Ministry of Health, Cambodia	Executing Agency Secretary Health provides oversight as Project Director
Department of Planning and Health Information Systems	Represents Executing Agency for Project DG is Project Coordinator. Project is implemented as part of Health Sector Support Program Project Planning, Coordination, and Monitoring Overall Project Administration, Procurement, Financial Management
Project Management Unit	Project Management, Director DCDC is Project Manager Procurement of Equipment and Vehicles for DCDC Procurement of Laboratory Equipment with NIPH, Coordination, Procurement of Hospital Equipment with HSD Financial Management CDC in border areas, MEV Outreach Gender and Safeguards Knowledge Management, Reports

Project steering committee	Ministry of Health Steering Committee
Department of Communicable Diseases Control (DVDC)	Director DCDC is in charge Surveillance and Response Computerization, Village Syndromic Reporting Risk Assessment, Communication, Preparedness, Port of Entry Regional, Cross-Border and Intersectoral Cooperation
Department of Hospital Services (DHS)	Deputy Director General, DHS, is in charge Hospital Infection Prevention and Control Highly Infectious Patients Case Management
National Institute of Public Health (NIPH)	Director NIPH is in charge Laboratory Biosafety and Quality Improvement Laboratory Quality Assurance and Audit Upgrading medium provincial laboratories
13 Provincial Health Offices	Financial Management and Procurement Laboratory Assessment and Repair of Facility IPC Implementation Environmental Management Plan Implementation of Surveillance and Response CDC in Border Areas, Outreach for MEVs Cross border and Intersectoral Cooperation
Asian Development Bank	Project implementation monitoring and guidance Financial management, procurement support Compliance with project scope, GAP, and safeguards, Compliance with ADB guidelines and procedures

Source: MOH Cambodia

Table 3: Laos Project Implementation Organization

Project Implementation Organizations	**Management Roles and Responsibilities**
Ministry of Health, Lao PDR	Executing Agency DG Department of Planning and International Coordination is Project Director
Department of Planning and International Cooperation	Represents Executing Agency for Project DDG is Deputy Project Director Coordinates External Assistance, Project Administration Project Planning, Coordination, Monitoring Manages Project Procurement, Financial Management
Project Management Unit	Project Management Supports Project Procurement and Financial Management CDC in border areas, MEV outreach Gender and Safeguards Knowledge Management, Reports
Project steering committee	Ministry of Health Steering Committee
Department of Communicable Diseases Control	Surveillance and Response Computerization, Syndromic Reporting Risk Assessment, Communication, Preparedness, Port of Entry Regional, Cross-Border and Intersectoral Cooperation
Department of Health Care	Hospital Infection Prevention and Control Case Management
National Center for Laboratory and Epidemiology	Laboratory Biosafety and Quality Improvement Laboratory Quality Assurance and Audit Upgrading provincial laboratories
12 Provincial Health Offices	Financial Management and Procurement Implementation of Surveillance and Response CDC in Border Areas, Outreach for MEVs

	Cross border and Intersectoral Cooperation
12 Provincial Hospitals	Laboratory Assessment and Repair of Facility IPC Implementation Environmental Management Plan
Asian Development Bank	Project implementation monitoring and guidance Financial management, procurement support Compliance with project scope, GAP, and safeguards, Compliance with ADB guidelines and procedures

Source: MOH Lao PDR

Table 4: Myanmar Project Implementation Organization

Project Implementation Organizations	**Management Roles and Responsibilities**
Ministry of Health, Myanmar	Executing Agency Permanent Secretary Represents MOH
Department of Public Health	Represents Executing Agency for Project DG Public Health is Project Director Project Planning, Coordination, and Monitoring
Project Management Unit	Project Management Gender and Safeguards Knowledge Management, Reports
Project Steering Committee	Ministry of Health Steering Committee
Central Epidemiology Unit (CEU)	Director, Central Epidemiology Unit is Deputy Project Director Surveillance and Response Computerization, Syndromic Reporting Risk Assessment, Communication, Preparedness, Port of Entry Regional, Cross-Border and Intersectoral Cooperation
Department of Hospital Services	Hospital Infection Prevention and Control Highly Infectious Case Management
National Institute of Public Health	Laboratory Biosafety and Quality Improvement Laboratory Quality Assurance and Audit Upgrading state and district laboratories
Central Medical Store	Procurement of Laboratory Equipment for NHL Procurement of Hospital Equipment for DMS Procurement of Public Health Equipment and Vehicles for CEU
Department of Communicable Diseases Control	CDC in border areas, MEV Outreach Education, Screening at Borders, Mobile Clinics, Case finding, Referral Services for MEVs: HIV, TB, Malaria programs
6 State/Region Public Health Offices	Financial Management and Procurement Implementation of Surveillance and Response CDC in Border Areas, Outreach for MEVs Cross border and Intersectoral Cooperation
6 State Hospitals and 6 Border Township Hospitals	Laboratory Assessment and Repair of Facility IPC Implementation Environmental Management Plan
Asian Development Bank	Project implementation monitoring and guidance Financial management, procurement support Compliance with project scope, GAP, and safeguards, Compliance with ADB guidelines and procedures

Source: MOH Myanmar

Table 5: Viet Nam Project Implementation Organization

Project Implementation Organizations	Management Roles and Responsibilities
Ministry of Planning and Investment	Planning and Budgeting Approval of Project Scope and Annual Budget
State Bank of Viet Nam	Formal liaison with ADB for annual plan, change of scope, etc.
Ministry of Finance	Treasury
Ministry of Health, Viet Nam	Executing Agency Vice Minister of Health for Preventive Medicine provide oversight
General Department of Preventive Medicine (GDPM)	Represents Executing Agency for Project in MOH Deputy Director General, GDPM, is Project Director Project Planning, Coordination, and Monitoring Overall Project Administration, Procurement, Financial Management
Project Management Unit	Project Management Procurement of Public Health Equipment and Vehicles Procurement of Hospital Equipment for VAMS Procurement of Laboratory Equipment for NIHE Project Financial Management CDC in border areas, MEV Outreach Gender and Safeguards Knowledge Management, Reports
Project Steering Committee	Ministry of Health Steering Committee
Department of Communicable Diseases Control	Surveillance and Response Computerization, Extend Surveillance to Village Syndromic Reporting Risk Assessment, Communication, Preparedness, Port of Entry Regional, Cross-Border and Intersectoral Cooperation
Viet Nam Administration of Medical Services (VAMS)	Hospital Infection Prevention and Control Case Management
National Institute of Hygiene and Epidemiology (NIHE)	Laboratory Biosafety and Quality Improvement Laboratory Quality Assurance and Audit Upgrading medium provincial laboratories
36 Provincial Health Offices	Provincial Financial Management and Procurement Laboratory Assessment and Repair of Facility IPC Implementation Environmental Management Plan
36 Preventive Medicine Centers	Cross border and Intersectoral Cooperation CDC in Border Areas, Outreach for MEVs Implementation of Surveillance and Response
Asian Development Bank	Project implementation monitoring and guidance Financial management, procurement support Compliance with project scope, GAP, and safeguards, Compliance with ADB guidelines and procedures

Source: MOH Viet Nam

B. Key Positions of EA, PMU and IAs

16. For EA, PMU and IAs, a total required central project officers and senior contractual staff in full time equivalent is estimated at 20 for Cambodia, 18 for Lao and Myanmar, and 27 for Viet Nam. For each province, a total of 1.7 full time equivalent of officers and senior contractual staff is estimated to work on the project. The time period us assumed to be the full project period, as has been the case in past projects, but may be shortened depending on implementation progress. A summary is in Table xx. The more extensive TOR is in Appendix 7.

Table 6: Key Positions and Responsibilities of EAs

MOH	Executing Agency	Cambodia	Laos	Myanmar	Vietnam
Positions	**Major Responsibilities**				
Project Director (Secretary, DG or DDG)	▪ Provide project oversight ▪ Approve annual plans and reports	5%	5%	5%	10%
Project Coordinator	▪ Manage the implementation of the project;	2x10%	10%	10%	3x10%
Deputy Directors (DDG or Director)	▪ Supervise all consultants ▪ Direct and manages the PMU; ▪ Oversee procurement; ▪ Oversee training of PMU staff				

Table 7: Key Positions and Responsibilities of PMU

MOH	Project Management Unit	Cambodia	Laos	Myanmar	Vietnam
Positions	**Major Responsibilities**				
Project/PMU Manager	▪ Manage PMU and PMU consultants' day-to-day activities including for procurement; ▪ Liaise with implementing agencies; ▪ Prepare quarterly and annual project reports, and inception, midterm and end of project appraisals	100%	100%	100%	100%
Procurement officer	▪ Plan, manage and monitor all central project procurement ▪ Provide oversight for provincial procurements ▪ Ensure government and ADB procedures	30%	30%	30%	50%
Procurement contract staff	▪ Help collect equipment requirements and specification ▪ Prepare bidding documents	2x100%	100%	100%	3x100%
Monitoring, Evaluation and Reporting Officer	▪ Develop practical and simple project monitoring and evaluation system that meets Government and ADB requirements ▪ Help prepare project reports	100%	100%	100%	100%
Chief Accountant Certified	▪ Supervise all financial management of the project ▪ Support accounting staff ▪ Conducts internal quality control ▪ Manage treasury operations ▪ Help Set up project financial management in provinces ▪ Assist with annual budgets ▪ Ensure compliance with international accounting standards and ADB and Government procedures ▪ Facilitate independent audit	100%	50%	50%	100%

Assistant Accountants	▪ Manage provincial project accounts ensuring adequate funds and timely liquidation ▪ Conduct internal quality control of provincial accounts ▪ Provide provinces training in financial management	100%	100%	100%	2x100%
Administrative Contract Staff	▪ Book-keeping of financial transactions ▪ Check and compile SOEs	1x100%	1x100%	1x100%	2x100%
Gender and Social Development Contract Staff	▪ Focal point for compliance with safeguards ▪ Help plan participatory planning and CDC outreach in border areas ▪ Monitor compliance with GAP and safeguards	100%	100%	100%	100%
Community Development Contract Staff	▪ Assess MEV issues in border areas ▪ Conduct participatory planning with communities to plan CDC priorities and implement these	100%	100%	100%	100%
Training Contract Staff	▪ Help plan and monitor project training activities ▪ Help plan regional workshops	100%	100%	100%	100%
Information Technology Contract Staff	▪ Support IT requirements of the PMU ▪ Support roll out of computerization	100%	100%	100%	100%
Environmental Contract Staff	▪ Propose environmental actions for improving IPC ▪ Help provinces prepare EMP	100%	100%	100%	100%

Table 8: Key Positions and Responsibilities of Implementing Agency responsible for Surveillance and Response

MOH	**Surveillance and Response IA**	**Cambodia**	**Laos**	**Myanmar**	**Vietnam**
Positions	**Major Responsibilities**				
IA Project Coordinator (CDC Director or Chief S&R)	▪ Manage the implementation of the surveillance and response activities ▪ Liaise with WHO and partners to integrate plans	10%	10%	10%	10%
Surveillance Officer	▪ Lead upgrading surveillance system ▪ Facilitate regional, cross-border and inter-sectoral coordination	50%	50%	50%	50%
Dengue and CDC Control Contract Staff	▪ Pilot early response for dengue outbreak using rapid tests ▪ Support Project link to NTPs	50%	50%	50%	50%
Trainer Contract Staff	▪ Conduct pilot training program and TOT program for syndromic reporting	2x100%	100%	100%	3x100%
Programmer Contract Staff	▪ Facilitate software development and dissemination for syndromic reporting	20%	20%	20%	20%

Table 9: Key Positions and Responsibilities of Implementing Agency responsible for Laboratory Services

MOH	National Laboratories IA	Cambodia	Laos	Myanmar	Vietnam
Positions	**Major Responsibilities**				
IA Project Coordinator (Director)	▪ Provide guidance for laboratory component ▪ Approve annual plan and monitor program ▪ Liaise with experts on project implementation	10%	10%	10%	10%
Laboratory Quality Improvement Officer	▪ Develop a laboratory improvement plan for the project with support of the laboratory experts ▪ Assist in setting up quality assurance and audit systems ▪ Arrange preparation and dissemination of SOPs ▪ Arrange training for laboratory managers and staff ▪ Conduct equipment assessment ▪ Develop laboratory specifications with assistance of the procurement experts	50%	50%	50%	50%
Laboratory Quality Officer	▪ Lead in the planning, implementation and monitoring of setting up laboratory quality assurance and audit systems	30%	30%	30%	30%
Laboratory Research Officer	▪ Lead the planning, implementation and monitoring of the fever and immunization antibody studies	30%	30%	30%	30%
Laboratory Biosafety Officer	▪ Advice on biosafety improvements	30%	30%	30%	30%
Laboratory contract staff	▪ Assist with the work of the officers	100%	100%	100%	100%

Table 10: Key Positions and Responsibilities of Implementing Agency responsible for Hospital Infection Prevention and Control

MOH	Hospital IPC IA	Cambodia	Laos	Myanmar	Vietnam
Positions	**Major Responsibilities**				
IA Project Coordinator (Director in Department)	▪ Provide Guidance, Oversight and Monitoring to the roll out of the IPC program of the project; ▪ Supervise National and International Consulting Services	10%	10%	10%	10%
Hospital Infection Prevention and Control Officer	▪ Review progress in rolling out IPC in targeted hospitals ▪ Arrange focal point, committee and staff training, scholarships	50%	50%	50%	50%

IPC Officer	▪ Update IP Roll out plan ▪ Disseminate SOPs for IPC ▪ Manage IPC program roll out ▪ Develop IPC monitoring tool and track performance	50%	50%	50%	3x50%
Case Management contract staff	▪ Develop/update SOPs for case management of highly infectious diseases	50%	50%	50%	50%
Training Contract Staff	▪ Provide training in IPC	100%	100%	100%	3x100%

Table 11: Key Positions and Responsibilities of Provincial/State/Region Implementing Agency

MOH	Provincial/State/Region IA	Cambodia	Laos	Myanmar	Vietnam
Positions	**Major Responsibilities**				
IA Project Manager (Deputy Director or Chief)	▪ Manage provincial/state/ region project implementation on day-to-day basis ▪ Facilitate cross-border, intersectoral and port of entry activities ▪ Focal point for safeguards	13x20%	12x20%	12x20%	36x20%
CDC nurse (from public health office or hospital)	▪ As MEV focal point, assess MEV issues ▪ Conduct participatory planning with communities and camps to identify regional CDC priorities ▪ Facilitate referral services	13x50%	12x50%	12x50%	36x50%
Trainer Surveillance and Response and CDC contract staff	▪ Provide training of health centers and communities for preparedness, syndromic reporting, CDC	13x50%	12x50%	12x50%	36x50%
Financial Assistant	▪ Manage cash flow and book-keeping of financial transactions ▪	13x50%	12x50%	12x50%	36x50%

C. Key Persons Involved in Implementation

17. Following is a list of key persons for the project, to be updated if there are changes. .

Executing Agency Cambodia

Project Director
Ministry of Health, Cambodia

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Executing Agency Myanmar	
Project Director Ministry of Health and Sports, Myanmar	Dr. Than Htun Aung Director General, Department of Public Health +95 67 411389 aungthantundr@gmail.com Ministry of Health Nay Pyi Taw, Myanmar
Executing Agency Viet Nam	
Project Director Ministry of Health, Viet Nam	Dr. Tran Dac Phu, Director General / Dr. Hoang Minh Duc, Deputy Director General General Department of Preventive Medicine Tel.: (844) 37724-715 Fax: (844) 3736 6241 Email: vie0027@vnn.vn Ministry of Health Giang Vo Street Hanoi, Viet Nam
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Country Focal Point Lao PDR MRM, SERD	Ms. Phoxay Xayyavong Social and Development Officer (Gender) Telephone Email Vientiane

Country Focal Point Myanmar MYRM, SERD	Chris Spohr Principal Social Sector Economist Telephone cspohr@adb.org ADB Resident Mission Nay Pyi Taw
Country Focal Point Viet Nam VRM, SERD	Ms. Lan Title Telephone Email address

D. Project Organization Structure

18. The organization chart is shown in Appendix 4. The Appendix also includes a chart of stakeholders (optional).

IV. COSTS AND FINANCING

A. Cost Estimates Preparation and Revisions

19. The cost estimates were prepared by the financial management specialist is close coordination with other international and domestic specialists, Ministry of Health and World Health Organization.

B. Key Assumptions

20. Cambodia: the following key assumptions underpin the cost estimates and financing plan:

(i) Exchange rate: KHR 4,064 = $1.00 as of 16 May 2016.

(ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

Table 12: Escalation Rates for Price Contingency

Item	2016	2017	2018	2019	2020	Average
Foreign rate of price inflation	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%
Domestic rate of price inflation	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%

Source(s): Asian Development Bank

(iii) In-kind contributions were calculated based on standard government allowances for project management personnel, and market rates for facilities.

21. Laos: The following key assumptions underpin the cost estimates and financing plan:

(i) Exchange rate: LAK 8,105 = $1.00 as of 20 May 2016.

(ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

Table 13: Escalation Rates for Price Contingency

Item	2016	2017	2018	2019	2020	Average
Foreign rate of price inflation	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%
Domestic rate of price inflation	4.5%	4%	4%	4%	4%	4%

Source(s): Asian Development Bank

(iii) In-kind contributions were calculated based on standard government allowances for project management personnel, and market rates for facilities.

22. Myanmar: the following key assumptions underpin the cost estimates and financing plan:

(i) Exchange rate: MMK 1,184 = $1.00 as of 22 May 2016.

(ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

Table 14: Escalation Rates for Price Contingency

Item	2016	2017	2018	2019	2020	Average
Foreign rate of price inflation	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%
Domestic rate of price inflation	6.3%	6.1%	6.1%	6.1%	6.1%	6.1%

Source(s): Asian Development Bank

(iii) In-kind contributions were calculated based on standard government allowances for project management personnel, and market rates for facilities.

23. Viet Nam: the following key assumptions underpin the cost estimates and financing plan:

(i) Exchange rate: VND 22,314 = $1.00 as of 19 May 2016.

(ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

Table 15: {Escalation Rates for Price Contingency Calculation}

Item	2016	2017	2018	2019	2020	Average
Foreign rate of price inflation	5%	5%	5%	5%	5%	5%
Domestic rate of price inflation	6%	6%	6%	6%	6%	6%

Source(s): Asian Development Bank

(iii) In-kind contributions were calculated based on standard government allowances for project management personnel, and market rates for facilities.

C. Detailed Cost Estimates by Expenditure Category

24. Cambodia: Total Project cost is estimated at about $22.8 million including taxes of duties of $1.46 million and comprises (i) Regional Cooperation, (ii) CDC in Border Areas, (iii) Surveillance, (iv) Response, (v) Laboratory and (vi) Infection Prevention and Control (IPC). ADB finances $21.3 million (94% of the Project cost), while the Government of Cambodia finances around $1.5 million (6% of the Project cost). The Government has requested a loan of $21.3 million from the ADB's special fund resources to help finance the Project. ADB's financing covers laboratory equipment, vehicles, trainings and workshops, consulting services, and taxes

and duties on ADB-financed expenditures. Components referring to land acquisition, resettlement and project management are to be funded by the Borrower (Government of Cambodia). The ADB loan will come from special fund resources. The Loan will have a 32-year term, including a grace period of 8 years, at an interest rate of 1% during the grace period and 1.5% during the amortization period. There are no commitment charges.

25. Laos: Total Project cost is estimated at about $12.6 million including taxes of duties of $0.34 million and comprises (i) Regional Cooperation, (ii) CDC in Border Areas, (iii) Surveillance, (iv) Response, (v) Laboratory and (vi) Infection Prevention and Control (IPC). ADB finances $3.7 million (29% of the Project cost). ADB will also provide a grant of about $8.41 million (67%). The loan counterpart of the Government of the Lao PDR is around $0.34 (3%) in the form of duties and taxes. The Government will also provide an additional $0.23 million (2%) as counterpart contribution for the ADB grant funding. The Government has requested a loan of $3.6 million from the ADB's special fund resources to help finance the Project. ADB's financing covers laboratory equipment, vehicles, trainings and workshops, consulting services, and taxes and duties on ADB-financed expenditures. Components referring to land acquisition, resettlement and project management are to be funded by the Borrower (Government of Lao PDR). The ADB loan will come from special fund resources. The Loan will have a 32-year term, including a grace period of 8 years, at an interest rate of 1% during the grace period and 1.5% during the amortization period. There are no commitment charges.

26. Myanmar: The total Project cost is estimated at $14.9 million including taxes of duties of $1.15 million and comprises (i) Regional Cooperation, (ii) CDC in Border Areas, (iii) Surveillance, (iv) Response, (v) Laboratory and (vi) Infection Prevention and Control (IPC). ADB finances $14.4 million (97% of the Project cost), while the Government of Myanmar finances $0.42 million (3% of the Project cost). The Government has requested a loan of $14.4 million from the ADB's special fund resources to help finance the Project. ADB's financing covers laboratory equipment, vehicles, trainings and workshops, consulting services, and taxes and duties on ADB-financed expenditures. Components referring to land acquisition, resettlement and project management are to be funded by the Borrower (Government of Myanmar). The ADB loan will come from special fund resources. The Loan will have a 32-year term, including a grace period of 8 years, at an interest rate of 1% during the grace period and 1.5% during the amortization period. There are no commitment charges.

27. Total Project cost is estimated at 84.05 million including taxes of duties of $6.44 million and comprises (i) Regional Cooperation, (ii) CDC in Border Areas, (iii) Surveillance, (iv) Response, (v) Laboratory and (vi) Infection Prevention and Control (IPC). ADB finances $80.2 million (95% of the Project cost), while the Government of Vietnam finances $3.8 million (5% of the Project cost). The Government has requested a loan of $80.2 million from the ADB's special fund resources to help finance the Project. ADB's financing covers laboratory equipment, vehicles, trainings and workshops, consulting services, and taxes and duties on ADB-financed expenditures. Components referring to land acquisition, resettlement and project management are to be funded by the Borrower (Government of Vietnam). The ADB loan will come from special fund resources. The Loan will have a 32-year term, including a grace period of 8 years, at an interest rate of 1% during the grace period and 1.5% during the amortization period. There are no commitment charges.

28. Appendix 5 provides for the cost estimates for the 4 countries with the following visuals:
- (i) project cost estimates by category by source and currency
- (ii) allocation and withdrawal of loan proceeds table (also grant for Laos),
- (iii) detailed project cost estimates by source,

(iv) detailed project cost estimates by outputs
(v) detailed cost estimated by year

D. Contract and Disbursement S-Curve

29. The Contract and Disbursement S-Curves in Appendix 5 show quarterly contract awards and disbursement projections over the life of the project. The S-curve is only for ADB financing and ADB-administered cofinancing, which will be recorded in ADB's systems and reported through e-Ops. Counterpart funds and any other cofinancing should be excluded. The projection for contract awards should include contingencies and unallocated amounts, but excludes front-end fees, service charges, and interest during construction. The total projected disbursements should be equal to the full loan (and grant for Laos) amount, up to 4 months after loan (and grant for Laos) closing.

E. Fund Flow Diagram

30. Graphs for each country in Appendix 5 show how the funds will flow from ADB, and the borrowers/grant recipient to implement project activities.

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

31. The financial management assessment (FMA) was conducted from October 2015 to March 2016 in accordance with ADB's Guidelines for the Financial Management and Analysis of Projects and the Technical Guidance Note 2015 and incorporates the Financial Management Internal Control and Risk Management Assessment (FMICRA) required by the Guidelines. The FMA considered the capacity of the 4 ministries of health, including funds-flow arrangements, staffing, accounting and financial reporting systems, financial information systems, and internal and external auditing arrangements. Based on the assessment, the key financial management risks identified are as follows.

Cambodia

32. The FMA report is in Appendix 6. The FMA made extensive use of the Integrated Fiduciary Assessment and Public Expenditure Review (IFAPER) for Cambodia in 2011. In the 2003 IFAPER report, the World Bank concluded that; (i) the PFM system is weak creating unacceptably high levels of fiduciary risk to public funds; and (ii) deficiencies in budget formulation and execution undermine efficiency and effectiveness resulting in the misallocation of resources across sectors and regions over time. To address these issues, the Royal Government of Cambodia (RGC) developed a long-term phased strategy in 2004, the Public Financial Management Reform Program (PFMRP): "Strengthening Governance through Enhanced Public Financial Management". Under the strategy, Cambodia will pursue the long term comprehensive PFMRP through a four-stage strategy spanning a 20 year period. Each stage was designed to change the performance of the PFM system and provide the platform on which further stages could be undertaken. Significant progress has been accomplished in stage 1 and 2 but challenges remain.

33. The latest IFAPER assessment in 2011 using the PEFA framework showed that budget credibility was enhanced after completion of the first stage of the PFMRP in 2008. The result was improved cash management resulting in greater predictability, reliability and availability of

financial resources. Despite the significant improvements in cash management, PEFA noted that weaknesses in the PFM remain and a number of issues related to cash flow forecasting have serious implications for ensuring significant resources are on hand to meet the government's cash flow requirement. The report concluded that, (i) The financial management information system (FMIS) should be implemented in key ministries to control spending and prioritize expenditures across programs, projects and policies; (ii) As with many developing member countries, RGC has a shortage of technical skills. Despite on-going capacity building efforts, management skills capacity remains weak and impacts the progress on the PFMR; (iii) The public procurement system is fragmented mainly due to separate legal and regulatory framework for procurement using government funds and external donors; (iv) Internal controls remain weak. MEF has developed templates for audit reports but these are not uniformly used in line ministries and the improvements are largely due to donor reporting requirements rather than those of the government.

34. Although gradually improving, the PFM systems remain weak due to low transparency and accountability resulting from (i) the continuation of a centralized budget management with the MEF; (ii) the delay in the transfer of functions and resources to SNAs is also holding back the build up of capacity in the SNAs thus increasing the risks for management of donor projects that have been assigned to the SNAs; (iii) internal audit and internal controls remain weak leading to less effective and transparent business processes including procurement; (iv) external audit remains weak due to the inadequacy of the NAAs to provide effective oversight of public expenditures. Using the Financial Management and Internal Control Risk Assessment (FMICRA) table, the overall inherent and control risks were assessed to be **substantial**. A summary of the risks and mitigating measures are presented in Table 1 below.

Table 16: Cambodia Financial Management Risks and Mitigating Measures

Weakness	Risk Rating	Mitigating Measure
Staffing - lack of qualified staff to implement financial management responsibilities in the provinces	Substantial	Outsource the staff needed in each province to support the PPIU. All the staff need to be trained in ADB procedures including but not limited to financial management and procurement
Internal Control - internal audit unit in MOH is not performing audits of the project on a regular basis	Substantial	Internal audit unit in MOH should conduct regular audits of the project accounts to ensure the all transactions conform to ADB and government financial management policies and procedures.
Funds Flow - delays in liquidation of SOEs in the past will continue and replenishment of the imprest accounts and sub-accounts will be delayed resulting in the project activities not implemented on time	Substantial	Ensure that project related expenditures are liquidated more frequently to ensure that imprest account and sub-accounts will be replenished on time.
External Audit – audit recommendations are not acted upon. Liquidation of advances taking much longer than required	Substantial	Rigorous monitoring by MOH and MEF of any current external audit observations and audit issues should be resolved quickly.

Reporting and Monitoring – PHDs using manual accounting system is slow and affects the preparation of timely financial reports	Substantial	Upgrade accounting system to use computerized accounting software used by the PMU to hasten production of financial reports
Information Systems – use of MS Excel is prone to errors and fraud and cannot be relied upon	Substantial	MEF should hasten the implementation of the FMIS to include all ministries and their provincial departments.

Source: Consultant's Assessment

Laos

35. The FMA report is in Appendix 6. The assessment made extensive use of the Public Expenditure and Financial Accountability (PEFA) assessment for Lao PDR in 2013. The PEFA assessment in 2010 highlighted the weakness in PFM but also acknowledged that the country was taking steps to improve PFM. The assessment identified PFM weakness in budget planning; comprehensiveness and transparency in budget formulation arising from unreported government operations and lack of oversight of fiscal risk; the ineffectiveness of internal audit and the poor accounting, recording and reporting system resulting in the poor quality and delays in the annual financial statements.

36. PFM issues relate to weakness in institutional arrangements and capacity; comprehensiveness and transparency in budget formulation and weak execution of the budget. Lao PDRs budget has become more credible through government's medium term fiscal framework utilizing multiyear projections of government revenue, expenditure and financing accounts; treasury reform through improved chart of accounts. The government's continuing implementation of an electronic financial information system for the past 10 years have also contributed to the improving credibility. Despite these improvements however, the coordination between MPI and MOF remains weak. Furthermore, budget execution remains weak as a result of the deficient accounting and reporting arrangements. For procurement, the issues identified were the weak procurement framework and lack of appropriate regulations, documentation and other tools for implementation including insufficient institutional capacity. Furthermore, there is insufficient competition in public biddings reflecting the low confidence of the private sector in the legal and regulatory framework.

37. Using the Financial Management and Internal Control Risk Assessment (FMICRA) table, the overall inherent was assessed to be substantial and the overall control risk was assessed to be moderate. The overall combined risk was also assessed to be **moderate**. A summary of the risks and mitigating measures are presented in Table 1 below.

Table 17: Lao Summary of Risks and Mitigating Measures

Weakness	Risk Rating	Mitigating Measure
Staffing - lack of qualified staff to implement financial management responsibilities in the provinces	High	Outsource the staff needed in each province to support the PPPIU. All the staff need to undergo intensive training in ADB procedures including but not limited to financial management and procurement
Internal Control – internal and external audit issues and recommendations have not been acted upon	High	Rigorous monitoring by MOH and MOF of any current internal and external audit observations and issues should be resolved quickly.
Information System – manual accounting system and the use of MS excel in the generation of financial reports is prone to errors and fraud	Substantial	MEF should hasten the implementation of the FMIS to include all ministries and their provincial departments.

Source: Consultant's Assessment

Myanmar

38. The FMA is provided in Appendix 6. The assessment made extensive use of the Public Expenditure Financial Accountability (PEFA) PFM in 2013, and the World Bank assessment for Myanmar in 2014.

39. The final PEFA report that was issued in 2013 concluded that in general PFM systems are weak. This is due to poor budgetary credibility, comprehensiveness and transparency along with weak internal controls. Financial regulations are out of date[1] and do not reflect the current practice. Due to the outdated regulations, rules to be adopted vary from Ministry to Ministry and are open to interpretation. This lack of fundamental financial management regulations mean that systems and procedures cannot be relied upon to produce accurate and timely financial information and ensure appropriate accountability. Furthermore, the weak control environment combined with the limited budget comprehensiveness and transparency suggest that the PFM is at risk of corruption.

40. Myanmar's budget classification system is not fully consistent with modern classification structures. Budget comprehensiveness and transparency is severely affected by the high level of unreported government operations. All accounting records use a paper based manual system. Even the Myanmar Economic Bank accounting and reporting system is largely manual and paper based. Reporting is done monthly, but because the system is manual and paper based, the compilation and reconciliation of the financial records takes about 3 months to complete thus delaying the production of monthly financial reports. Furthermore, the consolidated monthly financial reports lack the analysis to assist management in making informed decisions. The manual system also makes it difficult to produce financial information in different formats that are needed for specific reporting purposes. International accounting standards for a cash based system are not met. The current form of the financial statements does not reflect the requirements of the cash based IPSAS. Year-end reports follow the same system of report preparation but these reports are not widely circulated.

[1] The last financial regulations were revised in 1986

41. PFM systems remain weak due to (i) the current accounting standards do not meet international standards for IPSAS cash based system; (ii) reconciliations are not performed regularly and information on available resources to meet obligations and disbursements is not on hand on a timely basis making it difficult to track budget efficiency; (iii) oversight of the Auditor General is weak and the audited state budget reports are not published. Legislative review of the budget is also limited; (iv) budgets lack in multiyear fiscal planning and revenue forecasts are too ambitious due to weak forecasting capabilities at the Ministry of Finance and Revenue (MOFR). Public access to key information in the budget documents is also limited and affects budget credibility. For procurement, the system does not promote transparency, accountability and competition. Furthermore, management capabilities in procurement are weak and will require reforms over the long term.

42. Using the Financial Management and Internal Control Risk Assessment (FMICRA) table, the overall inherent and control risks were assessed to be high. The overall combined risk was also assessed to be **high.** A summary of the risks and mitigating measures are presented in Table 18 below.

Table 18: Myanmar Summary of Risks and Mitigating Measures

Weakness	Risk Rating	Mitigating Measure
Staffing - lack of experience and skills in ADB procedures will affect the implementation of the project. Staff also lack the basic computer skills	High	• ADB should conduct rigorous training on ADB procedures including but not limited to financial management and procurement • Conduct computer literacy course for all staff
Internal Control - no functioning internal audit unit in MOH	High	• The inspection units in the departments should be elevated to internal audit unit status to strengthen internal audit function to ensure that the systems in place are strictly followed and conform to approved processes. • MOH to recruit more qualified staff with audit experience
Funds Flow - delays in liquidation of SOEs will delay the replenishment of the imprest accounts and sub-accounts resulting in the project activities not implemented on time	High	Monthly liquidation of project related expenditures to ensure that imprest account and sub-accounts will be replenished on time.
External Audit – audit reports are not available to the public and shows lack of transparency and accountability	High	Audit findings should be published and made available to the public to improve transparency and accountability. AGO should create a website and post all external audit reports of all line ministries and the different levels of government.
Accounting Policies and Procedures – the accounting policies and procedures are inadequate for the project	High	Accounting system should be upgraded to computerized accounting system for greater efficiency

Reporting and Monitoring - coordination between the 2 department co-managers of the project will be difficult and the consolidation of all financial management reports cannot be produced on time making monitoring of project implementation difficult.	High	Since the two departments are co-equal, a management committee should be created to oversee the project. The committee will be composed of the 2 DGs and supported by director level staff from each department who will manage the day-to-day activities of the project and to ensure that reports are consolidated at the end of each month and submitted to MOH and ADB.
Information Systems – use of MS Excel to generate financial statements is prone to errors and fraud and cannot be relied upon	High	MOF should approve the use of computerized accounting software for the project to generate financial statements

Source: Consultant's Assessment

Viet Nam

43. The FMA is provided in Appendix 6. The assessment made extensive use of the Public Expenditure and Financial Accountability (PEFA) assessment for Vietnam in 2013.

44. The PEFA assessment noted weaknesses in the areas of Public Financial Management, master planning, auditing and procurement. PEFA findings showed that budget carry-over from previous years was around 30% of the original budget making it difficult to determine the actual annual budget deficit. There is also a lack of master-planning capacity in line ministries and sub-national governments resulting in fragmented and thinly spread public investments. With regards to audits, the State Audit Agency of Vietnam (SAV) has limited resources and staff that SAV can cover only 60 percent of central government units and 50 percent of provinces. Furthermore, there are only three government agencies that have a functioning internal audit unit; these are the Ministry of Finance, State Bank of Vietnam and the Ministry of Defense. On procurement, although substantial progress has been made in informing the public about procurement plans, tendering opportunities and contracts awarded through the Ministry of Planning and Investment (MPI) website and Procurement Gazette, not all provinces provide MPI with complete reports. Furthermore, while open tendering is the procurement norm, the law also permits a number of exceptions to the use of open competition. This has now become the preferred procurement method with about 70 percent of all contracts done through direct contracting.

45. Using the Financial Management and Internal Control Risk Assessment (FMICRA) table, the overall inherent risk was assessed to be high and control risks were assessed to be moderate. The overall combined risk was also assessed to be **moderate**. A summary of the risks and mitigating measures are presented in Table 1 below.

Table 19: Viet Nam Summary of Risks and Mitigating Measures

Weakness	Risk Rating	Mitigating Measure
Staffing - lack of qualified staff to implement financial management responsibilities in the provinces and districts	High	Outsource the staff needed in each province to support the PPIU. All the staff need to be trained in ADB procedures including but not limited to financial management and procurement
Internal Control - No internal audit unit in the MOH and PHDs	High	MOH should establish an internal audit unit to upgrade the financial management system as part of government PFM reform. The audit unit should be established by the second year of project implementation. In the interim, MOH should engage an auditing firm to review internal control procedures including bank reconciliations. Reports of findings should be provided quarterly to ADB and MOH
Reporting and Monitoring – difficulty in coordination between MOH and the PHDs	High	CPMU should increase the number of staff to conduct regular coordination meetings and monitoring of project implementation in all 300 districts to address problems efficiently. Annual planning workshop between MOH and PHD should be conducted to assess previous years' performance and to synchronize targets for next year.

Source: Consultant's Assessment

46. It is concluded that the combined premitigation inherent and control risk financial management risk of the Ministries of Health and their implementing agencies are substantial in Cambodia, moderate in Laos, high in Myanmar, and moderate in Vietnam. With an overall project rating of **substantial**. The governments and the ministries of health and their implementing agencies have agreed to implement an action plan as key measures to address the deficiencies. The financial management action plan are provided in table to xx

Table 20. Cambodia Financial Management Action Plan

Weakness	Mitigating Action	Responsibility	Timeframe
Staff capacity is low	Intensive training on ADB procedures to include but not limited to financial management and procurement	ADB	Within six months of loan effectiveness
	Outsource the staff requirement in the provinces and districts to support the PPIU. All the staff need to be trained in ADB procedures	MOH and PHDs	Staff recruitment within three months of loan effectiveness. In the first year, the staff will be guided by the implementation consultants. During the second year, the staff take over but with supervision from consultants. From the third year onwards by the staff.
Delays in the liquidation of SOEs will affect the replenishment of the imprest account that can affect the timely implementation of the project	Ensure that project related expenditures are liquidated more frequently to ensure that imprest account and sub-accounts will be replenished on time. The monthly audit by the internal audit unit of the MOH will highlight any delays in the liquidation	MOH	Monthly monitoring

Lack of regular internal audits of project accounts	Mandate the internal audit unit of the MOH to conduct monthly audits of the project to ensure that all financial transactions comply with established policies and procedures	MOH	• At loan effectiveness, MOH will mandate the internal audit unit to include the project in its annual audit plan and to conduct regular monthly audits. This will be included as part of the loan covenants. • MOH to ensure that the internal audit unit will have sufficient and capable staff in the internal audit unit to perform the increased tasks. New internal auditors to be hired at loan effectiveness
External Audit observations are not being acted upon	Rigorous monitoring by MOH and MEF of any current external audit observations and audit issues should be resolved quickly.	MOH	Annual Monitoring
Manual recording and use of Excel to generate financial statements is time consuming and prone to errors or fraud	Upgrade accounting system to use computerized accounting software used by the PMU to hasten production of financial reports	MOH and PHDs	Upgrade accounting system to use computerized accounting software used by the PMU to hasten production of financial reports. MEF should hasten implementation of the FMIS

Source: Consultant's Assessment

Table 21. Laos Financial Management Action Plan

Weakness	Mitigating Action	Responsibility	Timeframe
Financial management and staff capacity is low	Intensive training on ADB procedures to include but not limited to financial management and procurement	ADB	• Within six months of loan effectiveness • Staff recruitment within three months of loan effectiveness. In the first year, the staff will be guided by the implementation consultants. During the second year, the staff take over but with supervision from consultants. From the third year onwards by the staff.
Internal control - Internal and external audit issues and recommendations are not immediately acted upon	Rigorous monitoring by MOH of any current internal audit observations and issues should be resolved quickly.	MOH	Quarterly during the first year of project implementation and semi-annual until the end of the project

Source: Consultant's Assessment

Table 22. Myanmar Financial Management Action Plan

Weakness	Mitigating Action	Responsibility	Timeframe
Skills capacity of the staff is low	Intensive training on ADB procedures to include but not limited to financial management and procurement	ADB	Within six months of loan effectiveness
	Outsource the staff requirement in the states and region to support the	MOH and State/Region	Staff recruitment within three months of loan effectiveness. In the first year, the staff will be guided by the

	PPIU. All the staff need to be trained in ADB procedures		implementation consultants. During the second year, the staff take over but with supervision from consultants. From the third year onwards by the staff.
	Conduct computer literacy course for all the staff	MOH	Within three months of loan effectiveness
Accounting policies and procedures are inadequate	Accounting system should upgrade to computerized accounting system for greater efficiency and enable the production of monthly financial statements.	MOF and MOH	Within six months of loan effectiveness
Lack of internal audit function in MOH	The inspection units in the departments should be elevated to internal audit to give more force to their function of ensuring that the systems in place are strictly followed and conform to approved processes.	MOH	• At loan effectiveness, MOH will upgrade the inspection units to an internal audit and to include the project in its annual audit plan • Conduct regular monthly audits of the project. This will be included as part of the loan covenants. • MOH to ensure that the internal audit unit will have sufficient and qualified staff in the internal audit unit to perform the increased tasks. New internal auditors to be hired at loan effectiveness
External Audit reports are not published and shows lack of transparency	Rigorous monitoring by MOH and MOF of any current external audit observations and audit issues should be resolved quickly.	MOH	Semi-Annual Monitoring

Source: Consultant's Assessment

Table 23. Viet Nam Financial Management Action Plan

Weakness	Mitigating Action	Responsibility	Timeframe
Financial management and staff capacity in the Provinces and Districts are low	Intensive training on ADB procedures to include but not limited to financial management and procurement	ADB	Within six months of loan effectiveness
	Outsource the staff requirement in the provinces and districts to support the PPIU. All the staff need to be trained in ADB procedures	MOH and PHDs	Staff recruitment within three months of loan effectiveness. In the first year, the staff will be guided by the implementation consultants. During the second year, the staff take over but with supervision from consultants. From the third year onwards by the staff.
Internal control - No internal audit function in the MOH	Establish and internal audit unit with MOH	MOH	Establish internal audit unit in MOH as recommended by SAV as part of the PFM reform program. During the first year of implementation, MOH will outsource the internal audit function to a reputable auditing firm with quarterly reporting to MOH and ADB. On the second year, MOH should operationalize the audit unit within the Ministry.

Reporting and Monitoring – implementation of the project in the 300 districts will be difficult	MOH together with the PHDs should undertake multi-year planning to ensure that all activities are synchronized and funds made available on time to prevent any delays in project implementation. PHDs will also provide regular monthly reports to CPMU on the activities undertaken during the month including problems/issues encountered and measures adopted by the PPIU and the district to address the problem/issues.	MOH and PHDs	Multi-year planning should be conducted annually as part of annual budget preparation. Furthermore, coordination meetings between the CPMU and PPIUs should be held monthly to monitor accomplishments against targets.

Source: Consultant's Assessment

B. Disbursement

1. Disbursement Arrangements for ADB Funds

47. The loan and grant proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2015, as amended from time to time), and detailed arrangements agreed upon between the governments and ADB. Online training for project staff on disbursement policies and procedures is available.[2] Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

48. Pursuant to ADB's Safeguard Policy Statement (2009) (SPS),[3] ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS. All financial institutions will ensure that their investments are in compliance with applicable national laws and regulations and will apply the prohibited investment activities list (Appendix 5) to activities financed by ADB.

49. ADB direct payment procedures will be used to pay suppliers, contractors and consultants. With oversight of MOH, the PMU will be responsible for (i) preparing disbursement projections, (ii) requesting budgetary allocations for counterpart funds, (iii) collecting supporting documents, and (iv) preparing, endorsing, and submitting withdrawal applications to ADB. EA will collect all supporting documents and prepare and submit withdrawal applications to ADB, while retaining copies in EAs and Treasuries, except for SOE procedures which will be retained by the IAs, with copy to the EAs.

2. Imprest fund procedure

50. To facilitate flow of funds, separate imprest accounts will be established and maintained. The imprest accounts will be established, managed, replenished, and liquidated according to ADB's *Loan Disbursement Handbook ((*2015, as amended from time to time), and detailed arrangements agreed upon between each MOH and ADB.

51. After effectiveness of loans (and grant in the case of Laos), an imprest accounts (FGIAs) will be opened in each country. In Cambodia and Lao PDR, the MEF and MOF will respectively manage this account directly; while in Myanmar and Viet Nam, the MOH will be assigned to manage the imprest account.

[2] Disbursement eLearning. http://wpqr4.adb.org/disbursement_elearning
[3] http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf

52. The initial amount to be deposited by ADB in the imprest account of each country will be based on (i) the approval of the project annual operational plan and (ii) the estimated expenditure for the first 6 months of project implementation to a maximum of $2,100,000 for Cambodia, $1,200,000 for Lao PDR, $1,200,000 for Myanmar, and $4,000,000 for Viet Nam. The request for initial and additional advances to the imprest account should be accompanied by an Estimate of Expenditure Sheet[4] setting out the estimated expenditures for the first six (6) months of project implementation, and submission of evidence satisfactory to ADB that the imprest account has been duly opened. The total outstanding advances to the imprest accounts (including advances to subaccounts) should not exceed the estimate of ADB's share of expenditures to be paid through the imprest accounts for the forthcoming 6 months. Advances to subaccounts should not exceed $50,000. For larger payments, direct payment can be used. For every liquidation and replenishment request of the imprest account, the recipient / borrower will furnish to ADB (a) Statement of Account (Bank Statement) where the imprest account is maintained, and (b) the Imprest Account Reconciliation Statement (IARS) reconciling the above mentioned bank statement against the EAs records.[5]

53. In Cambodia, MEF will open a Dollar and a Riel project imprest account in NBC. ADB funds will be deposited in the Dollar account and transferred to the MEF Riel account. From the MEF Riel account, funds will be transferred to the MOH subaccount in ACLADA bank, or the provincial subaccounts in provincial NBC accounts. In MOH, the Project Director, the Deputy Project Director and the Chief Accountant will be signatories of the MOH subaccount, for cash withdrawal and payment of advances and contracts. In the provinces, Director Health, Deputy Director Health and Chief Accountant Provincial Health Office will be signatories. All liquidation from all central and provincial IAs is collected and checked for submission to MEF by DPHIS.

54. In Laos, MOF will open a Dollar loan, A Dollar grant, a Kip loan, and a Kip grant project imprest account in the National Treasury. ADB funds will be deposited in the Dollar accounts and transfers to the Kip accounts. From these treasury accounts, Kip project funds will be transferred to MOH subaccount in qualified commercial banks, and to provincial subaccounts in the provincial treasury. MOH subaccount will be managed by DPIC for all central IAs. The Project Director, the Deputy Project Director and the Chief Accountant are signatories as authorized by MOF, for cash withdrawal and payment of contracts. At provincial level, Director Health, Deputy Director Health and Chief Accountant Provincial Health Office will be signatories. All liquidation from central and provincial IAs is collected and checked for submission to MOF by DPIC.

55. In Myanmar, MOF will establish a pass-through Dollar account in MEB, authorize MOH to establish the Kyat project imprest account in MEB, and authorize state/region IAs to open Kyat subaccounts. MOF will transfer project funds to the MOH project imprest account, and MOH will transfer project funds to the states/region subaccounts (one line of authority). The Kyat imprest account of MOH will be used to pay for all of MOH disbursements and provide and payment to state/region subaccounts. The Project Director, the Deputy Project Director and the Chief Accountant are signatories in MOH as authorized by MEB, and state/region directors, deputy directors and chief accountants are signatories at state/region level, for cash withdrawal and payment of contracts. All liquidation from central and provincial IAs is collected and checked for submission to MOF by Finance Department in MOH.

56. In Viet Nam, MOF will establish a pass-through Dollar account in SBV, authorize MOH to

[4] ADB. 2015. *Loan Disbursement Handbook*. 10B.
[5] ADB. 2015. *Loan Disbursement Handbook.* IARS format is in Appendix 30.

establish a Dong project imprest account in SBV or a qualitied commercial bank, and authorize central and provincial IAs to open Dong subaccounts in any qualified bank. MOF will transfer project funds to the MOH project imprest account, and MOH will transfer project funds to the IAs (one line of authority). The Dong imprest account of MOH will be used to pay for all of MOH disbursements and provide and payment to central and provincial subaccounts. The Project Director, the Deputy Project Director and the Chief Accountant are signatories in MOH as authorized by MOF, and central and provincial institutional/provincial directors, deputy directors and chief accountants are signatories at state/region level, for cash withdrawal and payment of contracts. All liquidation from central and provincial IAs is collected and checked for submission to MOF by Finance Department in MOH.

57. Separate sub-accounts should be established and maintained by the borrowers, grant recipient, executing agencies, and implementing agencies for each funding source. The sub-accounts receiving ADB funds are to be used exclusively for ADB's share of eligible expenditures. The borrowers, executing agencies, and implementing agencies should ensure that every liquidation and replenishment of each sub-account is supported by sufficient documentation in accordance with ADB's *Loan Disbursement Handbook* (2015, as amended from time to time).

3. Statement of expenditure procedure.

58. The SOE[6] procedure may be used for reimbursement of eligible expenditures or liquidation of advances to the imprest accounts. The ceiling of the SOE procedure is the equivalent of $xx,000 per individual payment. Supporting documents and records for the expenditures claimed under the SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit. Reimbursement and liquidation of individual payments in excess of the SOE ceiling should be supported by full documentation when submitting the withdrawal application to ADB.

59. Before the submission of the first withdrawal application, the borrowers/grant recipient should submit to ADB sufficient evidence of the authority of the persons who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is US$100,000 equivalent. Individual payments below this amount should be paid (i) by the executing agencies and subsequently claimed to ADB through reimbursement, or (ii) through the imprest fund procedure, unless otherwise accepted by ADB.

4. Disbursement Arrangements for Counterpart Fund

60. Counterpart funds will finance, in Viet Nam, project management costs of $3.84 million, in Myanmar project management costs of $0.42 million, in Cambodia taxes and duties $1.1 million, and in Laos taxes and duties of $0.34 million. Project management costs are provided as a monthly project allowance and do not require ADB contribution and will not directly hamper procurement or services. Government contributions for taxes and duties will be in the form of import tax exemption, which the EAs will apply for as provided in government regulations.

[6] SOE forms are available in Appendix 9B and 9C of ADB's *Loan Disbursement Handbook* (2015, as amended from time to time).

5. Financing of Regional Activities

61. Unlike in earlier projects, there will be no pooled funds to support regional activities. Each MOH, based on an agreed regional plan and reflected in the national project plan, will finance from its own project resources (i) in-country activities including workshops, forums, and cross-border coordination, and (ii) participation of its own staff in regional activities abroad. Regular project accounts will be used. In addition, ADB is committed to mobilize regional TA funds to manage the regional project unit in Vientiane, facilitate the annual regional steering committee, reviews and forums, and finance technical assistance for project implementation.

C. Accounting

62. The ministries of health will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project following accrual-based accounting in Cambodia, Lao PDR and Viet Nam, and cash-based accounting in Myanmar following the equivalent national accounting standards. The ministries of health will prepare project financial statements in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices.

D. Auditing and Public Disclosure

63. The ministries of health will cause the detailed project financial statements to be audited in accordance with international or national audit standards acceptable to ADB, by an independent auditor acceptable to ADB. The audited project financial statements together with the auditor's opinion will be presented in the English language to ADB within 6 months from the end of the fiscal year by the ministries of health.

64. The audit report for the project financial statements will include a management letter and auditor's opinions, which cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; (ii) whether the proceeds of the loans and grant were used only for the purpose(s) of the project; and (iii) whether the borrower or executing agency was in compliance with the financial covenants contained in the legal agreements (where applicable).

65. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

66. The governments, ministries of health, and their implementing agencies have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.[7] ADB reserves the right to

[7] ADB's approach and procedures regarding delayed submission of audited project financial statements:

(i) When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (a) the audit documents are overdue; and (b) if they are not received within the next 6 months, requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.

(ii) When audited project financial statements are not received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (a) inform the executing agency of ADB's actions; and (b) advise that the loan may be suspended if the audit documents are not received within the next 6 months.

require a change in the auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

67. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's Public Communications Policy 2011.[8] After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.[9]

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting and Retroactive Financing

1. 68. All advance contracting will be undertaken in conformity with ADB Procurement Guidelines (2015, as amended from time to time) and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). Advance contracting, if approved during loan/grant processing (to be listed), will be subject to ADB approval. The borrowers/grant recipient and health ministries of CLMV countries have been advised that approval of advance contracting does not oblige ADB to finance the project. No retroactive financing will be used in the project.

B. Procurement of Goods, Works, and Consulting Services

69. All procurement of goods and works will be undertaken in accordance with ADB's Procurement Guidelines (2015, as amended from time to time).

70. International Competitive Bidding procedures will be used for procurement of goods with bid packages estimated to cost $1.0 million or more. Any bid packages of goods valued at less than $ 1.0 million will be procured through National Competitive Bidding. In addition, project vehicles and laboratory equipment and supplies may be procured through the United Nations system provided the procurement procedures are acceptable to ADB. Any procurement of goods and services costing less than $100,000, subject to government ceiling, may be done through shopping with advertisement, and less than $10,000 without advertisement. Minor repair of hospital and laboratory facilities costing less than $10,000 may be done through force account.

71. Before the start of any procurement, ADB and the government will review the public procurement laws of the central and state governments to ensure consistency with ADB's Procurement Guidelines (2015, as amended from time to time).

72. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is

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(iii) When audited project financial statements are not received within 12 months after the due date, ADB may suspend the loan.

[8] Public Communications Policy: http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications

[9] This type of information would generally fall under public communications policy exceptions to disclosure. ADB. 2011. *Public Communications Policy*. Paragraph 97(iv) and/or 97(v).

in Section C.

73. All consultants (and NGOs, if to be engaged) will be recruited according to ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).[10] The terms of reference for all consulting services are detailed in Section D.

74. All international and national consultants for CLMV countries will be financed by the respective national budgets except those financed under TA not included in this proposal. As provided in Section D, an estimated 1,362 person-months (187 international, 1175 national) of consulting services are required to (i) support project implementation in project management, procurement, financing, gender and safeguards, and (ii) provided technical assistance in regional cooperation, CDC in border areas, surveillance and response, laboratory services, and infection prevention and control. Details on the type of consultant, type of contract, and period of engagement are provided in Sector D, while a summary TOR is provided in Appendix 7.

75. Most national and international consultants will be recruited as individuals consultants because this facilitates relevance, integration, flexibility, and oversight of consultants in PMUs. For long term engagements, the role of the EA in backstopping is more relevant than the firm and consultants may be engaged at lower cost and replaced more quickly. Consulting firms will be engaged for well defined assignments that require technical backstopping such as accounting services in Laos, using the quality- and cost-based selection (QCBS) method with a standard quality–cost ratio of 80:20, or otherwise agreed between ADB and the EAs for specific cases. Support staff (secretaries, office assistants, drivers, and cleaners for PMUs will be contracted directly.

C. Procurement Plan

76. The procurement plan have been prepared in accordance with the generic templates prepared by the Operations Services and Financial Management Department and are provided in Appendix 9.[11]

D. Consultant's Terms of Reference

77. The list of consultants by country, field, period and procurement method, as budgeted, is in table xx, and the summary terms of reference is in Appendix 7.[12]

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[10] Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: http://www.adb.org/documents/handbooks/project-implementation/

[11] Procurement plan template: http://wpqr2.asiandevbank.org/LotusQuickr/cosopedia/PageLibrary48257599000668D1.nsf/h_Toc/5EA6EACF755AA652482575D9002FCB8F/?OpenDocument .

[12] Terms of reference: http://www.adb.org/Documents/Manuals/Consulting-Services-Operations-Manual/CSOM.pdf?bcsi_scan_D4A612CF62FE9576=AORY9a8Nho2ezS9Xss/ligEAAAANNiAA&bcsi_scan_filename=CSOM.pdf (paras 65–72).

Table 24: GMS Health Security Project list of proposed consultants

Field of Expert	Type of contract	Cambodia	Lao PDR	Myanmar	Viet Nam	Total
International						
Chief Technical Adviser (CTA)	Individual	26	32	15	24	97
Laboratory Quality Improvement	Individual	19	11	6	12	48
Infection Prevention and Control	Individual	6				6
Procurement	Individual	14		6	12	32
Gender and Social Safeguards	Individual	4				4
Subtotal		**69**	**43**	**27**	**48**	**187**
National						
Deputy CTA	Individual	50	53	50	60	213
Planning, Monitoring, and IT	Individual	120		50	60	230
Laboratory Equipment and Training	Individual	34	47	26	60	167
Infection Prevention and Control including Waste Management	Individual	6			60	66
Procurement	Individual	38		26	60	124
Gender and Social Safeguards	Individual	30*	6	9	60	105
Financial management	Indi/Firm	100	60 (firm)	50	60	270
Audit	State/firm	tbd	tbd	tbd	tbd	
Laboratory studies: assessment of causes of fever and immunization efficacy in children (combined)**	Individual	tbd	tbd	tbd	tbd	
Subtotal		**378**	**166**	**211**	**420**	**1175**
Total		**447**	**209**	**238**	**468**	**1362**

*from planning and monitoring
** National laboratories (IAs) will conduct assessments for implementing laboratory improvement

VII. SAFEGUARDS

78. **Vulnerable Groups in Border Areas**. During project preparation, due diligence appraisal for potentially affected people focused on vulnerable groups in border areas including migrants and mobile people, isolated ethnic minority groups, and poor women and children. Improved connectivity is facilitating the spread of communicable diseases . People in border districts and migrants are more affected by, and less informed about these health hazards, are less prepared, and have less access to services. The targeted border districts have a higher proportion of families living below or near the poverty line. The Project will need to give special attention to monitoring implementation of CDC in border areas (under Output 1). The Project Director will assign sufficient financial and technical resources to reach these border people, including support of CTA and gender and social development expert. Roll out of these activities will be based on mapping of vulnerable groups in border areas of targeted districts, participatory planning, education, and linking these groups to health services.[13]

79. **Indigenous People**. Ethnic minority groups constitute about 50% in the targeted border districts in four countries, more so in Myanmar and the Lao PDR, but only part of these are indigenous and not mainstreamed. These isolated ethnic minorities in the proposed project areas will be targeted to benefit from the Project as they are more likely to suffer from poverty,

[13] Staff Guide to Consultation and Participation. http://www.adb.org/participation/toolkit-staff-guide.asp and CSO Sourcebook: A Staff Guide to Cooperation with Civil Society Organizations. http://www.adb.org/Documents/Books/CSO-Staff-Guide/default.asp.

communicable diseases, lack of education, and lack of access to health services. For each country, an Ethnic Group Development Plan was prepared and is provided in Part III of the Consultant's report No negative impact on indigenous people is expected. Because of the risk of these people not receiving project benefits, the Project is categorized as B for indigenous people. Along with improving preparedness for emerging diseases, these groups will be assisted to access existing health services for communicable diseases through campaigns, training of village health workers, and mobile clinics. To address a shortfall of health workers in these locations in the long term, the Project may also provide scholarships for ethnic students as health workers. Directors of provinces (states/region) will be responsible for ensuring that project activities for indigenous people are planned properly and that agreed activities are included in the annual operational plan.

80. **Land Acquisition and Resettlement**. The Project has no major civil works, only internal repairs of hospital wards, sanitation facilities, and laboratories in government premises. There is no resettlement or otherwise commercially or physically displaced persons. In the unlikely event of a future change of scope that does affect people, for each country, a Resettlement Framework was prepared (Part III of the Consultant's report), which needs to be followed by the EA. The PMU will monitor for compliance of this safeguard and report to ADB accordingly.

2. **Environment:** The Project is expected to improve environmental conditions in hospitals and laboratories. No significant adverse environmental impacts have been identified. The Project will assist in improving infection control in targeted health facilities, and also in the field during outbreaks. Each MOH is rolling out a national Hospital Infection Prevention and Control program with technical leadership of WHO. Initial Environmental Examinations were prepared during PPTA and are provided in Part III. The Project's Environmental category is B. The head of the IA in each targeted province (or state/region in the case of Myanmar), usually the provincial project director or deputy, will prepare, implement and monitor an Environmental Management Plan based on assessment of environmental aspects of proposed project interventions. The provincial annual operation plan will include a budget for this purpose.

81. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement (2009).

VIII. GENDER AND SOCIAL DIMENSIONS

82. The proposed project's gender categorization is "effective gender mainstreaming." Gender mainstreaming will help improve CDC outcomes and address gender issues. Priority will be given to mainstreaming of gender issues in all project activities including services design, guidelines and monitoring; and by equitable anticipation of women and girls in education and training and as caretakers of sick family members. The Regional and country gender analysis are in Part III. To ensure the effectiveness of gender mainstreaming and gender-related outcomes in the Project, each MOH had confirmed a Project Gender Action Plan (GAP) that is aligned with sector-wide gender equality commitments[14]. Each MOH will fully incorporate the various gender mainstreaming features of GAP in the government's project design documents, and provincial annual operational plans. National gender and social safeguards expert will be

[14] Briefing Note: Project Gender Action Plans. http://www.adb.org/Documents/Brochures/Project-Gender-Action-Plans/default.asp, and Updated Gender Mainstreaming Categories of ADB Projects. https://lpedgedmz.adb.org/lnadbg1/ocs0178p.nsf/0/37CC7D6E8E3CC57D482576E20083C156?OpenDocument

engaged. These key features are also mirrored in the project DMF, loan assurances, and PAM, including disaggregated monitoring by gender.

83. A project poverty and social analysis was prepared for each country (provided in Part III of the Consultant's report) and presented in the linked summary poverty reduction and social strategy (SPRSS) reports.[15] During PPTA, those consulted[16] included potential beneficiaries, village health workers, community-based organizations, health staff, provincial and district health managers, provincial governments, central ministries, development partners and NGOs. In addition, much has been learned from engagement in earlier projects with similar scope except in Myanmar. Reaching isolated communities is challenging, but provinces will use well-tested existing channels to reach them, such as village health communities, village health workers/volunteers, grassroots networks such as women's unions, the Red Cross and schools. No specific communication and participation plan has been prepared for the project because it was considered unnecessary given that existing organizational structures down to the village level will be used, and strengthening of pre-existing community outreach and consultation channels will better maximize sustainability of project interventions. However, participation will be closely monitored at all levels, including through regular use of community-level data disaggregated by sex and ethnicity.

84. While countries have seen rapid economic growth and per capita income for the lowest income quintile has also improved, cost of living has also gone up, and there is a large group of people living below or near the poverty line, in Cambodia as much as 70% of the population. Other important developments that impact on the poor are devolution and participatory processes, which need further strengthening. It is evident that CLMV governments need to make more efforts to address equity issues, including achieving extended MDGs and UHC which will depend on whether the poor and vulnerable groups can be reached. The project will not address general issues, but assist with the regional strategies for the control of EIDs and other infectious diseases of regional importance such as for HIV/AIDS, malaria, tuberculosis, and dengue, and in general linking border communities with health services, all of which contribute to a heavy disease burden and/or risk of further impoverishment on poor and near poor communities. The project will mainstream HIV/AIDS and human trafficking concerns into CDC communication activities.

85. A range of social indicators are included in the DMF, GAP and EGP to ensure monitoring of social impacts during project implementation. Project monitoring will focus on case reporting and monitoring demand for specific health services in the project area, for which a strong system is already in place, and on participatory monitoring. The project will not have a major impact on addressing affordability and financial barriers to health care, which is to be ensured through sector program support, but as it is an important demand determinant, this will also be monitored.

[15] ADB's *Handbook on Social Analysis: A Working Document.* http://www.adb.org/Documents/Handbooks/social-analysis/default.asp.

[16] *Staff Guide to Consultation and Participation*: http://www.adb.org/participation/toolkit-staff-guide.asp and, *CSO Sourcebook: A Staff Guide to Cooperation with Civil Society Organizations*: http://www.adb.org/Documents/Books/CSO-Staff-Guide/default.asp.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION

A. Project Design and Monitoring Framework

86. The DMF is provided as an attachment to the draft project proposal (main report).

B. Monitoring

87. **Project performance monitoring and evaluation system.** According to the DMF, monitoring is proposed at impact, outcome, output, activity and input levels. This requires data collection at regional/national, provincial/district, health facility/community level, and team and project levels (table x). Performance will be affected by external conditions (interlopers) that need to be taken into consideration (table x).

Table 25: Monitoring and Evaluation Levels

Design	Level	Indicator groups	Sources	interlopers
Impact	National/regional	Diseases reported	Surveillance, Surveys	Unpredictability of some diseases
Outcome	Provincial/district	APSED/CDC coverage: people treated/served	Health services and community care statistics	Demand affected by access to health services
Output	Health facility/ community level	Services and community status	Facilities and communities covered	Staff, funds and supplies
Activity	Team level	Health team/project activities	Linking facilities, mapping, outreach, training health workers, cross-border work	Private sector
Input	Project level	Project inputs	Staff, equipment, transport, supplies, funds	Other inputs

88. Unlike in earlier projects, the project will not conduct a representative household survey and health services survey to assess project impact and outcome as this will not yield specific indicators unless done on a large scale which is expensive and time consuming. Instead, to monitor impact, the project will collect data from surveillance systems and large household surveys and medical and economic statistics. These will show whether there were outbreaks of diseases, case fatalities etc., and whether there was an increase in demand for health services. Two issues are that several diseases may or may not occur depending on many factors, and that many cases may be missed because of affordability and other issues. It is assumed that the absence of an outbreak or epidemic (zero) is an acceptable good proxy for impact. Outputs are the products in control of the project. It is expected that the project can improve services at community and facility levels including linkages with major disease control programs. These need to be collected by the provincial IAs. This will also involve monitoring activities and inputs.

89. Within 3 months of loan/grant effectiveness, the Executing Agencies in the CLMV countries will, through their respective PMUs, establish a comprehensive but simple project performance monitoring and evaluation (M&E) system acceptable to ADB (to do this in 3 months requires advance action by EA and ADB). The EAs will be responsible for project M&E. Within 6 months of implementation, a baseline indicator study at community level and health facility level will have been conducted to refine and expand verifiable indicators of project outputs, outcome and impact. Where feasible, data will be disaggregated by gender and ethnic

group. The baseline assessment will be used as the basis for the data collection and analysis for the midterm and final impact evaluation studies. The final impact study will be the basis for the project completion report.

90. The interventions, in addition to improving surveillance and response, laboratory services and hospital hygiene, will include (i) outreach programs for isolated ethnic groups in border areas including public health information, participatory planning, basic treatment, referral, village hygiene and vector control, and other activities relevant to local CDC situations; (ii) mobile clinics for some high risk ethnic groups, migrant camps and work sites in border areas for H/T/STI awareness, screening, counseling and referral. The PPMES will monitor each participating project community using both quantitative and qualitative targets. At community, health facility, district, and provincial levels, benchmarks will be established and targets agreed to. Disaggregated baseline indicators for inputs, activities and outputs will be updated and reported quarterly through the EAs quarterly progress reports. Outcome data will be reported on a yearly basis These quarterly reports will provide sufficient information necessary to update ADB's project performance reporting system.[17]

91. **Compliance monitoring.** The PMU will be responsible for monitoring covenants. Compliance with project covenants will be reported in the quarterly and annual reports prepared by the PMU. ADB loan review missions will review and report on project covenants at least once a year, and more often if needed. The loan covenants can be found in Annex xx.

92. **Safeguards monitoring.** During project preparation, due diligence appraisal for potentially affected people focused on vulnerable groups in border areas including migrants and mobile people, isolated ethnic minority groups, and poor women and children. The PPMES will reflect this in its design.

93. The provincial/state directors will cause to prepare a provincial/state EMP prior to improving provincial/state health laboratory services and hospital hygiene and submit this to the PMU. The same persons will also confirm that there is no resettlement impact and report this to the PMU. The PMU will confirm the same prior, including availability of funds in the provincial/state AOP for project monitoring, before transferring funds. Actions for EMPs are mainstreamed in regular project activities and specifically targeted under output 1, where these will be monitored up to community level.

94. **Gender and social dimensions monitoring.** CLMV governments plan the overall concept of gender mainstreaming and one sector-wide GAP. Indicators provided in the project GAP may need to be adjusted.[18] Each PMU will have an expert to help update the GAP and monitoring progress. The PMU needs to ensure that GAP recommendations are reflected in annual operational plans of the EA and IAS, and are adequately budget.

C. Evaluation

95. ADB will conduct an inception mission within 2 months after project start-up to discuss requirement and risk mitigation and agree on the overall project implementation plan and

[17] ADB's project performance reporting system is available at http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool

[18] ADB's Handbook on Social Analysis: A Working Document, is available at: http://www.adb.org/Documents/Handbooks/social-analysis/default.asp, *Staff Guide to Consultation and Participation*: http://www.adb.org/participation/toolkit-staff-guide.asp, and, *CSO Sourcebook: A Staff Guide to Cooperation with Civil Society Organizations*: http://www.adb.org/Documents/Books/CSO-Staff-Guide/default.asp

arrangements. Every 6 months, ADB will conduct a project review mission to discuss project activities and resolve issues with the EA. The midterm review early in year 3 of implementation is to appraise project progress against DMF indicators, and make adjustments in scope, implementation arrangements, and project resources if necessary. Within 6 months after the physical completion of the Project, the PMU will submit to ADB a project completion report analyzing project implementation, project performance, achievements against targets, and expected project impact.[19] ADB will also conduct a thorough project evaluation with the help of a consultant.[20] ADB's Independent Evaluation Department may also select the project for evaluation, and ADB's inspection department may select the project for financial audit.

D. Reporting

96. The purpose of reporting is (i) project monitoring including indicators, physical activities, procurement and disbursement, project human resources, and compliance with covenants and safeguards, and (ii) bring progress, issues and possible solutions to the attention of Government, IAs, staff, and ADB and partners as relevant.

97. Each Ministry of Health will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through physical activities and the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for the next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure that projects will continue to be both viable and sustainable, project accounts and the executing agency audited financial statement together with the associated auditor's report, should be adequately reviewed.

98. The progress reports will have information on the physical progress of activities, compliance with grant covenants, organizational and financial issues, gender and ethnic minority activities, the proposed program of activities, and expected progress in the next plan period. The report should be received by ADB within 15 days of the end of each quarter, i.e., not later than the 15th of January, April, July and October of the Project implementation period. The progress report should enable ADB to:

(i) follow the progress made regarding establishment and staffing of Project offices, recruitment of consultants, and their performance, preparation of detailed designs and tender documents, procurement of goods and services;

(ii) follow the progress made for each component during project implementation;

(iii) monitor the cost of the Project, i.e., contract awards or commitments to date, expenditures made and revised cost estimates;

(iv) determine the status of Borrower's Recipient's compliance with grant covenants, including the provision of local counterpart funds, and the reasons for non-compliance or delay in compliance;

(v) identify the problems encountered during the quarter under review, steps taken or proposed to be taken to remedy these problems, as well as other Project

[19] Project completion report format available at: http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar

[20] Project completion report format is available at: http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar

developments which might adversely affect the viability of accomplishment of the objectives of the project;

(vi) determine the percentage of Project implementation progress (both from an implementation and financial disbursement perspective)

E. Stakeholder Communication Strategy

99. There are four sets of key messages to be communicated:

a. **General Project Information**. Each MOH will organize a project launch, mid-term and end-of-project meetings to inform ministries, provincial representatives, mass organizations and partners about the project plan, and solicit feedback from stakeholders during the project life. Similarly, provinces will organize project launch, mid-term and end-of-project meetings for district representatives, agencies and mass organizations representing MEVs, and community representatives. Folders will be made available in the local languages.

b. **Surveillance and response**. The provincial health offices will organize meetings for public representatives and in charges of health facilities on public health security and their role in reporting suspected causes of EID or other serious infectious disease, within the context of overall village health development. Identified cases will be offered free treatment under national priority programs.

c. **MEV engagement**. CDC departments will roll out an MEV identification, outreach, participation, and case referral program. CDC departments will train district staff responsible for outreach to identify MEVs, conduct participatory planning, and link MEVs with public health services.

d. **Hospital and laboratory hygiene**. An information campaign will be rolled out by MOH departments in charge of hospital services to inform patients attending hospital and laboratory about hygiene rules based on new IPC SOPs to be enforced. Video tapes will be made available in the outpatient department. Nurses will be trained in inspection and education of staff and public.

100. For many years, ethnic minorities have been consulted and there is a better understanding of their priorities and issues, e.g., through implementation of the Model Healthy Village activity,[21] the GMS Strengthening Strategies for Malaria Control Project,[22] and other disease management and HIV and infrastructure projects. However, regular government services often fail to engage isolated ethnic minorities except for measles and polio campaigns because of physical, social and financial hurdles. The Project will make outbreak response vehicles and motorcycles available that can reach remote border areas.

101. The growth of migrant labor is a more recent phenomenon. Most migration is internal, but there are also increasing numbers of migrants from and to abroad, often illegal and with language problems. Efforts to document and address the specific health priorities of migrants are few to date, and tend to be limited to specialized agencies such as the International Organization of Migration and the International Labor Organization. There is little information on the actual health status and health behavior of migrants. As such, there is a recognized need to enhance exchange of views with migrants to achieve at a better understanding of their health priorities.

102. Consultation of migrants is complicated: they often work in off-bounds plantations,

[21] ADB. Second GMS Regional Communicable Diseases Control Project. 2009.
[22] ADB. GMS Strengthening Malaria Control for Ethnic Minorities. 2005.

factories and casinos and many are not registered or illegal, making them reluctant to report to health services. The government does not yet fully recognize the value of migrant workers as a major contributor to the economy, and as a group with specific needs and vulnerabilities, including labor rights, and specific health risks. Migrants face challenging working and living conditions making it more difficult for them to take part in participatory planning activities, or to engage them in health services. MOH will need to facilitate the project by obtaining clearances and participation from the Ministry of Labor and other concerned agencies, and also adjust health budgets to reach out to migrant populations.

103. To prepare the project implementation plan, each provincial/state office will first conduct a needs assessment with the help of the PMU. This will involve mapping of MEVs, field visits and consultations. The provincial/state project team will lead a participatory planning process to prepare a five-year project plan and annual project plans for MEV outreach as part of the regular provincial annual health plan. Investments will have to satisfy project criteria in terms of agreed scope, target groups, social dimensions, facilities, staff capacity, and sustainability.

104. Consultants engaged under the project including CTA and gender and social development expert will be particularly assigned to CDC in border areas and outreach to MEVs. The participatory planning process will also be included in the annual operational plans and budgeted accordingly. The team will also conduct participatory monitoring and reporting on the project website. The project design and implementation progress will be accessible on the website of the regional coordination unit: gmshealthsecurityprojectrcu@gmail.com and on the ADB website.

X. ANTICORRUPTION POLICY

105. ADB's *Anticorruption Policy* (1998, as amended to date) [23] was explained to and discussed with each MOH. Consistent with its commitment to good governance, accountability and transparency, ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.[24] All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants, and other service providers. Individuals and/or entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.[25]

106. To support these efforts, relevant provisions are included in the loan and grant agreements and the bidding documents for the project. There are risks of fraud in the procurement process and in financial management, and risk of misuse or theft of project vehicles and equipment. Risks associated with project management, including procurement and disbursement, will be mitigated by the engagement of competent accountants and procurement experts. The Project will also establish a website in which it will disclose implementation progress; bid notifications and their results; and provide grievance mechanism against any corrupt practice. References on ADB's Anticorruption Policy can be accessed through the following link: http://www.adb.org/Integrity/.

[23] Available at: http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf
[24] Anticorruption Policy: http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf
[25] ADB's Integrity Office web site: http://www.adb.org/integrity/unit.asp

XI. ACCOUNTABILITY MECHANISM

107. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make an effort in good faith to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.[26]

XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL

108. Following loan effectiveness, any changes to the PAM will be recorded in this section.

[26] Accountability Mechanism. http://www.adb.org/Accountability-Mechanism/default.asp.

Appendix 1: Design and Monitoring Framework

Design Summary	Indicators, Baselines, and Targets	Sources	Assumptions and Risks
Impact			
GMS public health security strengthened	• No major outbreak of emerging or other epidemic in excess of 100 case fatalities • Outbreaks have less than 0.5% GDP impact in any quarter of the year • Proportion of cases with infectious diseases presenting at health facilities who are migrants, women and children, youth and ethnic groups increased by 20% (specific baseline to be provided)	• Economic reports • National CDC reports • Provincial health statistics • Health facility records in targeted hotpots in border districts	Assumptions: • Other nations make similar control efforts • interventions are effective Risks: Emergence of new, highly pathogenic and highly infectious diseases and of drug-resistant infection
Outcomes			
Improved GMS public health security system performance;	By December 2021: • APSED compliance increases from 70% to 90% average	• WHO IHR/APSED assessment • National CDC program reports • Provincial Health statistics • Health facility report	Assumptions: • Government and local authorities sustain adequate financial and administrative support
Outputs			
Output 1: Improved GMS collaboration and CDC in border areas 1.1: Strengthened regional, cross-border and intersectoral collaboration and knowledge sharing 1.2 Linked migrants, mobile people, isolated ethnic groups, and other vulnerable groups to CDC program	• Suspected cases of notifiable communicable diseases reported among GMS countries within 24 hrs • Each province conducts cross border and intersectoral disease control activities • Disease control for MMPs and ethnic groups enhanced and integrated in CDC programs by 2020	• Reports of regional steering committee, workshops, forums • Report of CDC program performance and campaigns in MEVs • Report of sentinel stations in public places such as labor camps, factories market and schools, and in isolated villages in border areas	Assumptions: • Governments prepared to share information on reported diseases • Ministries agree to budget for staff and resources to sustain regional cooperation • Local authorities support reaching MEVs • Resources of other programs are available
Output 2: Strengthened national surveillance and response system	• By 2020, 100% of public hospitals, 80% of health centers report gender disaggregated notifiable diseases within 12 hrs compared to respectively	Report of web-based surveillance and response reporting system.	Assumptions: • Availability of staff and vehicle for outbreak response teams Risks: • Internet connectivity,

	80% and 50% in 2014 • By 2020, all reported disease outbreaks in targeted provinces investigated within 24hr compared to 80% in 2014 with gender-balanced outbreak response team		and IT maintenance • Weak private provider participation
Output 3: Improved diagnostic and management capacity of infectious diseases 3.1: Improved laboratory biosafety and quality diagnostics 3.2: Improved hospitals management of infectious diseases	• 80% of Female and male laboratory staff meeting national laboratory quality and biosafety competencies, from about 60% at present • 80% of trained male and female staff hospital staff meeting IPC standards, from about 30% at present • 80% of trained male and female hospital staff meeting quality standards for case management, from about 50% at present	• Baseline and end-of-project assessments in targeted laboratories • Before and after IPC and case management assessment in targeted hospitals	Assumptions: • National or local governments provide sufficient budget for equipment maintenance and supplies. Risks: • Hospitals lack sufficient staff and facilities
Output 4. Results-based project management 4.1 Efficient and effective project management 4.2 Integrated and sustained project investments 4.3 Good governance	Results-based planning and monitoring is used Project investments are approved and sustained based on comprehensive annual plans and budgets to improve services Compliance with good governance, safeguards and gender action plan	Project management assessment based on quarterly and annual project implementation reports, financial records, interviews, and field visits	**Assumption:** PMUs engage competent consultants PMUs are competent in project implementation **Risks:** External interferes with PMU performance
Activities with Milestones			**Inputs:**
A1. Improved Regional Collaboration for Health Security in the GMS. 1.1 Organize annual national and regional steering committee meetings and workshops for project review and guidance 1.2 Conduct annual technical forums and COP on GMS CDC priorities 1.3 Conduct annual regional, cross-border and intersectoral events such as joint outbreak investigation, technical assistance and training consensus on regional database and establish information exchange of notifiable communicable diseases by Q2, 2018 1.4 Conduct mapping and survey of MEVs in border areas by Q2 2017 1.5 Conduct participatory planning with target groups and local staff to improve CDC coverage by Q3 2017 1.6 Design studies of innovative strategies to improve CDC in MEVs by Q4 2017. 1.7 Mobilize national program resources for CDC and use project resources to extend services in hotspots using government services, CBOs, by Q1, 2018 1.8 Implement CDC extension program from Q2 2018 onwards 1.9 Conduct specific disease control campaigns in border areas on a need basis 1.10 Evaluate CDC among MEVs through survey and study by Q2 2020			**Asian Development Bank**: Cambodia ADF Loan $21.0 million Lao PDR ADF Loan $12.0 million Myanmar ADF Loan $12.0 million Viet Nam ADF Loan $80.0 million **Government of Cambodia** $1.8 million **Government of Lao PDR** $0.6 million

A2: Strengthened Surveillance and Response Capacity for Disease Outbreaks 2.1 Review the surveillance and response systems by Q1, 2017 2.2 Strengthen monitoring of surveillance and response system by Q1, 2017 2.3 Plan and prepare surveillance and response improvements by Q2 2017 2.4 Procure or upgrade IT equipment by Q1 2018 2.5 Provide GIS software for surveillance by Q1 2018 2.6 Provide IT connection by Q1 2018 2.7 Provide IT training to focal points, IT users and FETP scholars by Q1, 2018 2.8 Harmonize surveillance indicators and systems for CDC by Q1 2019 2.9 Provide outbreak investigation funds from project and government sources by Q1 2017 2.10 Train outbreak response teams also using simulation exercises in Q2 2017 2.11 Provide training in risk analysis and communication in Q3 2017 2.12 Procure vehicles and outbreak response gear by Q4 2017 2.13 Conduct public information campaigns in Q4 2017	**Government of Myanmar** $ 0.6 million **Government of Viet Nam** $4.0 million Total: $132.0 million Additional Regional TA Grant of $2 million is proposed
A3: Improved Diagnostic and Management Capacity for Infectious Diseases 3.1 Procure laboratory supplies by Q1, 2017 3.2 Review laboratory strategy, plan, guidelines, standards and SOPs by Q3, 2017 3.3 Conduct detailed assessments of laboratory staff development by Q4, 2017 3.4 Conduct detailed assessment of laboratory performance by Q4, 2017 3.5 Conduct workshops to review findings and develop standards by Q1, 2018 3.6 Prepare comprehensive laboratory improvement plan for targeted laboratories as part of annual operational plans by Q2, 2018 3.7 Improve pre- and in-service training of laboratory staff by Q3, 2018 3.8 Strengthen laboratory quality improvement program by Q3 2018 3.9 Procure equipment for laboratories in 2018 and 2019 3.10 Conduct laboratory studies in 2019-2020 3.11 Perform detailed hospital IPC and case management assessments by Q4, 2017 3.12 Prepare detailed hospital IPC and case management plans by Q1, 2018 3.13 Establish IPC focal point and committee by Q1, 2018 3.14 Conduct training of hospital staff from Q2-Q4, 2018 3.15 Provide equipment and supplies in 2018 and 2019 3.16 Strengthen IPC monitoring in hospitals from Q1, 2018 onwards	
A4: Results-based Project Management 4.1 Engage CTA, deputy CTA, and experts for gender and social development, laboratory biosafety and quality management, project implementation, procurement, and financial management by Q2, 2017 4.2 Identify and track parameters of effectiveness, efficiency, integration, sustainability, and other qualities for results-based project management by Q3, 2017 4.3 Organize a workshop to plan for a results-based participatory project planning and implementation process to ensure project criteria are met by Q3, 2017 4.4 Conduct assessment of CDC baselines in border areas and identify and link milestones and actions to be taken to achieve implementation plans by Q4, 2017 4.5 Train all provinces in integrating investments and safeguards in provincial plans by Q1, 2018 4.6 Provinces develop AOPS and implementation plans by Q2, 2018	

Hotspots: markets and labor sites along or near economic corridors including local people, people from nearby villages, migrant workers, and mobile people

AOP = annual operational plan; CDC = communicable disease control; CLMV = Cambodia, Lao PDR, Myanmar, Viet Nam; CTA = chief technical adviser; IPC = infection prevention and control; MEV = migrant and mobile populations, ethnic minorities, and other vulnerable groups; MMP= migrants and mobile people; GMS= Greater Mekong Subregion; Lao PDR = Lao People's Democratic Republic; Q = quarter; TA = technical assistance

Source: Asian Development Bank.

Appendix 2: List of Project Provinces and Target Populations

Cambodia Project Location Details

No Provinces	Provinces	No Districts	Districts	Population	Border district	Ethnic	Poor (%)
1	**Banteay Meanchey**			**746,771**			**25.5**
		1	Mongkol Borei	247,530		1	
		2	Poipet	206,423	1	2	
		3	Preah Net Preah	156,538		3	
		4	Thma Puok	136,280	2	4	
2	**Battambang**			**1,176,528**			**24.8**
		5	Thmar Koul	231,168		5	
		6	Maung Russei	205,902		6	
		7	Sampov Luon	162,472	3	7	
		8	Battambang	372,440	4	8	
		9	Sangkae	204,546		9	
3	**Kampot**			**629,383**			**20.4**
		10	Angkor Chey	123,253			
		11	Chhouk	187,332			
		12	Kampong Trach	172,433	5		
		13	Kampot	146,365			
4	**Kandal**			**1,465,365**			**14.6**
		14	Takhmao	209,254			
		15	Saang	175,474			
		16	Koh Thom	177,733	6		
		17	Kien svay	118,457			
		18	Leuk dek	61,559	7		
		19	Muk kampoul	71,053			
		20	Lvea Em	99,465			
		21	Khsach kandal	282,966			
		22	Ponhea leu	98,657			
		23	Ang snoul	170,747			
5	**Kratie**			**370,916**			**32.6**
		24	Chhlong	107,617		10	
		25	Kratie	263,299	8	11	
6	**Mondulkiri**			**73,702**			**32.9**
		26	Sen Monorom	73,702	9	12	
7	**Pailin**			**67,565**			
		27	Pailin	67,565	21		23.9

8	**Preah Vihear**			**208,953**			**37.0**
		28	Tbeng Meanchey	208,953	10	13	
9	**Prey Veng**			**1,181,098**			**21.9**
		29	Kamchay Mear	140,476	11		
		30	Kampong Trabek	146,180	12		
		31	Mesang	122,687			
		32	Neak Loeng	129,378	13		
		33	Pearaing	117,840			
		34	Preah Sdach	119,775	14		
		35	Svay Antor	153,216			
		36	Sithor Kandal	75,150			
		37	Krong Prey Veng	81,367			
		38	Baphnom	95,029			
10	**Ratanakiri**			**187,005**			**36.2**
		39	Banlong	129,053		14	
		40	Borkeo	57,952	15	15	
11	**Stung Treng**			**133,408**			**36.8**
		41	Steung Treng	133,408	16	16	
12	**Svay Rieng**			**599,119**			
		42	Chi Phu	103,889	17		17.4
		43	Romeas Hek	142,088	18		
		44	Svay Rieng	221,890	19		
		45	Svay Teap	131,252	20		
13	**Tbong Khmum**			**776,970**			20.4 *
		46	Kroch Chhmar	91,415		8	
		47	Memut	137,015	22	9	
		48	O Reang Ov	92,186		10	
		49	Ponhea Krek	216,436	23	11	
		50	Tbong Khmum	239,918		12	
	TOTAL			**7,616,783**	**3,582,598**	**3,674,253**	

Sources: Ministry of Health, Department of Planning and Health Information (DPHI) 2016; Ministry of Planning and United Nations Development Programme, 2012. *Poverty Reduction by Capital, Provinces, Municipalities, Districts, Khans, and Communes and Sangkats Based on Commune Database 2004-2012*, Phnom Penh: MOP Based on the Commune Database 2004-2012.

*Data for Kampong Cham province from which Tbong Khmum province was split

Lao Project Locations Details

No. Province	Province Name	No District	District Name	No Villages	Total Population	Border	% Ethnic
1	**Phongsaly**						
		1	Phongsaly	82	37,408	China	95%
		2	May	78	23,596	Vietnam	99%
		3	Samphanh	78	26,877	Vietnam	95%
		4	Boon neua	70	18,952	China	91%
		5	Nhot ou	91	27,177	China	98%
		6	Boontai	57	16,619	China	97%
2	**Luangnamtha**						
		7	Namtha	69	44,584	China	85%
		8	Sing	85	30,790	China	85%
		9	Long	75	28,705	Myanmar	80%
3	**Oudomxay**						
		10	Xay	89	68,726	China	75%
		11	Namor	68	34,833	China	95%
4	**Bokeo**						
		12	Huoixai	98	68,380	Myanmar	65%
		13	Tonpheung	51	27,186	Myanmar	70%
		14	Meung	23	13,287	Thailand	65%
		15	Paktha	47	20,254	Thailand	75%
5	**Huaphanh**						
		16	Xiengkhor	58	29,115	Vietnam	68%
		17	Viengthong	65	26,392	Vietnam	64%
		18	Viengxay	113	35,741	Vietnam	72%
		19	Huameuang	74	30,820	Vietnam	54%
		20	Xamtay	145	57,901	Vietnam	59%
		21	Sopbao	58	27,735	Vietnam	74%
		22	Add	65	27,324	Vietnam	67%
6	**Xiengkhuang**						
		23	Nonghed	85	39,432	Vietnam	45%
		24	Morkmay	27	13,458	Vietnam	52%
7	**Borikhamxay**						
		25	Xaychamphone	38	37,401	Vietnam	34%
		26	Khamkheuth	75	66,403	Vietnam	41%
		27	Viengthong	41	31,573	Vietnam	38%
8	**Khammuane**						
		28	Bualapha	56	30,219	Vietnam	29%
		29	Nakai	38	27,845	Vietnam	59%
9	**Saravane**						
		30	Ta Oi	44	34,208	Vietnam	87%
		31	Toomlarn	53	32,272	Thailand	65%
		32	Samuoi	44	20,250	Vietnam	92%
10	**Sekong**						
		33	Kaleum	37	19,169	Vietnam	87%
		34	Dakcheung	65	29,413	Vietnam	85%
11	**Champasack**						
		35	Paksxong	65	71,045	Thailand	73%
		36	Pathoomphone	63	57,170	Cambodia	65%
		37	Moonlapamok	45	47,125	Cambodia	43%
		38	Khong	79	85,319	Cambodia	42%
12	**Attapeu**						
		39	Sanamxay	36	32,649	Vietnam	75%
		40	Sanxay	34	22,194	Cambodia	68%
		41	Phouvong	23	14,720	Vietnam & Cambodia	43%
12		**41**		**2587**	**1,434,267**	**All border districts**	**959,410 (67%)**

Myanmar Project Location Details

No State/ Region	State/Region	No Townships	Project town	Population	Border	Ethnic
1	**Shan State North**			**2,278,374**		
		1	Lashio	323,405		323,405
		2	Muse	117,507	117,507	117,507
2	**Shan State East**			**1,140,075**		
		3	Keng Tong	171,620		171,620
		4	Tachileik	148,021	148,021	148,021
3	**Kayah State**			**286,627**		
		5	Loikaw	128,401		128,401
		6	Mese	63,190	63,190	63,190
4	**Kayin State**			**1,574,079**		
		7	Hpa An	421,575		421,575
		8	Myawaddy	195,624	195,624	195,624
5	**Mon State**			**2,054,393**		
		9	Mawlamyaing	289,388		289,388
		10	Ye	152,485	152,485	152,485
6	**Tanintharyi Region**			**1,408,401**		
		11	Dawei	125,605		
		12	Kawthaung	116,980	116,980	
Total	**11,147,932**			**2,196,930 (19%)**	**736,936 (34%)**	**1,954,345 (89)**

Source: The 2014 Myanmar Population and Housing Census - The Union Report, May 2015 (web)

Table 5: Viet Nam Project Location Details

	Province /Districts	#	District	Total CHS	Population	Border district	Ethnic	Poor district	% poor (2012)
1	**Bac Kan**						**86.70**		**23.53**
		1	Ba Bể	16	46,350			1	
		2	Bạch Thông	17	30,216				
		3	Chợ Mới	16	36,747				
		4	Chợ Đồn	22	48,122				
		5	Na Rì	22	36,000				
		6	Ngân Sơn	11	27,680				
		7	Pác Nặm	10	26,131			1	
2	**Cao Bằng**						**95.32**		**32.98**
		1	Bảo Lâm	14	55,936	1		1	
		2	Bảo Lạc	17	49,362	1		1	
		3	Hà Quảng	19	33,261	1		1	
		4	Hòa An	21	63,515				
		5	Hạ Lang	14	25,294	1		1	
		6	Nguyên Bình	20	39,420				
		7	Phục Hòa	9	22,501	1			
		8	Quảng Uyên	17	39,572				
		9	Thông Nông	13	22,223	1		1	
		10	Thạch An	16	30,563	1			
		11	Trà Lĩnh	10	21,558	1			
		12	Trùng Khánh	20	48,713	1			
3	**Điện Biên**						**80.00**		**45.28**
		1	Dien Bien	25	106,313				
		2	Mường Chà	12	52,080	1			
		3	Mường Nhé	11	32,977	1		1	
		4	Mường Ảng	10	47,279			1	
		5	Tuần Giáo	19	74,031				
		6	Tủa Chùa	12	47,279			1	
		7	Điện Biên Đông	14	48,990			1	
		8	Nậm Pồ	15	43,542	1			
4	**Hà Giang**						**87.90**		**35.38**
		1	Bắc Mê	13	47,339				
		2	Bắc Quang	23	45,286				
		3	Hoàng Su Phì	25	59,427				
		4	Mèo Vạc	19	40.28	1			
		5	Quang Bình	15	56,824				
		6	Vị Xuyên	24	95,725	1			
		7	Xín Mần	20	31.53	1			
		8	Yên Minh	19	77,625	1			
		9	Đồng Văn	20	64,757	1			
		10	Quản Bạ	13	44,506	1			
5	**Hòa Bình**				832,543		**72.27**		**26.09**
		1	Lạc Sơn	29	132,337				

		2	Mai Châu	23	55,663				
		3	Đà Bắc	20	52,381				
6	**Lai Châu**						**79.14**		**38.88**
		1	Mường Tè	13	39,921	1		1	
		2	Phong Thổ	18	66,372	1		1	
		3	Sìn Hồ	22	74,703	1		1	
		4	Tam Đường	14	46,767				
		5	Than Uyên	12	57,837			1	
		6	Tân Uyên	10	58,439			1	
		7	Nậm Nhùn	11	24,165	1			
7	**Lạng Sơn**						**83.50**		**24.81**
		1	Bình Gia	20	52,087				
		2	Bắc Sơn	20	65,836				
		3	Cao Lộc	23	73,516	1			
		4	Chi Lăng	21	73,887				
		5	Hữu Lũng	26	112,451				
		6	Lộc Bình	29	78,324	1			
		7	Tràng Định	28	58,441	1			
		8	Văn Lãng	20	50,210	1			
		9	Văn Quan	24	54,068				
		10	Đình Lập	12	26,429	1			
8	**Lào Cai**					1	**66.88**		**35.29**
		1	Bát Xát	23	70,015	1			
		2	Bảo Thắng	15	99,974				
		3	Bảo Yên	18	76,415	1			
		4	Bắc Hà	21	53,587			1	
		5	Mường Khương	16	51,993	1		1	
		6	Sa Pa	18	53,549				
		7	Si Ma Cai	13	31,323	1		1	
		8	Văn Bàn	23	79,220				
9	**Quảng Ninh**						**12.53**		**4.89**
		1	Bình Liêu	9	27,629	1			
		2	Hải Hà	20	52,729	1			
		3	Tiên Yên	12	44,352				
		4	Đầm Hà	10	33,219				
10	**Sơn La**						**82.58**		**31.35**
		1	Bắc Yên	16	56,796			1	
		2	Mai Sơn	23	137,341	1			
		3	Mường La	16	91,377			1	
		4	Mộc Châu	15	104,730	1			
		5	Phù Yên	27	106,892			1	
		6	Quỳnh Nhai	16	58,300			1	
		7	Sông Mã	20	126,099	1			
		8	Sốp Cộp	11	39,038	1		1	
		9	Thuận Châu	30	147,374				
		10	Yên Châu	15	68,853	1			
		11	Vân Hồ	16	55,797	1			
11	**Phú Thọ**						**14.11**		**16.55**

		1	Cẩm Khê	31	125,790				
		2	Đoan Hùng	28	103,743				
		3	Hạ Hoà	33	104,872				
		4	Lâm Thao	14	99,859				
		5	Phù Ninh	19	94,094				
		6	Tân Sơn	17	76,035				
		7	Thanh Ba	27	108,015				
12	**Bắc Giang**						**12.00**		**15.39**
		1	Lạng Giang	23	191.048				
		2	Sơn Động	23	68,724				
		3	Tân Yên	24	158,547				
		4	Việt Yên	19	159,936				
		5	Yên Dũng	21	135.075				
13	**Yên Bái**						**46.00**		**32.53**
		1	Lục Yên	24	102,946				
		2	Mù Căng Chải	14	49,255				
		3	Trạm Tấu	12	26,704				
		4	Trấn Yên	22	79,397				
		5	Văn Chấn	31	144,152				
		6	Văn Yên	27	116,000				
		7	Yên Bình	26	39,420				
14	**Hà Nam**						**1.00**		**10.68**
		1	Bình Lục	19	133,978				
		2	Duy Tiên	20	115,011				
		3	Kim Bảng	18	116,054				
		4	Lý Nhân	23	175,878				
		5	Thanh Liêm	17	113,077				
15	**Nam Định**						**1.00**		**8.3**
		1	Giao Thủy	22	188,875				
		2	Hải Hậu	35	256,864				
		3	Vụ Bản	18	129,669				
		4	Xuân Trường	20	165,739				
		5	Ý Yên	32	227160				
16	**Vĩnh phúc**						**3.45**		**8.69**
		1	Bình Xuyên	13	108,246				
		2	Lập Thạch	20	118,646				
		3	Sông Lô	17	88,616				
		4	Tam Dương	13	94,692				
		5	Tam Đảo	9	69,084				
17	**Ninh Bình**						**2.00**		**9.85**
		1	Gia Viễn	21	115,708				
		2	Hoa Lư	11	66,187				
		3	Kim Sơn	27	164,735				
		4	Nho Quan	27	143,083				
18	**Hà Tĩnh**						**1.00**		**17.44**
		1	Can Lộc	23	127,515				
		2	Cẩm Xuyên	29	141,216				

		3	Hương Khê	22	100,212	1			
		4	Hương Sơn	32	117,167	1			
		5	Kỳ Anh	21	120,518				
		6	Lộc Hà	13	78,802				
		7	Nghi Xuân	19	97830				
		8	Vũ Quang	12	30,989	1			
19	**Nghệ An**						**13.35**		**18.79**
		1	Anh Sơn	21	99,358	1			
		2	Kỳ Sơn	21	69,524	1		1	
		3	Nghi Lộc	30	184,148				
		4	Quế Phong	14	62,129	1		1	
		5	Quỳ Hợp	21	116,554				
		6	Thanh Chương	40	248,952	1			
		7	Tương Dương	18	72,405	1		1	
		8	Đô Lương	33	183,584				
		9	Con Cuông	13	64,240	1			
		10	Nam Đàn	24	149,826				
		11	Quỳnh Lưu	22	279,977				
		12	Tân Kỳ	22	129,031				
20	**Quảng Bình**						**8.90**		**21.17**
		1	Bố Trạch	30	178,464	1			
		2	Lệ Thủy	28	140,527	1			
		3	Minh Hóa	16	47,083	1		1	
		4	Quảng Ninh	15	86,845	1			
		5	Quảng Trạch	18	95,542				
		6	Tuyên Hóa	20	77,700	1			
21	**Quảng Trị**						**9.00**		**16.41**
		1	Cam Lộ	9	44,731				
		2	Gio Linh	21	72,083				
		3	Hướng Hóa	22	74,216	1			
		4	Hải Lăng	20	86,335				
		5	Triệu Phong	19	94,610				
		6	Vĩnh Linh	22	85,584				
		7	Đakrông	14	36,437	1		1	
		8	Dảo Cồn Cỏ	13	83				
22	**Thanh Hóa**						**14.40**		**20.37**
		1	Bá Thước	23	96.36			1	
		2	Hoằng Hóa	43	250,534				
		3	Lang Chánh	11	45,346	1		1	
		4	Mường Lát	9	33,182	1		1	
		5	Như Xuân	18	64,319			1	
		6	Quan Hóa	18	43,789	1		1	
		7	Quan Sơn	13	35,435	1		1	
		8	Quảng Xương	30	227,971				
		9	Thường Xuân	17	83,218	1		1	

		10	Thạch Thành	28	136,221				
23	**Ninh Thuận**						**22.70**		**13.47**
		1	Bác Ái	8	24,304				
		2	Ninh Hải	9	89.42				
		3	Ninh Phước	9	135,146				
		4	Thuận Bắc	6	37,769				
24	**Quảng Nam**						**6.80**		**20.9**
		1	Bắc Trà My	13	38,218				
		2	Hiệp Đức	12	38,001				
		3	Nam Giang	12	22.99	1			
		4	Nam Trà My	10	25,464			1	
		5	Nông Sơn	7	31.47				
		6	Phước Sơn	12	22,586			1	
		7	Tiên Phước	15	68,877				
		8	Tây Giang	10	16,534	1		1	
		9	Đông Giang	11	23,428				
25	**Quảng Ngãi**						**11.60**		**20.69**
		1	Ba Tơ	20	51,468			1	
		2	Bình Sơn	25	174,939				
		3	Minh Long	5	15,498			1	
		4	Lý Sơn	3	18,223				
		5	Sơn Hà	14	68,345			1	
		6	Sơn Tây	8	18,092			1	
		7	Sơn Tịnh	11	95,597				
		8	Trà Bồng	10	29,699			1	
		9	Tây Trà	9	17,798			1	
		14	Đức Phổ	15	140,093				
26	**Đăk Lăk**						**31.30**		**17.39**
		1	Buôn Đôn	8	59,959	1			
		2	Cư Kuin	10	99,551				
		3	Cư M gar	17	163.6				
		4	Ea H'Leo	12	120,968				
		5	Ea Kar	16	141,331				
		6	Krông Búk	7	57,387				
		7	Krông Ana	8	81,010				
		8	Krông Năng	12	118,223				
		9	Lắk	11	59,954				
27	**Đăk Nông**						**33.00**		**22.52**
		1	Cư Jút	9	88,264	1			
		2	Đắk Glong	6	29,248				
		3	Đắk Mil	11	87,831	1			
		4	Đắk R'Lấp	11	74,087				
		5	Đắk Song	9		1			
		6	Krông Nô	10	62,888				
		7	Tuy Đức	6	38,656	1			
28	**Gia Lai**						**38.48**		**23.75**
		1	Chư Păh	15	67,315				
		2	Chư Pưh	9	54.89				

		3	K'Bang	14	61,682				
		4	Kông Chro	14	42,635				
		5	La Grai	16	88,613	1			
		6	Mang Yang	12	53.16				
		7	Phú Thiện	10	70,881				
		8	Đăk Pơ	8	38,017				
		9	Đức Cơ	11	62,031	1			
29	**Kon Tum**						**53.64**		**27.91**
		1	Kon Rẫy	7	22,622				
		2	Ngọc Hồi	8	41,828	1			
		3	Sa Thầy	11	41,228	1			
		4	Tu Mơ Rông	11	22,498			1	
		5	Đắk Tô	9	37.44				
		6	Đắk Hà	11	61,665				
		7	La H'Drai	3	11,644	1			
30	**Lâm Đồng**						**22.80**		**9.7**
		1	Bảo Lâm	14	109,236				
		2	Cát Tiên	12	37,112				
		3	Lạc Dương	6	19,298				
		4	Đam Rông	8	38,407			1	
		5	Đạ Huoai	10	33.45				
		6	Đạ Tẻh	11	43.81				
31	**Bình Phước**						**19.30**		**6.9**
		1	Bù Đăng	16	131,296				
		2	Bù Đốp	8	45,253	1			
		3	Bù Gia Mập	9	147,967	1			
		4	Lộc Ninh	15	115,268	1			
32	**Tây Ninh**						**1.69**		**4.27**
		1	Tân Châu	12	94,112				
		2	Bến Cầu	9	62,934	1			
		3	Châu Thành	15	130,101	1			
		4	Hòa Thành	8	139,011				
33	**An Giang**						**5.06**		**7.84**
		1	An Phú	14	191,328	1		1	
		2	Thoại Sơn	17	112,000				
		3	Tri Tôn	15	127,426	1		1	
		4	Thị Xã Tân Châu	14	172,088	1		1	
		5	Tịnh Biên	14	47,128	1		1	
34	**Bạc Liêu**						**10.59**		**15.29**
		1	Phước Long	8	117,700			1	
		2	Hòa Bình	8	106,800				
		3	Hồng Dân	9	105,200				
35	**Vĩnh Long**						**2.78**		**7.91**
		1	Bình Tân	11	93,142				
		2	Long Hồ	15	160,537				
		3	Mang Thít	13	99,201				
		4	Vũng Liêm	20	159,183				

36	**Kiên Giang**						**14.43**		**7.23**
		1	Thị Xã Hà Tiên	7	44,721			1	
		2	An Biên	9	122,068				
		3	Giang Thành	5	28,910			1	
		4	Hòn Đất	14	166,860				
		5	Kiên Hải	4	20,807			1	
		6	Phú Quốc	10	91,241			1	
		7	U Minh Thượng	6	67,764				
		250		**4,107**	**20,080,038**	**82**		**56**	**20**

Appendix 3: Project Implementation Plan
a. Overall Project Implementation Plan

PROJECT IMPLEMENTATION SCHEDULE																							
	Project Activities	**Plan/ Actual**	**2017**				**2018**				**2019**				**2020**				**2021**			
			1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Output 1: Improved GMS collaboration and CDC in border areas																							
	Strengthened regional, cross-border and intersectoral collaboration and knowledge sharing																						
1.1	Develop consensus on regional database and protocol and establish information exchange of notifiable communicable diseases by Q2, 2018	**Plan**																					
		Cam																					
		Lao																					
		Mya																					
		Vie																					
1.2	Conduct annual regional, crossborder and intersectoral events such as joint outbreak investigation, simulation exercises, quarantine training and technical support	**Plan**																					
		Cam																					
		Lao																					
		Mya																					
		Vie																					
1.3	Conduct annual technical forums on GMS CDC priorities	**Plan**																					
		Cam																					
		Lao																					
		Mya																					
		Vie																					
1.4	RCU supports COP and other regional activities and KM	**Plan**																					
		Cam																					
		Lao																					
		Mya																					
		Vie																					
	Linked migrants, mobile people, isolated ethnic groups, and other vulnerable groups to CDC program																						
1.5	Conduct mapping and survey of MEVs in border areas	**Plan**																					
		Cam																					
		Lao																					
		Mya																					
		Vie																					
1.6	Conduct participatory planning with target groups and local staff to improve CDC coverage	**Plan**																					
		Cam																					
		Lao																					
		Mya																					
		Vie																					
.7	Conduct assessment of CDC baselines in border areas and identify and link milestones and	**Plan**																					
		Cam																					
		Lao																					

PROJECT IMPLEMENTATION SCHEDULE																							
	Project Activities	**Plan/ Actual**	**2017**				**2018**				**2019**				**2020**				**2021**			
			1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
	actions to be taken to achieve implementation plans by Q4, 2017	**Mya**																				
		Vie																				
1.8	Design studies of innovative strategies to improve CDC in MEVs by Q2, 2018	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
1.9	Mobilize national program resources for CDC and use project resources to extend services in hotspots using government services, CBOs, by Q2, 2018	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
1.00	Implement CDC extension program from Q1 2018	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
1.11	Conduct specific disease control campaigns in border areas including for Malaria, Dengue, NTDs from Q1, 2018	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
1.12	Evaluate CDC among MEVs through survey and study mid and end project	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
Output 2: Strengthened national surveillance and response system																						
	Strengthened web-based surveillance																					
2.1	Review the surveillance and response systems	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
2.2	Strengthen monitoring of surveillance and response	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
2.3	Plan and prepare surveillance and	**Plan**																				

PROJECT IMPLEMENTATION SCHEDULE																							
	Project Activities	**Plan/ Actual**	**2017**				**2018**				**2019**				**2020**				**2021**			
			1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
	response improvements by Q2 2017	**Cam**																				
		Lao																				
		Mya																				
		Vie																				
2.4	Procure or upgrade IT equipment by Qr4 2017	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
2.5	Provide GIS software for surveillance by Q4 2018	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
2.6	Provide IT connection by Q4 2017	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
2.7	Provide IT training to focal points, IT users and FETP scholars by Q4, 2017	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
2.8	Harmonize surveillance indicators and systems for CDC	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
	Improved outbreak response capacity																					
2.9	Provide outbreak investigation funds from project and government sources by Q1 2017	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
2.10	Train outbreak response teams also using simulation exercises in Q2's	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				

PROJECT IMPLEMENTATION SCHEDULE																							
	Project Activities	**Plan/ Actual**	**2017**				**2018**				**2019**				**2020**				**2021**			
			1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
2.11	Provide training in risk analysis and communication	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
2.12	Procure vehicles and outbreak response gear	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
2.13	Conduct public information campaigns in Q3's	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
Output 3: Improved diagnostic and management capacity of infectious diseases																						
	Improved laboratory biosafety and quality diagnostics																					
3.1	Procure laboratory supplies by Q1, 2017-2020	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
3.2	Review laboratory strategy, plan, guidelines, standards and SOPs by Q3, 2017	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
3.3	Conduct detailed assessments of laboratory staff development by Q4, 2017	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
3.4	Conduct detailed assessment of laboratory performance by Q4, 2017	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
3.5	Conduct workshops to review findings and develop standards by Q1, 2018	**Plan**																				
		Cam																				
		Lao																				

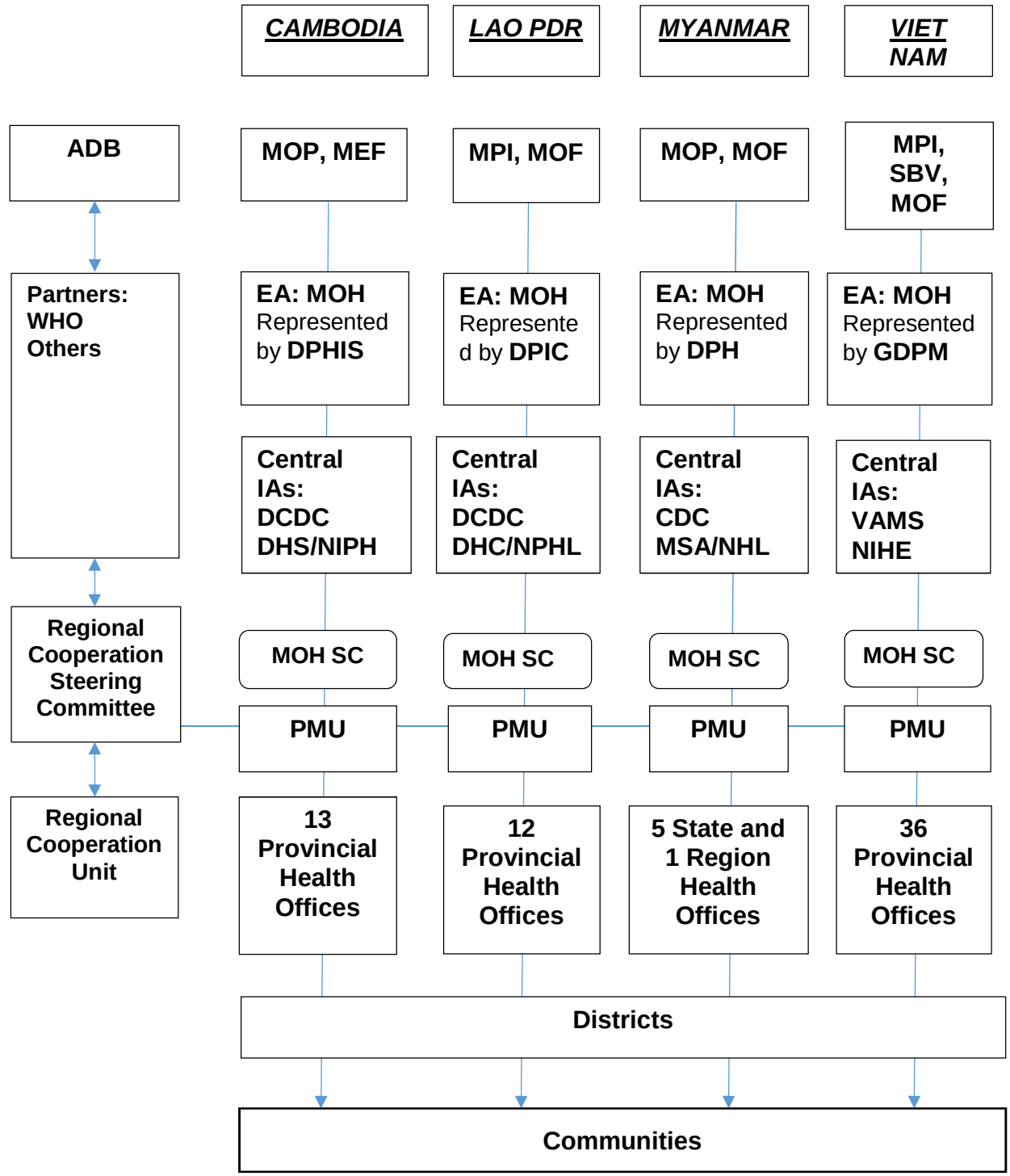
PROJECT IMPLEMENTATION SCHEDULE																							
	Project Activities	**Plan/ Actual**	**2017**				**2018**				**2019**				**2020**				**2021**			
			1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
		Mya																				
		Vie																				
3.6	Prepare comprehensive laboratory improvement plan for targeted laboratories as part of annual operational plans by Q2, 2018	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
3.7	Improve pre- and in-service training of laboratory staff	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
3.8	Strengthen laboratory quality improvement program	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
3.9	Procure equipment for laboratories in 2018 and 2019	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
3.10	Conduct laboratory studies in 2019-2020	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
	Improved hospitals management of infectious diseases																					
3.11	Perform detailed hospital IPC and case management assessments by Q4, 2017	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
3.12	Prepare detailed hospital IPC and case management plans by Q1, 2018	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
3.13	Establish IPC focal point and committee by Q1, 2017	**Plan**																				
		Cam																				
		Lao																				

PROJECT IMPLEMENTATION SCHEDULE																						
	Project Activities	**Plan/ Actual**	**2017**				**2018**				**2019**				**2020**				**2021**			
			1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
		Mya																				
		Vie																				
3.14	Conduct training of hospital staff from Q2-Q4, 2017	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
3.15	Provide equipment and supplies in 2018 and 2019	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
3.16	Strengthen IPC monitoring in hospitals from Q1, 2018	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
Results-based project management																						
	Efficient and effective project management, Integrated and sustained project investments, good governance																					
4.1	Organize annual national project reviews	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
	Conduct regional project meetings (2 delegates per country)	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
	project steering committee meetings and workshops	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
4.2	Engage CTA, deputy CTA, and experts for gender and social development, laboratory biosafety and quality management, project implementation, procurement, and financial management by Q2, 2017	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
4.3	Identify and track parameters of	**Plan**																				

PROJECT IMPLEMENTATION SCHEDULE																					
	Project Activities	**Plan/ Actual**	**2017**				**2018**				**2019**				**2020**				**2021**			
			1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
	effectiveness, efficiency, integration, sustainability, and other qualities for results-based project management	**Cam**																				
		Lao																				
		Mya																				
		Vie																				
4.4	Organize a workshop to plan for a results-based participatory project planning and implementation process to ensure project criteria are met by Q3, 2017	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
4.5	Identify and link milestones and actions to be taken to achieve approval of AOPs by Q4	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
4.6	Train all provinces in integrating investments and safeguards in provincial plans by Q1, 2018	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				
4.7	Provinces develop AOPs and implementation plans	**Plan**																				
		Cam																				
		Lao																				
		Mya																				
		Vie																				

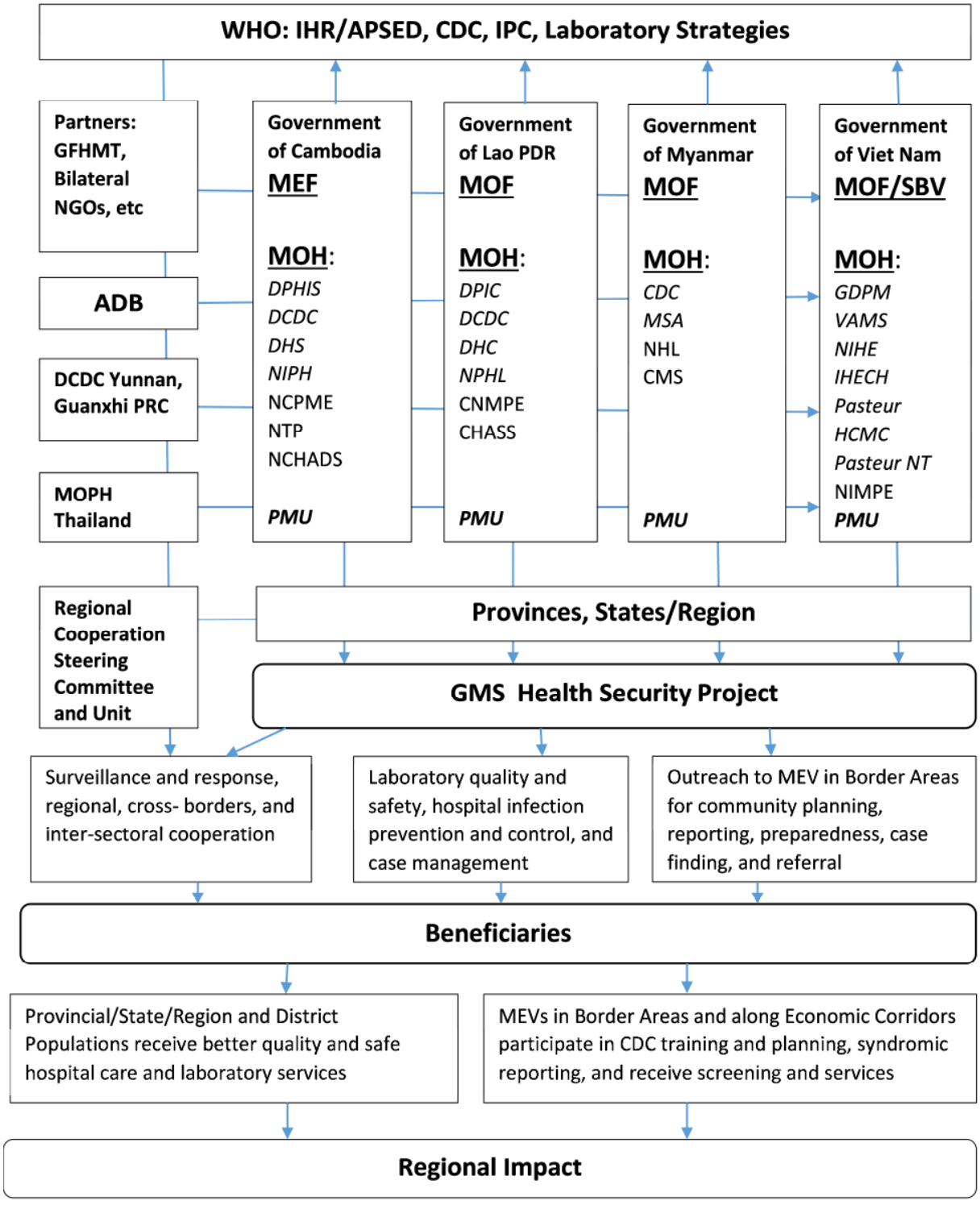
CDC = communicable diseases control; COP = community of practice; CTA = chief technical adviser; FETP = field epidemiology training program; GIS = geographical information system; GMS = Greater Mekong Subregion; IT = information technology; KM, = knowledge management; MEV = migrants, mobile people, ethnic minorities, and other vulnerable groups; NTD = neglected tropical disease; RCU = regional coordination unit

Appendix 4: Organogram GMS Health Security Project



For Acronyms, See Next page

Appendix x: Organogram GMS Health Security Project



For Acronyms, See Next page

GMS Health Security Project Acronyms Organogram

ADB	–	Asian Development Bank
CDC	–	Communicable Diseases Control
DCDC	–	Department of CDC
DHS	–	Department of Hospital Services
DPH		Department of Public Health
DPHIS	–	Department of Planning and Health Information Systems
DPIC	–	Department of Planning and International Cooperation
EA		Executing Agency
GDPM	–	General Department of Preventive Medicine
IA		Implementing Agency
MEF	–	Ministry of Economy and Finance
MOF	–	Ministry of Finance
MOH	–	Ministry of Health
MOH SC		Ministry of Health Steering Committee
MOP		Ministry of Planning
MOPH	–	Ministry of Public Health
MPI		Ministry of Planning and Investment
MSA	–	Medical Services Administration
NHL	–	National Health Laboratory
NIHE	–	National Institute of Hygiene and Epidemiology
NIPH	–	National Institute of Public Health
NPHL		National Public Health Laboratory
PMU	–	Project Management Unit
SBV	–	State Bank of Viet Nam
VAMS	–	Viet Nam Administration of Medical Services

Appendix 5 – Project Costs Estimates and Financing

(separate files)

Appendix 6 – Financial Management Assessment

(separate file)

Appendix 7: Terms of reference of Consultants

Outline Terms of reference for key positions in PMUs and PPIUs (government and National consultants)

Positions and Minimum Required Qualification	Outline of Terms of Reference
International Consultants	
Chief Technical Adviser (CTA): Cambodia 42 pm, Lao PDR 48 pm, Vietnam 24 pm	
At least 10 year experience in public health and project management with a Masters' Degree in Public Health or Management. Proven experience in project management, planning and budgeting. Strong monitoring and evaluation and Results Based Management (RBM) performance. Preferable with experience in the implementation of ADB/ WB funded projects. Strong English language skills (both spoken and written). Strong interpersonal skills and experience in capacity building of counterpart staff at different levels. Ability to work independently at national, provincial and district levels.	The CTA will support the ADB Principal Health Specialist in coordinating with the ADB recruited consultants and PMU managers in CLV; and coordinate the tasks relating to the baseline survey. In particular, undertake the following tasks: (i) Develop standard operating procedures for the Project. (ii) Prepare a detailed plan, timetable, and annual budget for implementation. (iii) Select, supervise, and monitor activities of TA consultants. (iv) Prepare regional communication materials and facilitate the dialogue to promote regional technical forums, seminars, and workshops (v) Facilitate and arrange annual review workshops, meetings, and seminars. (vi) Ensure that the project is implemented in accordance with the cooperative agreement, donor regulations, and internationally recognized quality standards; (vii) Participate in the development of strategic work-plans with clear objectives and achievement benchmarks, long-term and short-term priorities, implementation plans, financial projections and tools for evaluation; (viii) Plan, monitor and evaluate activities in accordance with the cooperative agreement. (ix) Facilitate the organizational development and capacity building of local partner organizations involved in the provision of CDC services. (x) Ensure appropriate quality control systems are in place and implemented across programs (includes the development of indicators, monitoring and evaluation systems). (xi) Support project staff by creating and maintaining a work environment that promotes teamwork, trust, mutual respect, and empowers staff to take responsibility and show initiative. (xii) Undertake consultation meetings with partners (multilateral and bilateral organizations, International and national NGOs) and other stakeholders as part of the policy development process and ensure that adequate technical inputs are provided.
<u>Additional for Viet Nam</u> At least 7 year experience in in-service training and quality improvement of health services, and understanding of provincial health system planning and sustainability	For Viet Nam, The CTA will also work on developing provincial training systems, including the following: (i) Review MOH current National HRD Plan and policies and guidelines in the context of the Project adopting a Training Systems development (ii) Together with the MOH (or nominated institute) review training needs as identified by national, provincial and district staff and local institutions. (iii) Identify training modalities, successfully used in CLV, that use science-based, participatory learning methods for doctors, nurses, and other health workers and community volunteers. (iv) Based on the review work with the training institutes to undertake a Training Needs Assessment (TNA) of staff engaged in the Project. (v) Assist the key institutes, PMU and MOH to establish the Training Systems Framework and strategy to guide all training to be undertaken in the Project. (vi) Assist in the development of training packages for skills based training and TOT for Master Trainers from provincial health departments. (vii) In consultation with Provincial Training Working Groups and relevant national institute training experts, develop a common approach to the training of Provincial and District Trainers, and design and produce the training procedures manual.

Positions and Minimum Required Qualification	Outline of Terms of Reference
	(viii) Provide technical assistance and guidance to program staff and partners during the development of new programs, and with best practice methodologies instituted.

Position and Minimum Required Qualification	Outline of Terms of Reference
Project Director (PD)	
A Master Degree in a health related field. At least five year experience in managing projects in health sector. Good knowledge of project management in health sector. Good written and spoken English.	(i) Lead PMU to implement the Project. Ensure a sound management of FGIA (SGIA in case of Lao PDR). Ensure AOPs completed in a timely manner and approved by MOH and ADB. (ii) Ensure that equipment and consulting services are delivered timely manner. (iii) Ensure a meta analysis of surveys and report writing is implemented. (iv) Guide the Deputy Director to conduct a monitoring training program for provincial and district staff on both management and relevant technical aspects. (v) Guide the Deputy Director to develop and test supervisory checklist. (vi) Prepare quarterly report and annual reports as required by the donor and Government. (vii) Coordinate activities with other projects and programs to avoid overlapping of funds. (viii) Act as the secretary for the Steering Committee, when needed. (ix) Other tasks as required by the Government's regulation not mentioned here.
Deputy Project Director (DPD) Full Time	
A Masters' degree in a health related field. At least five years experiences in managing similar CDC projects. Good knowledge of statistical analysis in health. Conversant in English. Ability to build capacity of counterpart staff at different levels.	(i) Assist the Project Director (PD) to lead the PMU when the PD is absent and assist the PD to lead the PMU to prepare AOP and obtain approvals. (ii) Assist the PD to ensure that equipment and consulting services are delivered timely manner. (iii) Assist the PD to conduct meta analysis of surveys and report writing. (iv) Conduct a monitoring training program for provincial and district staff on both management and relevant technical aspects. (v) Develop and test supervisory checklist. (vi) Prepare quarterly reports and annual reports as required by the donor and Government. (vii) Assist the PD to coordinate activities with other projects and programs to avoid overlapping of funds. (viii) Perform other tasks assigned by the Project Director.
(National) Program Manager (including responsibility for M&E)	
At least a Bachelor Degree in Economics, Medicine, Public Health or a similar development qualification. At least 5 years proven experience in project management, planning and budgeting. Strong monitoring and evaluation experience as well as in the implementation of ADB/WB funded projects.	TOR for this position will be carried out in conjunction with the International Project Implementation Adviser (PIA) The PIC will work under the direct authority of the PD and DPD and undertake the following tasks: (i) Review outbreak preparedness within the Government system and coordinate with relevant staff of the PMU to prepare an emergency response and preparedness strategy and implementation plan. (ii) Ensure that project baseline data has been collected and a process and indicators for project monitoring and evaluation formulated. (iii) Ensure that project planning, reporting and evaluation is carried out through cooperative management structures in accordance with policy and strategic guidelines adopted by the MOH, including establishment and support to

Position and Minimum Required Qualification	Outline of Terms of Reference
Strong interpersonal skills and experience in capacity building of counterpart staff at different levels. English language skills (both spoken and written). Ability to work independently at national, provincial and district levels.	project management units (PMUs) at national and provincial levels. (iv) Together with the Training Consultant, assist with project management Training Needs Analysis. (v) Participate in the project management training for provincial and district health managers and for provincial and district project coordinators. (vi) Work with PMU and PPIUs to develop a Project Monitoring framework. Identify key indicators and sources of data. (vii) Assist in the organization of the baseline surveys, and quarterly and annual review of project performance measured against the baseline. (viii) Work with Senior Management and, supported by the PIA, assist in the establishment of a Results Based Management System. (ix) Other duties as directed by the Project Director.
(National) Procurement Specialist (PS)	
At least a Bachelor Degree in Economics, Logistics or another related field. At least 5 years experiences in ADB/ WB procurement practices of goods and consulting services. Spoken and written skills in English. Ability to build capacity in staff at provincial level in procurement.	(i) Prepare procurement plans for goods and consulting services. Obtain approval from the PD; submit to relevant agencies for review and approval (MOH and ADB). (ii) Finalize TORs for national consultant positions and follow ADB procedures to recruit them. (iii) Procure goods at central level following ADB procedures. (iv) Train PPIUs' staff the in procedures required for purchasing of minor goods and services at provincial level and provide technical assistance to them when needed. (v) Assist the Deputy Project Director (DPD) and the Project Implementation Consultant in the preparation of the PMU's AOP and Project AOP. (vi) Assist the DPD and the Project Implementation Consultant in review and approval of AOPs submitted by PPIUs.
(National) Surveillance and Response Consultant (SRC)	
At least 5 years experience in the health sector relating to surveillance and response systems management and reporting and laboratory services Qualifications in Public Health or similar.	Based in the PMU at national level and working under the direct authority of the PD and DPPD and receive guidance from the International PIA. Working on the establishment of a project surveillance system. Duties include (i) Liaison with the staff at PPIU and ensure that the surveillance and response system is implemented and managed accordance to the S&R Guidelines. (ii) Assist in the training of national, provincial and district staff in S&R. (iii) Ensure that project reports are submitted on a regular basis. Analyze and report on a monthly and quarterly basis. (iv) Assist senior management of the PMU, and staff from the PPIU, in the event of disease outbreaks. (v) Provide support for health services analysis. (vi) Organize meta analysis of surveys and report writing. (vii) Conduct monitoring training program for provincial and district staff.
(National) Training Consultant (TC)	
At least 5 years experience in human resource development, including capacity building using adult learning methodologies for training systems development, preferably in the health sector. Advanced University Degree in Public Health, Education,	Operating from the National PMU and working with the International Training Systems Adviser to assist the staff of the HRD in national and provincial health authorities in developing and implementing a training system framework for human resource development (HRD) in the Project. Tasks would include (i) Assist HRD specialists to support the provincial health authorities to develop sustainable systems for human resources development and quality of care at provincial, district and commune levels. (ii) Identify or design appropriate training resources and materials for doctors, nurses, midwives, technicians, and other health personnel. (iii) Assist health staff in the national and provincial health authorities to identify

Position and Minimum Required Qualification	Outline of Terms of Reference
Social Sciences, or other relevant technical field. Excellent written and spoken skills in English	and design appropriate training resources and materials for doctors, nurses, midwives, technicians, community volunteers, and other clinical or preventive health personnel for CDC. (iv) Assist provincial training groups, to develop regular needs-based training for district and commune-level health staff to improve quality of care and community knowledge and participation for improved behavior for prevention of communicable diseases. (v) Assist PMU, PPIU and training staff to monitor and evaluate clinical and preventive health/ health promotion activities at community level, and at all health care levels and the referral system at commune, district, and provincial levels for beneficiaries and non-beneficiaries
(National) IT/Database/GIS Consultant (IT/GISC)	
At least 5 years experience in GIS, (preferably in Arc view) and database management. Good knowledge of database building. Degree or Diploma in IT with a specialty in GIS. Proficient in spoken and written English. Good ability working in a team environment.	Working under the direction of the PD and working with the International IT/GIS Specialist on the following tasks: (i) Develop the database for the baseline data and the performance reporting system for the Project (ii) Assist in the development and management of the Project MIS at the national levels and for each provincial and district health department. (iii) Assist in the development and management of a HMIS for selected provincial and district hospitals. (iv) Together with the procurement consultant, prepare bidding documents for software and hardware (v) Work with the Training Consultant to identify or develop courses for training personnel in MIS, HMIS and GIS (vi) Supervise the installation of a database systems to assist in the management and monitoring of training programs (vii) Provide GIS Maps for project reports and for presentation, as well as ensuring the integrity of the data. (viii) Ensure that GIS mapping and information is shared with the RCU IT/GIS consultant.
(National) Chief Accountant	
At least 7 years experience in donor funded project financial management and a recognized post graduate level qualifications (Bachelor or Master Degree in Accounting). Good English language skills (both written and spoken). Practical experience with the relevant computer software application for the financial management.	Under the direction of the PD or DPD undertake the following tasks: (i) Ensure that the FGIA (SGIA in case of Lao PDR) is opened in a commercial bank acceptable to ADB and Government. Manage project funds according to the requirements of ADB and Government. (ii) Review and provide recommendations to the Project Director on the day-to-day operating expenses and other financial transactions. (iii) In collaboration with other concerned people, prepare annual budget plan for the Project and monitor the expenditure using the required format. (iv) Ensure sound financial control, documentation and flow of information of Project. Ensure proper authorization and accounting of operating costs which will be classified by nature of expenses and sources of funding and by categories. (v) Ensure withdrawal applications are prepared and submitted to relevant agencies and follow up on payments. (vi) Timely consolidation of financial report and disseminate to all concern parties on a timely fashion. Follow up the subsequent replenishment from ADB and MOH. (vii) Manage all accounting staff and assist to develop a clear responsibility for each staff to avoid overlapping task and to ensure achievement of best performance. (viii) Provide training to the Project accounting staff of all levels and provide

Position and Minimum Required Qualification	Outline of Terms of Reference
	regular supervision. (ix) Assist the internal and external auditors to conduct audit by furnishing them with appropriate documents. Assist in identifying the location of assets and facilitate communication with the concerned units/departments for the audit purpose. (x) Other tasks as regulated by government for this CA/CFO position in donor funded projects not yet mentioned here.
(National) Project Accountant (PO)	
At least 3 years experience in the donor funded financial management. Recognized Bachelor of Accounting or another other relevant field. Good communications skills in English. Good knowledge of relevant computer accounting software program.	(i) Manage the Project funds according to the relevant guidelines and the requirements of the Ministry of Finance and ADB. (ii) Review and recommend the Chief Accountant/ or Chief Financial Officer (CA/CFO) on the day-to-day operating expenses and other financial transactions of the Project. (iii) Assist the CA/CFO to prepare annual budget plan for the Project and monitor the expenditure using the required formats. (iv) Ensure sound financial control, documentation and flow of information of Project expenditures incurred at national and provincial levels. (v) Ensure proper authorization and accounting of operating costs which will be classified by nature of expenses and sources of funds and by categories. (vi) Prepare withdrawal applications for submitting to ADB through MOF (MOEF in case of Cambodia) and follow-up the payment. (vii) Manage the Project's fixed assets in compliance with the Government and ADB policies. (viii) Assist the CA/CFO to provide training to Project accounting staff of all levels and provide regular supervision. (ix) Assist the internal and external auditors to conduct audit by furnishing them with appropriate documents. Assist in identifying the location of assets and facilitate communication with the concerned units/departments for the audit purpose. (x) Perform other tasks as may be assigned by the Chief Financial Officer.
(National) Accounting Assistant (AA)	
Bachelor's Degree in Accounting or equivalent. Accountancy Certification from an accredited financial / accounting institute. At least 2 years prior experience in accounting. Knowledge of professional accounting software, Microsoft Excel and Microsoft Words; Proficiency in written and spoken English.	Under the direction of the CFO, undertake the following Tasks: (i) Assist in document preparation for Project disbursements. (ii) Assist in following-up disbursement requests with MOF (MOEF in case of Cambodia) and ADB. (iii) Assist with preparation of Project staff payroll. (iv) Assist in maintaining Project accounting files in accordance with project-designed accounting procedures. (v) Assist in review and verification of provincial petty cash expenditure statements. (vi) Assist the Project Accountant to conduct spot visits to PPIUs to review petty cash registers and procedures. (vii) Assist in reconciliation of bank accounts (MOH and provincial) with statements. (viii) Assist in disbursement of Project petty cash funds as authorized. (ix) Share responsibility with other Accounting Assistant if any to manage the project budget (x) Assist the external financial audit team in reviewing accounting documents at central level and accompany them to provinces for reviewing accounting documents and controlling fixed assets. (xi) Assist the Project Accountant to prepare financial and accounting information

Position and Minimum Required Qualification	Outline of Terms of Reference
	as requested by the Chief Accountant (or Chief Financial Officer). (xii) Other functions assigned by the Chief accountant (or Chief Financial Officer).
(National) Project Secretary (PS)	
University or technical college degree/certificate. At least three years experience as a secretary. Spoken and written English language. Familiarity with Microsoft Word and Microsoft Excel.	Under the authority of the PD or DPD undertake the following tasks: (i) Receive visitors and respond to incoming and outgoing calls. Record all personal/office overseas calls/faxes and submit to the telephone company in timely manner. (ii) Make appointments as necessary for the Project staff. (iii) Deliver all incoming mail, pouches, faxes and parcels immediately to staff in the office. (iv) Ensure timely dispatch of all outgoing mail, faxes and parcels. Register all incoming and outgoing letters. (v) Maintain an office registry filing system, ensuring easy retrieval. Act as focal person for all office supplies. (vi) Make sure that electricity in all office rooms is turned off after work and make sure that all office rooms are locked after work.
(National) Coordinator PPIU	
Five years of experience in management at a provincial or higher level. Qualified as a Medical Doctor with Public Health or similar post graduate qualifications.	The Provincial Project Manager will be responsible to the Director of PHD's. Tasks will include: (i) Project implementation at provincial level. (ii) Lead Project staff to prepare AOP and submit to PHD for review and approval before submitting to PMU for final approval. (iii) Plan the day-to-day management of the project activities. (iv) Guide Project Accountant to open SGIA (or TGIA in case of Lao PDR) to receive and spend ADB funds. (v) Responsible for proper, effective and timely use of project funds allocated for PPIU. (vi) Lead the PPIU staff to implement Project activities at provincial level in conformity with the approved AOP. (vii) Ensure a sound internal control implemented within PPIU. (viii) Ensure a good management of project fixed assets and ensure good O&M of project financed equipment. (ix) Assist the Project Accountant in the financial management and the liquidation of project expenses and closing of project accounts at the end of the account period.
(National) Technical Coordinator PPIU	
Five year experience at provincial or higher level with technical level qualification at diploma level. Experience working in PHC service teams at provincial, district and community level.	The PTO will work under the authority of the PPM and undertake the following tasks: (i) Plan the day-to-day management of the project activities. (ii) Prepare a detailed plan, timetable, and annual budget for implementation. (iii) Establish operating procedures for all project activities. (iv) Assist the PPM in procurement, disbursement, reporting, and monitoring. (vi) Undertake project supervision and monitoring visits to the project districts, (i) Support the provincial training team in organising staff training and work place assessment. (ii) Participate in the Baseline Survey and quarterly reviews. (iii) Ensure that Baseline data and follow-up evaluations are entered into the

Position and Minimum Required Qualification	Outline of Terms of Reference
	provincial database.
(National) PPIU Accountant (PA)	
At least 3 years experience in the donor funded financial management and accounting management. Recognized Bachelor of Accounting or other relevant field. Written and spoken English at acceptable level. Good knowledge of relevant computer software applications for accounting.	The PPIU Accountant will work under the authority of the PPM to undertake the financial management of the Project funds and expenditure at provincial and district level. Tasks will include: (i) Establish the project accounting system following the project Guidelines and open any relevant accounting books. Open SGIA or TGIA at a commercial bank as guided by the CFO/CA of the PMU. (ii) Assist the Project Manager to prepare the AOP and obtain approvals from relevant agencies including PMU. (iii) Manage project costs and ensure proper and effective use of funds. (iv) Undertake Financial management training on ADB financial and procurement procedure and procure goods and services as a decentralized PPIU as prescribed in the Project Design. (v) Twice a month, replenish SGIA/TGIA. (vi) Ensure that a robust internal control system is implemented within the PPIU. (vii) Liquidate all project costs at before loan/grant closing date and close SGIA/TGIA. (viii) Maintain accounting books and store supporting documents. (ix) Other tasks as assigned by the PMM.
(National) Gender Specialist (GC) x 3 (Lao PDR, Cambodia, Vietnam)	
Advanced degree in Social Science and/or Public Health with at least one year of experience in research including gender analysis.	In close consultation with the Regional Gender Specialist: (i) Collect relevant national data for evidence-based training on gender and communicable disease vulnerabilities and related health data in country of employment. (ii) Adapt the generic (English language) training material produced by the regional gender specialist for national use, in national languages, using national data, for mainstreaming gender into the Project training activities. (iii) Conduct workshops on mainstreaming the national material in national language for master trainers. (vii) Actively participate in the design, implementation and analysis of the Baseline Survey.

Outline Terms of Reference for International consultants and RCU staff

Positions and Minimum Required Qualification	Outline of Terms of Reference
(International) Chief Technical Adviser (CTA)	
At least 10 years experience in public health and project management with a Masters' Degree in Public Health or Management. Proven experience in project management, planning and budgeting. Strong monitoring and evaluation and Results Based Management (RBM) performance. Preferable with experience in the implementation of ADB/ WB funded projects. Technical skills in NTD or NEDs. Strong English language skills (both spoken and written). Strong interpersonal skills and experience in capacity building of counterpart staff at different levels. Ability to work independently at national, provincial and district levels.	The CTA will have the overall responsibility for management of the RCU, supporting the ADB Principle Health Specialist and coordinating the ADB recruited consultants, and with the PMU managers in CLV, coordinating the tasks relating to the baseline survey. In particular, undertake the following tasks: (i) Plan the day-to-day management of the Project activities. (ii) Prepare a detailed plan, timetable, and annual budget for implementation. (iii) Prepare work plans, timetables, and budgets for project implementation. (iv) Establish operating procedures for all RCU project activities including disbursement, reporting, and financial monitoring. (v) Select, supervise, and monitor activities of TA consultants. (vi) Prepare regional communication materials and facilitate the dialogue to promote regional technical forums, seminars, and workshops (vii) Facilitate and arrange annual review workshops, meetings, and seminars. (viii) Manage the regional CDC2 fund and coordinate with ADB to ensure smooth fund flow. (ix) Ensure that the project is implemented in accordance with the cooperative agreement, donor regulations, and internationally recognized quality standards; (x) Participate in the development of strategic work-plans with clear objectives and achievement benchmarks, long-term and short-term priorities, implementation plans, financial projections and tools for evaluation; (xi) Plan, monitor and evaluate activities in accordance with the cooperative agreement. (xii) Facilitate the organizational development and capacity building of local partner organizations involved in the provision of CDC services. (xiii) Coordinate with ADB to ensure that adequate and timely technical, logistical and administrative support is provided to the project. (xiv) Ensure appropriate quality control systems are in place and implemented across programs (includes the development of indicators, monitoring and evaluation systems). (xv) Support project staff by creating and maintaining a work environment that promotes teamwork, trust, mutual respect, and empowers staff to take responsibility and show initiative. (xvi) Undertake consultation meetings with partners (multilateral and bilateral organizations, International and national NGOs) and other stakeholders as part of the policy development process and ensure that adequate technical inputs are provided: - Representing RCU in consultation meetings with partners and stakeholders to ensure good collaboration and to avoid any duplication of program activities. - Present the CDC2 program to other organizations as needed. - Attend regular meetings with all partners to ensure that all partners understand the framework defined for the GMS-ADB Project approach to health development and policies. - Liaison with the technical agencies that technical inputs are provided to support the project activities. (xv) The CTA in Laos will support the KM activities in the country, The CTA in Vietnam will support the training activities.

Positions and Minimum Required Qualification	Outline of Terms of Reference
(International) Gender Specialist (GS)	
Advanced degree in Social Science. At least 5 years experience in gender and development, preferably with relevant experience in the GMS region and within a rural public health background setting.	The Gender Specialist (Regional), together with the national Gender Consultant, will undertake the following tasks: In close consultation with the National Gender specialists and the International Training Adviser: (i) Develop training material for mainstreaming gender and CDC into the project training activities in CLV, using the gender and health training workshop materials developed for MOH Lao PDR as a model. (ii) Produce a generic English-language version of the training material. (iii) Advise and assist national gender specialist consultants to identify and collect relevant national evidence-based data on gender and communicable diseases and related health data in their countries of employment. (iv) Oversee and advise the national gender specialist to adapt the generic training material from national use, in national languages, using relevant national gender and health data as the evidence base for training. (v) Provide training as requires for the national gender specialists on mainstreaming the material into Project training activities, to prepare each national gender specialist to run a workshop on the use of the materials from the training of master trainers. (vi) Advise on the incorporation of gender considerations in the design, implementation and analysis of the Baseline survey and subsequent monitoring and evaluation. (vii) Propose a strategy to ensure Baseline analysis and M&E results on gender issues are utilized in the development of policies and programs at the provincial level
(International) Training Systems Specialist (TSS)	
High level of programmatic knowledge and at least 7 year experience in human resource development, including capacity building using participatory adult learning methodologies for training systems development, including skills based training, preferably in the health sector. Advanced University Degree in Public Health, Education, Social Sciences, or other relevant technical field. Excellent written and spoken skills in English. Fluency in one or more of the languages of CLV a distinct advantage.	The International Training Systems Adviser together with the national Training Consultant will undertake the following tasks: (ix) Review MOH current National HRD Plan and policies and guidelines in the context of the Project adopting a Training Systems development approach for the HRD aspects of the Project. (x) Together with the MOH (or nominated institute) review training needs as identified by national, provincial and district staff and local institutions. (xi) Identify training modalities, successfully used in CLV, that use science-based, participatory learning methods for doctors, nurses, and other health workers and community volunteers. (xii) Based on the review work with the training institutes to undertake a Training Needs Assessment (TNA) of staff engaged in the Project. (xiii) Assist the key institutes, PMU and MOH to establish the Training Systems Framework and strategy to guide all training to be undertaken in the Project. (xiv) Assist in the development of training packages for skills based training and TOT for Master Trainers from provincial health departments. (xv) In consultation with Provincial Training Working Groups and relevant national institute training experts, develop a common approach to the training of Provincial and District Trainers, and design and produce the training procedures manual. (xvi) Work with health management specialists to identify programs for training managers in leadership, planning, financial management, information systems, and other management topics. (xvii) Provide technical assistance and guidance to program staff and partners during the development of new programs, and with best practice methodologies instituted. (xviii) Assist in design training modules and materials for training trainers and

Positions and Minimum Required Qualification	Outline of Terms of Reference
	educators in the use of adult-training methodologies (xix) Work with the Public Health Specialist to help strengthen local capacity to train VHW and other health workers in reproductive health, safe motherhood, and other topics. (xx) Review of existing training materials for PHC, MCH, CDC approved by the MOH for use in health training classes. (xxi) Facilitate the identification of training equipment and supplies needed for procurement. (xxii) Advise on development of curricula and IEC/BCC materials based on three steps: 1. training needs analysis of target groups; 2. review of existing curricula and materials; and, 3. adoption of existing materials and/or development of new materials. (xxiii) Identify and manage short-term technical training advisors to facilitate the specialist training courses. (xxiv) Monitor project training program activities to ensure quality including on-site training for health staff at province, district, commune levels. (xxv) Attend regular project review meetings at province, district and commune levels. (xxvi) Report to the Chief Technical Advisor through both formal and informal debriefings, monthly and semi-annual reports.
(International) Laboratory Management Specialist (LMS)	
Experienced in medical laboratory technology and operations as provincial and district hospital environment in a developing country setting in the health sector. Experience in supply chain consumable and disposal of biomedical waste. Qualifications in Biomedical Engineering, Laboratory Technology and Quality Assurance standards.	The Laboratory Management Specialist, together with the MOH laboratory services, will undertake an assessment of the laboratory equipment, needs at provincial, and district hospital and HC levels to be able to provide quality diagnosis relating to NTD and communicable diseases. In particular: (i) Review the status of the national laboratory services in CLV. (ii) Together with the senior staff of the national laboratory services establish a representative sample of CDC2 project provinces to assess laboratory capacity at selected provincial and district hospitals, and health centres, (iii) Based on the assessment, formulate a detailed report detailing issues, action required and gaps in the availability of basis diagnostic equipment and consumables supply chain issues. (iv) Convene a national workshop to present the finding and plan of action to address the key issues. (v) Together with MOH counterparts establish a detailed costing and plan of action to address the issues in the short, medium and long term.
(International) IT/database/GIS specialist (IT/GIS Sp)	
The IT/database/GIS consultant will be engaged to work with the technical team designing and implementing the Baseline Survey will have IT Degree or Diploma in IT with at least 5 year experience in GIS, (preferably in Arc view), and Diploma in database and website management. Proven experience in database building, (notably in MS	Working under the direction of the Chief Technical Adviser and the designated Baseline Survey Coordinator, the consultant will design of the Baseline Survey database and produce GIS mapping and project information. The consultants will undertake two inputs to complete the following tasks: ***1st Input*** (i) Together with the Technical Working Team responsible for the development of the Baseline Survey (BLS) establish design brief for the development of Baseline Survey database. (ii) Together with the team establish data collection formats, and the systems to utilize this data for M&E and other project requirement. (iii) Undertake a capacity assessment of each of the National IT/GIS consultants and ensure that they receive the necessary skills training to raise their capacity.

Positions and Minimum Required Qualification	Outline of Terms of Reference
Access). Proficient in spoken and written English. Good interpersonal skills and the ability to work in a team environment.	(iv) Work with the National IT/GIS consultants of CLV; establish a training program that the national consultants can implement to train national and provincial staff. (v) Together with the national IT/GIS consultants establish the Baseline Survey data base and associated software programs and data collection and reporting formats. (vi) Together with the National IT/GIS consultants prepare all the operational and training manual ***2nd Input*** (vii) During the conduct of the BLS, together with the CLV National IT/GIS consultants begin to input the survey data, ensuring that there are data integrity checks. (viii) Together with the national IT/GIS consultants produce the final BLS data and outputs for Technical Working Group. (ix) Undertake a similar presentation to senior management in CLV. (x) During the period that the National IT/GIS consultants introduce the BLS database system to the provinces the International IT/database/GIS consultant will provide technical remote support from his country of residence. (xi) Other tasks as required
MBDS Consultant (Part time over 5 years)	
MBDS Program Coordinator	The MBDS Program Coordinator will provide specialist advice to key representatives from CLV relating to the design of the BLS and cross border programs. The Consultant will undertake, but not be limited to, the following tasks: (i) Participate in the Technical Group for the design of the Baseline Survey, (ii) Review quarterly reports from CLV. (iii) Participate in the annual reviews of CDC Project performance and M& E activities. (iv) Provide advice on the establishment of CDC cross border activities. (v) Participate in cross border workshops and share MBDS Action Plan and seven inter-related core strategies, (vi) Share the MBDS cross border training manuals, guidelines, and reporting formats, can be used in CDC2 cross border activities. (vii) Explore options with CDC2 regarding MBDS the utilisation of the same IT surveillance data base, and perhaps further develop the system to provide real time reporting on a regional basis.
(National) RCU Accountant/ Secretary	
At least 3 year experience in the financial and accounting management. A recognized Bachelor of Accounting or other relevant fields. Competent in spoken and written English. Practical knowledge and experience in the RCU computer software accounting package.	(i) Manage the Project funds under the responsibility the RCU according to the relevant guidelines and the requirements of ADB. (ii) Assist RCU management to prepare annual budget plan for the Project and monitor the expenditure using the required formats. (iii) Ensure sound financial control, documentation and flow of information of project expenditures incurred at national and provincial levels. (iv) Ensure proper authorization and accounting of operating costs which will be classified by nature of expenses and sources of funds and by categories. (v) Prepare withdrawal application for submitting to ADB through MOF (MOEF in case of Cambodia) and follow-up the payment. (vi) Manage the project fixed asset in compliance with the Government and

Positions and Minimum Required Qualification	Outline of Terms of Reference
	ADB policies. (vii) Assist the CA/CFO to provide training to the Project accounting staff of all levels and provide regular supervision. (viii) Assist the internal and external auditors to conduct audit by furnishing them with appropriate documents. Assist in identifying location of assets and facilitate communication with the concerned units/departments for the audit purpose. (ix) Perform other tasks as may be assigned by the Chief Financial Officer.
(International) Neglected Tropical Disease (NTD) Specialist	
Qualifications as an Epidemiologist or in public health with 5 years' experience in the control of endemic diseases, particularly intestinal parasites. Experience and language skills of one of the GMS countries, and advantage.	The NTD Specialist will work with the technical national institutes and specialists in CLV and assist in the following tasks: (i) Assist in the design and implementation of the selected endemic disease programs in CLV countries. (ii) Provide technical advice to staff in the departments or institutes implementing the Project's endemic disease activities. (iii) Assist the Training Specialist and Consultant in the development of curriculum for the training of provincial and district health staff. (iv) Develop evaluation and monitoring tools.
(International) Regional Knowledge Management Adviser (RKMA)	
At least 5-10 years of experience in similar Knowledge Management concepts and practices. Good interpersonal skills and detailed knowledge of the GMS development & political sensitivities and have good experience in at least 3 of the 6 GMS countries). Well acquainted with communicable diseases control programs and projects in the GMS countries. Good computing skills in Microsoft Word, Excel, Access and Outlook, and acquainted with webmaster administration as well as GIS software. Fluent in spoken and written English. Good command of one or more of the languages of the GMS countries is an asset. Qualifications: Master of Public Health, International Relations, Political Science, Public Administration or Development.	The Regional Knowledge Management Adviser main tasks will include but not be limited to: (i) Ensuring that the Clearinghouse is well established (initially in the RCU) and fulfilling its purpose. (ii) Supervise the good running of each of the Clearinghouse functions. (iii) Provide a leadership role in regional Knowledge Management in CDC, notably working closely with Program managers to ensure clearinghouse's KM products contribute to the enhancement of programme results and impact in a quick and measurable way. (iv) Supervise the output of the National Consultant. (v) Regularly liaise with partners for sharing their programmatic data, news, announcements. (vi) Pro-actively collect all news related to Communicable Diseases, and especially in the GMS, filter them and dispatch them to the relevant professionals by the specific group lists. (vii) Liaise closely with the respective GMS countries' Ministries of Health and Institutions for a back-and-forth exchange of data. (viii) Arrange with newspapers and various publications publishers the right for free dispatching of their CDC-related news by the Clearinghouse. (ix) Develop and maintain email group list so as to target at best the sending of information/news. (x) Proactively collect all CDC-related announcements for upcoming CDC-related events in the region and have them posted in the calendar of CDC Events on the website. (xi) Proactively collect all CDC-related materials (various project progress reports, other partners' newsletters, guidelines, manuals, research findings, articles, etc) and have them uploaded onto the website as well as in the GMS-CDC/MBDS newsletter. (xii) Ensure programmatic data sent out by partners is entered into the GIS system and maps produced. Check the quality of the maps and their usefulness for analysis. (xiii) Review all partners' reports and extract from them the lessons learnt and good practices. Produce Technical Cards accordingly. Have their draft

Positions and Minimum Required Qualification	Outline of Terms of Reference
	posted for discussion on the forum before finalization then have them posted on the website as KM resources made available to all. (xiv) Assist in the developing and nurturing of various Communities of Practice, notably by providing advices to regional events organizers on how to optimize the KM aspects. (xv) Liaise regularly with all Stakeholders, in support of the MBDS coordinator. (xvi) Moderate the English electronic forum, and provide technical support to the GMS countries' moderators. (xvii) Review all incoming regional events' program and provide advice to organizers on how to optimize their KM aspects for a better output. (xviii) Facilitate Working Groups of experts to discuss Knowledge Management Products needed by professionals, etc.
(National) IT/GIS Specialist (IT/GIS Sp)	
The national IT/GIS consultant with at least 5 year experience in GIS, (preferably in Arc view), in database management. Good knowledge of database building. Degree or Diploma in IT with a specialty in GIS. Proficient in spoken and written English. Good ability working in a team environment.	The IT/GIS Specialist task is to work with the International IT/GIS/Database Specialist in the development of the Baseline Database. The national consultant task will also include process all the data received and collected at the district and provincial levels. Specific task will include: (i) Ensure that the Baseline data base is maintained and the provide training to staff at the Provincial and district levels. (ii) Introduce GIS, training at national and provincial levels. This will also include creating all the provincial and district maps based on the data provided. (iii) Work in conjunction with the Short Term IT/GIS consultant responsible for Baseline Survey Database and share GIS maps and data. (iv) Able to work without direct supervision.

ADB = Asian Development Bank; BCC = behavioural change communication; CDC = communicable disease control; CLV = Cambodia, Lao PDR, and Viet Nam; EA = Executing Agency; EMDP = ethnic minority development plan; GAP = gender action plan; GIS = geographic information system; GMS = Greater Mekong Subregion; HIS = health information system, HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome; IA Implementing Agency; IHR = international health regulations; JFPR = Japan Fund for Poverty Reduction; MOH = Ministry of Health; S&R = surveillance and response; TA = technical assistance.

Appendix 8: Key Positions of EA, IA and PMU

MOH	Executing Agency	Cambodia	Laos	Myanmar	Vietnam
Positions	**Major Responsibilities**				
Project Director (Secretary, DG or DDG)	▪ Provide policy guidance, project direction, oversight and monitoring ▪ Approve annual plans and reports ▪ Conduct formal correspondence with ADB and other agencies ▪ Facilitate technical and financial partnership with other agencies ▪ Oversee all contracting ▪ Chair Regional Steering Committee on rotation	5%	5%	5%	10%
Project Coordinator **Deputy Directors (DDG or Director)**	▪ Manage the implementation of the project; ▪ Supervise all contracts, including the team of international and national consultants; ▪ Direct and manages the PMU; ▪ Oversee bid evaluation and approvals, and contract management and administration; ▪ Liaise with agencies involved in project implementation on high level coordination issues; ▪ Oversee training of PMU staff ▪ Act as secretary to the Project Steering Committee	2x10%	10%	10%	3x10%

MOH	Surveillance and Response IA	Cambodia	Laos	Myanmar	Vietnam
Positions	**Major Responsibilities**				
IA Project Coordinator (CDC Director or Chief S&R)	▪ Manage the implementation of the surveillance and response activities ▪ Liaise with WHO and partners to integrate plans	10%	10%	10%	10%
Surveillance Officer	▪ Prepare detailed implementation plan for surveillance and response activities ▪ Work with WHO expert ▪ Assess need for consulting services and facilitate ▪ Lead upgrading surveillance system incl. computerization and software improvement, village syndromic reporting, port-of-entry screening, risk assessment, communication, and preparedness ▪ Facilitate regional, cross-border and inter-sectoral coordination	50%	50%	50%	50%

	for information exchange, simulation exercises and joint diseases control ▪ Provide quarterly progress reports				
Dengue and CDC Control Contract Staff	▪ Work with WHO expert ▪ Help prepare national dengue control strategy and annual plan ▪ Help implement and monitoring implementation of the plan ▪ Pilot early response for dengue outbreak using rapid tests ▪ Support the national laboratory with immunization and fever studies ▪ Facilitate MEVs to access HMT programs	50%	50%	50%	50%
Trainer Contract Staff	▪ Conduct pilot training program and TOT program for syndromic reporting	2x100%	100%	100%	3x100%
Programmer Contract Staff	▪ Facilitate software development and dissemination for syndromic reporting	20%	20%	20%	20%

MOH	**National Laboratories IA**	**Cambodia**	**Laos**	**Myanmar**	**Vietnam**
Positions	**Major Responsibilities**				
IA Project Coordinator (Director)	▪ Provide guidance for laboratory component ▪ Approve annual plan and monitor program ▪ Liaise with experts on project implementation	10%	10%	10%	10%
Laboratory Quality Improvement Officer	▪ Develop a laboratory improvement plan for the project with support of the international and national laboratory experts ▪ Arrange urgent provision of small equipment and supplies to training schools and laboratories ▪ Assist the national laboratory in setting up quality assurance and audit systems for laboratory quality and biosafety ▪ Arrange preparation and dissemination of SOPs ▪ Arrange training for laboratory managers and staff ▪ Conduct equipment assessment based on standard questionnaire for all targeted facilities ▪ Develop laboratory specifications with assistance of the procurement staff and	50%	50%	50%	50%

	consultant experts ▪ Ensure equipment of high quality is procured, possibly standardized ▪ Ensure adequate maintenance arrangements for the equipment ▪ Assist in commissioning laboratory equipment				
Laboratory Quality Officer	▪ Lead in the planning, implementation and monitoring of setting up laboratory quality assurance and audit systems	30%	30%	30%	30%
Laboratory Research Officer	▪ Lead the planning, implementation and monitoring of the fever and immunization antibody studies ▪ Provide overall guidance to implementation of the laboratory improvement component	30%	30%	30%	30%
Laboratory Biosafety Officer	▪ Assess biosafety issues in selective hospitals ▪ Advice on biosafety improvements	30%	30%	30%	30%
Laboratory contract staff	▪ Assist with the work of the officers	100%	100%	100%	100%

MOH	**Hospital IPC IA**	**Cambodia**	**Laos**	**Myanmar**	**Vietnam**
Positions	**Major Responsibilities**				
IA Project Coordinator (Director in Department)	▪ Provide Guidance, Oversight and Monitoring to the roll out of the IPC program of the project; ▪ Supervise National and International Consulting Services	10%	10%	10%	10%
Hospital Infection Prevention and Control Officer	▪ Review progress in rolling out IPC in targeted hospitals ▪ Arrange focal point, committee and staff training, and scholarships ▪ Update IP Roll out plan and Monitor implementation of plan ▪ Prepare/update and disseminate SOPs for hospital hygiene and case management of highly infection patients ▪ Prepare quarterly reports	50%	50%	50%	50%
IPC Officer	▪ Manage IPC program roll out ▪ Develop IPC monitoring tool and track performance ▪ Organize national workshops ▪ Develop or update SOPs for hospital IPC ▪ Coordinate regional workshop on IPC ▪ Prepare quarterly reports	50%	50%	50%	3x50%

Case Management contract staff	▪ Develop/update SOPs for case management of highly infectious diseases ▪ Provide training and liaison	50%	50%	50%	50%
Training Contract Staff	▪ Provide training in IPC	100%	100%	100%	3x100%

MOH	**Provincial/State/Region IA**	**Cambodia**	**Laos**	**Myanmar**	**Vietnam**
Positions	**Major Responsibilities**				
IA Project Manager (Deputy Director or Chief)	▪ Report on project activities to the EA Project Director ▪ Conduct provincial project planning, implementation and monitoring ▪ Manage provincial/state/ region project implementation on day-to-day basis ▪ Facilitate cross-border, intersectoral and port of entry activities ▪ Provide support for IPC roll out and laboratory improvement ▪ Facilitate planning, procurement, and commissioning of equipment ▪ Conduct internal quality control of project finance ▪ Focal point for compliance with safeguards; ▪ Prepare quarterly reports	13x20%	12x20%	12x20%	36x20%
CDC nurse (from public health office or hospital)	▪ Assign as MEV focal point ▪ Assess issues of migrants, ethnic minorities, and other vulnerable groups in border areas with assistance of central team ▪ Conduct participatory planning with communities and camps to identify regional CDC priorities ▪ Facilitate referral services	13x50%	12x50%	12x50%	36x50%
Trainer Surveillance and Response and CDC contract staff	▪ Provide training of health centers and communities for preparedness, syndromic reporting, CDC	13x50%	12x50%	12x50%	36x50%
Financial Assistant	▪ Manage cash flow and book-keeping of financial transactions ▪ Checks and compiles SOEs ▪ Report preparation using the project accounting software recommended by ADB ▪ Archival of project documents	13x50%	12x50%	12x50%	36x50%

Clerk	▪ Support in administration, monitoring, and report preparation	13x50%	12x50%	12x50%	36x50%
Driver	▪ Provides logistic support	13	12	12	36

MOH	**Project Management Unit**	**Cambodia**	**Laos**	**Myanmar**	**Vietnam**
Positions	**Major Responsibilities**				
Project/PMU Manager	▪ Assist the Project Director and Coordinator in the oversight of all project management, activities, finance, procurement, monitoring, and compliance with safeguards; ▪ Manage PMU and PMU consultants' day-to-day activities including for procurement; ▪ Liaise with implementing agencies (departments, institutions, and provinces on daily coordination issues; ▪ Carry out other project management duties as specifically assigned by the Project Director ▪ Maintain project website ▪ Prepare quarterly and annual project reports, and inception, midterm and end of project appraisals	100%	100%	100%	100%
Procurement officer	▪ Work closely with national and international procurement consultants ▪ Plan, manage and monitor all central project procurement ▪ Provide oversight for provincial procurements ▪ Ensure government and ADB procedures ▪ Ensure required information disclosure ▪ Provide oversight for preparing bidding documents ▪ Communicate will ADB and other agencies on procurement matters	30%	30%	30%	50%
Procurement contract staff	▪ Help collect equipment requirements and specification ▪ Prepare bidding documents ▪ Prepare quarterly reports	2x100%	100%	100%	3x100%
Monitoring, Evaluation and Reporting Officer	▪ Partner with M&E consultant ▪ Develop practical and simple project monitoring and evaluation system that meets Government and ADB requirements	100%	100%	100%	100%

	▪ Ensure project is integrated in program monitoring ▪ Ensure sharing of information including feedback to provinces ▪ Help prepare quarterly and annual project reports, and inception, midterm and end of project appraisals				
Chief Accountant Certified	▪ Supervise all financial management of the project ▪ Support accounting staff and conducts internal quality control ▪ Manage treasury operations including submission of W/A, imprest account oversight, and follow up with MOF ▪ Help set up project financial management systems in provinces ▪ Resolve financial management issues in the provinces ▪ Assist in preparing annual budgets ▪ Ensure compliance with international accounting standards ▪ Ensure procedures agreed between ADB and the EA for a strong project financial management system are followed (internal control, treasury operations and financial reporting) ▪ Facilitate project annual independent audit	100%	50%	50%	100%
Assistant Accountants	▪ Assist Chief Accountant with managing all provincial project accounts ensuring adequate flow of funds and timely liquidation ▪ Conduct internal quality control of provincial accounts ▪ Provide provinces training in financial management ▪ Assist Chief Accountant in any other areas	100%	100%	100%	2x100%
Administrative Contract Staff	▪ Book-keeping of financial transactions ▪ Check and compiles SOEs ▪ Report preparation using the project accounting software recommended by ADB ▪ Archival of project documents	1x100%	1x100%	1x100%	2x100%
Gender and Social Development Contract Staff	▪ Focal point for compliance with safeguards ▪ Partner with national expert ▪ Assess gender and social	100%	100%	100%	100%

	dimensions of the project ▪ Help plan participatory planning and CDC outreach in border areas ▪ Monitor compliance with safeguards based on GAP and IPP ▪ Provide quarterly report				
Community Development Contract Staff	▪ Assess issues of migrants, ethnic minorities, and other vulnerable groups in border areas ▪ Conduct participatory planning with communities and camps to identify regional CDC priorities and implement these ▪ Monitor progress and provide quarterly report	100%	100%	100%	100%
Training Contract Staff	▪ Help plan and monitor project training activities ▪ Help plan regional workshops and forums to improve CDC based on strategic priorities including IHR/APSED, Dengue, Drug Resistance	100%	100%	100%	100%
Information Technology Contract Staff	▪ Support IT requirements of the PMU ▪ Support procurement of IT equipment ▪ Support roll out of computerization ▪ Helps maintain project website	100%	100%	100%	100%
Environmental Contract Staff	▪ Review conditions in hospitals and laboratories and updates IEE ▪ Propose environmental actions for improving IPC and laboratories ▪ Help provinces in preparing EMP ▪ Monitor repairs of wards and laboratories ▪ Provides quarterly reports	100%	100%	100%	100%
General Administrative Support Staff	▪ Record keeping, filing, preparation of letters and other clerical and secretarial functions	6	3	3	10
Driver	▪ Provide logistic support	1	1	1	2
Total Officers and Senior Staff	▪	18	16	16	23

Appendix 9: Procurement Plans

(separate file)

Appendix 10: Project Implementation Activities

GMS Health Security Project: Indicative Project Implementation Plan

Enhancing Regional, Cross-border and Intersectoral Cooperation							
Objective			**Target Group**	**By whom**	**Location**	**Details**	**Budget**
1	**Regional, cross-border and intersectoral preparedness, early warning, and coordination of CDC**						
		GMS regional, cross-border and intersectoral collaboration for APSED/IHR and CDC: **Regional** > GMS IHR/APSED meetings with WHO and other partners > Coordination of EID preparedness and major disease control programs with WHO, other partners > Monthly information exchanges on CDC **National** > Disaster preparedness with UNDP > Migrant services with IOM/ILO > Monthly information exchanges on CDC **Provincial** > Provincial cross-border/intersectoral meetings > Monthly information exchanges on CDC > Simulation exercises, joint outbreak responses > Coordination of major disease control programs Participation of China and Thailand in regional and cross border activities as relevant	**GMS teams:** Surveillance APSED/IHR Laboratory Hospital IPC CDC teams **Intersectoral:** Disaster team Zoonosis Point of Entry Border village development **Provincial:** Cross-border Intersectoral	> Regional Coordination should be institutionalized > DG CDCD or Public Health takes lead > support of Focal Points Surveillance, APSED/IHR, laboratory, IPC > Focal points establish GMS network/COPs > WHO support > PMU/CTA builds capacity > RCU facilitates	Biregional IHR/APSED meetings in Manila HO Host country Teleconferencing using war rooms National intersectoral Province/State level	These can be regional, national and provincial events Coordination of activities through focal points at national and state/region level and in other sectors	Some regional and national meetings will be financed by UNDP, WHO, and other partners GMS meetings should also use war room for teleconferencing
2	**Sharing know-how and strategic planning for CDC**						
		Regional technical forums for the purpose of strategic planning for GMS CDC. Proposed topics: > GMS regional and cross-border coordination SOPs > GMS Points-of-Entry SOPs > EID risk analysis, communication, preparedness	APSED/CDC leaders	Host country focal points, experts, RCU	GMS countries	Forums are subsector specific and can be managed by focal point for the subsector. However, not more than 3 forums per quarter may be planned for practical reasons. Invitation of staff should be highly selective and involve decision makers for strategic adjustments.	National $10-20k GMS $20-50k Forum $50k>

		> GMS Quality/networking of laboratory services: > Hospital Infection Prevention and Control SOPs > Spread and Containment of Nosocomial infections > GMS Dengue and Zika rapid response strategy > GMS Migrants and HIV/AIDS control > GMS TB case finding and treatment > GMS Drug Resistance Control Strategy > GMS HRD for CDC including FETP					
3	**Regional project coordination**						
		GMS CDC Strategy and project coordination: > Annual regional steering committee meetings each July in time for budget cycle > Annual project workshop back to back with RSC to report progress and resolve issues > Annual regional project managers meetings to evaluate progress each January	Ministries Project staff Partners	Chaired by host country vice-minister Organized by PD/PMU/RCU	On rotation Can include China and Thailand	RSC should be held each July to endorse annual plan and budget RSC includes 2 representatives of each country, one from ADB and WHO, and regional coordinator, RCU, as secretary who prepares the meeting with PDs.	Combined RSC and project workshop $30k
		Support from regional cooperation unit > secretariat RSC > providing support to project workshops and forums > financial management ADB TA assistance > facilitating surveillance data and information sharing > tracking GMS CDC institutional capacity and experts > collating GMS CDC projects and financing > knowledge management including support COP > project monitoring > ADB assistance	MOHs RSC Surveillance teams PMUs ADB COPs	RCU	Vientiane		TA for RCU is ADB financed
						Indicative Subtotal	

Strengthening CDC in border areas							
Objective			**Target Group**	**By whom**	**Location**	**Details**	**Budget**
1	**Community Outreach for CDC**						
		National steering committee established to improve assessment of health problems and CDC planning for migrants, border people, and other vulnerable groups	MOH, PHO Partners	MOH	MOH	Bi-annual meetings to monitor progress	
		National assessment, planning and monitoring capacity for CDC for migrants, border people and other hard to reach populations	MOH, PHO,	MOH, PMU	MOH, PHO, DHO	CDCD functions as secretariat	
		Training DHOs for community engagement and outreach services	DHO	PHO, PMU	PHO	Initial 3 days participatory training to plan outreach activities, and quarterly follow up for 1 day for 2 yrs	
		Participatory training, health priority assessment and planning with community health leaders	CHL VHW	DHO	DHO	Monthly meetings to follow up progress	
		Community-based education, screening and referral of people with suspected serious infectious diseases, and planning community responses	MEVC	DHO, NTP	MEVC	May include labor camps, schools and markets	
		Motorcycle with O&M for health staff to reach remote communities	DHO	MOH	DHO	Heavy duty motorcycle	
		Support for CDC campaigns based on community priorities	MEVC	PHO, DHO	MEVC	Campaigns can include various CDC priorities including for immunization, ATM, Dengue, NTD MBA	
2	**Cross-border Screening**						
		Training of border health staff in screening migrants	Border health staff	PHO	PHO or border	Initially 2 days training, 1 day training once a year	
		Basic medical and IT equipment and supplies for border health staff	Border health staff	MOH	Border station	For physical examination, reporting, referral to DHO	
		Checkup of departing and returning migrant workers and referral	Migrants	MOH	Border station		
3	**Mobile clinics for Migrants and Remote Ethnic Groups**						
		Use district transport to provide mobile clinics for MEVs in border areas	MEVC	DHO	Border areas	Twice a week, may include diagnostic services	
		Train mobile clinic staff in diagnostic services	DHO staff	PHO	PHO	Initially 3 days training, one day training twice a year	
						Indicative Subtotal	

Strengthening Surveillance and Response							
Objective			**Target Group**	**By whom**	**Location**	**Details**	**Budget**
1	**Expanding information technology for surveillance**						
		Provide better internet connectivity	Surveillance units	PHO	DHO, HC	ADSL subscription for project period. May cover all districts in targeted provinces	
		Train staff in IT technology	IT operators	PMU	PHO	Possibly maintenance contract for initial period	
		Provide equipment for connectivity	Surveillance units	MOH	DHO, HC	Procure computers and scanners/printers	
		Provide toll-free call numbers for event reporting	National	MOH	MOH	Not included in budget	
2	**Improve surveillance system capacity**						
		In-service training for trainers of surveillance staff	PHO	MOH, WHO	MOH	3 day training annually	
		In-service training for surveillance staff	All DHO	PHO, PMU	PHO	2 day training, number of townships may be increased	
		In-service training hospital and health center staff and private practitioners	DHOs, HC	PHOs	PHO	1 day training, number depends on THO staff and private practitioners	
		Risk analysis training	PHO	MOH, WHO	MOH	2 day training of xx persons annually	
		FETP scholarships	PHO	University	National	6 mths or 1 year period	
		Assistant field epidemiology training	DHO	University	National	xx persons for 1 week per year	
		Improve integration/linkages of surveillance, ATM, EPI, EWARN, lab, clinical and DHIS software	MOH-CDC	WHO, experts	Expert institution field pilot	To be decided what is feasible/important at this point in time	
3	**Syndromic reporting**						
		Design syndromic reporting system to be piloted	MOH, WHO	MOH surveillance unit, WHO	MOH, field visits	Models are available such as Pacific Islands model	
		Train community volunteers in syndromic reporting	DHO/CHL	DHO	THO/community	Quarterly visits for 1 year	
		Provide motorcycle and O&M	DHO	MOH/PMU	DHO	combined	
4	**Improve outbreak response capacity**						
		Train outbreak rapid response teams	PHO/DHO	CDC MOH	PHO	2 days training annually	
		Provide outbreak response vehicles	PHO/DHO	MOH/PMU	PHO/DHO	Some PHOs and DHOs lack vehicle for outbreak response, to be checked	
		Provide PPE, other equipment and supplies	PHO/DHO	MOH/PMU	PHO/DHO		
		Provide outbreak response standby fund that can be used for any outbreak including dengue, malaria, etc	PHO/DHO	MOH	PHO	Standby lump sum funds can be used for any suspected disease outbreak or disaster	Budget ceiling for CDCD
		Use outbreak response teams to educate communities on CDC prevention, public health and disaster preparedness	MEVC	PHO/DHO	MEVC	Quarterly visits probably needed to have lasting impact for MEVs	Coordinate with output 1

5	**Quarantine services**						
		Train quarantine staff in routine screening	Border towns	PHO/DHO	DHO	2-3 day training for border quarantine health staff, up to 24 persons annually	Coordinate with output 1
		Provide equipment including thermo scanner	Border staff	MOH	Border checkpoints	Procure appropriate equipment	
		Provide ambulance and box with PPE	Border staff	MOH	hospitals	Ambulance should be multi-purpose, availability to be checked	
		Repair and equip hospital quarantine rooms	Provincial hospitals	PHO	Hospitals	Internal repairs to improve isolation and staff protection, unlikely that district hospitals are suitable	
						Indicative Subtotal	

Improving Public Laboratory Services							
Objective			**Target Group**	**By whom**	**Location***	**Details**	**Budget**
1	**Improve Planning and Management of Laboratory Services**						
		National laboratory planning workshop	20-40 major hospitals in each country	NHL, expert	NHL	Annual event. subject to lack of funds from other sources	
		National laboratory monitoring and planning unit	laboratories	NHL, expert	NHL	Dedicated focal point/unit in NHL to roll out national laboratory policy/plan	
		Pilot laboratory audit unit in project area	laboratories	NHL, expert	NHL	2 persons mobile audit team to audit labs and follow up	
		Laboratory management training	Project laboratories	NHL, expert	NHL	1 week training once/year for 20 participants	
2	**Improve Quality of Pre-service Training**						
		Provide small equipment, spare parts, and supplies to laboratory pre-service training institutions	Laboratory schools	MOH	Teaching labs	Assess gaps in equipments and supplies	
3	**Roll out Internal Quality Improvement**						
		Staff assessment and planning for in-service training	12 labs	NHL	Labs	Part of lab studies,, below	
		Strengthen NHL capacity for in-service training	NHL	Expert, INGO	NHL	Training of trainers including in skills-based teaching	
		Prepare and disseminate SOPs for labs	All laboratories	NHL, expert, WHO	NHL	Use small workshops with lab staff to develop SOPs	
		Provide in-service training	Project laboratories	NHL, expert, INGO mentor	Project area	1 week in-service training course for up to 20 people twice a year	
		Provide equipment and supplies for quality improvement	Project laboratories	NHL, MOH	Labs	Requires assessment of currently available equipment	
		Provide basic training in equipment maintenance and calibration for laboratory staff	Project laboratories	NHL, INGO	NHL	3 day training for 20 senior lab staff once a year	

		Set up specimen transportation system	Project laboratories	NHL/PHO	Labs	Purchase of containers, preparation of protocols, testing transport system	
4	**Scale up Quality Assurance**						
		Set up quality assurance program in project area including staff testing and follow up	Project laboratories	NHL, INGO, expert	Labs	Link to institution providing samples, may be expanded	
5	**Expand laboratory services**						
		Provide equipment and supplies to expand services	Project laboratories	NHL. MOH, procurement & lab expert, WHO/INGO	MOH	Including bacteriology in medium-sized labs, rapid diagnostic tests in all labs	
6	**Ensure laboratory biosafety**						
		Biosafety curriculum development	Laboratories	NHL, expert, INGO	NHL	Adaptation of WHO guidelines	
		Training in biosafety	Lab staff	NHL	NHL	2 day training annually	
		Provision of biosafety equipment and supplies	12-60 labs	NHL/PMU	Labs	Needs assessment and plan for each lab, inclusion in national health plan, and central preparation of specifications for bidding documents,	
		Repairing laboratories for biosafety	Project labs	PHO	Labs	Minor internal repairs only	
7	**Conduct laboratory studies**						
		Conduct study on lab equipment and facilities, staff capacity, laboratory quality, laboratory biosafety	Public laboratories	NHL, expert, WHO, other partners	Labs	Project requirement for planning investment in laboratories	
		Conduct studies on epidemiology, CDC and inpatients in border areas	MOH CDCD	NHL, INGO other research unit	Various target groups	Topics: HIV in migrants, cause of fever in children, immunization efficacy, bacterial drug resistance	
						Indicative Subtotal	

Improving Infection Prevention and Control (IPC)							
Objective			**Target Group**	**By whom**	**Location***	**Details**	**Budget**
1	**Improving Hospital IPC Management**						
		National IPC planning workshop and curriculum review	Project hospitals	MOH, WHO, experts	MOH, subnational	Yearly monitoring workshop	
		National IPC planning and monitoring	Project hospitals	MOH, WHO, experts	MOH, subnational	IPC unit in MOH for inspection	
		Advanced hospital management training in IPC for 12-60 project hospitals	1 nurse, 1 doctor	University hospital, WHO	University hospital	Yearly training course for 1 week, may cover other hospitals	
		Nomination and support of IPC hospital committee for 12-60 hospitals	hospital committees	DMS directive	hospitals	Regular meetings to roll out IPC.	
		Nomination of 12-60 IPC hospital focal points	1 nurse, 1 doctor	State/Region Health Dep	hospitals	Monitor and take actions to roll out IPC.	

2	**IPC Staff Capacity**						
		Basic hospital staff training in IPC	MOs, Nurses, Midwives	MOH, WHO, experts	MOH, subnational institution	2 days training	
		Staff orientation in IPC	All other staff	Hospital IPC Focal points	12-60 hospitals	Half a day once a year (hygiene day)	
		IPC scholarships for nurses	6-30 provincial hospital nurses	Health Institute	Chang Mai	3 months	
3	**Improving Hygiene and Waste Management**						
		Procure equipment and supplies for ward and OPD hygiene	Project hospitals	MOH/PHO/ PMU	Hospitals	Needs assessment, inc washing machines, dryers, autoclaves	
		Repair facilities and supplies to improve hygiene	Project hospitals	PHO	Hospitals	Internal repairs, e.g., wash-basins, toilets, water supply	
		Procure equipment and supplies for waste management	Project hospitals	MOH/PHO/PMU	Hospitals	Waste segregation and disposal	
4	**Special Case Management for Highly Infectious Diseases**						
		Assessment, planning and updating protocols for special case management	Provincial r hospitals	Clinicians, WHO, experts	University hospital	Field visit to provincial hospitals	
		Train hospital staff in special case management	2 nurses and 2 MOs in provincial hospitals	University hospital	University hospital	2.5 days initial training and 1 day refresher training each year	
		Staff orientation in special case management	All staff	Trained nurses and MOs	hospitals	Combined with general hygiene training half a day once a year	
		Provide equipment and supplies for special case management	Project hospitals	MOH, PMU	hospitals		
						Indicative Subtotal	

Ensure Results-based, Integrated Project Management							
Objective			**Target Group**	**By whom**	**Location**	**Details**	**Budget**
1	**Project Management and Capacity Building**						
		Appoint Project Director, Deputy Director, institutional and provincial Project Directors, project staff	EA, IIAs, PIA	MOH	MOH	Should be before loan effectiveness and preferably earlier to prepare for PMU, engagement of consultants, and any other project inputs needed upfront and likely to take time s	
		Engage CTA and Deputy CTA and other international and national experts	PMU	MOH	MOH	CTA should be engaged as early as possible and at least full time for first project year	
		Set up PMU coordination, administration and logistics system	PMU	PMU	MOH	Existing CDC2 system may be adopted, but needs to be more systematic and archived.	
		Plan capacity building of MOH, PHOs, and DHOs, and train project staff in project	PMU, CTA	PMU	MOH	Project staff should be provided with project implementation manual and	

		planning, management and monitoring				details plans for implementing outputs.	
		Conduct project launch, mid-term and end of project workshops with partners	MOH, ADB, partner	MOH, PMU	MOH		
		Submit quarterly and annual reports to ADB	MOH, ADB	DPH/DMS	MOH	Use standard ADB format	
		Conduct bi-annual project reviews with ADB	MOH, ADB	MOH, ADB	MOH, PHO, DHO, MEV	Including inspection of facilities and meeting targeted MEVs	
		Prepare inception, mid-term and project completion reports including updating of project scope, implementation plan, and manual based recent developments and project progress and issues	MOH, ADB	MOH, ADB	MOH, IIAs, PHOs, DHOs, Ministries Partners, MEVs	This should cover both project administrative aspects, and project benefit planning and assessment including discussion with MEVs as target populations	
2	**Integrated Project Planning and Financing in MOH Planning Cycle**						
		Organize one annual national project review workshop among project provinces and other participants	MOH, PHOs	PMU	MOH	PPD, surveillance, laboratory, IPC representatives. PPD takes charge of MEV issues	
		Organize one annual national project review meeting among project provinces	MOH, PHOs	PMU	MOH	One representative per province	
		Organize one annual project review meeting at provincial level among project districts and other participants	PHOS, DHOs	PIA	PHO	Two representatives of each targeted district	
		Ensure proper aid coordination by tracking aid activities, regular meetings, and ensuring complementarity/avoiding overlap	MOH, partners	PMU	MOH	RCU will assist in aid tracking	
		Include project in provincial annual operational planning and budgeting cycle	MOH, PHO, MOF	MOH, PHO	MOH	Include project activities in bottom up participatory planning process to be included in provincial and national planning and budgeting cycle including for MEVs	
		Phase in project recurrent costs in government budget	MOF	MOH, PHO	MOH, PHO		
		Plan project monitoring system and IT support system based on MOH HMIS and indicators, surveys and reports	MOH, ADB	HMIS/IT experts	PMU	This should be done within first quarter	
		Strengthen HMIS in targeted districts with training and equipment	MOH, ADB	HMIS/IT experts	PIAs	This should be done within first quarter	
3	**Strengthened Financial Management and Procurement**						
		Engage competent project staff and consultants for accounting & procurement	MOH, PIAs, MOF, ADB	MOH	MOH	This should be done prior to or just after project effectiveness	
		Establish sound financial management and procurement systems using procedures acceptable to Government and ADB	PMU	MOH, ADB, MOF	MOH, PIAs	Address system issues as reported in FMA	
		Ensure proper financial management including proper use of subaccounts, timely	MOH, ADB	PMU	MOH, PIAs	Address implementation issues as reported in FMA. Requires regular	

		liquidation, and proper bookkeeping				inspection and training of PMU and PIAs	
		System procurement of equipment of high quality using ADB procedures with support of procurement consultant	MOH, ADB	PMU		Requires proper specifications to avoid poor quality equipment being procured	
		Ensure proper procurement procedures	MOH, ADB	PMU	MOH	Address implementation issues as reported in Procurement Risk Assessment.	
		Identify any differences in financial management and procurement practices and reconcile these with ADB.	MOH, ADB	MOH, ADB	MOH, PIAs	Myanmar is developing new system with World Bank support, so likely will fit ADB guidelines	
		Conduct annual audits	ADB	Government	PMU, IIAs, PIAs	Within 6 months of completion of fiscal year Can be private or state	Adjust budget for private firm
4	**Compliance with Gender and Safeguards**						
		Engage gender and social safeguards expert	MOH, provinces	PD/PMU		National expert, especially to assist with output 1, CDC outreach	
		Include GAP and EGDP in central and provincial AOPs with budget	Provincial IAs	MOH	PIAs MOH	Mainstreaming GAP and EGDP in AOP and budget will contribute to sustaining gender and EMG group support	Budget is for field work
		Update country project GAP and EGDP and ensure gender mainstreaming and targeting ethnic minority groups in all project activities	Women, EMGs CHWS Female staff Provinces Government	MOH IAs	MOH PIAs Project sites	This can be updated yearly Also workshops and forums show address gender and EGDP concerns	
		Ensure the project doesn't affect use of private land or businesses (see resettlement framework)	Affected people	Provincial IAs	Project sites		
		Conduct IEE of all project sites based on project IEE format and prepare and implement EMP including consultation of affected populations.	Affected people, patients	Provincial IAs	Project sites		
		Monitor gender mainstreaming and safeguards and send quarterly report to ADB	ADB	MOH	MOH/PMU		
						Indicative Subtotal	

CHL = community health leader; DHO = district health office; EGDP = ethnic group development plans; EMG = ethnic minority group; IEE = initial environmental examination; IIA = institutional implementing agency; INGO = International nongovernment Organization; MEVC = Community of Migrants or Mobile People, Ethnic Minorities, or other vulnerable groups like workers in casinos, factories and plantation workers; MOH = Ministry of Health; NHL = National Health Laboratory (NIHE, NPHI, NCLE, or NHL); PHO = provincial health offices, PIAs = provincial implementing agencies; PMU = project management unit; RCU = regional cooperation unit; WHO = World Health Organization.

Note: General terms are used in this Plan for the 4 countries. Myanmar has states and regions, but the generic term "provinces" is used.

Appendix 11: Project Monitoring

Design and Monitoring Framework

Design Summary	Indicators, Baselines, and Targets	Sources	Assumptions and Risks
Impact			
GMS public health security strengthened	• No major outbreak of emerging or other epidemic in excess of 100 case fatalities • Outbreaks have less than 0.5% GDP impact in any quarter of the year • Proportion of cases with infectious diseases presenting at health facilities who are migrants, women and children, youth and ethnic groups increased by 20% (specific baseline to be provided)	• Economic reports • National CDC reports • Provincial health statistics • Health facility records in targeted hotpots in border districts	Assumptions: • Other nations make similar control efforts • interventions are effective Risks: Emergence of new, highly pathogenic and highly infectious diseases and of drug-resistant infection
Outcomes			
Improved GMS public health security system performance;	By December 2021: • APSED compliance increases from 70% to 90% average	• WHO IHR/APSED assessment • National CDC program reports • Provincial Health statistics • Health facility report	Assumptions: • Government and local authorities sustain adequate financial and administrative support
Outputs			
Output 1: Improved GMS collaboration and CDC in border areas 1.1: Strengthened regional, cross-border and intersectoral collaboration and knowledge sharing 1.2 Linked migrants, mobile people, isolated ethnic groups, and other vulnerable groups to CDC program	• Suspected cases of notifiable communicable diseases reported among GMS countries within 24 hrs • Each province conducts cross border and intersectoral disease control activities • Disease control for MMPs and ethnic groups enhanced and integrated in CDC programs by 2020	• Reports of regional steering committee, workshops, forums • Report of CDC program performance and campaigns in MEVs • Report of sentinel stations in public places such as labor camps, factories market and schools, and in isolated villages in border areas	Assumptions: • Governments prepared to share information on reported diseases • Ministries agree to budget for staff and resources to sustain regional cooperation • Local authorities support reaching MEVs • Resources of other programs are available
Output 2: Strengthened national surveillance and response system	• By 2020, 100% of public hospitals, 80% of health centers report gender disaggregated notifiable diseases within 12 hrs compared to respectively	Report of web-based surveillance and response reporting system.	Assumptions: • Availability of staff and vehicle for outbreak response teams Risks: • Internet connectivity,

	80% and 50% in 2014 • By 2020, all reported disease outbreaks in targeted provinces investigated within 24hr compared to 80% in 2014 with gender-balanced outbreak response team		and IT maintenance • Weak private provider participation
Output 3: Improved diagnostic and management capacity of infectious diseases 3.1: Improved laboratory biosafety and quality diagnostics 3.2: Improved hospitals management of infectious diseases	• 80% of Female and male laboratory staff meeting national laboratory quality and biosafety competencies, from about 60% at present • 80% of trained male and female staff hospital staff meeting IPC standards, from about 30% at present • 80% of trained male and female hospital staff meeting quality standards for case management, from about 50% at present	• Baseline and end-of-project assessments in targeted laboratories • Before and after IPC and case management assessment in targeted hospitals	Assumptions: • National or local governments provide sufficient budget for equipment maintenance and supplies. Risks: • Hospitals lack sufficient staff and facilities
Output 4. Results-based project management 4.1 Efficient and effective project management 4.2 Integrated and sustained project investments 4.3 Good governance	Results-based planning and monitoring is used Project investments are approved and sustained based on comprehensive annual plans and budgets to improve services Compliance with good governance, safeguards and gender action plan	Project management assessment based on quarterly and annual project implementation reports, financial records, interviews, and field visits	**Assumption:** PMUs engage competent consultants PMUs are competent in project implementation **Risks:** External interferes with PMU performance
Activities with Milestones			**Inputs:**
A1. Improved Regional Collaboration for Health Security in the GMS. 1.1 Organize annual national and regional steering committee meetings and workshops for project review and guidance 1.2 Conduct annual technical forums and COP on GMS CDC priorities 1.3 Conduct annual regional, cross-border and intersectoral events such as joint outbreak investigation, technical assistance and training consensus on regional database and establish information exchange of notifiable communicable diseases by Q2, 2018 1.4 Conduct mapping and survey of MEVs in border areas by Q2 2017 1.5 Conduct participatory planning with target groups and local staff to improve CDC coverage by Q3 2017 1.6 Design studies of innovative strategies to improve CDC in MEVs by Q4 2017. 1.7 Mobilize national program resources for CDC and use project resources to extend services in hotspots using government services, CBOs, by Q1, 2018 1.8 Implement CDC extension program from Q2 2018 onwards 1.9 Conduct specific disease control campaigns in border areas on a need basis 1.10 Evaluate CDC among MEVs through survey and study by Q2 2020			**Asian Development Bank**: Cambodia ADF Loan $21.0 million Lao PDR ADF Loan $12.0 million Myanmar ADF Loan $12.0 million Viet Nam ADF Loan $80.0 million **Government of Cambodia** $1.8 million **Government of Lao PDR** $0.6 million

A2: Strengthened Surveillance and Response Capacity for Disease Outbreaks 2.1 Review the surveillance and response systems by Q1, 2017 2.2 Strengthen monitoring of surveillance and response system by Q1, 2017 2.3 Plan and prepare surveillance and response improvements by Q2 2017 2.4 Procure or upgrade IT equipment by Q1 2018 2.5 Provide GIS software for surveillance by Q1 2018 2.6 Provide IT connection by Q1 2018 2.7 Provide IT training to focal points, IT users and FETP scholars by Q1, 2018 2.8 Harmonize surveillance indicators and systems for CDC by Q1 2019 2.9 Provide outbreak investigation funds from project and government sources by Q1 2017 2.10 Train outbreak response teams also using simulation exercises in Q2 2017 2.11 Provide training in risk analysis and communication in Q3 2017 2.12 Procure vehicles and outbreak response gear by Q4 2017 2.13 Conduct public information campaigns in Q4 2017	**Government of Myanmar** $ 0.6 million **Government of Viet Nam** $4.0 million Total: $132.0 million Additional Regional TA Grant of $2 million is proposed
A3: Improved Diagnostic and Management Capacity for Infectious Diseases 3.1 Procure laboratory supplies by Q1, 2017 3.2 Review laboratory strategy, plan, guidelines, standards and SOPs by Q3, 2017 3.3 Conduct detailed assessments of laboratory staff development by Q4, 2017 3.4 Conduct detailed assessment of laboratory performance by Q4, 2017 3.5 Conduct workshops to review findings and develop standards by Q1, 2018 3.6 Prepare comprehensive laboratory improvement plan for targeted laboratories as part of annual operational plans by Q2, 2018 3.7 Improve pre- and in-service training of laboratory staff by Q3, 2018 3.8 Strengthen laboratory quality improvement program by Q3 2018 3.9 Procure equipment for laboratories in 2018 and 2019 3.10 Conduct laboratory studies in 2019-2020 3.11 Perform detailed hospital IPC and case management assessments by Q4, 2017 3.12 Prepare detailed hospital IPC and case management plans by Q1, 2018 3.13 Establish IPC focal point and committee by Q1, 2018 3.14 Conduct training of hospital staff from Q2-Q4, 2018 3.15 Provide equipment and supplies in 2018 and 2019 3.16 Strengthen IPC monitoring in hospitals from Q1, 2018 onwards	
A4: Results-based Project Management 4.1 Engage CTA, deputy CTA, and experts for gender and social development, laboratory biosafety and quality management, project implementation, procurement, and financial management by Q2, 2017 4.2 Identify and track parameters of effectiveness, efficiency, integration, sustainability, and other qualities for results-based project management by Q3, 2017 4.3 Organize a workshop to plan for a results-based participatory project planning and implementation process to ensure project criteria are met by Q3, 2017 4.4 Conduct assessment of CDC baselines in border areas and identify and link milestones and actions to be taken to achieve implementation plans by Q4, 2017 4.5 Train all provinces in integrating investments and safeguards in provincial plans by Q1, 2018 4.6 Provinces develop AOPS and implementation plans by Q2, 2018	

Hotspots: markets and labor sites along or near economic corridors including local people, people from nearby villages, migrant workers, and mobile people

AOP = annual operational plan; CDC = communicable disease control; CLMV = Cambodia, Lao PDR, Myanmar, Viet Nam; CTA = chief technical adviser; IPC = infection prevention and control; MEV = migrant and mobile populations, ethnic minorities, and other vulnerable groups; MMP= migrants and mobile people; GMS= Greater Mekong Subregion; Lao PDR = Lao People's Democratic Republic; Q = quarter; TA = technical assistance

Source: Asian Development Bank.

Project Indicators
Greater Mekong Subregional Health Security Project

Indicators, Baselines, and Targets	Sources
Impact: GMS public health security strengthened	
No major outbreak of EID epidemic or other epidemic in excess of 100 case fatalities at any time	MOH Hospital Statistics Surveillance records WHO records
Outbreaks have less than 0.5% GDP impact in any quarter of the year at any time	MOF/IMF/World Bank reports
Annual reduced incidence of communicable diseases	EPI and HTM program statistics for targeted provinces
Outcome 1: Improved coverage of GMS public health security system	
• IHR core capacity compliance increases: Cambodia from 55% to 70%, Lao and Myanmar from 65% to 90%, Viet Nam from 95% to 980%.	Annual assessment based on IHC questionnaire, external assessment by WHO.
Outcome 2: CDC coverage increased in vulnerable groups in CLMV border areas	
• Number of MEVs accessing EPI and HMT programs in targeted MEV populations (villages, camps, workplace) increases by 5% each year	Reports of EPI and HMT programs in targeted MEV populations based on disaggregated reporting for MEVs, or Baseline and end of project survey in targeted MEV populations
Output 1: Improved GMS collaboration and CDC in border areas: **1.1 Strengthened regional, cross-border and intersectoral collaboration and knowledge sharing**	
• Monthly reported cases of malaria and dengue among GMS countries (including zero reporting) • Suspected cases of notifiable communicable diseases reported among countries within 24 hrs • Quarterly reported cases of cross border and intersectoral disease control events including meetings, simulation exercises, and joint disease control activities, by province • Quarterly reported regional meetings, workshops, forums, and other activities	• Monthly country report of national focal point for IHR/APSED copied to RCU
Output 1: Improved GMS collaboration and CDC in border areas: **1.2 Linked migrants, mobile people, isolated ethnic groups, and other vulnerable groups to CDC program**	
• Number of Disease Control Campaigns (IEC, Dengue, HIV. Tuberculosis, Malaria, NTD) conducted in targeted MEV populations. Target is that all identified MEV populations are visited once per quarter for CDC and once per quarter for MNCH/EPI.	• Quarterly Report of District Health Office on CDC program outreach/ campaigns in MEV populations
Output 2: Strengthened national surveillance and response system **2.1: Strengthened web-based surveillance**	
• By 2022, all public health facilities and accredited private clinics submit monthly surveillance reports electronically, baseline to be established • By 2020, all public health facilities and accredited clinics report notifiable diseases within 12 hrs, baseline to be established • By 2022, all targeted MEV villages participate in event based and syndromic reporting, compared to close to zero at present, baseline to be	Monthly MOH report of web-based surveillance and response reporting system of surveillance unit

established	
Output 2: Strengthened national surveillance and response system **2.2 Improved outbreak response capacity**	
• By 2020 all reported suspected notifiable diseases and reported communicable diseases outbreaks in targeted provinces/districts are investigated within 24 hr compared to 80% in 2014 • By 2020, all major ports of entry conduct screening for communicable diseases of cross-border traffic • All MEV leaders know procedures for handling suspected notifiable diseases and disease outbreaks by 2018	Monthly MOH report of web-based surveillance and response reporting system of surveillance unit MEV leaders baseline and end of project assessment
Output 3: Improved diagnostic and management capacity of infectious diseases **3.1: Improved laboratory biosafety and quality diagnostics**	
• Percentage of targeted provincial/state laboratories in Cambodia, Lao and Myanmar, and district laboratories in Viet Nam, meeting 60% of national quality and biosafety standards, from about 30% at present, baseline to be established, by 2022 • Percentage of targeted provincial/state laboratories in Cambodia, Lao and Myanmar, and district laboratories in Viet Nam that can do 80% of required tests, from about 40% at present, baseline to be established, by 2022 • All targeted provincial/state laboratories in Cambodia, Lao and Myanmar, and 50% of district laboratories in Viet Nam participate in annual quality assurance and at least one audit during the project, from zero at present, by 2022	• Baseline and end-of- project assessments in targeted laboratories • Yearly report of central laboratory on QA/Audit program.
Output 3: Improved diagnostic and management capacity of infectious diseases **3.2: Improved hospitals management of infectious diseases**	
• Percentage of targeted provincial/state hospitals in Cambodia, Lao and Myanmar, and targeted district hospitals in Viet Nam meeting 60% of IPC standards, from about 30% at present (baseline to be established) by 2022. • Percentage of targeted hospitals meeting 80% of quality and biosafety standards for case management of highly infectious diseases, from about 50% at present (baseline to be established) by 2020	Before and after IPC and case management assessment (simulation if needed) in targeted hospitals
Results-based project management	
Results-based planning and monitoring is used Project activities are detailed provincial/state/ region/district annual operational plans and budgets including program to link MEVs to health services Project is in compliance with covenants, safeguards, and procurement and financial management rules	Project management appraisal by ADB and WHO

EID – Emerging Infectious Diseases; EPI = Expanded Program on Immunization; HTM = HIV/AIDS, Tuberculosis and Malaria; IPC = infection prevention and control; MEV = migrant and mobile populations, ethnic minorities, and other vulnerable groups; GMS= Greater Mekong Subregion