

**Asia Pacific Regional Report**  
**on**  
**National AIDS Spending Assessment**  
**2000-2004**

Viroj Tangcharoensathien\*  
Harin Chokchaicharn\*  
Kanjana Tisayaticom\*  
Waranya Teokul\*\*  
Walaiporn Patcharanarumol\*

\* International Health Policy Program,  
Ministry of Public Health

\*\* National Economic and Social Development Board,  
Office of the Prime Minister

May 2006

## Table of Content

Table of Content .....	2
Background .....	3
Objectives .....	4
Methods .....	4
1. Induction Workshop .....	4
2. Country Visit .....	4
3. Data Collection Method .....	5
3.1 Cambodia .....	5
3.2 Lao PDR .....	5
3.3 The Philippines .....	6
3.4 Thailand .....	6
4. Debriefing Workshop .....	6
Results .....	8
1. Result of Induction Workshop .....	8
2. Regional Report NASA 2000-2004 .....	10
2.1 Financing Sources .....	10
2.2 Financing Agents .....	10
2.3 Healthcare Functions .....	11
2.4 Summary key indicators .....	13
3. Country Report NASA 2000-2004 .....	15
3.1 Cambodia .....	15
3.2 Lao PDR .....	16
3.3 The Philippines .....	17
3.4 Thailand .....	18
Discussion .....	21
Limitations of NASA exercise .....	21
Future challenges, the way forward .....	22
Acknowledgments .....	23

### Table

Table 1 Dummy Matrix 1 Financing Source X Financing Agent .....	8
Table 2 Dummy Matrix 2 Financing Agent X Healthcare Functions .....	9
Table 3 NASA key indicators, 2000-2004, four country case studies .....	13
Table 4 Country HIV and AIDS estimates, end 2003 .....	15
Table 5 Summary key indicators, NASA 2000-2004, four country case studies, at current year price. ....	20

### Figures

Figure 1 HIV/AIDS Expenditures by Financing Source, 2000-2004, four country case studies .....	10
Figure 2 HIV/AIDS Expenditures by Financing Agent, 2000-2004, four country case studies. ....	11
Figure 3 HIV/AIDS Expenditures by Healthcare Function, 2000-2004, four country case studies .....	12

## National AIDS Spending Assessment in Asia Pacific Region 2000-2004

### Background

Around the world, an estimated 40.3 million people are living with HIV. In 2005, an estimated 4.9 million people became newly infected with HIV. Of the 6.5 million people in developing and transitional countries who need life saving AIDS drugs, only 1 million are receiving them. (UNAIDS AIDS Epidemic Update. December 2005)

Tracking how much resources were spent on HIV/AIDS as well as forecasting resource needs for scaling up responses are important inputs for effective national and global responses to the AIDS pandemic. Efficient allocation of international financial assistance and national resources for HIV/AIDS should be guided by transparent information on sources and uses of funds. The lack of timely, accurate information about spending represents a key constraint for policy decision on effective use of limited resources in developing countries.

The needs to further improve data systems are clear. At present, there has been limited success in establishing resource tracking system and a comprehensive information regarding where those funds came from and how they were spent. As a result, policy makers are unlikely to be able to effectively mobilize additional resources and allocate them toward the populations and types of services that are vital to confront the HIV/AIDS epidemic.

At this juncture, there is a need, at country level to develop a tool for monitoring expenditure on HIV/AIDS. In order to understand the nature of expenditures on HIV/AIDS, several questions must be answered. For example, who finances services and programs, how much do they spend, who makes the decision on what activities or function, what specific functions were those funds spent on. There is a need to capture the flow of funds from various financing agencies (e.g. government, insurance schemes, households and donors) in order to estimate total resources available for various HIV/AIDS program activities (e.g. prevention, treatment of sexual transmitted infections, opportunistic infections, provision of anti-retroviral therapy and impact mitigation). Especially in the era when the Global Fund to fight HIV/AIDS, TB and Malaria, plays a significant role in financing HIV/AIDS program in developing countries.

The total resources available when matched with total requirements when program activities were scaled up, reflects a resource gap. Resource gap prompts governments and development partners to search for resources mobilizations. Spending profile also prompts government to re-allocate its scarce resources to the most cost effective interventions and program activities. Monitoring of financing trend is useful for long term resource forecast in conjunction with epidemiological trend projections.

## Objectives

1. To build up capacities in six selected countries<sup>1</sup> in Asia Pacific on development of a tool for the assessment of national AIDS spending.
2. To estimate government and donor expenditures, including its profile of expenditure on HIV/AIDS for five year period of 2000 to 2004, by national partners in these countries.

## Methods

In order to achieve the objectives of capacity building as well as promoting country partners to conduct their own assessment, four major consecutive activities were conducted.

### 1. Induction Workshop

Two to three participants designated by each of the six countries. Participants who have experiences on e.g. HIV/AIDS program budget, AIDS expenditure monitoring in the Ministry of Health or National AIDS Council, or expertise in National Health Account, were invited to attend a three day induction workshop in Bangkok on 7-9 September 2005, hosted by IHPP.

This induction workshop provided the participants with technical input on how to develop National AIDS Spending Assessment based on the experience of Thai National AIDS Account 2000 to 2003 with the financial assistance from UNAIDS.

Take in to account the country reality of data availability, the participants in this workshop had discussed and reached a consensus on the structure of NASA matrices. Two major matrices were required: (1) Financing Source by Financing Agents, and (b) Financing Agent by Healthcare Functions. The scope of data collection would be five year period, 2000 to 2004.

At the end of the workshop, a timeline and a dummy for country report was agreed upon by participants and IHPP. These was a strong enthusiasm by the country participants, and decided to conduct AIDS expenditure assessment in their own country. UNAIDS provided a small grant to facilitate this exercise at country level.

### 2. Country Visit

After the induction workshop, each country went back to conduct national AIDS spending Assessment (NASA) by their own, with technical support from International Health Policy Program- Thailand (IHPP).

IHPP had arranged four country visits including Cambodia, Laos PDR, Philippines and Vietnam, to ensure scientific strengths of the work done by country partners. Due to unanticipated difficulties in arranging the meeting with national authorities, country visit to Myanmar was finally not materialized.

---

<sup>1</sup> Cambodia, Laos PDR, Myanmar, Philippines, Thailand and Vietnam

Schedule of country visit by researchers from IHPP

Country	Name	Date
Cambodia	1. Ms. Kanjana Tisayaticom 2. Mr. Harin Chokchaichan 3. Dr. Supon Limwattananon	24 - 25 November 2005
Lao PDR	1. Ms. Waranya Teokul 2. Mr. Harin Chokchaichan 3. Dr. Jongkol Lertiendumrong	28 November 2005 28 - 30 November 2005 28 - 29 November 2005
Myanmar	-	Cancelled
Philippines	1. Ms. Kanjana Tisayaticom 2. Ms. Chawewan Yenjittr	22 - 23 November 2005
Vietnam	1. Dr. Viroj Tangcharoensathien 2. Dr. Siriwan Pitayangsarit	24 - 25 November 2005

### 3. Data Collection Method

Though a standard methodology was agreed upon during the induction workshop, the detail method described below was synthesized from the final version of country report, which had taken into account the context of AIDS program operation and data availability in each country.

#### 3.1 Cambodia

As there were existing AIDS Resource Tracking system already in place, most of the data collection were retrieved directly from 2 main sources, namely the Policy Project for resource tracking assessment from 2001 to 2004 and AIDS expenditures through the electronic records on AIDS expenditure hold by NCHADS 2000-2004.

In summary, the major method applied is review of secondary financial data hold by NCHADS and retrieve secondary information from the Policy Project.

#### 3.2 Lao PDR

Two workshops with key informants from several public and international development partners, non-government agencies were organized by the country participants. This included the first induction workshop on 13<sup>th</sup> October 2005, whereby participants from each agency were explained and given a questionnaire to fill-up expenditure data and sent back to CHAS. The second consensus workshop was held on 26<sup>th</sup> December 2006 to reach a general agreement on figures in NASA compiled by CHAS.

Each of the invited organization was asked to provide expenditure data on HIV/AIDS, whereby CHAS reviewed, verified and categorized relevant expenditures to suit the NASA matrix. There were also provincial visits to Louanprabang (north), Savannakhet (central) and Champasack (south) to assist several organizations in completing the NASA matrices by the country participants.

In summary, the major method applied in Lao PDR is direct compilation of expenditure data from all concerned agencies (central and provincial public agencies, international development partners)

### **3.3 The Philippines**

In the Philippines, donors may function in two ways: (1) as a Financing Source who grants other Financing Agents to conduct AIDS programs, or (2) as a Financing Agent itself by direct spending on AIDS activities at country level.

All the donors were requested to provide information on their total spending on AIDS. If they act as Financing Agent, they are asked to provide expenditure data on different program activities. If they act as Financing Source, they are asked to provide how much they support other Financing Agents. And in turn, each Financing Agent (government, non-government) would be requested to report their spending profile according to the healthcare function agreed in the matrix.

Secondary data from various report and epidemiological surveillance were used in the absence of actual expenditure data. Imputation using Price and Quantity (PQ) approach was applied for expenditure items such as treatment for opportunistic infections and prophylaxis.

### **3.4 Thailand**

IHPP and other partners had produced National AIDS Account (NAA) for the period of 2000-2003. The Thai NAA is a 2-dimensional matrices of Financing Agent and Healthcare Function. Expenditure covers three major sources: public, household and donors. However, the healthcare function in the Thai NAA is not consistent with the agreed matrix of NASA.

The primary method for Thailand NASA 2000-2004 is to re-categorize the existing Thai NAA 2000-2003. The data for the year 2000-2003 from Thai NAA were verified, re-categorized and translated into the new categories according to the NASA Matrix. The data for 2004 were tracked using the same principle as NAA. First, the data on actual expenditure available from reliable sources were verified and filled into the matrices directly. Secondly, where data cannot be retrieved directly, imputation based on PQ approach and several assumptions were applied.

## **4. Debriefing Workshop**

A two-day debriefing workshop was planned in advance, and was held in Bangkok on 15-16 December 2006. The same country participants who attended the induction workshop were invited to report back the results of their NASA exercise.

IHPP and representative from UNAIDS serves as external peer reviewers. Comments were made, issues were raised. Finally, country participants were recommended to revise their country report, taking into account discussion and comments by the workshop participants.

Furthermore, the workshop participants reached consensus on key indicators to be produced in the regional report. Note that NASA exercise was an integral component of the country report on achievement of HIV/AIDS to be submitted to the 2006 UNGASS on AIDS.

It took a few months after the debriefing workshop for IHPP to verify figures in the tables, consistencies between tables and graphs, by getting back and forth to the country participants. Finally, a full country report<sup>2</sup> were provided in the Annex 1-4.

---

<sup>2</sup> Due to several constraints and limitations, Myanmar is dropped from the country exercise as only data from external sources in the year 2004 is available. Vietnam is also dropped due to incomplete and unreliable information.

## Results

### 1. Result of Induction Workshop

By the end of the workshop, all participants reached a consensus on the structure of NASA matrices. Two matrices were proposed.

The first matrix is design to capture the flow of resources from Financing Source to Financing Agent (FS X FA), see Table 1.

The second matrix is to capture the flow of spending from FA to different healthcare functions (FA X HC), see Table 2.

FS is defined as institutions or entities that provide the funds to others. FS did not directly operate program activities or make decision on the spending of a particular program.

FA is defined as institutions or entities who directly conduct and make decision on spending on different program activities. FA got financial supports from FS.

HC is defined as various program activities including prevention, care and treatment, program administration. This is a modification of the International Classification of Healthcare Function, promulgated by OECD Systems of Health Account (2000).

**Table 1 Dummy Matrix 1 Financing Source X Financing Agent**

Financing Agent	Financing Source			
	MOF	ROW1	ROW 2	Total
Central Govt.				
Local Govt.				
Non Profit Institution 1				
Non Profit Institution 2				
ROW 1				
Total				

In this matrix, each country would specify different sets of FS and FA according to their own structure of AIDS program and data availability. Due to the complex nature of the estimate of household out of pocket payment on HIV/AIDS, the scope of this NASA exercise, would capture only government and external expenditure, deliberately exclude household out of pocket expenditure.

However, in the future, there is a possibility of extending the scope of expenditure to capture household expenditure on HIV/AIDS. It is important to note that one institution can act as both FS and FA. In the case where FS dictates the functions in which the funds it provides are to be spent on, then, that FS also acts as FA.



Table 2 Dummy Matrix 2 Financing Agent X Healthcare Functions

Healthcare Function	Financing Agent					
	Central Govt.	Local Govt.	NPI 1	NPI 2	ROW 2	Total
1. Prevention-related activities						
2. Treatment and care components						
3. Orphan and Vulnerable children						
4. AIDS program costs						
5. Human resources receiving wage benefits						
Total						

In this matrix, each country would specify how the resources are spent on each of the 5 main functions.

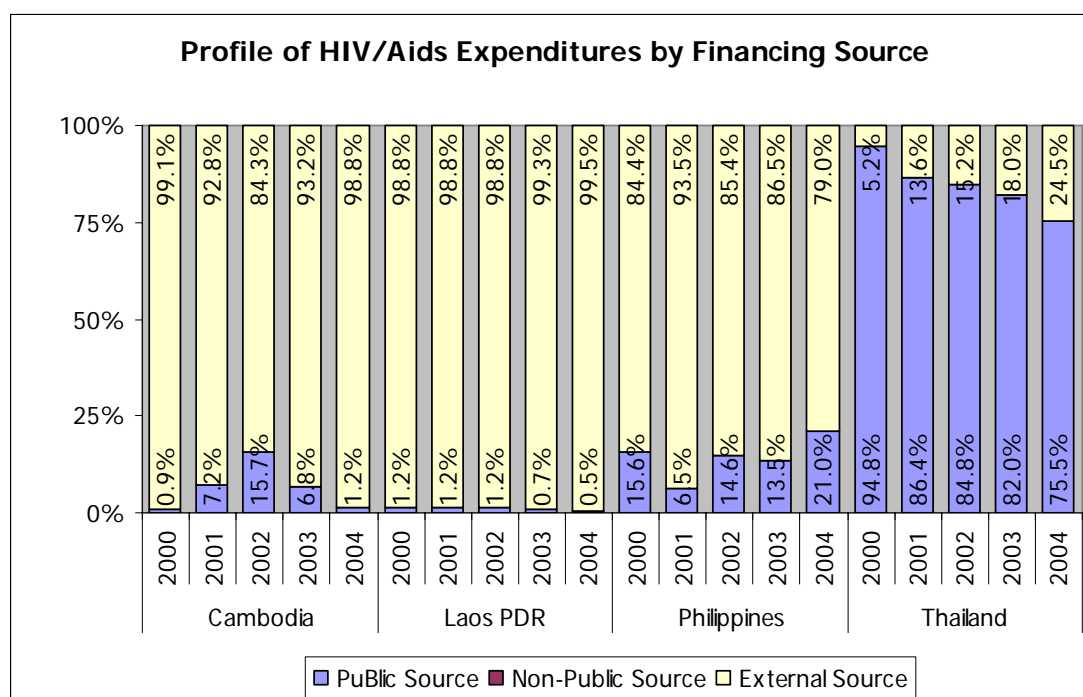
In order to facilitate trend analysis and future forecast, a five year NASA 2000 to 2004 was agreed upon by workshop participants.

## 2. Regional Report NASA 2000-2004

### 2.1 Financing Sources

Evidence from the four country case studies indicates that most countries rely extensively on external resources, more than 80% to 90%, except Thailand. In contrast, more than three quarters of AIDS spending in Thailand came from public sources, though a declining trend was observed. Lao almost totally relies on external resources. Public resources in Cambodia had a fluctuation trend, where Philippines had slightly increasing trend. (Figure 1).

**Figure 1 HIV/AIDS Expenditures by Financing Source, 2000-2004, four country case studies**



### 2.2 Financing Agents

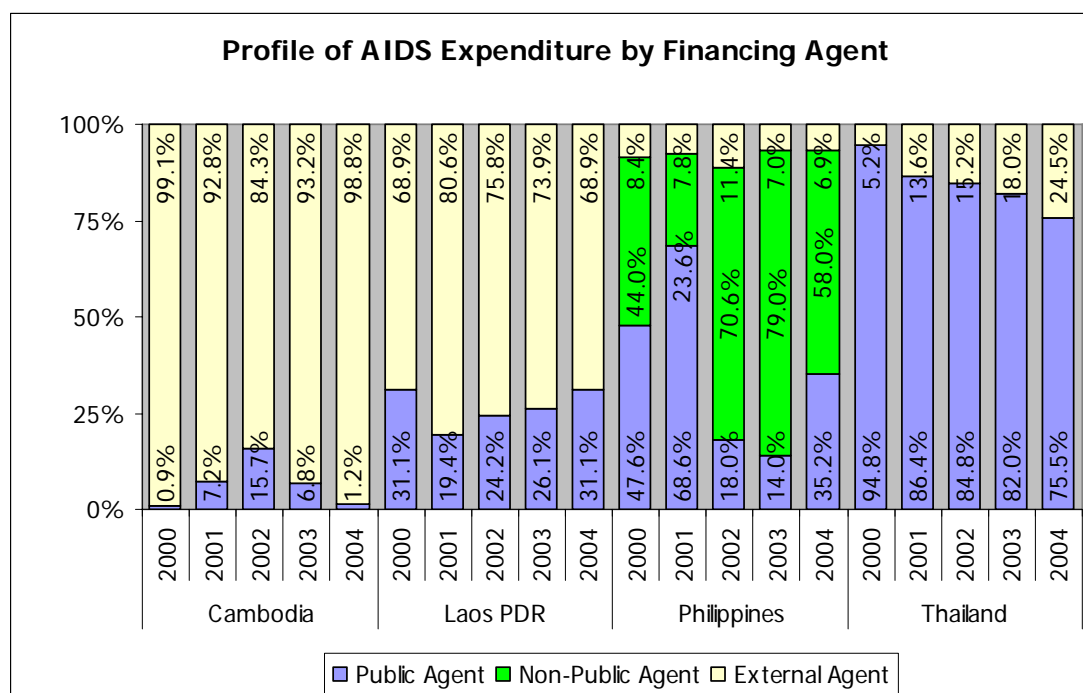
External Financing Agents (such as international NGO, private foundations and bilateral donor agencies who directly operate AIDS program) played a significant role in direction operating of AIDS program activities in Cambodia, more than 84% of total spending in the past 5 years, with a fluctuation trend.

In Lao PDR, more than 69% of the total AIDS spending in the past 5 years were disbursed through external Financing Agents.

In the Philippines, between 6.89% to 11.36% of total AIDS expenditure were spent through external Financing Agents. Philippines is the only case study where non-public agent (mostly local Filipino NGOs) played quite a significant role in operating AIDS program activities, with no less than 57% in the last 3 years.

In Thailand, public financing agents (mostly through the government sector, such as Ministry of Public Health, Education, Labour and Social Welfare) play a key role in direct AIDS program operation, less than 5% in 2000 to 24.5 in 2004 was spent through external Financing Agents, see Figure 2.

**Figure 2 HIV/AIDS Expenditures by Financing Agent, 2000-2004, four country case studies**



### 2.3 Healthcare Functions

There is a contrast in the trend between use of resource, namely spending by healthcare functions in relation to the status of HIV epidemic in each country.

In a mature HIV epidemic such as Thailand and Cambodia, and in the context of universal access to ARV in Thailand and rapid scale of ARV in Cambodia, more resources went to treatment and care components.

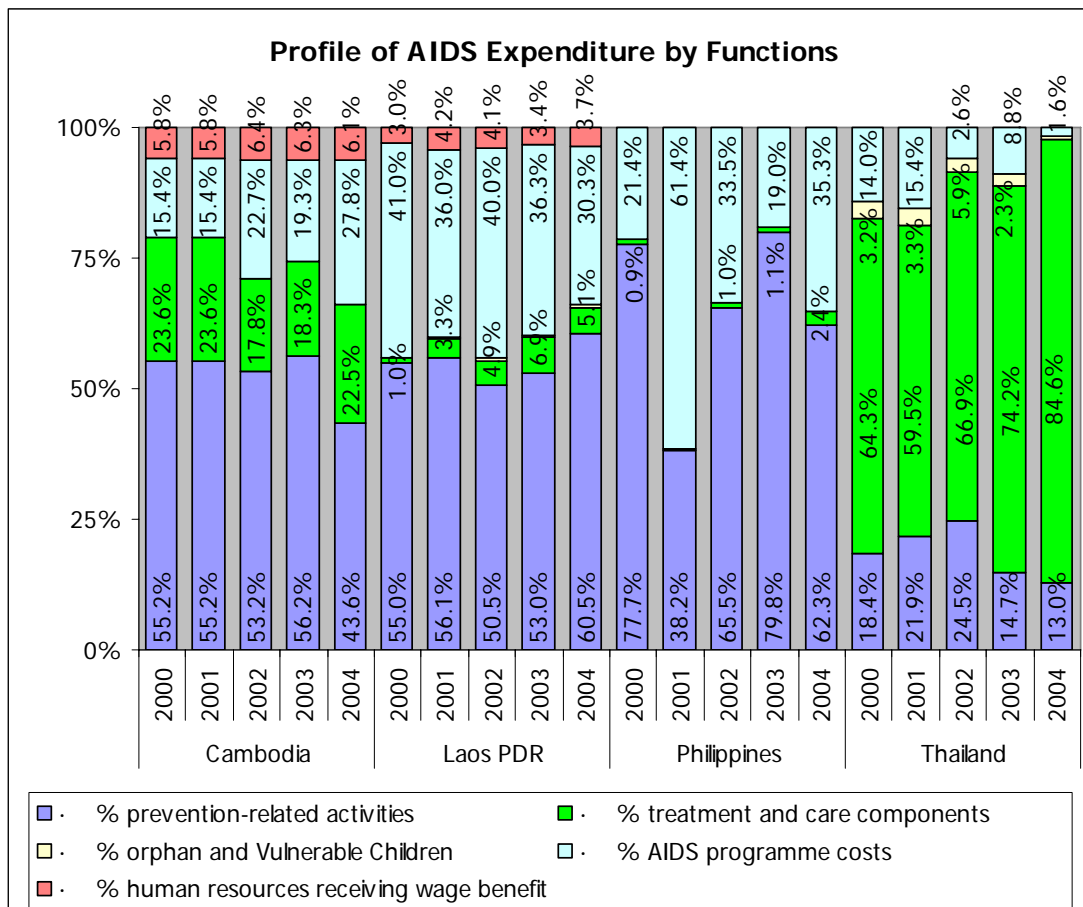
In the case of early epidemic such as Lao PDR and the Philippines where little demand and pressure on treatment and ARV, their spending mostly focused on prevention related activities.

AIDS program cost including training, and other operating expenditure was very high in Lao PDR and the Philippines. This is a major concern by country participants on the efficiency of AIDS program, as it consumed large proportion and left little resources to other program operation. Country participants voiced an urgent need to investigate the program operation cost and find ways to improve efficiency.

According to the agreed healthcare function from induction workshop, Orphan and Vulnerable Children (OVC) was a separate expenditure item, in order to highlight concerns on spending to mitigate impact on the orphans and vulnerable children. OVC and wage benefit for human

resource working specifically for AIDS program were either non-existent or very small among four country case studies. Due to data limitation on OVC spending, country participants indicate difficulties in direct compilation of this item (Figure 3).

**Figure 3 HIV/AIDS Expenditures by Healthcare Function, 2000-2004, four country case studies**



## 2.4 Summary key indicators

**Table 3 NASA key indicators, 2000-2004, four country case studies**

HIV/AIDS expenditures	2000	2001	2002	2003	2004
<b>Cambodia</b>					
total amount (million PPP\$)	45.5	36.3	58.0	78.1	131.4
per capita general pop (PPP\$)	3.62	2.83	4.44	5.87	9.67
per capita PLWA (PPP\$)	304	255	436	634	1,132
as % GDP	0.20	0.15	0.22	0.27	0.40
as % Total health expenditure	1.84%	1.39%	2.04%	2.63%	4.35%
<b>Lao PDR</b>					
total amount (million PPP\$)	10.3	10.6	12.3	17.7	22.8
per capita general pop (PPP\$)	1.98	2.00	2.29	3.25	4.14
per capita PLWA (PPP\$)	4,939	3,274	2,226	2,458	2,495
as % GDP	0.12	0.12	0.13	0.17	0.20
as % Total health expenditure	4.94%	4.43%	4.03%	5.77%	7.14%
<b>Philippines</b>					
total amount (million PPP\$)	17.4	44.0	23.5	22.6	13.0
per capita general pop (PPP\$)	0.23	0.56	0.29	0.28	0.16
per capita PLWA (PPP\$)	1,337	3,382	3,911	2,512	1,302
as % GDP	0.006	0.014	0.007	0.006	0.003
as % Total health expenditure	0.16%	0.42%	0.23%	0.20%	0.11%
<b>Thailand</b>					
total amount (million PPP\$)	208.8	205.3	255.7	285.3	384.5
Per capita general pop (PPP\$)	3.35	3.28	4.05	4.48	5.99
Per capita PLWA (PPP\$)	301	309	403	472	672
As % GDP	0.05	0.05	0.06	0.06	0.08
As % Total health expenditure	1.57%	1.51%	1.96%	2.07%	2.64%

Table 3 is the most important table, summarizing key NASA parameters for 2000-2004 for all four country case studies.

One of the key parameters is AIDS expenditure per capita PLWA. This average spending is the ratio of total AIDS expenditure to the total number of people living with HIV/AIDS, this is vital for national program managers and National AIDS Council to monitor trend of expenditure in view of changing epidemics. The change in ratio is a result of combined changes in both nominator and denominators. To facilitate comparison across countries, this report applies purchasing power parity dollar (PPP\$) instead of USD using exchange rate.

There was a steady increasing trend in Cambodia from 304 in 2000 to 1,132 PPP\$ in 2004; and in Thailand from 301PPP\$ to 672 PPP\$ in five year period. Lao PDR showed a decreasing trend, while Philippines demonstrated fluctuations of this ratio with no definitive pattern. This is because of major capital investment of national laboratory in 2001 (see country report for detail explanation).

Another ratio indicating how much the national economy contributes to AIDS program expenditure is AIDS expenditure measured in term of percent GDP. In the most recent year of 2004, Cambodia spent 0.4% of its GDP on AIDS, Lao PDR 0.20%, Philippines, very small proportion 0.003% and Thailand 0.08%.

This empirical evidence indicates that Cambodia is the largest spender among four case studies from its GDP; whereby 98.78% of total AIDS spending were from external source of finance. The Philippines spent the least amount of its GDP on HIV/AIDS, 0.003% in 2004.

Detail information of HIV/AIDS expenditure by a two dimensional matrix of Financing Agent and Healthcare Function (FA X HC) for 2000 to 2004 by country are provided in **Annex 5**.

### 3. Country Report NASA 2000-2004

This chapter starts with a summary of AIDS epidemiological profiles in four country case studies, and then followed by brief summary report of each country, focusing on macro-level indicators, which refers to Table 5.

Audience should refer to detailed country report in Annex 1 to 4. Table 4 describes the most update by the end of 2003 HIV and AIDS estimates, based on the UNAIDS 2004 report on the global AIDS epidemic.

**Table 4 Country HIV and AIDS estimates, end 2003**

	<b>Cambodia</b>	<b>Lao PDR</b>	<b>Philippines</b>	<b>Thailand</b>
Adult (15-49) HIV prevalence rate	2.6% (range: 1.5%-4.4%)	0.1% (range: <0.2%)	<0.1% (range: <0.2%)	<1.5% (range: 0.8%-2.8%)
Adults (15-49) living with HIV	170,000 (range: 100 000-290 000)	1700 (range: 550-3300)	8900 (range: 2900-18 000)	560 000 (range: 310 000-1 000 000)
Adults and children (0-49) living with HIV	170 000 (range: 99 000-280 000)	1700 (range: 600-3600)	9000 (range: 3000-18 000)	570 000 (range: 310 000-1 000 000)
Women (15-49) living with HIV	51 000 (range: 31 000-86 000)	<1000>	2000 (range: 700-4000)	200 000 (range: 110 000-370 000)
AIDS deaths (adults and children) in 2003	15 000 (range: 9 100-25 000)	<200 (range: ><400)	<500 (range: <1000)	58 000 (range: 34 000-97 000)

**Source** Report on the global AIDS epidemic 2004, UNAIDS

#### 3.1 Cambodia

Table 5, according to Cambodian country report, the total number of people living with HIV has decrease steadily from 149,900 people in 2000 to 116,000 in 2004 (23.6% reduction in four years). Note that country report has slight lower figures than figures in Table 4.

In order to facilitate comparison across the four country, a PPP\$ was estimated instead of exchange rate. The total amount of expenditure has increased by almost 3 times, from 45.5 million PPP\$ in 2000 to 131.4 million PPP\$ in 2004. Expenditure on HIV/AIDS per capita population increased from 3.62 PPP\$ in 2000 to 9.67 PPP\$ in 2004, a 2.6 times increases; while expenditure per capita PLWA increased more dramatically from 304 PPP\$ in 2000 to 1,132 PPP\$ in 2004, a 3.73 times increase. Compared to Total Health Expenditure (THE), HIV/AIDS spending increased from 1.84% in 2001 to 4.25% in 2004.

##### 3.1.1 AIDS Expenditure by Financing Source

Almost the entire financing source of HIV/AIDS expenditure is external source, except the case of 2001-2003 where government spent 7-16% of total AIDS expenditure mostly on infrastructure, see table 5.

##### 3.1.2 AIDS Expenditure by Financing Agent

The country authors assume Financing Sources as Financing Agent, then the profile of AIDS expenditure in Cambodia by Financing Agent is similar to the Financing Source, see table 5.

### 3.1.3 AIDS Expenditure by Healthcare Function

The expenditure on prevention forms a large part despite a decreasing trend. Prevention was 43% of total expenditure in 2004. However, as the AIDS program becomes mature, the expenditure on treatment and care is stagnated in 2002-2003 with a slight increase trend in 2004. This item takes around slightly more than one fifth of total AIDS expenditure in 2004.

The other outstanding item is AIDS program cost which also demonstrated an increasing share of expenditure, from 15% in 2000 to 28% in 2004 of which major sub-items are management cost 40%, and training 20%. The percentage of expenditure on wage benefit is relatively small (5-6%), whereas program spending for OVC did not exist except in 2003 (0.02% of total AIDS expenditure), see table 5.

## 3.2 Lao PDR

The number of people living with HIV has increased significantly by more than three folds from 2,087 people in 2000 to 9,143 in 2004 with annual new infections increasing from 162 cases in 2000 to 258 cases in 2004. The total amount of expenditure has doubled from 10.3 million PPP\$ in 2000 to 22.8 million PPP\$ in 2004. Expenditure on HIV/AIDS per capita population increased from 1.98 PPP\$ in 2000 to 4.14 PPP\$ in 2004 while expenditure per capita PLWA dramatically decreased from 4,939 PPP\$ in 2000 to 2,495 PPP\$ in 2004 as a result of dramatic increase in number of people of living with HIV/AIDS.

Compared to THE, expenditure on HIV/AIDS increased from 4.94% in 2002 to 7.14% in 2004.

### 3.2.1 Profile of AIDS Expenditure by Financing Source

Almost all of the total HIV/AIDS expenditures were financed by external source while government only contributed 25,000 US\$ per annum. In the five year period under consideration, the public sources on HIV/AIDS had never reached more than 1.2% of total AIDS spending. Mostly government budget financed salary to staffs in NCHAD and AIDS centres in 24 provinces. No other non-salary operating budget was provided by the government, see Table 5.

### 3.2.2 Profile of AIDS Expenditure by Financing Agent

Though external financing source is almost the sole source on HIV/AIDS, the share of public financing agent has been increasing progressively since 2001, from 19.4% to 31.1% while the role of external financing agents, despite a major role, has been decreasing, standing at 68.9% in 2004. This indicates that external financing sources had allocated increasing resources to local financing agent to run AIDS program activities, see table 5.

### 3.2.3 Profile of AIDS Expenditure by Healthcare Function

Prevention-related activities took more than half of the total HIV/AIDS expenditure during the 5 years period without much variation. This item ranged between 50% to 60%. AIDS program costs took a large part of total expenditure, again, without much variation fluctuating around 30% to 40%. Other component such as expenditure on OVC and human receiving wage benefit form a relative small percentage of total expenditure.



Expenditure on treatment and care, though small, has seen remarkable increase by almost 7 folds from 1.0% in 2000 to 6.9% in 2003 and slight declined to 5.1% in 2004. This trend is expected continue as the program becomes more mature and more patients will be enrolled into the ART and OI programs, see table 5.

### 3.3 The Philippines

The number of people living with HIV estimated by epidemiologists and experts in the Philippines was around 10,000 in 2004. The total amount of expenditure increased at first from 17.4 million PP\$ in 2000 to 44.0 million PPP\$ in 2001 but declined to 23.5 Million PPP\$ in 2002 and 13.0 million PPP\$ in 2004. The expenditure in 2001 was especially high as a result of USAID AIDS surveillance education project and JICA financial support for the establishment of STD/AIDS Central Cooperative Laboratory at the San Lazaro Hospital, see Table 5.

Expenditure on HIV/AIDS per capita population were low, 0.23 PPP\$ in 2000, 0.56 PPP\$ in 2001 but then fell gradually to 0.16 PPP\$ in 2004. Expenditure per capita PLWA also observed a similar trend, dropping to 1,302 PPP\$ in 2004. Compared to total health expenditure, expenditure on HIV/AIDS fell from 0.16% in 2001 to 0.11% in 2004.

#### 3.3.1 Profile of AIDS Expenditure by Financing Source

Large share of HIV/AIDS spending in Philippines come from external sources with a slight decreasing trend, from the 2001 peak of 93.5% to 79.0% in 2004. Expenditure by public source has been increasing in recent years though it should be noted that the Philippines has been experiencing fiscal constraints resulting in limited budget appropriations in nearly all government agencies, see Table 5.

#### 3.3.2 Profile of AIDS Expenditure by Financing Agent

Philippines is the only country where non-public financing agents (notably local NGO) plays a major role in decision making regarding expenditure on AIDS program operations, with no less than 58% since 2002. This indicates an increasing proportion of grants from external source to local NGOs. The country report described that the effectiveness of NGOs cannot be denied when it comes to carrying out HIV/AIDS prevention and control activities.

This shows the importance of the NGO community in delivering critical services that are best provided by institutions from the community or grassroots level. Philippines is the only country where external financing agents play less significant role, no more than 11.4% in the past 5 years.

There was a relative limited financing role by public financing agents (e.g. Department of Health, health facilities owned by Local Government Unit). This is seen as weakness in implementation process and lack of absorptive capacities.

#### 3.3.3 Profile of AIDS Expenditure by Healthcare Function

Most of the resources were spent on prevention related activities especially in the last 3 years with at least two thirds of the total HIV/AIDS expenditure. This is an attempt to control and keep the HIV prevalence at the presently low rate of less than 1%. Another significant expenditure is on AIDS program costs which are especially high in 2001 (61.4%) as a result of USAID AIDS surveillance education project and JICA financial supports for the establishment of STD/AIDS Central Cooperative Laboratory at the San Lazaro Hospital.

Although the share of spending for treatment and care is very low, it can be seen that from 2001 onwards it has been increasing remarkably by more than 6 folds, from 0.4% in 2001 to 2.4% in 2004. At present, there is no specific program and expenditures on OVC or additional wage benefit for health human resource working in the AIDS program, see Table 5.

### **3.4 Thailand**

The number of people living with HIV has steadily decreased, from 694,564 people in 2000 to 572,484 in 2004 (17.6% reductions) with annual new infection falling from 26,650 cases in 2000 to 22,877 cases in 2004.

The total amount of expenditure has almost doubled from 208.8 million PPP\$ in 2000 to 384.5 million PPP\$ in 2004. A dramatic increase in total AIDS expenditure is a result of the introduction of Universal Coverage to ARV in 2003 and a nation-wide achievement of ART in 2004. This requires a substantial investment in training of healthcare workers, scale up laboratory facilities for CD4 monitoring, laboratory facilities for viral load and ARV drug resistance testing.

Expenditure on HIV/AIDS per capita population increased from 3.4 PPP\$ in 2000 to 6.0 PPP\$ in 2004 while expenditure per capita PLWA increased more dramatically from 301 PPP\$ in 2000 to 672 PPP\$ in 2004 (123% increase), as a result of increasing total expenditure on HIV/AIDS and steady reduction in the number of PLWA. Compared to THE, expenditure on HIV/AIDS increased from 1.57% in 2000 to 2.64% in 2004; see Table 5.

#### **3.4.1 Profile of AIDS Expenditure by Financing Source**

Public financing source plays a major role in Thailand. The proportion of public financing source is large compared to three other countries even though it has been declining from 94.8% in 2000 to 75.5% in 2004. On the contrary, external financing source though small, has been increase notably in recent years, from 5.2% in 2000 to 24.5% in 2004. There was a significant financing role of Global Fund to fight HIV, TB and Malaria for program activities in Thailand.

There is relatively negligibly small amount of non-public financing sources, through philanthropic donations to various agencies. However, this source is not possible to track down. In this report, it assumes no role of non-public financing sources.

#### **3.4.2 Profile of AIDS Expenditure by Financing Agent**

Similar to financing source, public financing agents play a major role in Thailand, although external financing agents has been increasing in recent years, notably the role of GFATM; and there is no role of non-public financing agencies.

#### **3.4.3 Profile of AIDS Expenditure by Function:**

Expenditure on treatment and care steadily increased, from 59.5% of total AIDS expenditure in 2001 to 84.6% in 2004. Note that of this expenditure item, OI treatment share reduced from 43% in 2000 to 30% in 2004 while ART program expenditure increased from 19% in 2000 to 42% in 2004, a 4 times increase in monetary term. This profile is consistent to the mature AIDS epidemic and introduction of universal access to ARV in 2003.

We expect that the share of OI expenditure will continue to fall (despite a slight increase in the monetary) as a result of successful ART program. The immediate result of ART is reduction in OI incidence and related outpatient visits and admissions attributable to OI, and its related expenditures.

It is of the Thai policy concern that the expenditure on prevention has been relative small, increasing from 38 million PPP\$ in 2000 to 49 million PPP\$ in 2004. However, the share has been falling especially in the last 2 years. It fell by half, from 24.5% in 2002 to 13.0% in 2004.

As it stands the expenditure on prevention was about 13% of total AIDS expenditure in 2004. The expenditure on OVC is relatively small, less than 1% of total in 2004. The share of expenditure on AIDS program costs has declined dramatically from 14% in 2000 to 1.6% in 2004. However, it is important to note that in Thailand, it is difficult to disaggregate the management cost and wage benefit given specifically to the human resource working in the AIDS program as they are embedded into the public sector wage structure. This results in under-estimate of program cost. There is no significant incentives provided to staff responsible for HIV/AIDS program activities; see Table 5.

Table 5 Summary key indicators, NASA 2000-2004, four country case studies, at current year price.

	Cambodia					Laos					Philippines					Thailand					
	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004	
<b>Total population (1000 persons)</b>	12,580	12,810	13,060	13,310	13,590	5,218	5,377	5,526	5,679	5,836	76,626	78,317	79,944	81,503	82,987	62,237	62,668	63,142	63,656	64,197	
<b>Number of new HIV/AIDS</b>	NA	NA	NA	NA	NA	162	192	187	170	258	NA	NA	NA	NA	NA	26,650	24,933	24,226	24,114	22,877	
<b>Number of People living with HIV/AIDS</b>	149,900	142,100	132,900	123,100	116,000	2,087	3,226	5,526	7,193	9,143	13,000	13,000	6,002	9,000	10,000	694,564	665,344	635,057	603,942	572,484	
<b>Nominal GDP at current price (million PPP\$)</b>	22,660	24,651	26,320	28,628	32,643	8,371	9,066	9,767	10,507	11,568	306,678	323,229	343,192	364,929	396,871	391,812	409,795	438,666	476,679	511,554	
<b>Health Exp (million PPP\$)</b>	2,470	2,610	2,835	2,975	3,021	209	239	305	306	320	10,626	10,378	10,145	11,557	12,332	13,310	13,595	13,019	13,799	14,556	
<b>HIV/AIDS expenditure</b>																					
· total amount (million PPP\$)	45.5	36.3	57.9	78.1	131.4	10.3	10.6	12.3	17.7	22.8	17.4	44.0	23.5	22.6	13.0	208.8	205.3	255.7	285.3	384.5	
· per capita general pop (PPP\$)	3.62	2.83	4.44	5.87	9.67	1.98	2.00	2.29	3.25	4.14	0.23	0.56	0.29	0.28	0.16	3.35	3.28	4.05	4.48	5.99	
· per capita PLWA (PPP\$)	304	255	436	634	1,132	4,939	3,274	2,226	2,458	2,495	1,337	3,382	3,911	2,512	1,302	301	309	403	472	672	
· as % GDP	0.20%	0.15%	0.22%	0.27%	0.40%	0.12%	0.12%	0.13%	0.17%	0.20%	0.006%	0.014%	0.007%	0.006%	0.003%	0.05%	0.05%	0.06%	0.06%	0.08%	
· as % Total health expenditure	1.84%	1.39%	2.04%	2.62%	4.25%	4.94%	4.43%	4.03%	5.77%	7.14%	0.16%	0.42%	0.23%	0.20%	0.11%	1.57%	1.51%	1.96%	2.07%	2.64%	
<b>Exchange rate (Local Currency per 1 PPP\$)</b>	618.65	602.13	604.95	603.75	601.64	1632.99	1731.99	1883.93	2142.59	2298.56	10.81	11.24	11.55	11.76	12.16	12.56	12.53	12.42	12.44	12.86	
<b>Profile of AIDS expenditures by financing source</b>																					
· % public source	0.9%	7.2%	15.7%	6.8%	1.2%	1.2%	1.2%	1.2%	0.7%	0.5%	15.6%	6.5%	14.6%	13.5%	21.0%	94.80%	86.39%	84.84%	82.03%	75.53%	
· % non-public source	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%	
· % external sources	99.1%	92.8%	84.3%	93.2%	98.8%	98.8%	98.8%	98.8%	99.3%	99.5%	84.4%	93.5%	85.4%	86.5%	79.0%	5.20%	13.61%	15.16%	17.97%	24.47%	
<b>by financing agent</b>																					
· % public agent	0.9%	7.2%	15.7%	6.8%	1.2%	31.1%	19.4%	24.2%	26.1%	31.1%	47.6%	68.6%	18.0%	14.0%	35.2%	94.80%	86.39%	84.84%	82.03%	75.53%	
· % non-public agent	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	44.0%	23.6%	70.6%	79.0%	58.0%	0.00%	0.00%	0.00%	0.00%	0.00%	
· % external agent	99.1%	92.8%	84.3%	93.2%	98.8%	68.9%	80.6%	75.8%	73.9%	68.9%	8.4%	7.8%	11.4%	7.0%	6.9%	5.20%	13.61%	15.16%	17.97%	24.47%	
<b>by functions</b>																					
· % prevention-related activities	55.2%	55.2%	53.2%	56.2%	43.6%	55.0%	56.1%	50.5%	53.0%	60.5%	77.7%	38.2%	65.5%	79.8%	62.3%	18.42%	21.87%	24.52%	14.72%	12.96%	
· % treatment and care components	23.6%	23.6%	17.8%	18.3%	22.5%	1.0%	3.3%	4.9%	6.9%	5.1%	0.9%	0.4%	1.0%	1.1%	2.4%	64.30%	59.46%	66.90%	74.21%	84.64%	
· % orphan and Vulnerable Children	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.4%	0.5%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	3.24%	3.29%	2.64%	2.27%	0.82%	
· % AIDS programme costs	15.4%	15.4%	22.7%	19.3%	27.8%	41.0%	36.0%	40.0%	36.3%	30.3%	21.4%	61.4%	33.5%	19.0%	35.3%	14.05%	15.39%	5.94%	8.80%	1.58%	
· % human resources receiving wage benefit	5.8%	5.8%	6.4%	6.3%	6.1%	3.0%	4.2%	4.1%	3.4%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%	

## Discussion

It is clear that external resource play a very significant role in three country case studies, except Thailand. This raises policy concerns, among country participants, while external resources is vital in supporting AIDS program at country level in view of government fiscal constraints. The long term financial sustainability is viewed as a perceived problem, if the government does not ensure their financial commitments in HIV/AIDS program.

Donor coordination is a major approach applied by national program managers to maintain the level of financial supports, but at times, outside the national control; and depends very much on international politics and donor priority (both programmatic and priority geographical areas). Without a strong institutional capacity on donor coordination, in response to the Three One Policy, it is likely that external financing agent would distort national AIDS policy and priority.

Will the national AIDS program be financial sustainable beyond donor support, is another major policy concern raised by country participants during the debriefing workshop. Issues to be addressed is the national financial capacity to phasing-in and finally fully shoulder key program activities, such as ART. Note that the Global Fund would not support beyond a project life, typically three to five years.

External financing agents are also major players in deciding priority program activities, target population and geographical areas of implementation and spending, especially in the case of Cambodia and Lao PDR. This fact is reflected by numerous number of external financing agencies in Lao PDR and mostly in Cambodia.

Although donor source is justified to finance AIDS program, in view of government fiscal constraints, the country needs strong direction on where and how resource would be directed, and avoid by all mean, donor driven agenda. It is highlighted by country participants during the debriefing workshop that the major portion of financing agents should be public; to demonstrate country leadership and ownership of AIDS program.

Out of pocket payment is deliberately omitted from this exercise. It may play some role in financing AIDS. In the mature epidemic country such as Cambodia, where efforts are made to increase the coverage of ART, but in view of resources constraint, large numbers of people living with HIV would resort to out of pocket payment to purchase ARV drugs and OI treatment. In the future exercise, it was planned to incorporate household spending in order to estimate AIDS expenditure in a comprehensive manner.

Striking evidence from this exercise is that in the mature epidemic countries like Cambodia and Thailand, treatment and care component receive a large proportion of resources. While in early epidemic countries like Lao PDR and Philippines, much of the resources are spent on prevention related activities. It must be stressed that without early and carefully-planned effective prevention in place, expenditure on treatment will grow at astonishing rate in the future. Government cannot lose sight on prevention investment.

## Limitations of NASA exercise

Different financing agents have different reporting system, frequency, parameters and outlook of matrix. Usually, they are not consistent with the healthcare function matrix, as agreed by NASA exercise. Even when the data are available, they are mostly reported at an aggregate level and some items are extremely difficult to disaggregate into relevant healthcare function, for example, AIDS program cost. Justifications and assumption have to

be made by country participants for such dis-aggregation and allocations. However, this was described in detail in the method sections.

Moreover, some of the healthcare functions contain overlapping expenditure functions, e.g. training expenditure on PMTCT can be classified as prevention related items, or in program administrative cost. In addition, administrative cost was classified as program administrative cost in Lao PDR, but was integrated into specific program activities such as prevention, care and treatment in Thailand. Without clear definitions, confusion and misclassification of expenditure are detrimental to the validity of this exercise.

The reluctance of some organisations to share their financial information for the project did affect the coverage and accuracy of the estimates. The comprehensiveness of the list of financing sources and financing agents are also questionable, especially in the country such as the Philippines where there are large number of NGO that are actively involved in HIV/AIDS activities. Due to time and financial constraint, many organisations are not well captured by this exercise. For the ones that are included, severe problem of the validity of financial data also exists. One of the major problems is the ability to capture the actual expenditure, not budget figures, especially where expenditure report is not available.

In the case where data cannot be retrieved directly, Price and Quantity (PQ) approach is applied. Regarding the PQ approach, almost all of the calculation of "P" derived from the research is based on base year, especially the case of Thailand. Price may change over time, but country participants did not adjust using consumer price index. For example, price purchased for Anti-Retroviral Drugs can change in both directions, downward and upward. Due to time constraint, this was not captured by country participants. Treatment regimens also change when more evidence becomes available, that would have a major impact on unit cost of treatment.

## **Future challenges, the way forward**

Current problem is very basic – no expenditure reporting system is well in place that would facilitate easy filling-up the matrix two (FA X HC), then priority should be given to the development, improvement and harmonisation of the system.

This exercise recommends a future inclusion of household out of pocket payment, corporate and employer payments for HIV/AIDS services, in future exercises.

However, inclusion of household spending in NASA exercise is very challenging. At present, it is not possible, in any country, to conduct national representative household survey especially in low prevalence countries and there also present confidentiality problems, stigma and ethical dimension of such a household survey. It is unavoidable to apply PQ approaches.

Capacity building is the prime objective of this exercise, by empowering and training country participants to conduct NASA exercise by themselves with distant technical supports by IHPP, as a regional supporting hub. It is envisaged that a long term and sustained capacity to produce country NASA on a more regular basis, with financial supports by UNAIDS and technical supports by IHPP.

In addition, national capacity to understand the flow of fund, interpretation, and translate evidence generated from NASA exercise into policy message and program action, re-orientation are a real challenge in this region.

## Acknowledgments

We wish to acknowledge the contributions of six country partners from Cambodia, Lao PDR, Myanmar, the Philippines, Thailand and Vietnam for their commitment and quality exercise results. Financial and technical supports from UNAIDS are highly appreciated. We look forwards for future rounds of NASA exercise which incorporate household out of pocket spending on HIV/AIDS.