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Regional Strategy for TB/HIV in South-East Asia

*Report of an Informal Consultation
Colombo, Sri Lanka, 18-19 November 2002*

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CONTENTS

	<i>Page</i>
1. INTRODUCTION	1
2. GLOBAL STRATEGIC FRAMEWORK FOR TB/HIV	2
3. THE REGIONAL STRATEGIC FRAMEWORK FOR TB-HIV.....	4
3.1 TB and HIV in the South-East Asia Region: Current Status and Implications	4
3.2 Why a Regional Strategy for HIV/TB?	10
3.3 Components of the Regional Strategy for HIV-TB	13
4. DISCUSSION	15
5. CONCLUSIONS AND RECOMMENDATIONS	15
6. RECOMMENDATIONS.....	15

Annexes

1. Programme.....	17
2. List of Participants.....	19

ACRONYMS USED

AIDS	A cquired I mmunodeficiency S yndrome
ART	A ntiretroviral T reatment
CSW	C ommercial S ex W orker
DOTS	D irectly O bserved T reatment, S hort-course (the brand name of the internationally recommended tuberculosis control strategy)
HIV	H uman I mmunodeficiency V irus
IDU	I njecting D rug U se
MTB	M ycobacterium T uberculosis
NAP	N ational A IDS P rogramme
NTP	N ational T uberculosis P rogram
PHA	P eople with HIV/AIDS
RNTCP	R evised N ational T uberculosis C ontrol P rogramme
SEA	S outh- E ast A sia
SEAR	S outh- E ast A sia R egion
SEARO	S outh- E ast A sia R egional O ffice
SS+	S putum S mea r positive
STI	S exually T ransmitted I nfection
STLS	S enior T B L aboratory S upervisor
TB	T u B erculosis
TB/HIV	The intersecting epidemics of T B and HIV
WHO	W orld H ealth O rganization

1. INTRODUCTION

The South-East Asia Region bears about 40% of the global TB burden and ranks second after sub-Saharan Africa with an estimated 6 million people living with HIV/AIDS. Untreated HIV infection leads to progressive immune deficiency and increased susceptibility to infections including TB. Of the 6 million adults living with HIV, over 50% are likely to be infected with TB. TB is the single-most life-threatening infection and the leading cause of mortality among those with HIV infection, while HIV is driving the TB epidemic in many countries of the Region, as elsewhere in the developing world.

The TB-HIV epidemic has a negative impact on existing TB and AIDS control programmes and on communities. The epidemic poses an additional burden to the health sector and can potentially lead to a loss of credibility regarding TB treatment due to the excess mortality associated with HIV-TB. The fear of dual stigmatization is common; TB suspects often fail to present for diagnosis for fear of being labelled as having HIV as well.

There is sufficient evidence that TB and AIDS programmes share mutual concerns. WHO advocates a comprehensive health sector response to TB/HIV interventions through collaborative efforts between TB and HIV programmes rather than through a dual approach for this dual epidemic.

Since the epidemiology of HIV and TB as well as the health sector response in the countries of the Region differ from countries in the other WHO regions, the WHO Regional Office for South-East Asia developed a TB/HIV regional strategic framework adapted to the regional epidemiology and health sector responses in the Member countries of the Region.

In order to share the framework and obtain contributions from experts from Member Countries in the Region, towards finalizing the strategies proposed in the framework, the Regional Office organized an informal consultation of the working group on HIV/TB. The objectives of this meeting were:

- (1) To review the situation of TB/HIV in the South-East Asia Region, including ongoing collaborative activities between the national HIV and TB control programmes;
- (2) To discuss, develop a consensus and finalize the South-East Asia Regional Strategy to combat TB/HIV, and
- (3) To identify steps for implementation of this strategy at the country level.

Following introductions, the technical session commenced with a presentation on the Global Strategic Framework for TB/HIV.

2. GLOBAL STRATEGIC FRAMEWORK FOR TB/HIV

The unprecedented scale of the epidemic of HIV-related TB demands effective and urgent action. The strategic goal is to reduce morbidity and mortality due to HIV-associated TB. Instead of the previous “dual strategy for the dual epidemic”, the new framework presents a comprehensive approach to control HIV-related TB as an integral part of the strategy for HIV/AIDS. The public health approach to reducing the burden of TB/HIV requires more effective delivery of the available interventions.

Until recently, efforts to control TB among HIV-infected people have mainly focused on implementing the DOTS strategy for TB control, i.e. identifying and curing infectious TB cases (among patients presenting to general health services). This targets the final step in the sequence of events by which HIV fuels TB, namely the transmission of *Mycobacterium tuberculosis* infection by infectious TB cases. The expanded scope of the new strategy for TB control in high HIV prevalence populations comprises interventions against TB (intensified case-finding and cure and TB preventive treatment) and interventions against HIV (and therefore indirectly against TB), e.g. condoms, STI treatment, safe injecting drug use (IDU) and antiretroviral treatment.

The proposed framework advocates a coherent response to TB/HIV by incorporating TB control interventions as part of a comprehensive general health service response to HIV/AIDS. The vast majority of HIV-infected people do not know their HIV status or of their propensity to develop active TB. They seek care from general health services, which need to be equipped to

respond to the needs of those co-infected with HIV and TB. TB and HIV/AIDS programmes must therefore jointly strengthen the capacity of the general health services to provide holistic care for those co-infected with HIV and TB.

Several requirements are necessary for countries to strengthen general health services in implementing the interventions to control TB as part of the overall health service response to HIV. These include: increased funding (by national governments and the donor community); changes in international and national policies away from specific TB and HIV/AIDS activities towards responding to the needs of high HIV prevalence populations through strengthened general health services; improved general health service capacity to deliver interventions (human resources, infrastructure and commodities); operational research to find out how best HIV/AIDS and TB programmes can work together to help general health services deliver an effective response and effectively coordinate activities on the part of the many players involved.

The proposed framework indicates the applicability of health service interventions in response to HIV-TB at different levels of the health care system. The interventions to reduce the burden of TB/HIV are applicable in the home and community and at primary, secondary and tertiary levels of the health care system. The interventions are part of a package of prioritised HIV/AIDS care interventions which general health service providers should deliver even in low-income countries.

The interventions to interrupt the sequence of events by which HIV fuels the TB epidemic could be addressed under three heads:

- Intensified TB case-finding and treatment
- Additional measures beyond TB case-finding and treatment
 - interventions to reduce morbidity and mortality in HIV-infected TB patients;
 - preventive TB treatment;
 - interventions to reduce HIV transmission
 - antiretroviral therapy
- Surveillance

The global response has been the establishment of a global TB-HIV Working Group coordinated by WHO and the development of a strategic

framework to reduce the burden of TB-HIV. The next step forward is to develop regional frameworks based on regional considerations such as the extent of overlap between populations infected with TB and HIV, the current status and stage of TB and HIV epidemics, health systems, resources available and the status and development of TB and HIV programmes in Member Countries. Common issues for these regional frameworks would be the establishment of government commitment, mechanisms for coordination between national HIV/AIDS and TB control programmes, and joint surveillance and service delivery.

3. THE REGIONAL STRATEGIC FRAMEWORK FOR TB-HIV

3.1 TB and HIV in the South-East Asia Region: Current Status and Implications

The South-East Asia Region ranks second after sub-Saharan Africa in the estimated number of people living with HIV/AIDS. Each year, nearly 3 million cases of TB and 750 000 TB deaths are estimated to occur in the Region. Five high burden countries, including India, Indonesia, Bangladesh, Thailand and Myanmar, contribute to approximately 95% of all notified TB cases in the Region (**Table 1**).

Table 1. Annual incidence of TB in the SEA Region, 2001

Country	Population (in million)	Notifications		Estimated cases	
		All cases	New ss+	All cases	New ss+
India	1 010	1 08 5075	384 827	1 820 369	814 615
Indonesia	212	92 792	53 695	581 847	261 249
Bangladesh	137	76 302	40 777	327 754	147 424
Thailand	62.8	49 656	28 363	85 870	37 783
Myanmar	47.7	42 838	21 161	78 473	35 313
DPR Korea	22.3	30 026	14 429	37 852	17 033

Nepal	23	29 519	13 683	47 315	21 245
Sri Lanka	18.9	7 499	4 316	11 104	4 992
Bhutan	2	999	321	2 769	1 246
Maldives	0.29	139	59	149	67
Timor-Leste	Data not available				

In December 2002, of the 42 million estimated persons living with HIV globally, over 6 million were living in the SEA Region (**Table 2**). Thailand, Myanmar and six states in India are reporting generalized HIV epidemics whereas Indonesia and Nepal are still at the stage of concentrated epidemics with high HIV prevalence among injecting drug users (IDUs). Indonesia has also reported high HIV prevalence among female commercial sex workers (CSW).

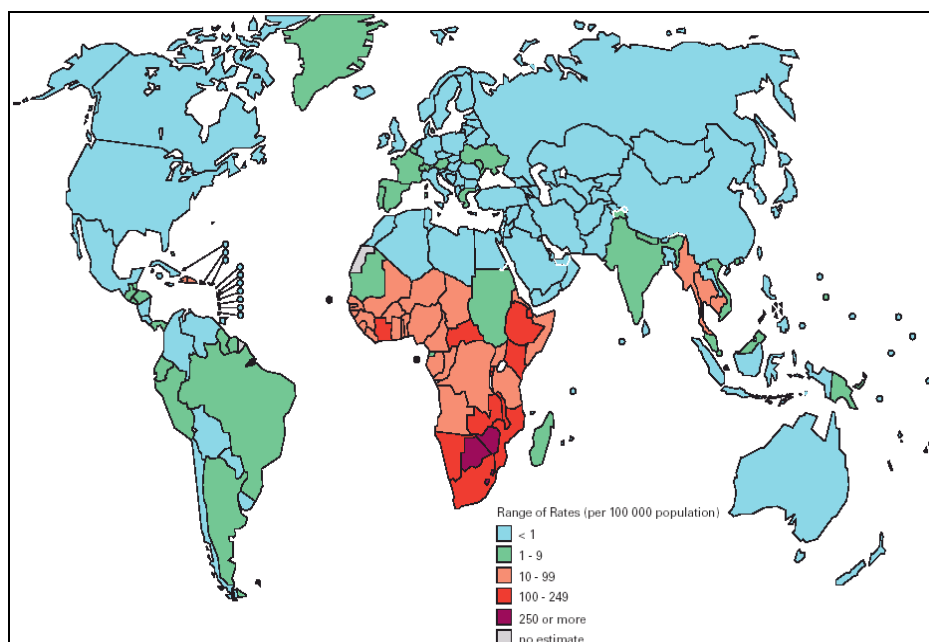
Table 2. *Estimated number of PHA in the SEA Region, 2001*

Country	Estimated number of PHA	Mode of spread	
		HET	IDU
India	4 580 000*	+++	+
Thailand	670 000	+++	++
Myanmar	420 000	+++	++
Indonesia	120 000	+	++
Nepal	58 000	+	-
Bangladesh	13 000	+	+
Sri Lanka	4 800	+++	-
Bhutan	<100	+	-
Maldives	<100	+	-
DPR Korea	<100	-	-
Timor-Leste	-		

* Data from 2002

The extent to which HIV fuels the TB epidemic depends on the degree of overlap between the population infected with MTB and the population infected with HIV. The revised estimates of global TB / HIV burden for 2000 indicate that 11% of all new TB cases in adults (15 – 49 years) were attributable to HIV infection. Of the 1.9 million deaths from TB, 18% were attributable to HIV. TB was the immediate cause of 15% of all adult AIDS deaths, of which only one-third received treatment. The highest co-infection rates are in sub-Saharan Africa but parts of South-East Asia are also affected, as for example Myanmar and Thailand, as shown in **Figure 1**.

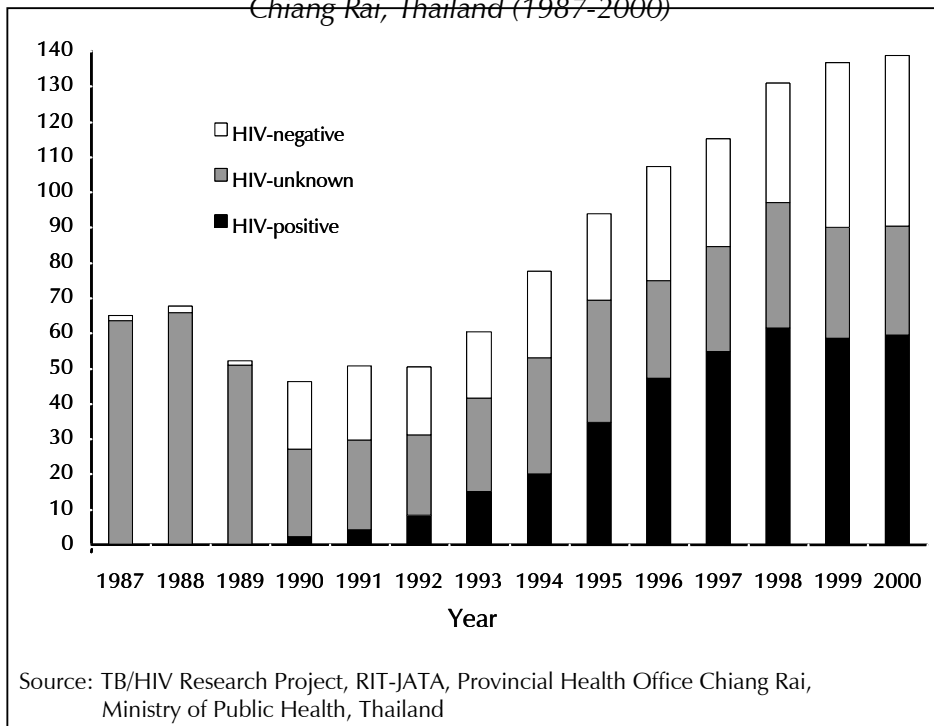
Figure1. Estimated HIV-infected TB cases per 100 adults, 2000



In the SEA Region, the impact of HIV on TB has so far been observed in provinces where HIV prevalence is highest compared to the country average. For example, in one of the provinces in northern Thailand (Chiang Rai), the rate of HIV seropositive TB patients increased from about 1 in 100 000 in 1990 to over 50 per 100 000 in 2000 (**Figure 2**). Simultaneously, TB

notification rates increased from about 50/100 000 in 1991 to about 130/100 000 in 2000. The increase was seen in all categories of TB – smear-positive pulmonary TB, smear-negative pulmonary TB and extrapulmonary TB. A number of publications from selected sites in Thailand and India reported that the proportion of reported HIV seropositive TB cases increased sharply after 1991. TB registry data from Chiang Rai Provincial Hospital, which started confidential HIV testing in October 1989, indicated a steady and rapid increase in the number and proportion of HIV-seropositive TB patients from 1.5% in 1990 to 45.5% in 1994 and 72.0% in male patients and 65.8% in female patients by 1998. Data for a similar ten year period from Pune, India, show that – the HIV seropositive rate in newly- diagnosed TB patients has steadily increased from about 4% in 1991 to about 30% in 2001.

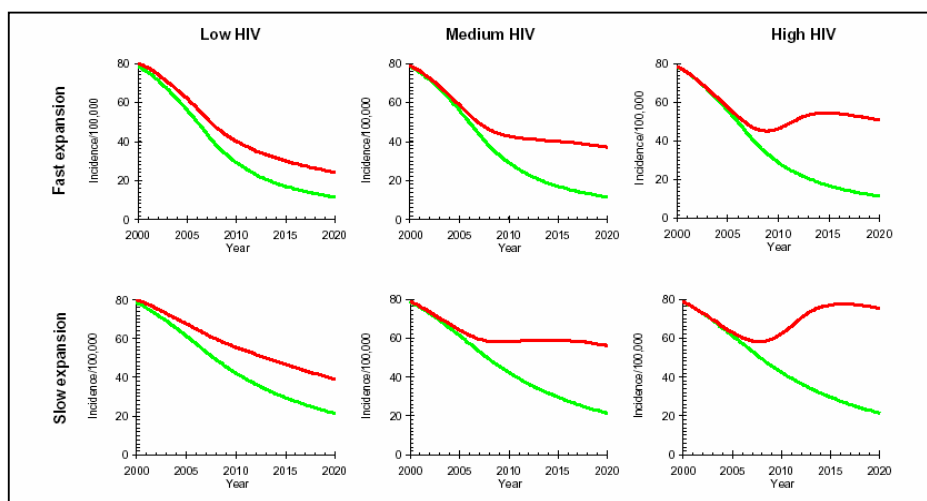
Figure 2. New TB rate by HIV status per 100,000 persons in Chiang Rai, Thailand (1987-2000)



The extent of the epidemic of HIV/TB in South-East Asia depends on the future course of the HIV epidemic as well as on efforts to control TB. Mathematical modelling has generated predictions of HIV fuelling the TB epidemic under different scenarios of HIV prevalence and implementation of DOTS, as for example in India (Figure 3).

Figure 3 shows that first of all, the epidemic of HIV has a dramatic effect on the incidence of TB and it is essential to avoid any further increase in the prevalence of HIV. However, for all three levels of HIV epidemics, “fast” expansion of the DOTS programme reduces the increase in smear-positive cases that result from HIV over the next 20 years by about 20% as compared to “slow” expansion. In the best case (fast expansion, low HIV) TB incidence in 2020 is about 25 per 100k, instead of 15 per 100k in the absence of HIV, but is still decreasing steadily and the effect of the HIV epidemic will be to delay the time at which targets are reached by about five years.

Figure 3. Consequences of HIV and TB scenarios for TB



Source: Data from <http://naco.nic.in/vsnaco/indianscene/esthiv.htm>.
Modelling by Williams B for RNTCP India.

Country Experiences

In **Myanmar**, both TB and HIV/AIDS are high priorities in the national health plan, 1996-2001. The most common mode of transmission of HIV in Myanmar is through intravenous drug use, thence through commercial sex workers and their clients, and thereafter through the general population. HIV sentinel surveillance, including among TB patients, between 1995 and 1997 in the country has shown a fluctuating but overall reduction since 1993. The age groups most affected are between 20 and 39 years and the HIV sero prevalence among TB patients was 4.7% in September 1997. Males are affected more than females in the ratio 4:1. With progress of expansion of DOTS in the country, survival of HIV-positive TB patients who complete treatment has increased from 13 to 32 months. A pilot project of TB-HIV was undertaken in five townships at the Myanmar-Thai border with the objective of early detection of HIV and provision of treatment for TB in these townships.

Following a coordination meeting between NTP and NAP, at the central level, local authorities, NGOs and health staff in the townships were sensitized and training, appropriate health education and VCT services set up. The interventions that were undertaken were condom promotion and provision, partner tracing, rigorous implementation of DOTS, and joint supervision, reporting and monitoring. The key lessons learnt from this initiative were: (1) that TB clinics can serve as an entry point for VCT thereby avoiding the stigma of attending an STD clinic; (2) improved cure rates for TB among TB-HIV co-infected patients; and (3) early recognition and management of other opportunistic infections. The main problems faced were language barriers, frequent migration and the lack of resources to sustain activities including supervision. Future plans include enhanced collaboration with local and international NGOs, cross-border cooperation, scaling up of IEC on TB and HIV at the community level, cross training of staff of both programmes, provision of TB and STD drugs for opportunistic infections through both programmes, promotion of home care and scaling up to an additional 16 border townships in a phased manner through the cross border disease control initiative with Thailand.

The HIV epidemic in **Thailand** has moved through the stages of being limited first to high risk behaviour groups to being transmitted through bridge populations to the general population. Thailand is the most advanced among countries in the Region in containing the HIV epidemic and in the response to TB/HIV. Behavioural surveillance has shown that there is evidence of

continuing behavioural change among 21-year old males in northern Thailand in terms of decreasing number of visits to commercial sex workers to under 10% and increasing condom use to well over 95% between 1991 and 1999. Antiretroviral therapy has been introduced under the HIV/AIDS care package in Thailand including PMTCT. A total of 11 000 adults and 2 000 children received ART in 2002. The trends in notification for new smear-positive TB patients is gradually increasing and case detection in Thailand currently stands at 50%. The contribution of HIV to the TB epidemic is significant. Of 160 350 reported HIV/AIDS cases between 1988 and 2000, 44 177 had active TB. The sero prevalence of HIV among new TB cases shows a distinct difference in northern Thailand where prevalence of HIV is high as compared to the rest of the country. Overall trends however show a gradual decline since 1996.

A national TB/HIV working group has been established as an interface between national AIDS programme (NAP) and NTP providing guidance to collaborative TB/HIV activities. The working group developed a national policy for integrated TB/HIV strategies for the prevention and control of TB. A technical advisory group on INH preventive therapy has also been established. In northern Thailand, where HIV prevalence in active TB is the highest compared to the country average, the Ministry conducted an assessment of INH preventive therapy services and drafted technical and operational guidelines on INH preventive therapy for PHA. Currently INH preventive therapy is piloted in 22 sites in Northern Thailand since 2001 using the aforementioned guidelines and is being expanded to more sites countrywide. Ultimately, in October 2002, the restructuring of the Ministry of Public Health led to the formation of a Department of Disease Control with a structural integration of TB, AIDS and STD Division under one umbrella.

3.2 Why a Regional Strategy for HIV/TB?

HIV/TB activities require joint planning and coordination of both TB and HIV/AIDS programmes, namely for generating evidence for advocacy, mobilizing partnership and resources, education of communities for TB and HIV/AIDS and ultimately to manage HIV-related TB. However, in most countries of the Region, there is no functional collaboration between the two vertical programmes NAP and NTP.

The aim of the DOTS strategy is to detect and treat infectious TB cases so effectively that new TB infections are limited in the first place. However, The DOTS strategy paid little attention to the impact of the HIV epidemic on TB control. The most powerful intervention against TB beyond case finding and treatment is to prevent new HIV infections in people already infected with TB and to reduce the likelihood that latent *MTB* infection will progress to active TB disease. Many countries concerned with HIV/TB have implemented HIV/TB activities mostly through TB programmes with poor or no coherent national strategy based on collaborative planning between TB and HIV/AIDS programmes.

The aim of HIV prevention and care programmes is to prevent the spread of HIV through interventions such as promotion of condom use, particularly among CSWs and their clients, STI control, prevention of mother-to-child transmission, harm reduction in IDUs, ensuring safe blood supply and prolonging the quality of life of PHA through the provision of care and support including ART. HIV prevention and care programmes in turn have paid little attention to TB, which is the most common life-threatening opportunistic infection in HIV-infected individuals in developing countries. HIV-infected TB patients are either treated in the AIDS unit where the DOTS strategy is rarely applied or referred to TB services where little attention is paid to ongoing HIV care.

The purpose of this strategy is to reduce HIV/TB-associated morbidity and mortality through collaboration between national TB and national AIDS programmes in this Region. The epidemiology of HIV and TB as well as the health sector's response in the countries of the SEA Region differ from countries in the other WHO Regions. Therefore, a Regional HIV/TB Strategy for South-East Asia drawing on country-specific experiences and based on the global framework is needed.

The guiding principles are based on implementing an effective collaboration to integrate HIV/TB activities into the existing health system. These include:

- AIDS and TB programmes should have well-defined responsibilities and complement each other.
- AIDS and TB programmes must establish a functional collaboration (not structural programme integration).
- HIV/TB activities should be integrated into ongoing programmes.
- AIDS and TB programmes with joint responsibilities should generate evidence and effectively respond to HIV/TB in a comprehensive manner.

The regional strategic framework identifies mechanisms and recommends areas for collaboration between the two programmes with the aim that both programmes will benefit from the collaboration. The framework also proposes prioritizing technical interventions according to the epidemiology of HIV/TB in the countries of the Region based on resources available. Steps for the implementation of collaborative HIV/TB activities, starting with establishing programme collaboration and conducting a situation assessment, and then jointly developing a national policy and plan for HIV/TB are outlined. National health services and communities also need to be simultaneously prepared for the phased implementation of HIV-TB interventions.

The HIV/TB epidemic exerts a negative impact on existing TB and AIDS programmes in several ways.

Impact of HIV on TB programmes

- Increased HIV prevalence in TB patients
- Increased HIV-related morbidity and mortality in TB patients
- Increased risk of TB transmission (including nosocomial transmission)
- Increased burden on TB services for suspected and active TB cases
 - on human and infrastructural resources in the health sector
 - on existing services for diagnosis and case management
- Delay of access to health services for TB suspects due to the stigma of HIV/AIDS

Impact of TB on HIV programmes

- TB is the most common opportunistic infection in PHA in high TB burden countries
- TB is the leading cause of death in PHA
- Late TB diagnosis contributes to increased death rates in PHA
- TB may accelerate the progression of HIV-related immunosuppression

3.3 Components of the Regional Strategy for HIV-TB

The key interventions proposed under the strategy are grouped under four heads (**Box** and **Figure 4**):

- (1) Prevention of HIV
- (2) Prevention of progression of latent TB to active disease
- (3) Reduction of morbidity and mortality of HIV related TB
- (4) TB/HIV activities to strengthen health system

1. Prevention of HIV

- Condoms
- STD
- Blood safety
- Harm reduction
- PMTCT
- VCT

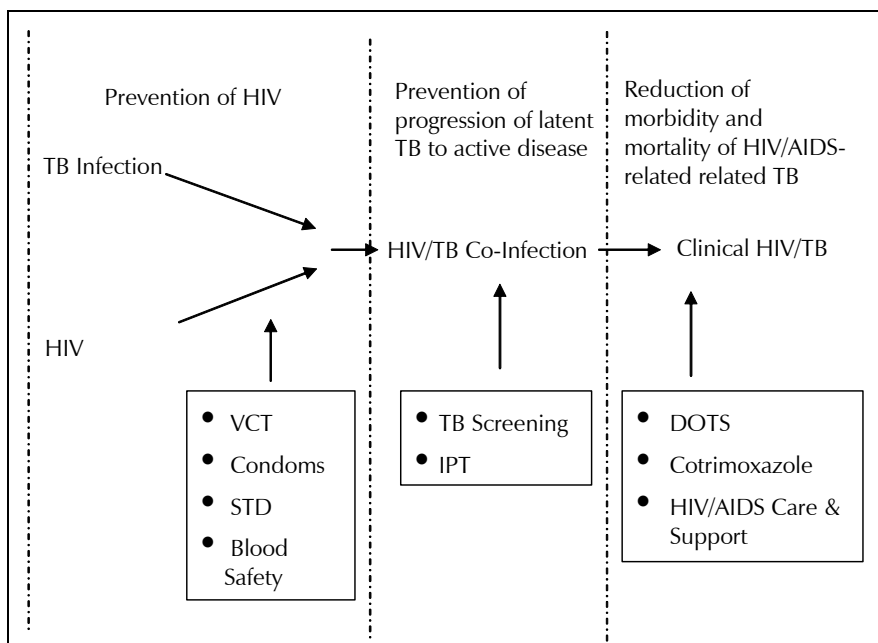
2. Prevention of progression of latent TB to active disease

- TB screening for infection and disease
- Isoniazid preventive treatment for PLWHA with latent tuberculosis

3. Reduction of morbidity and mortality of HIV/AIDS-related TB

- Early diagnosis and treatment under DOTS
 - Cotrimoxazole preventive therapy
 - HIV/AIDS care during and after TB treatment
 - Provision of access to antiretroviral treatment
- 4. TB/HIV activities to strengthen health system**
- Enhancing collaboration of TB and AIDS programmes
 - Advocacy
 - Mobilizing resources
 - Surveillance
 - Building partnerships with communities, PHA, NGOs
 - Strengthening the health systems capacity
 - Ensuring accountability, monitoring and evaluation
 - Operational research

Figure 4. Strategic Framework of Interventions for the prevention and control of HIV/TB



4. DISCUSSION

In the discussions that followed, the key points emphasized were that the emergence of HIV epidemic has posed major challenges to TB control efforts in the Region. Preventing HIV-associated TB means both preventing HIV infection and fully implementing and integrating DOTS with HIV care and prevention programmes at the operational level in order to prevent progression of infection with TB to active disease among those with HIV and to reduce the morbidity and mortality of HIV-associated TB among those affected by both HIV and TB. The double stigma attached to TB and HIV leading to delays in TB diagnosis and treatment must be jointly addressed. It was agreed that the regional strategy which identifies mechanisms and recommends areas for collaboration between the two programmes, particularly with respect to joint advocacy, resource mobilization, operational integration at the field level and joint surveillance should be adopted with the aim that both programmes would benefit from collaboration. Countries with low prevalence of HIV would initiate pilot projects on HIV-TB interventions at district or equivalent operational level, while others would develop plans for wider application of interventions for HIV-TB based on their own experience and on the experiences of neighbouring countries in the Region.

5. CONCLUSIONS AND RECOMMENDATIONS

In conclusion, it is recognized that the extent of the epidemic of HIV/TB in South-East Asia depends heavily on efforts to prevent and control both HIV and TB in a comprehensive manner. It was agreed that the Regional office would finalize the regional strategy for TB-HIV based on the feedback and discussions from participating Member Countries and in addition, provide assistance as required, to Member Countries in developing national strategic plans for the implementation of TB/HIV activities, support pilot projects to implement TB/HIV interventions at district or equivalent level and document and disseminate experiences from ongoing and planned TB/HIV activities.

6. RECOMMENDATIONS

For WHO

- (1) WHO should finalize by 31 December 2002 the TB/HIV regional strategic framework based on the feedback received from participants, including those from the consultative group which met on 18 November 2002.
- (2) In order that Member Countries gain/share experience in operationalizing the Regional TB/HIV Strategic Framework, WHO should provide technical and financial support in implementing the strategy in a few pilot districts in Member Countries and operationalize existing plans on TB-HIV.

For Member Countries

- (1) All efforts should be made by Member Countries to raise the profile and importance of TB/HIV at international and national levels and to mobilize resources to combat TB/HIV.
- (2) In order to gain experience, joint TB/HIV collaborative activities should be implemented in selected districts on a pilot basis to develop a model including in cross-border areas.

Annex 1

PROGRAMME

18 November 2002

0830 - 0900 hrs	Registration
0900 - 0930 hrs	Welcome, Objectives and Introduction of Participants - Dr Ying-Ru Lo
0930 - 1000 hrs	Global Strategic Framework for TB/HIV - Dr Dermot Maher
1000 - 1030 hrs	Draft Regional Strategic Framework on TB/HIV - Dr S.P. Tripathy
1045 - 1230 hrs	Discussion
1400 - 1530 hrs	Discussion
1545 - 1630 hrs	Discussion
1630 - 1700 hrs	Conclusions and Next Steps - Dr Ying-Ru Lo

19 November 2002

(in conjunction with 2nd Joint Meeting of National AIDS and TB Programme Managers Colombo, Sri Lanka, 19-22 November 2002)

0800 - 0900 hrs	Registration
0900 - 0940 hrs	Opening Ceremony Master of Ceremonies – Dr Dula De Silva, Deputy Director General of Health Services (Public Health 1) <ul style="list-style-type: none">• National Anthem• Traditional lighting of oil lamp Welcome Address by: Dr Dula De Silva Addresses by: <ul style="list-style-type: none">• Dr Kan Tun, WHO Representative to Sri Lanka• Dr A. Kahandaliyanage, Director-General of Health Services, Sri Lanka• His Excellency Mr P. Dayaratna, Minister of Health,

Nutrition and Welfare, Sri Lanka

1030 - 1115 hrs Welcome and Objectives
Introduction of National AIDS and TB Programme Managers
- Dr Ying-Ru Lo
Chair: Dr. Iyanthi Abeyewickreme, Director, National
STD/AIDS Control Programme, Sri Lanka
Co-chair: Dr Rosmini Day, Indonesia
Rapporteur: Dr. Anupong Chitwarakorn, Thailand

Country presentations onTB/HIV

1115 - 1145 hrs Thailand
1145 - 1215 hrs India
1215 - 1245 hrs Myanmar
1400 - 1430 hrs Draft Regional Strategic Framework on TB/HIV
- Dr S P Tripathy / Dr Ying-Ru Lo
1430 - 1530 hrs Discussion
1545 - 1615 hrs Implementing the TB/HIV Strategy: Piloting at District Level -
Dr Jai P Narain
1615 - 1700 hrs Discussion
1700 hrs Closure

Annex 2

LIST OF PARTICIPANTS

INDIA

Dr S.P. Tripathy
B-7, Radhika Empire
Jagtap Nagar, Wanawadi
Pune-411 040
Tel: 020-687 8742, 712 1071
Email: sriramtripathy@hotmail.com

Dr K.J.R. Murthy
Consultant
Mahavir Trust Hospital and Research Centre
10-1-1 Mahavir Marg
Hyderabad-500004
Tel: 91-40-7566747, 7564242, 9849202079
(Mobile)
Email: kollurijrm@hotmail.com

INDONESIA

Dr Endang R. Sedyaningsih
Researcher and Focal Point for Initiating TB
and
HIV related activities
National Institute for Health Research and
Development
Ministry of Health
Jakarta

MYANMAR

Dr Soe Aung
Deputy Director-General
Department of Health
Yangon
Tel: 287723

Dr Aye Htun
Deputy Director (TB)
Department of Health
Yangon
Tel: 287723

Dr Myint Zaw
Deputy Director (AIDS/STD)
Department of Health
Yangon

THAILAND

Dr Pasakorn Akarasewi
Director
TB Division
Department of Communicable Disease Control
Ministry of Public Health
Bangkok

Dr Tasana Leusaree
Office of Communicable Disease Control
Region 10, 447 Chiang Mai-Lamphun road,
Muang district
Chiang Mai 50000
Tel 66-53-271021
Fax 66-53-271020
E-mail: leusaree@cscoms.com

Dr Taweasap Siraprasiri
Director, AIDS Division
Department of Communicable Disease Control
Ministry of Public Health
Tiwanond Road
Nonthaburi 11000
Tel +66-2-5918411-2
Fax +66-2-5918413
Email: taweasap@rocketmail.com

Dr Norio Yamada
Research Institute of Tuberculosis, Japan
1050 Satarn Payabarn Road
Muang District
Chiang Rai 57000

WHO/HQ

Dr Dermot Maher
Medical Officer, New Policy and Strategy Development:
TB/HIV
Stop TB Secretariat
Geneva
Tel: 41 22 7912655
Fax: 41 22 7914199
Email: maherd@who.int

WHO/SEARO

Dr Ying-Ru Lo
Medical Officer (HIV/AIDS)
WHO/SEARO
Tel: 91-11-3370804
Fax: 91-11-3378412
Email: loy@whosea.org

Dr Nani Nair
Short-term Professional (TB)
WHO/SEARO
Tel: 91-11-3370804
Fax: 91-11-3378412
Email: nairn@whosea.org

Prof. Subhash K. Hira
Short-term Professional (HIV/AIDS)
WHO/SEARO
Tel: 91-11-3370804
Fax: 91-11-3378412
Email: hiras@whosea.org

Dr Amaya Maw-Naing
Medical Officer AIDS
C/o WR Indonesia Office
Jakarta

Ms Laksami Suebsaeng
National Professional Officer (HIV/AIDS)
C/o WR Thailand Office
Bangkok

Dr Myo Paing
National Professional Officer (CDS)
C/o WR Myanmar Office
Yangon