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Communicable diseases
Communicable diseases surveillance: building up outbreak response

1. Environmental factors including climate change and global warming have serious implications for infectious diseases and are creating a challenge for all countries in the Region. Improving the response to outbreaks of communicable diseases is therefore an important focus of WHO South-East Asia Regional Office (SEARO) activities.

2. Increasing trends in Japanese encephalitis, dengue fever, chikungunya, and Nipah virus infections have been observed in the Region in the last few decades (see Box 1.1). This reinforced the need to build core capacities in Member countries to minimize morbidity, mortality and spread of disease, while emphasizing the importance of intersectoral collaboration.

Box 1.1 Current infectious diseases picture in the Region

- **Dengue** continues to pose a major public health problem; Member countries are reporting more than 200,000 cases per year, with more frequent reporting of outbreaks in the last five years.

- **Chikungunya fever** is re-emerging in many Member countries, causing concern due to rapid spreading and severity of the disease.

- Deadly outbreaks of **Nipah virus infections** were reported from Bangladesh in 2007.

- **Avian influenza** (H5N1 strain): as of 28 May 2008, a cumulative total of 160 of 383 global cases had been reported from the Region since 2003, comprising more than 40% of worldwide cases, and more than half the deaths (see Figure 1.1)

- Among communicable diseases, **diarrhoeal and respiratory infections** were leading causes of disease burden in the Region (see Box 1.2).
The International Health Regulations (IHR) of 2005, together with the need to be prepared for detecting, reporting and responding to potential global health threats, have compelled countries to establish more effective surveillance systems. With technical support from the Regional Office, Member countries assessed their existing national core capacities and resources for implementing the IHR.

**Figure 1.1: Human avian influenza A/H5N1: reported cases in the Region compared to other WHO Regions, 2003–2008**

*Western Pacific, Eastern Mediterranean, European, African

**As of 28 May 2008

Source: Member countries / WHO Geneva, 2008

**Box 1.2: Infectious diarrhoea and respiratory infections: integrating control**

Based on the increasing realization that the problem of acute diarrhoeal and respiratory diseases (ICDR) cannot remain neglected anymore, the Regional Office has planned a programme on their integrated control.

To boost this initiative, a Regional Technical Advisory Group for ICDR, consisting of experts in diarrhoeal diseases and respiratory infections and related fields, has been established to provide necessary guidance to the Regional Office and Member countries. The first meeting of this Group has been planned for the third quarter of 2008.

3. The International Health Regulations (IHR) of 2005, together with the need to be prepared for detecting, reporting and responding to potential global health threats, have compelled countries to establish more effective surveillance systems. With technical support from the Regional Office, Member countries assessed their existing national core capacities and resources for implementing
IHR (see Figure 1.2) prior to developing action plans in 2008 and 2009 (see Box 1.3). High-level coordinating bodies consisting of ministries of health, livestock, home affairs and education have been formally established in all Member countries to coordinate planning and preparedness for an avian influenza pandemic in the context of IHR. As of 31 May 2008, WHO SEARO had responded to 352 events of potential public health emergencies of international concern since the new regulations came into effect in June 2007. These events involved seven Member countries.

**Figure 1.2: Core public health capacities for an effective response to emerging diseases**

Box 1.3: Thailand develops IHR action plan for 2008–2012

The Ministry of Public Health, Thailand, has formulated national action plans to develop public health infrastructure and human resources to meet the core capacity requirements as envisaged under the International Health Regulations (2005). The plan for 2008–2012 was approved by the Cabinet in December 2007.

The objectives of the plan focus on capacity building of all institutions involved in surveillance and public health emergencies, including laboratories and hospitals, and the 18 points of entry, and also on building of capacity to coordinate, among various related governmental and private institutions and the community, the integrated implementation of IHR (2005).
4. Epidemiological capacity is a key indicator for outbreak response. WHO supported:

- Development of a three-month field epidemiology training course, which was pilot tested in India with the participation of 21 public health experts from different levels of the health system of eight Member countries. This training programme will help countries conduct national and sub-national-level training in field epidemiology. It will have a direct impact on the number of trained epidemiologists and will indirectly impact on the quality and timeliness of outbreak response.

- Rapid response and containment training, using modules developed by WHO, in which more than two thousand trainees from six Member countries (Bangladesh, Bhutan, India, Indonesia, Maldives, Thailand) participated. Improvement in the timeliness of event verification and assessment has since been observed.

- Building or strengthening, in all Member countries, of laboratory capacity in polymerase chain reaction (PCR) techniques for the detection and diagnosis of avian influenza and other infectious diseases. For horizontal collaboration and networking, a network of influenza laboratories in Bangladesh, India, Indonesia, Myanmar and Thailand was established (see also page 32).

- Preparation of various guidelines and tools to assist countries in disease detection and control, including:
  - Guidelines on laboratory diagnosis of avian influenza\(^1\)
  - Guidelines on the case management of avian influenza\(^2\)
  - EWAR – Early Warning and Response: a guide for countries to ensure early warning and response as an integral part of existing surveillance systems (in printing)
  - Guidelines on the healthy food market concept\(^3\)

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An interactive CD to help health-care workers at district level identify events that qualify as a public health emergency of international concern (PHEIC)\(^4\)

- A risk communication tool for crafting messages aimed at preventing human infections with avian influenza (under development)

- A report card (under development) to rate the safety of traditional wet (live animal) markets

- A document on the role of village health volunteers in avian influenza surveillance.\(^5\)

- The development of a strategic framework for the prevention and control of zoonotic diseases. Implementation of the Framework in countries of the Region will help: build public health capacity and intersectoral collaboration, strengthen surveillance response capacity for emerging zoonoses, and promote networking and capacity building (see also page 21).

### Challenges

- The implementation of robust surveillance and early warning systems throughout the Region, ensuring that borders and points of entry have appropriate safeguards in place to protect public health.

- Introduction of a regional event management system to ensure uniformity in reporting events across the Region.

- Establishment of a regional outbreak alert and response network (ROARN) to draw upon regional expertise in the event of a pandemic.

### HIV/AIDS: controlling epidemics and scaling up services

5. The work in this area is focused on halting and reversing HIV epidemics and scaling up HIV services. Emphasis was put on targeted prevention, increasing access to HIV services (counselling, testing and treatment), and using strategic information to improve programmes. See Box 1.4 and Figure 1.3 for current picture of HIV infections in the Region.

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\(^4\) Available from WHO India office

\(^5\) *Role of village health volunteers in avian influenza surveillance in Thailand.* New Delhi, WHO SEARO, 2007 (document SEA-CD-159) (available at: [www.searo.who.int/LinkFiles/Publication_CD_-159-Role-VHV-AI-surveillance.pdf](http://www.searo.who.int/LinkFiles/Publication_CD_-159-Role-VHV-AI-surveillance.pdf))
Box 1.4: Current picture of HIV infections in the Region

With an estimated 3.5 million HIV infections, South-East Asia is the second-most affected region in the world.

India, Myanmar and Thailand have advanced epidemics where HIV has penetrated significantly into the general population.

Bangladesh, Indonesia and Nepal currently have highly concentrated epidemics primarily affecting populations at high risk.⁶

Figure 1.3: HIV: projected trends in adult prevalence in six SEA Region countries with the highest burden

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**Controlling epidemics**

**Gaining control**

6. Member countries were encouraged⁷ to focus on targeted prevention to reduce sexual and injection-related transmission of HIV. A new regional
strategy for 2007–2015\(^8\) focuses on preventing sexual transmission of HIV and other sexually transmitted infections (STIs) by reducing transmission in high-risk groups, improving STI services, and strengthening STI surveillance. Implementation in Member countries is supported by operational tools and capacity-building networks.

**Preventing drug-injection transmission**

7. WHO works with the UN Office for Drugs and Crime (UNODC) and AusAID to assist countries in scaling up harm-reduction interventions, including advocacy, programming, surveillance and capacity building, and to help them set up services, particularly for outreach prevention and drug-substitution therapy.

8. A training curriculum for clinicians on care for HIV-positive injecting drug users\(^9\) (IDUs) was developed in collaboration with the ASEAN Secretariat and Family Health International; training courses are planned for 2008 at country level.

**Addressing the issue of HIV transmission in prisons**

9. A review conducted in India, Indonesia, Nepal and Thailand and a subsequent document based on the results of this review\(^10\) shows that few interventions have been implemented in prisons despite demonstrated feasibility in preventing HIV transmission. Advocacy to address the issue of HIV transmission in prisons is now receiving priority attention.

**Increasing access to HIV services**

**Counselling and testing**

10. WHO is providing support to countries for scaling up counselling and testing, care and treatment. Support to India, for example, has helped to expand the number of voluntary counselling and testing (VCT) centres nine-

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\(^9\) Treatment and care for HIV-positive injecting drug users (available at: www.searo.who.int/en/Section10/Section18/Section356_14247.htm)

\(^10\) HIV prevention, care and treatment in prisons in the South-East Asia Region. New Delhi, WHO SEARO, 2007 (available at: www.searo.who.int/LinkFiles/Publications_TreatmentinPrisons.pdf)
fold over five years. With the release of the WHO/UNAIDS guidance on HIV testing and counselling, a Regional consultation was conducted in 2007 to support country implementation. Countries are encouraged to conduct training and expand their HIV testing and counselling services according to these guidelines in order to reach people who need to know their HIV status.

**Preventing mother-to-child transmission**

11. WHO also technically supported Member countries in scaling up prevention of mother-to-child transmission (PMTCT), particularly in setting up counselling and testing services for pregnant women and providing technical guidelines for treatment, breastfeeding and care for pregnant women and infants. In India, every district in the six high-HIV burden states and more than 90% of districts in the low-HIV burden states have at least one PMTCT centre. In Myanmar, the PMTCT programme currently covers 89 of 325 townships. Thailand has reached universal access targets for PMTCT and reports a decrease in number of paediatric AIDS cases. In other Member countries, services are being expanded according to the occurrence of HIV mother-to-child transmission.

**Rationalizing antiretroviral treatment**

12. Regional focus on rational antiretroviral therapy (ART) emphasizes high-quality first-line regimens, adherence support, close monitoring and attention to early warning indicators. Guidelines for the management of HIV infection and antiretroviral therapy in adults and adolescents were published, and Management of common health problems of drug users drafted. Other technical guidance covers the management of opportunistic infections and related HIV care issues, laboratory strengthening (see also page 32), and surveillance of HIV drug resistance. HIV-related services are increasingly being integrated into existing health-care facilities. By ensuring high-quality HIV care, support and treatment in the countries, the survival of HIV-infected persons will improve and the costs of treatment programmes can be contained.

**Using strategic information to improve programmes**

**Ensuring timely and reliable data**


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12 See: www.searo.who.int/LinkFiles/AIDS_ConclusionsNRecommendations.pdf  
14. Outcomes included HIV drug resistance threshold surveys in India, Indonesia and Thailand; involvement of national staff in estimating HIV burden and national ownership of data; expansion of biological and behavioural surveillance among high-risk populations; and harmonization of monitoring and evaluation frameworks.

**Building programme management skills**

15. To strengthen coordinated national response in complex environments with multiple donors and implementing partners, skills in programme management are particularly important. A set of training modules was developed\(^\text{14}\) to build capacity in programme management. The regional training modules are now being adapted for country training.

**Conducting programme reviews**

16. Indonesia, Myanmar, Sri Lanka and Thailand were supported in external programme reviews, which resulted in recommendations for good strategic planning. The guidelines for conducting a review of the health sector response recently published by the Regional Office\(^\text{15}\) could help facilitate reviews in other countries.

**Mobilizing resources**

17. WHO is enhancing and intensifying resource mobilization. Extensive technical support has been provided to Member countries for proposal development. Since 2002, US$ 863 million have been mobilized from the Global Fund (to Fight AIDS, Tuberculosis and Malaria [GFATM]) for HIV in 10 Member countries. During the reporting period, two Global Fund proposals for HIV (for India and Nepal) were approved.

**Challenges**

18. Regional priorities for 2008 were set by AIDS programme managers (Bali 2007 commitment). These include:

- Strengthening targeted prevention to gain control of epidemics in line with the Millennium Development Goal (MDG) targets.
- Promotion of “rational ART” as countries continue efforts to scale up treatment access.
- Improvement of information systems.
- Strengthening of human resources capacity.

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\(^{14}\) National AIDS programme management: a set of training modules. New Delhi, SEARO, 2007

\(^{15}\) Guidelines for conducting a review of health sector response to HIV/AIDS. New Delhi, SEARO, 2008 (available at: www.searo.who.int/LinkFiles/Publications_HealthSectorResponse-AIDS-2008.pdf)
19. Efforts to simultaneously address HIV epidemics and strengthen health systems could result in more effective interventions and more reliable information to guide programmes. Future challenges include:

- Improving size estimates of high-risk populations.
- Improving analysis, synthesis and use of data from multiple sources.
- Developing HIV field epidemiology programmes.

**Tuberculosis: implementing the new Stop TB Strategy**

20. In 2007, the Regional Committee adopted a resolution on implementing the new Stop TB Strategy.\(^\text{16}\) Since then the emphasis of WHO’s work has been to support countries in addressing the various components of the Strategy, particularly the management of multidrug resistant tuberculosis (MDR-TB), TB/HIV co-infection; and strengthening of laboratory capacity, management of drug procurement and supply, and surveillance.

21. All Member countries have developed national plans in line with the Stop TB Strategy 2006–2015 (see Box 1.5) and begun to implement its components (See Box 1.6 for current picture of TB case detection and treatment in the Region).

22. Outcomes of WHO collaboration have led to the following achievements:

- Scaling up of interventions for the management of multidrug-resistant TB and TB-HIV co-infection in India, Indonesia, Myanmar and Nepal.

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\(^\text{16}\) Resolution SEA/RC60/8 on TB control: progress and plans for implementing the new Stop TB Strategy calls on Member countries to fully implement national plans for TB control, incorporating all elements of the new Stop TB Strategy, in order to achieve the TB targets set out under the Millennium Development Goals by 2015.
• Strengthened monitoring and evaluation, and performance of impact assessment, in seven countries (Bangladesh, Bhutan, DPR Korea, India, Indonesia, Myanmar and Nepal).

**Box 1.6: Current picture of TB case detection and treatment in the Region**

Countries in the South-East Asia Region have made considerable progress since the introduction of directly observed treatment short course (DOTS) for TB control in 1993. The entire population in the Region now lives within access of DOTS facilities. In the latest figures, the overall case detection rate (in 2006) was 68%, close to the global target of 70%, and the overall treatment success rate (in 2005) for the cohort of new smear-positive cases initiated on treatment was 87%. By the end of the current reporting period, seven countries of the Region had achieved/maintained both these global targets (for case detection and treatment success) (see Figures 1.4a and 1.4b).

**Figure 1.4a: Tuberculosis: case detection and treatment success rates in the SEA Region Member countries**

Source: annual reports on TB control, national TB programmes, SEAR Member countries, December 2007

BHU: Bhutan; BAN: Bangladesh; DPRK: Dem. People’s Rep. of Korea; IND: India; INO: Indonesia; MAV: Maldives; MMR: Myanmar; NEP: Nepal; SRL: Sri Lanka; THA: Thailand; SEAR: South-East Asia Region

Based on the total number of TB cases notified by Member countries by year (increasing gradually from 1997 [1 308 981] to 2006 [1 920 644]).
The Work of WHO in the South-East Asia Region

- TB control activities in which intersectoral collaboration and public–private partnership for delivery of services plays an important role are being established/scaled up in eight Member countries (Bangladesh, India, Indonesia, Myanmar, Nepal, Sri Lanka, Thailand, Timor-Leste).

- Expansion in India and Myanmar of TB/HIV co-infection control activities (already widely available in Thailand). In Indonesia, which has a concentrated HIV epidemic, interventions are now implemented in three provinces with high HIV prevalence.

- Seven countries (Bangladesh, India, Indonesia, Myanmar, Nepal, Sri Lanka, Thailand) have at least one national-level laboratory with facilities for mycobacterial culture and drug susceptibility testing for the detection of MDR-TB cases. Bangladesh and Nepal are in the process of having their national reference laboratories accredited.

- Treatment services for MDR-TB cases are being put in place by national programmes in seven Member countries (Bangladesh, Bhutan, India, Indonesia, Myanmar, Nepal, Timor-Leste).

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17 See TB status paper at: www.searo.who.int/LinkFiles/Tuberculosis_Status_paper_TB-HIV-SEAR.pdf

18 More than 5% prevalence in high-risk groups such as intravenous drug users and female commercial sex workers.
The Regional Office assisted Bhutan, Indonesia and Myanmar in drafting their applications to the Green Light Committee of the Stop TB partnership for establishing treatment programmes for MDR-TB.

Eight Member countries (Bangladesh, Bhutan, India, Indonesia, Nepal, Thailand, Sri Lanka, Timor-Leste) continue to benefit from funds mobilised from the Global Fund and all Member countries benefit from funds from other development partners and donor governments.

All countries have access to quality-assured affordable anti-TB drugs on a regular basis through grants or direct procurement agreements with the WHO/Stop TB Global Drug Facility.

National TB programme staff from all countries were trained (on an intercountry basis) in the management of TB laboratories, quality assurance, mycobacterium culture techniques, drug susceptibility testing, and management of MDR-TB (see also page 33).

Training activities on control of TB/HIV for national TB programme staff conducted in India, Indonesia, Myanmar and Nepal; materials on data management and analysis for TB programme staff made available in Bangladesh, India and Myanmar; modules on leadership and strategic management, and guidelines on undertaking annual risk of tuberculosis infection (ARTI) assessments made available to all Member countries.

Challenges

- Ensuring the necessary infrastructure and improving the quality and capacity of laboratory networks.
- More effectively addressing the needs of people with MDR-TB and HIV-TB co-infection.
- Promoting the analysis and use of routine programme data for programme improvement at the operational level of service delivery.

Currently the preferred epidemiological indicator of the TB situation
Helping to address the impact of the multiple social and economic determinants on TB control.

Malaria: implementing the revised control strategy

23. A resolution on the Revised Malaria Control Strategy was adopted by the Regional Committee in 2007. Since then, SEARO attention has focused on providing technical support for strengthening the capacity of malaria control programmes, especially in relation to the issues of drug resistance and its monitoring, integrated vector management, and implementation of Global Fund projects in Member countries.

24. Key elements of the Revised Malaria Control Strategy are outlined in Box 1.7.

Box 1.7: Key elements of the Revised Malaria Control Strategy for the Region

- Reformation of malaria control programmes
- Identification of vulnerable populations
- A focus on *P. vivax*
- Balance of prevention and treatment
- Integration of malaria into healthy public policies
- Integrated vector management
- Insecticide-treated nets and indoor residual spraying
- Partnership and multisectoral approaches
- Raising the visibility of malaria in the Region

Reforming the control programmes

25. To assist in the implementation of the Revised Malaria Control Strategy, Guidelines for conducting reviews of national malaria control programmes were drafted in collaboration with experts from Member countries. These will help malaria control programmes become more responsive and to use evidence-based interventions.

26. SEARO also provided technical support to strengthen national capacity in monitoring and evaluation of the malaria control programmes in

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20 Resolution SEA/RC60/R6: Revised Malaria Control Strategy: Focusing on a New Paradigm
Bangladesh, Bhutan, Nepal and Sri Lanka, and technical support for implementing the Global Fund projects in Bangladesh, Bhutan, India, Nepal and Timor-Leste.

**Monitoring of drug resistance**

27. Drug resistance in both *P. vivax* and *P. falciparum* malaria is monitored. As multidrug resistant *P. falciparum* has spread (see Figure 1.5) in some countries of the Region, almost all Member countries where *P. falciparum* is prevalent have, based on WHO recommendations, revised their national treatment guidelines and adopted artemisinin-based combination therapy (ACT).

**Figure 1.5: Malaria: trends in number of reported cases and percentage of *P. falciparum* in the Region, 1981–2006**

28. India, Nepal, and Timor-Leste revised their national treatment policies and guidelines to ACT, and Sri Lanka is in the process of doing so; while Bhutan, Bangladesh, Indonesia, Myanmar, Thailand and Timor-Leste are at the stage of scaling up coverage with ACT; and Thailand made a minor revision in ACT dose following WHO recommendations.

29. Artemisinin-tolerant forms of *P. falciparum* present a global threat which requires close monitoring. WHO and USAID assisted Thailand and Cambodia
[from the WHO Western Pacific Region (WPR)] to develop a joint strategy for combating and eliminating these artemisinin-tolerant forms.

30. Drug resistance monitoring in sentinel sites, and networking continued to be strengthened in the countries covered by the Mekong Malaria Programme which includes Myanmar and Thailand – as part of bi-regional collaboration between the Western Pacific and South-East Asia Regions. Programme managers and experts from the Mekong countries were updated regarding available therapy and diagnostic tests, and drug efficacy study protocols.

**Implementing integrated vector management**

31. A document *Framework for implementing integrated vector management at district level in South-East Asia Region – A step-by-step approach* was drafted in collaboration with experts from Member countries. It addresses the appropriateness of intervention methods for an integrated programme. This Framework will guide countries in selectively applying the various vector control tools available, based on the epidemiological situation, vector biology, and socio-behavioural characteristics of the community.

**Collaborating and partnering**

32. In addition to collaborating with the Mekong countries on control of falciparum malaria, bi-regional collaboration also continued to address control of vivax malaria on the Korean Peninsula. With WHO’s technical support, DPR Korea successfully conducted one round of mass prophylaxis with primaquine in a population of five million. As a consequence, significant reduction of malaria incidence was observed in the border provinces of DPR Korea.

**Raising the visibility of malaria**

33. WHO provided technical support to Member countries in advocacy for malaria control at the political level. World Malaria Day was observed for the first time in Member countries on 25 April 2008, as recommended by the Regional Committee in 2007 through resolution SEA/RC60/R6.

**Challenges**

- Implementation of the integrated vector management strategy
- Implementation of efficient methods of diagnosis for malaria
• Implementation of national malaria treatment policy, including effective drug treatment such as ACTs and making quality drugs available at affordable prices
• Strengthening the capacity of national malaria control programmes through human resources development.

Global Fund grants: improving access and implementation

34. Eight proposals from Member countries of the Region, worth about US$ 208 million, were approved in the Round 7 – Global Fund call for proposals. With this, a total of 55 grants, amounting to a total of about US$ 1.7 billion, have been approved for countries in the Region by the Global Fund since its inception in 2002. Since that time, WHO has been assisting Member countries in the various processes involved, including in proposal development, grant negotiation, implementation support and constituency matters. This substantial resource is enabling the countries to scale up their national responses to reduce the burden of HIV/AIDS, TB and malaria. It is also an excellent opportunity for Member countries to strengthen their overall health systems while improving the outcomes for the three diseases.

35. Member countries have been making concerted efforts to improve their capacities in accessing and implementing Global Fund resources. Their capacity needs, including technical support needs, are increasing substantially with the volume of resources becoming available. For Round 7 applications (2007), WHO helped six (Bhutan, India, Indonesia, Nepal, Thailand, Timor-Leste) countries to develop proposals. For Round 8 (2008), WHO assisted Bangladesh, DPR Korea, India, Indonesia, Sri Lanka and Thailand in submitting proposals.

36. The Regional Office facilitated two regional Global Fund constituency meetings. While general support for implementation of the HIV, TB and malaria programmes is provided through the Regional and country offices, specific support for implementation of Global Fund grants was provided to Bangladesh, Indonesia, Nepal and Timor-Leste through agreements signed with the principal recipients.

37. In assisting countries in relation to the Global Fund, the WHO focus has been to develop capacity in the countries. While WHO staff involved in assisting proposal development have, for instance, made efforts to train country counterparts, WHO has also held capacity-building workshops. With every call for proposals starting from 2006, WHO has held a proposal development
workshop; this year the workshop, in Jakarta, Indonesia, was attended by 70 participants. In February of this year also, a workshop on *Grant negotiation and implementation* was organized to develop capacity in efficient implementation and facilitate the early signing of approved Round 7 Global Fund grants.

38. A review and assessment of the usefulness and impact of WHO support in relation to Global Fund grants to countries was carried out. The results show that, although countries continue to face a range of significant challenges throughout the grant cycle (such as those due to the complex reporting procedures), WHO’s efforts have had a positive impact and are greatly appreciated by Member countries. Up to this point, the generation of financial resources for WHO support has been *ad hoc* and largely through WHO’s own budget. As the need for assistance continues to grow, there is a need to secure and manage resources adequate to keeping up the support to countries.

**Dengue: aiming to reverse the rising trend**

39. Work is focused on responding to the increasing threat from dengue, which is spreading to new geographical areas and causing high mortality during the early phase of outbreaks. See Box 1.8 for the current picture of dengue in the Region; trends in reported cases and case fatality rates are shown in Figure 1.6.

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**Box 1.8 Current dengue picture in the Region**

In the WHO South-East Asia Region, 87% of the total population is at risk of dengue infection, and 10 countries are endemic for dengue.

Dengue fever has become one of the most important resurgent vector-borne diseases in the Region, with increased frequency of epidemics and circulation of multiple serotypes of virus in most countries.

Major outbreaks were reported from Indonesia, Myanmar and Thailand during the reporting period, while Nepal became a new dengue endemic country.

The reasons for the resurgence are complex, but the main factors are the unprecedented urbanization that is taking place, and the movement of populations within and outside the endemic countries.

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**Drafting a new strategic plan for 2008–2015**

40. A draft Asia-Pacific Strategic Plan for Dengue Control for 2008–2015 was developed through collaboration with WPRO. It was reviewed by the
Regional Technical Advisory Group on Dengue\textsuperscript{21} and endorsed at a meeting of programme managers.\textsuperscript{22} The goal of the Strategic Plan is to reverse the rising trend of dengue in countries of the Asia-Pacific region. To be published later in 2008, the Plan will guide Member countries in developing national operational plans for dengue control, and will enhance country preparedness to promptly detect, characterize and contain outbreaks.

**Preparing for implementation of the strategic plan**

41. Available tools for the prevention, diagnosis and treatment of dengue, and studies on the burden and socioeconomic impact of the disease, were reviewed by the Regional Technical Advisory Group on Dengue.

42. At the programme managers’ meeting, SEARO initiated formation of the Asia-Pacific Dengue Partnerships (APDP), partnership being an important component of the Strategic Plan. A core group of APDP members was established to develop a strategic framework for mobilizing resources to support implementation of the bi-regional strategic plan.

\textsuperscript{21} First Meeting of Regional Technical Advisory Group on Dengue, Thailand, September 2007

\textsuperscript{22} Intercountry meeting of programme managers on dengue, Thailand, September 2007
43. SEARO promoted and supported the communication for behavioural impact (COMBI) approach in Member countries, and an international training course on COMBI was organized in collaboration with the Faculty of Tropical Medicine, Mahidol University, with participants from Indonesia, Maldives, Myanmar and Sri Lanka.

44. SEARO also supported Member countries to improve early detection and case management. An international course on clinical management of dengue was held in collaboration with the WHO Collaborating Centre on Clinical Management of Dengue, at the Queen Sirikit Institute of Child Health, Bangkok. More than 25 participants attended from Bhutan, Indonesia, Nepal and Thailand and other WHO Regions.

Providing technical support

45. Other outcomes included assessment of the dengue situation in Bhutan and Nepal, which SEARO technically supported. This will help these countries make their national dengue prevention and control plans more responsive. Technical support was also provided during outbreaks of dengue in Bhutan, Indonesia, Myanmar and Thailand.

46. Dengue Bulletin\(^{23}\) Volume 31 (2007), jointly published with WPRO, was widely distributed to programme officers, public health professionals and institutions in the SEA and other regions.

Challenges

- Acceleration of resource mobilization in collaboration with WPRO and partners through the APDP.
- Enhancing coordination among ministries of environment, education and tourism and local governments to ensure their engagement in implementation of the dengue control programme.
- Improving core capacity for surveillance (in terms of the timeliness, completeness and quality of data, and the sharing of information within and between countries and WHO) as per IHR (2005) (see also page 4).

\(^{23}\)www.searo.who.int/en/Section10/Section332_1097.htm
Zoonoses: implementing strategy and policy

47. A framework\textsuperscript{24} defining strategy and policy for zoonoses control in South-East Asia was finalized. It will be implemented in a phased manner through capacity building and development of a surveillance and response mechanism for endemic and emerging zoonoses.

48. The Framework will assist countries in selecting priority interventions for control of zoonotic diseases, and in strategic planning for priority zoonoses; it was developed in collaboration with experts from Member countries.

Building capacity

49. A project proposal on Strengthening of Surveillance and Response Capacity for Highly Pathogenic, Emerging and Re-Emerging Diseases in ASEAN and SAARC Countries under WHO Regional Offices for South-East Asia and Western Pacific, 2009–2012, under submission at the time of writing, is expected to receive support (Euro 4 million) from the European Commission.

50. A WHO Collaborating Centre for research and training on viral zoonoses\textsuperscript{25} was designated; and two research and training centres – for rabies\textsuperscript{26} and leptospirosis\textsuperscript{27} – were re-designated.

Surveying and responding

51. A zoonoses risk assessment tool\textsuperscript{28} for assessing the zoonoses situation and control activities was developed at country level and tested in Maldives. This tool will assist Member countries in developing consensus on national-level strategy and policy for zoonoses control. \textit{Operational guidelines for veterinary public health (VPH) services in the South-East Asia Region} have been drafted to facilitate VPH activities in Member countries; they will be finalized later in 2008 after further discussion.

Rabies

52. WHO promoted September 8 as World Rabies Day, and advocacy and awareness meetings were held in Member countries on this day. WHO

\textsuperscript{24} The Regional Strategic Framework for Prevention and Control of Zoonoses in South-East Asia Region, an outcome of the Regional Zoonoses Meeting held in Jakarta, November 2007
\textsuperscript{25} Division of Neurovirology, Department of Medicine, Chulalongkorn University, Bangkok, Thailand
\textsuperscript{26} National Institute of Communicable Diseases, New Delhi, India
\textsuperscript{27} Regional Medical Research Centre, Port Blair, India
\textsuperscript{28} \textit{Toolkit for assessment of zoonoses risk and national response capacity in countries of South-East Asia}
is advocating national authorities, international communities and nongovernmental organizations to work together to eliminate human rabies as a public health problem from the Region.

53. WHO also supported: a mass rabies vaccination campaign in dogs, and a birth control programme for dogs (through chemical and surgical sterilization), which is to be launched by the Government of Bhutan; and production of a tissue-culture human rabies vaccine by the Government of Nepal.

**Avian influenza**

54. A review of the avian influenza (AI) situation, particularly in Indonesia, was conducted and actions required to prevent and control AI in the Region were formulated. These included: strengthening the AI surveillance and response system at all levels; developing community-based risk communication strategies; enhancing early recognition of suspected human AI cases; conducting data analysis of recorded human AI cases; and sharing best practices related to clinical case management.

**Leprosy: sustaining control activities in the Region**

55. Remarkable progress has been made in reducing the leprosy burden in the Region. The Regional Office has been working closely with Member countries to ensure technical support, especially with the priority countries — India, Indonesia, Nepal and Timor-Leste.

56. Nepal and Timor-Leste have yet to achieve the goal of eliminating leprosy as a public health problem.

57. WHO assisted Timor-Leste in the strengthening of active case detection and treatment of leprosy cases. Rapid village surveys in one district showed that detection of leprosy cases had improved and that patients were receiving proper treatment. In order to strengthen the quality of leprosy case detection and case management in...

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29 National consultation on avian influenza, Jakarta, November 2007
districts with high leprosy prevalence, district leprosy officers from six districts were trained. WHO facilitated the provision of multidrug therapy (MDT) from Novartis Foundation to the Ministry of Health.

58. In Nepal, WHO supported several activities related to data quality, leprosy programme interventions, awareness, training and monitoring. A survey on disability load was conducted in one district; based on the results (of 582 cases, 101 had disabilities due to leprosy) training was conducted in self-care and necessary aids and appliances were disbursed. The experience from this survey could be replicated in other districts. WHO also promoted the active participation of medical colleges in leprosy programme activities which they could support or undertake, and supported the Ministry of Health in implementing activities related to community awareness, particularly through the mass media. The outcome of these activities was assessed and follow-up is being considered.

Post-elimination: reducing the burden further

59. Other countries of the Region — Bangladesh, India, Indonesia and Myanmar — have achieved the elimination goal but still have large caseloads. These countries have made significant progress in further reducing their disease burdens at sub-national levels. India, the country with the highest global leprosy burden, has achieved elimination in 29 (83%) of a total 35 states and union territories.

60. To implement the global strategy for further reducing the leprosy burden,30 Member countries were technically supported (by the Regional and country offices) to adapt and revise, as necessary, the post-elimination strategy; some countries have translated the Strategy into their national language(s) for wider distribution among leprosy and basic health workers.

Strengthening partnership, reducing stigma

61. To strengthen partnership, prominent officials of the International Federation of Anti-Leprosy Associations (ILEP), its member organizations and other partners, discussed country-specific issues with the Regional Office. The Regional Office also co-sponsored the 17th International Leprosy Congress (2008) in Hyderabad, India, which was attended by around 1600 participants from 60 countries as well as more than 100 persons affected by leprosy from 24 countries.

Ensuring treatment with multidrug therapy

62. The Regional Office is committed to ensuring free and uninterrupted supply of anti-leprosy drugs (MDT) to Member countries. The Regional Office encourages the use of an integrated approach to MDT drug procurement and supply, and use of a drug management system to provide feedback on utilization. During the programme reviews, and in collaboration with partners and national/sub-national programme managers, WHO shared technical information and developed a simplified monitoring sheet which is now part of each country’s leprosy modules.

63. Some Member countries with large numbers of patients on treatment have been concerned with minimizing and preventing operational problems in leprosy activities, for which WHO has provided technical support accordingly. A large-scale independent evaluation was initiated for the national leprosy programme of India; this evaluation was jointly organized by the Global Leprosy Programme and WHO Regional and country office in collaboration with the Government. The Regional Office is supporting, both technically and financially, the finalization of evaluation instruments.

Challenges

- Ensuring wider coverage of leprosy services, especially in remote rural areas, urban slums and migrant populations.
- Increasing and sustaining community awareness to promote voluntary case detection and decrease social stigma.
- Ensuring regular and adequate supply of free MDT drugs.
- Provision of support for conducting operational research on effectiveness of the MDT programme, monitoring the emergence of rifampicin resistance.
- Strengthening of integration of leprosy services into the general health system through capacity building and skill development.

64. Overcoming these challenges will ensure that quality leprosy services are sustained, including diagnosis and treatment at peripheral levels.

Global leprosy programme: reducing the number of cases

65. The WHO Global Leprosy Programme works under the leadership of the Regional Director, and covers 120 countries from five WHO Regions.
66. The WHO Global Strategy for Further Reducing the Leprosy Burden and Sustaining Leprosy Control Activities 2006–2010 continued to be implemented in all endemic countries with the support of various international and local NGOs. The Strategy, which has been adapted for use by each endemic country based on their health-care infrastructure and available resources, places emphasis on sustaining high-quality services that are easily accessible and equitably distributed, and on providing multidrug therapy (MDT) free of cost.

67. Globally the number of new cases of leprosy continues to fall (see Figure 1.7), although three countries (Brazil, Nepal and Timor-Leste) have yet to achieve the goal of elimination.31

Figure 1.7: Leprosy: trends in the detection of new cases by WHO Region, 2001–2006

68. The Global Programme puts emphasis on:

- Strengthening capacity: in order to strengthen the capacity of national programmes, especially of low endemic countries, in their control and elimination activities, WHO, in close collaboration with its partners, developed a training module. This module was used in training activities conducted during the year in the African and American Regions. Further workshops are to be conducted in the South-East Asia and Western Pacific Regions during the latter part of 2008 and early 2009.

31 Prevalence of less than one case per 10 000 population
• Surveillance for drug resistance: *Guidelines for global surveillance of drug resistance in leprosy* were developed and will be finalized in 2008. It is anticipated that setting up a system to monitor drug resistance, particularly to rifampicin, in collaboration with reference laboratories, will enhance the quality of leprosy control in endemic countries.

• Rebuilding and strengthening of control programmes in countries where leprosy control has been weakened as a result of civil conflict: during the year under review, external training for national programme managers and local training for general health-care workers from Afghanistan, south Sudan and Somalia helped these countries to revitalize their programmes.

69. While leprosy control activities need to be maintained to ensure that the disease burden continues to decline, a bigger challenge lies ahead for national programmes. This is to sustain political commitment as well as maintain leprosy control services, especially at peripheral level, under relatively low endemic conditions. At this point in time, WHO cannot envisage an eradication strategy, as effective tools for disease prevention and early identification of at-risk and infected individuals are not yet available. In this context it is necessary to continue to vigorously apply the current morbidity control strategy using effective MDT, for which WHO will continue to provide technical and operational support.

**Eliminating lymphatic filariasis**

70. More than 63% of the global population at risk from lymphatic filariasis, and over 50% of the global number of lymphatic filariasis cases are in the SEA Region. The goal is to eliminate this disease as a public health problem by the year 2020. In this regard, significant progress has been achieved, particularly in the reduction of transmission in Sri Lanka and Thailand. Approximately 60% coverage by mass drug administration has been achieved in the nine endemic countries of the Region (Bhutan and DPR Korea are not endemic for this disease).

71. The Regional Strategic Plan for Elimination of Lymphatic Filariasis 2007–2010 was revised. Target dates were set up for progressive reduction and ultimate interruption of transmission of the disease, main and supportive strategies were formulated, and implementation activities including partnership and resource mobilization suggested (see Box 1.9).

72. Future attention will be focused on expanding mass drug administration and disability prevention and control. The challenge is to
meet the requirements for diethylcarbamazine and albendazole in Member countries.

**Controlling soil-transmitted helminth infections**

73. In the South-East Asia Region about 500 million people are chronically infested with the various soil-transmitted helminthiases (STH), for which all Member countries are endemic.\(^{32}\) Infestation rates differ according to ecology, but in some areas in some countries are as high as 95% and polyparasitism is common. The highest rates of infestation are usually seen in children aged 5–14 years.\(^{33}\) The regional goal is to reduce morbidity and mortality caused by soil-transmitted helminths by 50%, and to achieve regular deworming of at least 75% of all school-aged children at risk, by 2010.

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\(^{32}\) See: [www.searo.who.int/en/Section10/Section2289.htm](http://www.searo.who.int/en/Section10/Section2289.htm)

74. WHO technically assisted and supported most Member countries in scaling up of deworming, integrated school health programmes, and supplementary vitamin A campaigns. All Member countries in the Region have appointed a national focal point for STH and have national deworming policies.

75. The remaining challenges include:
   - Ensuring political commitment and priority in Member countries
   - Mobilizing adequate resources
   - Implementing interventions appropriately.

**Kala-azar: building up to elimination**

76. Efforts continued towards reducing the morbidity and mortality due to visceral leishmaniasis (kala-azar) in three endemic countries – Bangladesh, India and Nepal (see Box 1.10 and Figure 1.8).

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**Box 1.10: Current kala-azar situation in the Region**

The kala-azar situation is worsening due to the occurrence of asymptomatic cases, post-kala-azar dermal leishmaniasis (PKDL), undernutrition, and kala-azar/HIV co-infections. However, the mortality is stable because of improved case management. It has been estimated* that in 2007 there were 280,000 cases in 52 districts of India, 137,000 cases in 45 districts of Bangladesh, and 13,000 cases in 12 districts of Nepal. Factors responsible for the upsurge in visceral leishmaniasis include poor socioeconomic status, malnutrition, and insufficient spraying with insecticides in affected areas resulting in vector proliferation.

*estimations based on multicentric community-based studies in Bangladesh, India and Nepal, 2007

77. Based on the strategic framework34 for elimination of kala-azar,35 WHO supported the countries in a number of activities, as outlined below.

**Strengthening capacity**

78. A training package – *Kala-azar elimination in SEA Region: training module* – and standard operating procedures have been developed (document SEA-

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35 Target dates for elimination of kala-azar have been set for India (2010) and Bangladesh/Nepal (2015)
79. Participants from six countries of the Region were trained in Bihar, India, on technical and programmatic aspects of kala-azar elimination. This activity was followed by a national workshop in India with participants from 26 endemic districts. Both training activities were technically supported by the Regional Office.

80. Training was also provided for country coordinators, with the aim of enhancing the technical and managerial capacity of state and national coordinators in kala-azar elimination activities. This was supported jointly by WHO and the World Bank.

**Building partnerships**

81. A WHO mission consisting of national and international experts was organized to determine the technical and operational challenges, to review the progress of programme implementation, and the epidemiological trend of the disease in Bihar, India. The mission assisted local managers to identify improvements in kala-azar elimination activities as well as gaps to be addressed. Improvement was noted in relation to the introduction of the VBC-94), which Member countries are using for intensifying their training activities and implementing the elimination programme.

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Figure 1.8: Kala-azar: trends in reported cases and case fatality rate in three endemic SEA Region countries, 2001–2007

![Graph showing trends in reported cases and case fatality rate](image-url)

*Source: Country reports
*Data available from 2004 only*
new diagnostic test rk39 and the first-line drug miltefosine, and to methods of indoor residual spraying. Gaps identified included non-completion of treatment (due to its 28 days duration) and insufficient information, education and communication (IEC)/behavioural change communication (BCC) activities.

## Analysing and implementing research activities

A meeting was held for analysis of the multicentre research studies on visceral leishmaniasis control and treatment strategies being conducted in Bangladesh, India and Nepal (in Nepal, May 2008). The analysis meeting was jointly supported by TDR, GTZ and the Regional Office. The wide gap between the number of reported and estimated cases is a constraint to the planning of elimination activities.

### Challenges

- **Availability of drugs:** diagnosis and treatment have so far been limited to large hospitals, but poor people often seek treatment from some practitioners (or unqualified persons) who provide expensive, incomplete or inappropriate treatment favouring continued transmission of the disease.

- **Completion of treatment:** patients with only skin signs resulting from delayed or incomplete treatment are reservoirs of infection responsible for continued transmission; these patients are difficult to diagnose and treat.

- **The increasing threat of HIV/AIDS and kala-azar co-infection.**

- **Issues related to unplanned poor-quality housing, unsatisfactory living conditions, undernutrition, migration, and resettlement.**

- **Organization of integrated vector management and behavioural change communication activities.**

- **Development of sustainable partnerships.**

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36 [UNICEF, UNDP, World Bank, WHO Special Programme for Research and Training in Tropical Diseases](https://www.who.int/)

37 Deutsche Gesellschaft für Technische Zusammenarbeit
Eliminating and eradicating yaws

83. Yaws occurs in three countries of the Region – India, Indonesia and Timor-Leste. It has been eliminated from India\(^38\) and the target date of 2010 was set for eradication of the disease from this country. India’s achievement in yaws elimination was lauded at the 11\(^{th}\) International Task Force on Disease Eradication meeting in Atlanta in October 2007. Yaws eradication is an achievable goal since there is a safe and cost-effective intervention: a single injection of long-acting benzathine penicillin.

84. In Indonesia, a few thousand cases of yaws are reported annually, and in Timor-Leste, a few hundred cases are estimated to occur each year. The target for elimination of yaws in these two countries has been set for 2012. WHO technically supported the development of a plan of action for eradication of yaws in Indonesia and Timor-Leste.

85. WHO’s work will be focused on commitment and capacity for yaws eradication in the endemic countries.

Blood safety and clinical technology: strengthening national and regional resources

86. Outcomes of WHO’s work and activities supported in this area are summarized below.

Laboratory services: strengthening the response to avian influenza and other emerging infections

- National influenza centres (NIC): two additional laboratories, in Bangladesh and Myanmar, were designated as NIC and included in the WHO Global Network of Influenza Surveillance (FLUNET). Seven Member countries of the Region\(^39\) now have NIC.

- Regional reference laboratory: the first Regional (and the tenth global-level) WHO reference laboratory for diagnosis of influenza A/H5 was designated.\(^40\) This laboratory will provide diagnostic referral services in support of surveillance, epidemiological tracing, vaccine development, and training.


\(^39\) Bangladesh, DPR Korea, India, Indonesia, Myanmar, Sri Lanka, Thailand

\(^40\) The National Institute of Virology, Pune, India
• Capacity in diagnosis: the skills of laboratory staff in diagnosis of avian influenza, and in the collection, storage and shipping of infectious material, were enhanced through intercountry activities held in Bangladesh, Hong Kong, Tokyo and India; and the network of Regional NICs was strengthened through information sharing. As critical reagents for establishing diagnosis of H5N1 virus are not available commercially, these were procured from the WHO A/H5 Reference Laboratory and distributed to national laboratories to facilitate timely diagnosis. Selected laboratories in Indonesia and Timor-Leste were assessed for their capacity to diagnose emerging infectious diseases, and were supported in terms of equipment, reagents and training to build their capacity.

Laboratory services: strengthening the quality of HIV laboratories

• Monitoring: there was overall improvement in the performance of laboratories carrying out enumeration of CD4 lymphocytes (for staging and monitoring of patients infected with HIV). While the external quality assessment scheme continued with the participation of 161 laboratories from the Region,41 improvement in the overall functioning became evident with a fall in coefficient of variation to 5% from 15% when the scheme was launched. Further improvements are expected with the continuation of this scheme.

• Emergence of resistance: the first Regional member of WHO ResNet42 was designated.43 This institute now contributes to the global database on emergence of resistance in HIV; data generated will be used by the national authorities for rational use of antiretroviral drugs.

• Opportunistic infections: a WHO Collaborating Centre is in the process of being designated44 to undertake research and provide referral services for opportunistic fungal infections (which are increasing with the escalation in number of immuno-compromised patients).

41 Including 120 laboratories from Thailand, 16 each from Indonesia and India, four each from Myanmar and Nepal, and one from Bhutan
42 A group of experts and organizations working together to develop and implement methods to contain HIV drug resistance
43 The National AIDS Research Institute (NARI), Pune, India
44 Department of Mycology, Postgraduate Institute of Medical Education and Research, Chandigarh, India
Laboratory services: strengthening tuberculosis and other laboratories and networks

- Tuberculosis capacity: the skills required to establish national TB laboratory networks for quality-assured smear microscopy, culture, and determination of TB drug susceptibility were taught to laboratory experts from all Member countries through a Regional workshop (Regional Workshop on Strengthening Laboratory Services for TB Control, Thailand, September 2007).

- Emerging viral infections: Regional guidelines on establishing virology laboratories were developed and disseminated as a response to the lack of diagnostic facilities in some Member countries in the face of emerging viral infections.

- Quality of laboratories: to improve the quality of health laboratories, guidelines on the accreditation of laboratories45 were published and disseminated to all countries. Beginning with national standards, the ultimate goal is to achieve an internationally acceptable accreditation system. As a follow-up, WHO technically assisted Maldives in accreditation activities, and supported training in accreditation for fellows from Nepal at the WHO Collaborating Centre on Quality Systems in Health Laboratories.46

- Management of infectious material: training materials on the collection, storage and shipment of infectious material were shared with Member countries; support will be provided to implement the activities.

Blood safety: strengthening access to safe blood

87. In consonance with the World Health Assembly Resolution,47 World Blood Donor Day was celebrated across the Region on 14 June 2008. Activities supported were aimed at enhancing awareness about voluntary blood donation and recognizing the contribution that voluntary blood donors make to saving human life.

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46 WHO Collaborating Centre on Strengthening Quality System in Health Laboratory, Bureau of Laboratory Quality Standards, Dept. of Medical Sciences, Ministry of Public Health, Nonthaburi, Thailand

Other outcomes and aspects of blood safety technically supported by WHO included:

- **Policy:** Bhutan and Maldives developed their national blood policies enunciating the key elements of the WHO Strategy for Safe Blood. Myanmar drafted a national blood policy through national consensus.

- **Quality:** donor-funded projects on improving the quality and safety of blood were implemented in Bangladesh, DPR Korea, Sri Lanka and Timor-Leste. The Regional External Quality Assessment Scheme (EQAS) for blood grouping and screening for HIV antibody continued to function effectively in seven countries (Bhutan, India, Indonesia, Myanmar, Nepal, Sri Lanka, Thailand).

- **Management:** a bi-regional workshop on strengthening the leadership and management skills of blood bank managers was organized (at the WHO Collaborating Centre on Safe Blood, Singapore). Seven Member countries attended this workshop. A national Quality Management Training course was held for officials from blood banks in DPR Korea.

- **Access to safe blood:** a Regional meeting on patient safety was held in Sri Lanka (see also page 102) to emphasize the importance of assuring access to safe blood and to discuss possible mechanisms for achieving this at district level. All Member countries will be provided with technical support by WHO to strengthen blood safety for patients at all levels of health-care services.

**Challenges**

- Enhancement of country capacity to generate quality results for emerging viral infections.

- Increasing the proportion of voluntary blood donations.

**Tropical diseases research: strengthening country capacity**

89. The Regional Office continued to provide technical support for developing research capacity and for “implementation research”\(^{48}\) in the priority areas identified by the UNICEF – UNDP – World Bank – WHO Special Programme for Research and Training in Tropical Diseases (TDR).\(^{49}\)

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\(^{48}\) Research aimed at solving problems encountered in the implementation of a control tool, and at producing results with the potential for immediate application in policy or strategy

\(^{49}\) [www.who.int/tdr/](http://www.who.int/tdr/)
Contributing to the formulation of national research priorities

90. The priorities for the TDR Small Grants Programme included malaria, kala-azar, dengue and leprosy. Various activities are involved in the administration of this Programme, including preparation of calls for application, review of proposals for funding, analysis of reports, dissemination of research findings, and promotion of the utilization of research results in the countries. A total of 58 proposals were received by the Regional Office from the Member countries. Of these, 10 were supported and the rest are being re-considered by the SEARO technical units for possible funding support. Outcomes of these research activities may also be utilized in formulation of national research priorities.

Contributing to national research capacity

91. The Regional Office participated and technically assisted in a training course on research methodology in Bhutan, the outcome of which was the formulation of five research proposals which were submitted to the Regional Office and were reviewed by the Regional Research Committee. These proposals address malaria, control of diarrhoeal diseases and the utilization of health research information. Three proposals were supported for fundings. This training contributed to strengthening the country’s capacity in research methodology.

Communicating research results

92. A research portfolio containing summaries of the final reports of TDR-supported research projects is being finalized and will be communicated to the countries for their information and possible follow up and utilization of the research results.

Challenges

- Improvement in the quality of proposals.
- Communication of research results to policy-makers.
- Research priority-setting.
- Financial resource constraints – the engagement of in-country partners such as GTZ, the World Bank, and the Gates Foundation, to be explored.

50 Altogether US$ 50 000 allocated annually for research proposals, preferably from young researchers