The main achievement during the period under review was improved disease surveillance and the decrease in the reported number of cases of all EPI preventable diseases, including child tuberculosis. Initiatives on polio eradication, neonatal tetanus elimination, and measles reduction gained momentum in 1993. The major emphasis now is on further improving disease surveillance in the context of integrated disease control and PHC.

The downward trend in the number of reported cases of EPI diseases in the Region, especially polio and neonatal tetanus, continued. The reported number of polio cases came down from 9,603 in 1992 to 4,413 in 1993. In Thailand, 80% of the provinces have not reported any polio case in the last two years. Ten States in India having good surveillance systems did not report any cases of polio in 1993 while six others reported less than 10 cases. Sri Lanka reported five cases of polio in 1993 out of many AFP (acute flaccid paralysis) cases reported. DPR Korea and Maldives have not reported any cases in the last four years. Reporting and surveillance activities showed considerable improvement during the year. The development of the polio laboratory network was a milestone achieved in 1993. Regional polio reference laboratories have been operating in Thailand, Sri Lanka, Indonesia and India, while national laboratories are functioning in Mongolia, Indonesia, India and Bangladesh. A WHO assessment team visited all the laboratories.

In four countries – Bhutan, Maldives, Mongolia and Sri Lanka – a remarkably low incidence of neonatal tetanus was observed. Bangladesh, India, Indonesia and Thailand have introduced area-specific measures to meet the goal of neonatal tetanus elimination.

Immunization coverage in the Region is stabilizing after the drop at the end of UCI in 1990. The overall coverage in SEAR for all childhood EPI antigens was 82% in 1993. The need to conduct
national or subnational immunization days has been recognized by India, Thailand, Indonesia and Bangladesh, where planning for a major drive towards polio eradication has been initiated. In regard to the cold chain, the Asian Institute of Technology, Bangkok, is currently testing a solar refrigerator that operates with battery back-up; preliminary tests are encouraging. A workshop on solar refrigeration and repair and maintenance was also organized.

International EPI reviews conducted in Myanmar and Bangladesh noted a reduction in reported cases of immunization-target diseases. WHO continues to provide technical support to the countries in monitoring activities related to polio eradication, neonatal tetanus elimination and measles reduction.

**Disease Vector Control**

WHO provided technical support to Member Countries in carrying out stratification of malarious areas and carrying out selective and cost-effective vector control measures in highly malarious foci, as well as in the training of staff and the control of dengue and Japanese encephalitis through insecticide spraying. Technical support for the integration of filariasis control programmes into other vector control activities with community participation was also provided. Though not very successful, partial vector control of filariasis was carried out using anti-larval measures.

Visceral leishmaniasis (Kala-azar) continues to be a health problem in the rural areas of the States of Bihar and West Bengal in India, as well as in Bangladesh and Nepal, where the Kala-azar control programme has been integrated with vector-borne disease control activities since 1993. WHO supported national training courses and seminars and assisted the endemic countries in the procurement of drugs for treatment. A WHO-sponsored consultative meeting held in New Delhi from 28 to 30 July 1993 formulated guidelines for control. Indoor residual spraying with DDT has been reintroduced for the vector control of visceral leishmaniasis.

**Malaria**

Since the endorsement of the Global Malaria Control Strategy by the Ministerial Conference on Malaria, the Regional Office has provided technical guidelines to the countries in the implementation of the Revised Malaria Control Strategy. As recommended by the Regional Working Group Meeting on Malaria held in March 1993,
WHO also extended technical support for carrying out critical reviews of the malaria situation and malaria control activities in Bangladesh, Indonesia, Maldives, Myanmar and Nepal. It actively collaborated in conducting a Country Working Group Meeting to implement the Revised Malaria Control Strategy in Myanmar. With the support of the Regional Office, the malarious countries have started implementation of the revised strategy of early diagnosis and prompt treatment, selective and sustainable preventive measures, prevention and control of epidemics, and regular assessment of programme management. The overall malaria situation in the Region continues to be static. During 1992, the total number of laboratory-confirmed malaria cases reported was 3,104,398 with a slide positivity rate of 3.18 per cent and a *P. falciparum* proportion of 41.4 per cent.

The Organization has also initiated the revival of the Regional Collaborative Programme on Drug-resistant *Falciparum Malaria*. In this regard, a situational analysis of the status of drug-resistant *P. falciparum* has already been initiated in all the malarious countries. Detailed planning has also been undertaken for carrying out various types of operational field research which would assist in developing a feasible and practical methodology, technical guidelines, criteria and indicators for the prevention and control of drug-resistant malaria. In accordance with the recommendations of the Kunming (China) meeting on malaria, SEARO has also initiated preparation of a Biregional Collaborative Programme on Drug-Resistant Malaria with the Western Pacific Regional Office.

The WHO/World Bank pilot project on intestinal parasite control has started functioning in Bangladesh. Project proposals on intestinal parasite control in Maldives were developed and were expected to be submitted to a donors' meeting in 1994 for funding. WHO facilitated research studies on schistosomiasis in Indonesia with support under the TDR (tropical diseases research) Programme.

At present India is the only country in the Region where guineaworm disease is a problem. In 1993, three States (Maharashtra, Gujarat and Andhra Pradesh) were declared "no case" States. WHO continues to support the National Guineaworm Eradication Programme.
Collaboration with the TDR Special Programme continued with strong inputs from the Regional Office in promoting and supporting research capability strengthening activities in six countries of the Region. In regard to institutional strengthening, there was a total of eleven ongoing projects. Two new grants approved for funding support in 1993 were for the new initiative of linkage and partnership. The linkage grant involves collaboration between centres in three countries of the Region, i.e., Myanmar, Sri Lanka and Thailand (one centre in each country), and the partnership grant enables collaborative arrangements between a centre in a developing country and one in a developed country. The increasing sophistication of research capability in the countries has facilitated these new collaborative arrangements.

Another new initiative is a small grants scheme for improving the use of anti-malarials in the South-East Asia Region. Under this scheme four grants were approved for this region as were two group educational activities, one each in India and Thailand. In addition, thirteen research training grants were approved.

Site visits were undertaken to six countries in the Region, mainly for monitoring and follow-up of ongoing projects. In one country the visits were concerned with initiating the promotion of research capability strengthening. Two new collaborative research projects were initiated, and a three-centre study was carried out for the field evaluation of an antigen dip-stick test for falciparum malaria—a joint activity funded by TDR and the Regional Office. Another joint TDR/CTD HQ/SEARO activity initiated during the year was a three-country joint research project on leishmaniasis. A total of eighteen research projects was funded by the TDR Special Programme in 1993.

Diarrhoeal diseases still remain a major contributor to the total disease load in children under five years of age in this region. The control of diarrhoeal diseases is a major activity in all the countries, and all of them have well developed control programmes. Nine of the countries in the Region (except Maldives and Nepal) have established one or more diarrhoea training units (DTUs) to provide practical "hands on" training for health workers, and training courses on clinical management are being conducted in these countries. An inter-regional training of trainers course in clinical management
was organized at the National Institute of Cholera and Enteric Diseases (NICED), Calcutta, in July 1993. Training courses on supervisory skills and programme management are regularly held in several countries of the Region. An inter-country programme management training course was conducted in June 1994 in Bangkok, in which there were also five participants from Cambodia.

A country-wide household case management survey to evaluate the management of diarrhoea cases was carried out in Myanmar and health facility surveys to evaluate the management of diarrhoea cases were conducted in Indonesia and Nepal. The programme for the teaching of diarrhoeal disease control to medical students in medical schools in Indonesia (MEDIAC) was evaluated in 1993 and the results indicated that the programme had been implemented effectively in nine out of the ten medical schools. Workshops on the strengthening of CDD in the curriculum of medical students were held in Bangladesh and Myanmar in 1994. A review of the Indonesian CDD programme was conducted during January-February 1994.

The new strain of cholera (*V. cholerae* 0139), which first appeared in southern India towards the end of 1992, spread rapidly throughout India and Bangladesh in 1993, causing large outbreaks. It has since spread to Myanmar, Nepal, Sri Lanka and Thailand in this region. A grant of $5,000 from the Regional Director's Development Fund was made available to Myanmar, Nepal and Sri Lanka for strengthening the laboratory capabilities in these countries to isolate and characterize *vibrio cholerae* strains. A grant of $15,000 from this fund was also given to NICED, Calcutta, in December 1993 for the large-scale production of 0139 antiserum. This antiserum has been distributed to all the cholera-prone countries in the Region and has also been made available to CDR/HQ, AFRO and EMRO. Because of the potential of this new strain to cause another pandemic, an inter-country programme managers meeting, held in Dhaka in January 1994 and attended by national CDD programme managers, government officials dealing with cholera and staff from WHO and UNICEF, scientists from NICED, Calcutta, and ICDDR, Dhaka, considered this issue in depth.

Acute respiratory infections (ARI) are yet another cause of high morbidity and mortality in children under the age of five years in the countries of the Region. Four countries, i.e., Bangladesh, India, Indonesia and Nepal, contribute about 40% of the global ARI...
mortality. Member Countries have prepared policy and technical
guidelines. The training of district programme managers in
elaborating detailed district-specific plans was undertaken in
Bangladesh, Bhutan and Nepal in 1993 and in Thailand in April
1994.

A number of supervisory skills courses were organized in ten
countries. To improve the quality of training, an intercountry course
was organized in 1993 in Bangladesh. This was followed by national
courses in Bangladesh, Indonesia and Nepal in 1993 and in Sri
Lanka in 1994. Clinical training courses for doctors were carried
out in Bangladesh, Maldives and Mongolia. In India, the clinical
training was combined for CDD ARI and the care of the newborn,
and twelve six-day courses were completed between July 1993
and June 1994. Professional endorsement was enlisted by
supporting the presentations on ARI in the 17th Eastern Regional
Conference on TB and Respiratory Diseases in Thailand in November
1993 and in the Eighth Asian Congress of Paediatrics held in New
Delhi in February 1994. In order to increase access to standard
case management, controlled courses for trainers of community
health workers (CHWs) were organized in Bangladesh and Nepal
in 1994. The ARI programme in Myanmar was reviewed at a
national meeting in 1993. A household survey was undertaken in
Sri Lanka while health facility surveys were carried out in Thailand
in November 1993. Operational studies in ARI have included a
study of bacterial drug resistance in Thailand, indoor air pollution
studies in Nepal and ethnographic studies in Indonesia.

Tuberculosis

Tuberculosis continues to be a significant medical and social problem
in the Region. The impact of the HIV pandemic on tuberculosis
incidence is causing much concern in the countries of Asia, where
nearly 40 per cent of adults are already infected with tuberculosis
and HIV is spreading at an unprecedented speed.

WHO, in collaboration with governments, donor agencies and
NGOs, made attempts to bring this problem to the attention of
policy-makers to generate interest and appropriate funding to
revitalize tuberculosis control programmes. The first national
programme managers meeting was held for the countries of the
South-East Asia and West Pacific Regions in Tokyo in December
1993. An intercountry workshop on managing tuberculosis at district
level was organized in the Regional Office in July 1993 using the newly developed WHO training modules.

At the country level, WHO focused its attention on those countries where tuberculosis is a serious problem and which contribute significantly to the global problem. India received WHO technical support in the drafting of a project document for a revised TB control programme to be financed by the World Bank. Support was also provided for reviewing the implementation of TB pilot projects in Gujarat, Delhi, Bombay, Calcutta, and Bangalore and the proposed rural site in Kerala. Bangladesh received WHO assistance in developing a five-year plan of action for the control of tuberculosis under the Fourth Population and Health Project funded by the World Bank. Technical support was extended for the conduct of the first national training course on tuberculosis and leprosy in July 1993. Joint programme reviews were conducted in Indonesia and Nepal in April and May 1994 respectively which would lead to the development of revised national plans with higher national priority and increased resources for the expansion of activities and possible external funding from prospective donors for the control of tuberculosis. Maldives received support in formulating a detailed plan of action for tuberculosis control and for facilitating training activities, while Thailand carried out collaborative studies on TB/HIV with WHO assistance.

Based on the guidelines of the Regional Strategy and Plan of Action for the South-East Asia Region, countries have formulated their national strategies and plans of action for the elimination of leprosy by the year 2000. WHO collaborated in these activities as well as in resource mobilization and coordination. Leprosy control activities continued to be intensified in the endemic countries of the Region while MDT helped to reduce leprosy as a whole. Bhutan, Maldives, Sri Lanka and Thailand have already started programmes for the elimination of leprosy in a span of three to four years. Other endemic countries are being encouraged to initiate similar programmes.

WHO provided assistance through consultants, supplies and equipment, training of health personnel and the organization of national workshops on rabies control and zoonotic diseases in
India, Indonesia, Nepal, Sri Lanka and Thailand. With regard to
rabies control, large-scale vaccination of dogs is being carried out
in Sri Lanka, Thailand and, to a lesser extent, in Indonesia. Improved
post-exposure programme delivery to humans has been promoted
in Indonesia and Thailand. In other countries of the Region, activities
for the prevention and control of rabies in animals and men are
very limited. Steps for the effective prevention and control of anthrax,
toxoplasmosis, brucellosis, plague, cysticercosis and food-borne
diseases have been taken.

Sexually Transmitted Diseases

Although reliable data on the prevalence and incidence of sexually
transmitted diseases (STD) are not available in many countries,
studies indicate that STDs remain a serious health problem. An
attempt is being made by the Regional Office to collate available
information on STDs in the Region. WHO is actively promoting
STD case management as a part of general health services based
on symptomatic diagnosis and treatment by effective drugs. During
the programme managers meeting in November 1993, the issue
of STD control as a part of primary health care was discussed. All
countries in the Region are now actively promoting condom use
to reduce the risk of HIV infection and STDs.

During 1993, the Regional Office's collaboration with the
countries included the provision of technical and financial support
in strengthening STD services as a part of national AIDS prevention
and control programmes, development of STD treatment guidelines,
and the conduct of national AIDS programme reviews, including
the evaluation of STD services. Consultancy services were provided
to Bangladesh, India, Indonesia and Myanmar. In October 1993,
the Regional Office supported an intercountry meeting of national
STD programme managers at Chiang Mai, Thailand. Lack of drugs
for treating STDs, particularly at the peripheral level, remains a
major constraint in the countries of the Region.

Research and Development in the Field of Vaccines

A meeting on DTP and DTP-based combination vaccines was held
in Bandung, Indonesia, in June 1994. Producers of DTP and
DTP-based combination vaccines from the South-East Asia and
Western Pacific Regions of WHO as well as commercial vaccine
companies with business in Asia participated in the meeting, which
dealt with issues relating to DTP production in Asia, plans for DTP
and DTP-based combination vaccines, and a proposal for an International Vaccine Institute (IVI) in the Asia-Pacific Region, among other matters. The proposed functions of the IVI are to assist in quality control, quality assurance and regulation of vaccines; regional production of improved and new vaccines; clinical trials and field testing; research and development, and facilitating other CVI activities.

Assistance is being given to the countries in the development of new vaccines and in the transfer of technology for the production of bio-pharmaceuticals. Pilot-scale production of plasma-derived hepatitis-B vaccine in Myanmar was further strengthened. Transfer of technology to Thailand for the production of vaccines against dengue haemorrhagic fever and Japanese encephalitis received support. WHO support was also extended for the potency testing of DTP, poliomyelitis and measles vaccines in Thailand. The production of tetanus vaccine (TT) was re-established at the Institute of Public Health in Dhaka, Bangladesh, and the potency of TT according to pharmacopoeial standards was certified by the National Public Health Laboratories in Helsinki, Finland. Transfer of technology for the production of DTP vaccine and its quality control was initiated in Bangladesh in February 1994. A consultant assisted Bangladesh in the production of snake venom anti-sera against cobra, krait, viper and echis venoms during December 1993 – March 1994.

WHO continued to provide support to national AIDS control programmes on the prevention of HIV transmission and on HIV/AIDS care in various areas such as health education and targeted interventions, treatment and prevention of sexually transmitted diseases, condom promotion and quality assurance, counselling, sentinel surveillance and laboratory diagnosis, and the provision of supplies and equipment. Technical support was given to Bhutan, Indonesia, Mongolia, Myanmar and Sri Lanka for carrying out external programme reviews followed by steps to initiate the formulation of second medium-term plans emphasizing the multisectoral approach and the involvement of nongovernmental organizations.

Although realization of the magnitude of the AIDS pandemic in general has been slow, many countries made progress in developing
a broad-based multisectoral approach to HIV/AIDS. Political commitment is well established. A number of constraints remain, which include the medical community's reluctance to handle HIV/AIDS patients and their inadequate understanding of the public health rationale against mandatory HIV testing. Besides focusing on HIV/AIDS prevention, provision of comprehensive HIV/AIDS care as a part of primary health care is now a major priority for the Region.

Table 1. AIDS and HIV infections in SEAR countries (as of June 1994)

<table>
<thead>
<tr>
<th>Country</th>
<th>Reported AIDS Cases</th>
<th>Estimated HIV Infections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>1</td>
<td>&lt;20,000</td>
</tr>
<tr>
<td>Bhutan</td>
<td>0</td>
<td>&lt;300</td>
</tr>
<tr>
<td>DPR Korea</td>
<td>0</td>
<td>&lt;1,000</td>
</tr>
<tr>
<td>India</td>
<td>713</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Indonesia</td>
<td>55</td>
<td>34,000</td>
</tr>
<tr>
<td>Maldives</td>
<td>0</td>
<td>&lt;100</td>
</tr>
<tr>
<td>Mongolia</td>
<td>0</td>
<td>&lt;200</td>
</tr>
<tr>
<td>Myanmar</td>
<td>261</td>
<td>150,000</td>
</tr>
<tr>
<td>Nepal</td>
<td>24</td>
<td>&lt;5,000</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>37</td>
<td>&lt;1,000</td>
</tr>
<tr>
<td>Thailand</td>
<td>5,654</td>
<td>500,000</td>
</tr>
<tr>
<td>Total</td>
<td>6,745</td>
<td>&gt;2,000,000</td>
</tr>
</tbody>
</table>

Dengue haemorrhagic fever (DHF) continued to be endemic in Indonesia, Myanmar and Thailand. Sporadic cases and some outbreaks of dengue fever with haemorrhagic manifestation were reported from India, Maldives and Sri Lanka. WHO and the Rockefeller Foundation supported an International Conference on DHF and a National Brain-storming Session held in India (Pune) on 7 and 8 February 1994. The conference recommended inclusion of dengue/DHF in the list of notifiable diseases and the establishment of a control programme in India. As a sequel to the WHO-supported demonstration project in 1993, Indonesia has developed a DHF control programme. Mahidol University in Bangkok, Thailand, has developed a tetravalent live attenuated dengue vaccine with WHO
support, and clinical trials of this vaccine were carried out in children during 1993-1994. WHO also supported the Eleventh Peer Review Meeting on DHF Vaccine Development.

A WHO-supported sero-epidemiological study on hepatitis B virus has been initiated in Bangladesh, Bhutan and Sri Lanka. The results are available only in respect of Sri Lanka and show very low prevalence of HBsAg (0.1–0.2%) in pregnant women and in the general population. Hepatitis B vaccination has been integrated with EPI in Maldives. The vaccine has been provided in collaboration with the Italian Government and WHO/HQ. Hepatitis B vaccine has also been included in the EPI target diseases in Indonesia, Mongolia and Thailand. As an outcome of a WHO/UNDP project in Myanmar, 30,000 doses of hepatitis B vaccine (plasma-derived) have been prepared and will be used in field trials after the testing of bulk samples on chimpanzees in early 1994. The multicentric WHO-collaborative epidemiological study of hepatitis C virus continued in Indonesia, Myanmar, Mongolia and Thailand. WHO supported investigation of hepatitis A and hepatitis E outbreaks in India, Nepal and Thailand.

Japanese encephalitis is another important health problem and WHO has collaborated with endemic countries in controlling the disease by providing technical expertise, support to training programmes, vector control through insecticides, and supply of vaccines.

Technical collaboration was extended to some countries in organizing control measures against meningococcal meningitis and vaccines (A+C) were supplied.

Coordination of activities for the prevention and early detection of blindness and deafness is receiving increasing attention. Efforts were made towards strengthening collaboration with national, international and nongovernmental organizations as well as attracting more extrabudgetary resources. In this regard, particular attention was paid to making the preventive, curative and rehabilitative services more accessible and affordable to the unreached and underserved people having sight and hearing problems.

A number of countries in the Region have been supported in the development of comprehensive national cancer control programmes (NCCPs). In India, this led to the development and implementation

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1. **Noncommunicable Diseases**
2. **Blindness and Deafness**
3. **Cancer**

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*Highlights of the Work of WHO in SEA*
of district cancer control programmes in six model districts, which have now been expanded to include more districts. These programmes focus on prevention, early detection and treatment, and palliative care as cost-effective measures in addition to the traditional focus on curative services only. Training courses in palliative care were held in several parts of India with the assistance of a consultant made available to WHO by a European NGO.

**Cardiovascular Diseases**

Rheumatic fever/rheumatic heart disease (RF/RHD) continues to be a major problem in most countries of the Region. A project on the feasibility of their control funded by AGFUND and executed by WHO has established the feasibility and cost-effectiveness of controlling this disease through an integrated approach of school health and primary health care. An extensive review of activities related to the control of cardiovascular diseases in Member Countries was conducted.

Models for the control of thalassaemia (in Maldives) and diabetes mellitus (in Bangladesh) have been evolved and evaluated. The coverage with such model interventions will now need to be extended. Activities for an integrated approach to the control of thalassaemia, diabetes mellitus and some other noncommunicable diseases will be discussed at a regional workshop.

14 Health Information Support

**Publications and Documents**

The Regional Office issued four new titles under the SEARO Publications series: Nutrition Research in South-East Asia (Regional Publication No. 23); Appraisal of Health Systems Research (Technical Publication No. 12); Health Research Strategies of the South-East Asia Region (Technical Publication No. 13); and Multicentre Study on Low Birth Weight and Infant Mortality (Regional Health Paper No. 25). The fourth volume of Research Abstracts (Regional Health...