

"Health Development in the South-East Asia Region: An Overview", provides a vivid and unique glimpse of health development in the Region, particularly during the period 1998-2003. While major breakthroughs in public health have contributed to progress, the bold initiatives taken by the countries have helped to overcome some of the formidable health challenges.

Various points of view on priority areas and issues are presented by eminent health scientists and public health administrators who, in the words of Dr Uton Muchtar Rafei, the WHO Regional Director, South-East Asia Region, and editor of this volume, "spearheaded and even shaped some of these health developments".. The wide and valuable range of perspectives provided by the authors on different subjects, deserve to be given serious attention by those interested in health development in the Region.



World Health Organization  
Regional Office for South-East Asia  
New Delhi



Health Development in the South-East Asia Region: An Overview

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Edited by  
Dr Uton Muchtar Rafei



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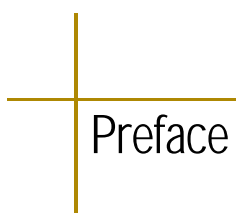
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## Preface

Having served as the Regional Director of the World Health Organization's South-East Asia Region from March 1994 till February 2004, I was privileged to witness, and in a limited, but proximate way, to influence the course of health development in the Region. The Region, with its 11 Member States, presents a rich and varied tapestry of health development, reflecting the progress achieved in the last decade of the 20<sup>th</sup> century and at the beginning of the 21<sup>st</sup> century. While major breakthroughs in public health and bio-medical sciences contributed significantly to these improvements, the health promotion efforts which go beyond the traditional confines of the health sector also augmented such gains to a great extent.

The period under review, particularly during 1998-2003, saw the Region facing major new challenges to health development such as the pandemic of HIV/AIDS, SARS, tuberculosis, and other new and re-emerging diseases, as well as issues related to mental health and substance abuse. The inexorable process of globalization, with its attendant multilateral trade-related laws, added major new concerns to the advancement of international health, and underscored the need to see how it can be managed in the future.

The march of health technology, spawning increasingly sophisticated and expensive diagnostic and therapeutic methods will put the financing of health systems under tremendous pressure. Simultaneously, there will be unprecedented opportunities to be seized and harnessed in the coming decades to ensure the continued improvement of the health status of the people of our Region. Of primary importance is to get the fundamentals right, and to ensure that the elements of the health system are appropriately articulated. While the question of health resources will require priority attention, the preparedness and response mechanisms for emergencies will also have to be put on constant alert.

Keeping these factors in mind, I prepared an overview of health development in the Region. I also invited several eminent health statesmen in the Region, who have spearheaded and even shaped some of these health developments, to share their views.

In the **first chapter**, I have provided an overview of the antecedents and the current status of health and health development in the Region. It includes an assessment of the situation with some important findings for further action. The foremost challenges identified a decade ago, such as closing the gap in health inequities by ensuring basic health services to all, creating conditions that promote self reliance in health, upholding and enforcing health ethics, and possibly the most important of all, placing health at the centre of development, remain equally valid today. During



the past decade, WHO succeeded in ensuring prompt and collective global action on a number of occasions, particularly in connection with the SARS outbreaks. The unanimous adoption of the Framework Convention on Tobacco Control was another historic landmark in the global health development agenda. The major directions and developments in health in the ensuing decades will be guided by the Millennium Development Goals which were universally adopted at a United Nations Summit in 2000. With several new players in the health field in the rapidly globalized world, WHO has the responsibility to ensure that governments make the best use of available resources to promote greater equity and efficiency. What also needs to be ensured is the participation of the people, nongovernmental organizations and the private sector in these endeavours.

In **chapter two**, Mr H.S. Kartadjoemena, the Former Indonesian Ambassador to GATT/ WTO, who is an expert in international policy development and was also involved as the chief negotiator for Indonesia during the Uruguay Round, examines the challenges related to public policy in health in an increasingly interdependent world. The questions are analyzed from the perspective of developing countries which suffer from a chronic inadequacy of political leverage, resources and technical expertise. He separates the issues that are global and which require a consensus on efforts from a global perspective, from the specific preoccupations of developing countries that call for direct answers from themselves. Debates on public policy must take into account the close, and often conflicting, interaction between the technical aspects of the practice of medicine, which is the domain of the health professionals, and the broader issues that are the concern of everyone in society. These conflicts become very serious in developing countries which suffer from major resource constraints and where trade-offs become inevitable. The author recommends some important considerations and strategies for developing countries to mitigate the potential difficulties in policy formulation.

Professor Dr U Ko Ko, WHO Regional Director Emeritus and President of the Myanmar Academy of Medical Sciences, Yangon, in **chapter three**, traces the evolution of international cooperation in health, with the emphasis on regional developments in the past five decades. He elaborates the conceptual changes that led to health being viewed in a holistic manner, as a central and essential ingredient in socio-economic development. Dr U Ko Ko, being at the helm of WHO's South-East Asia Region during the historic "Alma-Ata" days, recapitulates the debate and the developments prior to and during the Primary Health Care Conference at Alma-Ata. He highlights the fundamental nature of the changes that occurred in international collaboration in health since that time and the universal impact of the Alma-Ata Declaration. The health gains in the areas of disease control and eradication and also in maternal and child health are particularly significant. The author regrets the fact that in spite of these unprecedented gains in health, unacceptable shortcomings in meeting the basic health needs of the poorer segments of the population of most countries persist. He feels that when the necessary improvements are made, the South-East Asia Region has the potential to emerge as the global leader in health development.

In **chapter four**, Professor Chitr Siti-Amorn, Professor and Director of the Institute of Health Research, Chulalongkorn University, Bangkok, and a member of the WHO-SEA Region Advisory Committee on Health Research, argues for a wider use of indicators to secure health security for all, through strengthening health systems and not only health care systems. He uses the analogy of a tree to represent the health system, with the roots depicting societal values, the diverse stakeholders





forming the trunk, and disease prevention and health care together, forming the branches. It is important to develop indicators and benchmarks to track and monitor progress towards the redistribution of economic benefits to secure health. Such indicators have to reflect the components of health security within the framework of the changing paradigm at the national, regional and international levels. The author provides examples of indicators relevant for health security, including health promotion and disease prevention, including surveillance. He concludes by emphasizing that the strategies to ensure health security should address national and international consensus and also uphold the values of public health. As equity is a key moral aspect, efforts must be made to enable countries to participate in the opportunities for economic growth, through knowledge management for good governance.

In **chapter five**, Dr Sangay Thinley, Secretary, Ministry of Health, Royal Government of Bhutan, and a public health expert and member of the WHO-SEA Region Advisory Committee on Health Research, reviews the progress made in the Region with regard to combating communicable diseases, including the eradication and elimination of diseases such as smallpox, leprosy, and the near eradication of polio. In 2000, Dracunculiasis (Guinea-worm Disease) was certified as eradicated from the Region, leprosy is on the verge of elimination and polio is on the threshold of being eradicated, possibly in a couple of years from now. At the same time, the Region, with a large population of the poor and illiterate, is also prone to all types of epidemics. There is always the threat of new and re-emergence of old diseases. After a thorough analysis of the situation with regard to the common diseases afflicting the population, the author makes a prudent set of recommendations that should guide the future course of action with respect to disease prevention, control and elimination. He highlights, with clear examples, the crucial importance of partnerships, strengthening of health systems and establishment of reliable surveillance mechanisms, coupled with the capacity for rapid responses. The author emphasizes the centrality of poverty as a determinant for the prevalence of communicable diseases as well as the inescapable reality of eliminating it to achieve total success in combating these diseases.

In **chapter six**, Professor Dulitha Fernando, Senior Professor of Community Medicine, Faculty of Medicine, University of Colombo, Sri Lanka and also a member of the WHO-SEA Region Advisory Committee on Health Research, addresses the current status and challenges in maternal health in the Region. She describes the variations in the maternal health status in Member Countries, highlights the key factors influencing maternal health such as maternal nutrition, fertility, adolescent pregnancies, abortion laws and practices. She also highlights, with appropriate country experiences, the importance of professionalization of maternal care, ensuring access to proper care including timely referral and strong political commitment in promoting maternal health. The article also analyses the impact of some of the innovative approaches implemented to improve maternal health in the countries, such as the 'Making Pregnancy Safer' initiative, and the development of midwifery standards. Finally, emphasis is given to the actions needed to meet the challenges such as placing maternal health high on the policy agenda, providing access to essential obstetric care, and availability of an effective health information system that is responsive to women's needs.

In **chapter seven**, Professor K. Srinath Reddy, Professor of Cardiology, All India Institute of Medical Sciences, and Secretary, Health-related Information Dissemination Amongst Youth (HRIDAY), New Delhi, and also a member of the WHO Expert Advisory Panel on Cardiovascular





Diseases, highlights the demographic and developmental transition taking place in the developing countries, accompanied by an epidemiological transition characterized by a progressive rise in the burden of Noncommunicable Diseases (NCDs). The strategies for interventions for prevention and control of NCDs are now based on the *Risk Factor Concept*, which includes the principles of continuous risk, population-wide risk, multiplicative risk and the comprehensive (absolute) cardiovascular risk. In their implementation, the strategic pathways could use interventions for both the population and individual levels, linked to the “life span” approach. It is essential to prioritize these interventions, so as to shift the centre of gravity of chronic care delivery progressively towards the base of the health care pyramid, with increased home and community care. Finally, the author poses the challenges of providing care for NCDs in settings where the complexities are compounded by the need to prioritize care on disease burden, cost-effectiveness and equity, while simultaneously coping with the transformative pressures of health care reforms.

Professor Ranjit Roy Chaudhury, Emeritus Scientist of the National Institute of Immunology, New Delhi, President of the Delhi Society for Promotion of Rational Use of Drugs, the UNESCO Chair in Rational Use of Drugs, Chulalongkorn University, Bangkok, and former WHO Representative to Myanmar, in **chapter eight**, examines access to essential medicines, which has been a primary objective of WHO during the past three decades. He also touches upon the other objectives such as development of essential medicines policies, ensuring medicines that are of good quality, and promotion of rational use. The author, who has been involved in this programme since its inception and has pioneered some of the developments at the regional and country levels, broadly analyses the progress made in the Region to provide good quality medicines. He provides a general update on the current status in the Region, with a detailed appraisal of the situation in three countries which have made significant improvements amidst many constraints. He refers to the successes with regard to updating the national lists of essential medicines, the adoption of standard treatment guidelines, and the strategies that have been used to obtain good quality essential drugs at the lowest prices in the public sector. The urgent need to engage the private sector in these schemes is underlined. He concludes with a perspective of the future and how best the countries of the Region should organize themselves to meet the challenges.

In **chapter nine**, Professor K. J. Nath, President, Institute of Public Health Engineers, Kolkata, and former Director of the All India Institute of Hygiene and Public Health, Kolkata, India, summarizes the current status and achievements in promoting a healthy environment in South-East Asia, and expresses concern at some developments. Environmental services are central to the concept of preventive and social medicine and are the key pillars of primary health care and health-for-all. Today, while the urban populations of our countries are facing development and environmental degradation, concurrently, the rural populations continue to suffer from lack of easy access to safe water and sanitation facilities. The consequent health and economic losses are considerable. During the International Water Supply and Sanitation Decade (IDWSSD) in the eighties and also in the 1990s, an increasing number of people in the South-East Asia Region got access to improved water supply, even though access to sanitation continued to be extremely low. The excess of naturally-occurring harmful inorganic materials, like arsenic and fluoride, in groundwater is also a major health concern in the Region. The author notes with concern that whenever public health issues are expressed in developing countries, they generally relate to the public settings and services, and there is a reluctance to acknowledge the home as a setting of equal importance for all. Promotion



of hygienic behaviour in the domestic setting is possibly the most cost-effective among all preventive public health measures, in the context of a developing country today.

In **chapter ten**, Professor Chaiyan Kampanartsanyakorn, an adviser to the Minister of Public Health, Royal Thai Government, the former Vice-Governor of Bangkok Metropolitan City and also a former Director, Programme Management, WHO Regional Office for South-East Asia, narrates the development of the “Healthy Cities” concept in Bangkok since the beginning of the last decade. This predated, by a few years, the evolution of this WHO initiative into a major public health movement in the mid-nineties. He points out the many positive and negative features of rapid urbanization, highlighting the effects on the health of the people and the problems that the city authorities face in providing essential health and health-related services. The Bangkok Healthy City Approach incorporated the holistic definition of health, one that emphasized the prevention of community problems and building the capacity of the local population. The chapter concludes with an assessment of the challenges faced in the past ten years in the application of the healthy city concept in Bangkok, and outlines the key strategies that were found successful. These have immense importance and relevance to all those engaged in improving the health of the people in the major cities in our Region. Professor Chaiyan urges the health development leaders in the Region to share widely their experiences and learn from each other to build the capacity of their teams and to adapt the successful strategies. He stresses the pivotal role that the World Health Organization can play in this regard.

I am sure that the above contributions, highlighting some priority health issues and major future actions to be undertaken in the Region, would be found most useful, specifically by those involved in health policy and public health, and also by those interested in ensuring better health for all in the Region.

Finally, I wish to thank the distinguished authors who willingly accepted my invitation to share their valuable experiences. Their erudition and expertise combined with analytical and interpretative skills have helped to provide a whole new range of perspectives that deserve to be given serious attention in planning for health development in our Region.

I would also like to acknowledge the support and assistance received from colleagues, past and present – Dr Poonam Khetrpal Singh, Dr U Than Sein, Dr Palitha Abeykoon and Mr Jitendra Tuli. I hope this publication will achieve its main objective of providing a springboard to stimulate serious thinking on concepts and strategies for health development in the South-East Asia Region.

Dr Uton Muchtar Rafei  
Regional Director

February 2004



# 1

## Opportunities and Challenges in Health Development in the South-East Asia Region

*Dr Uton Muchtar Rafei\**

### Introduction

There has been a wide variation in progress of health development among countries of WHO's South-East Asia Region over the past decades. While the risks to health and the determinants of ill-health are varied and complex, including differences in population growth, economic development, socio-cultural practices, environmental factors and social settings, there are several commonalities in terms of the unfinished agenda and challenges. The Region, now consisting of 11 Member Countries with the addition of Timor-Leste in May 2003, bears a significant share of the global burden of diseases. This is partly due to the huge size of its population which exceeded 1.6 billion in 2003, and also due to the low social and economic status of a large proportion of the population. The ministers of health of the Region at their 15<sup>th</sup> Meeting in Bangkok, Thailand in 1997 noted the five foremost challenges in health development in the 21<sup>st</sup> Century. These remain valid even today and will be in the near future. The challenges are:

- ◆ Closing the gaps and inequities in health in our societies;
- ◆ Creating conditions that promote health and self-reliance;
- ◆ Ensuring basic health services to all, especially the poor, women and vulnerable groups;
- ◆ Upholding and enforcing health ethics; and
- ◆ Placing health at the centre of development.

The ministers also adopted a "Declaration on Health Development in the South-Asia Region in the 21<sup>st</sup> Century" (Regional Health Declaration) with the policy options that would address the above challenges. These were to:

- ◆ **Ensure universal access to quality health care** - through a series of health sector reforms, responding to the broader concept of health and contemporary core values, and to ensure the new role of government in relation to health, which emphasizes policy formulation, facilitation, regulation, and coordination functions, in addition to the

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\* Regional Director, WHO South-East Asia Region



traditional role of health care provider. This includes strengthening the infrastructure, equitable financing, decentralized decision-making and governance, promoting private sector participation and improving emergency preparedness and response.

- ♦ **Develop regional self-reliance** - so as to increase the capacity of each country and of the Region to be more creative and innovative, in developing health and medical sciences, medical technology and health care services. Such regional self-reliance calls for regional solidarity and intercountry cooperation. Enhanced support for research and development in the Region, with particular attention to quality assurance, affordability, and accessibility was stressed.
- ♦ **Advocate intensively for health** to underscore that health is central to development and that sustained development is important for health and to ensure that health is placed high on the political agenda of governments and on the social agenda of people.

The ministers reviewed the progress of health development at their 21<sup>st</sup> meeting held in New Delhi, India in September 2003, particularly looking at how Member Countries are addressing the above challenges within the framework of the policy actions stipulated in the Declaration and identifying the areas that need further attention.

## Progress in health development

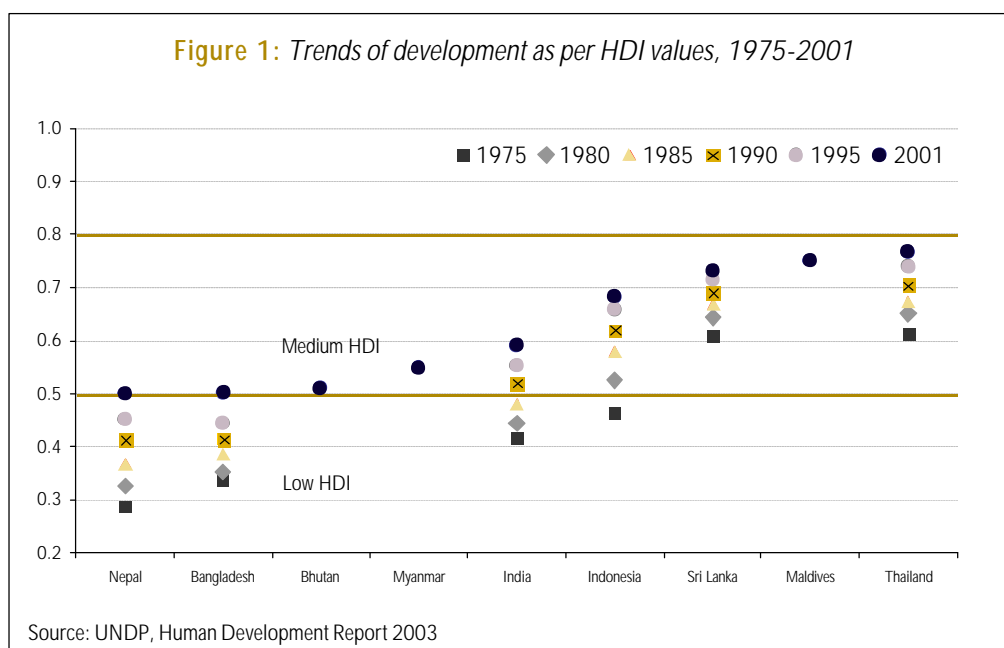
Health development in the Region has progressed in many ways, particularly in terms of reducing disease morbidity and increasing life expectancy. Despite this, inequities in health status continue within and amongst countries, the main reason being the disparities in the determinants of health and access to health care.

## Demographic and socioeconomic changes

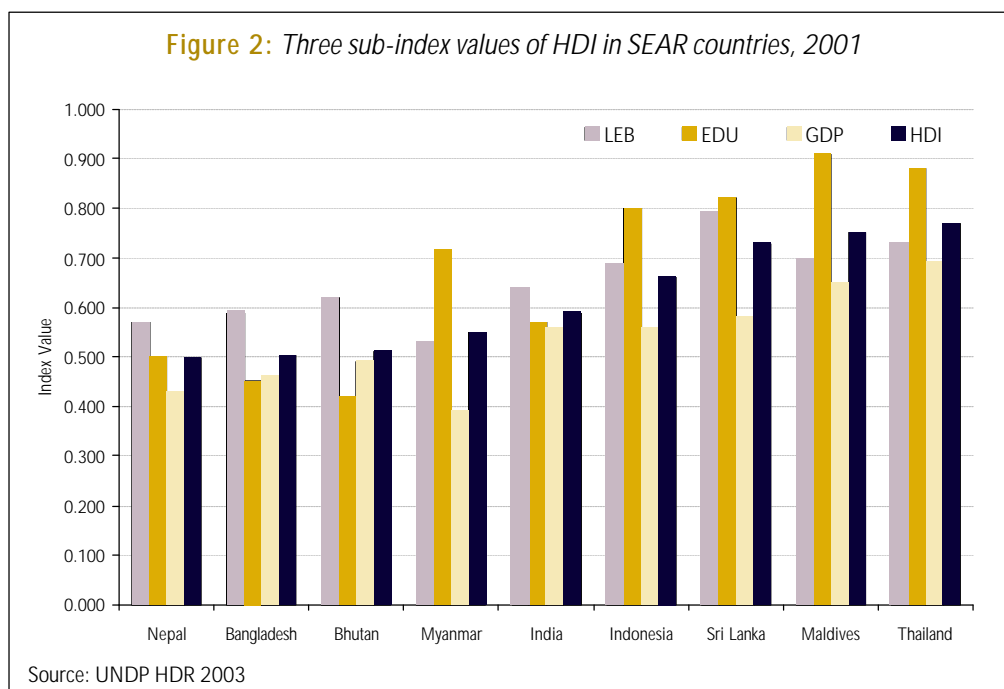
The total population of the Region continued to grow rapidly crossing 1.6 billion by 2002. India's population reached 1 billion in 2000. Indonesia and Bangladesh are the next largest populated countries with 238 million and 168 million respectively. The total population of the Region is expected to reach 1.75 billion by 2010 and 2.06 billion by 2025. With the continuing increase in life expectancy and the decline in fertility, the age structures in most countries have changed reflecting an increase in the productive and elderly population. Countries need to adopt appropriate education and employment policies for the productive population, at the same time absorbing the increasing burden of older age groups.

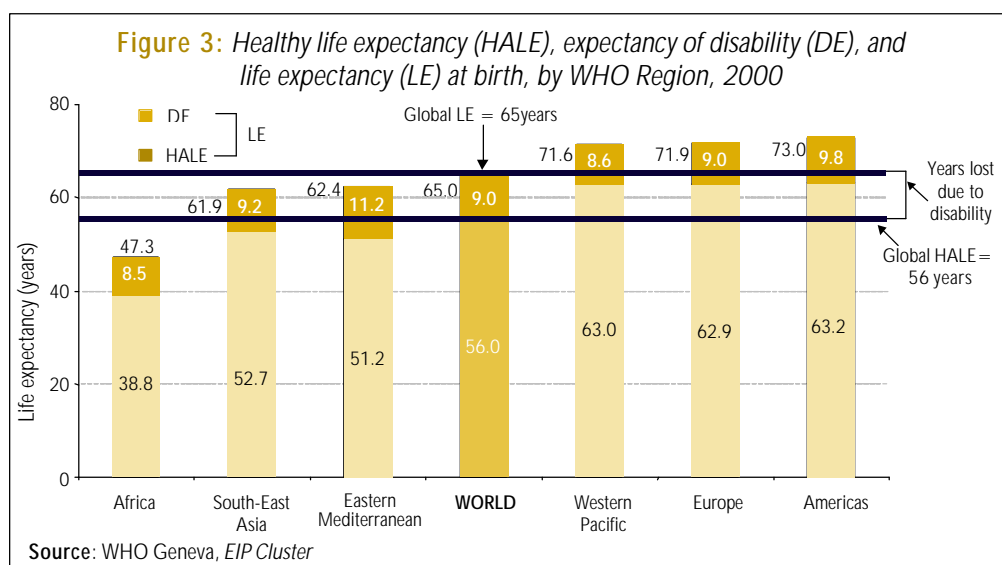
The latter half of the twentieth century also witnessed an unprecedented, rapid growth in urban population, due to rapid migration of people from rural to urban areas. The rapid urbanization also brought in its wake major health problems due to inadequate provision of safe water, sanitation, electricity, garbage disposal and health care, which put an added burden on the already burdened municipalities and local governments.

While five countries in the Region are categorized as least-developed (LDC), the rest are still in the lower middle-income category. Two countries (DPR Korea and Timor-Leste) have not yet been fitted into any category, but are facing social and economic turmoil similar to LDCs. There is a wide variation in development as measured by Human Development Indexes (HDI) (Figure 1)



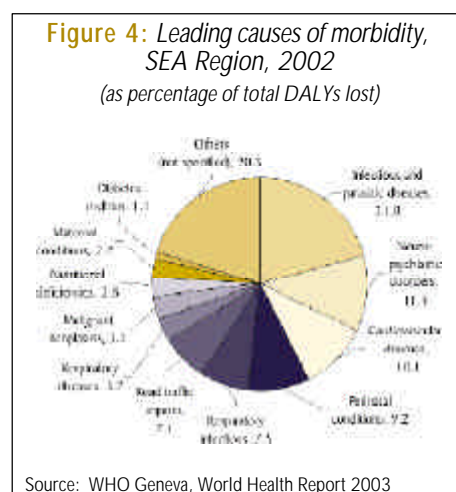
during the last three decades. The wide variation amongst the countries could be well explained by differentiating the various values of HDI as shown in Figure 2. Life expectancy is a major contributory factor in most countries, while education played a major role in high HDI in countries like Indonesia, Maldives, Myanmar, Sri Lanka and Thailand.





Recently, many public health experts have debated the use of proxy indicators for measuring health status and health systems' performance. At present, there is no definite measure to sum up the health status of a population. For decades, the summary health indicator called "Life expectancy at birth (LE)" has been used. It also formed a major component of the HDI. The World Health Report 1999 introduced a much debated summary measure called "Disability-adjusted life expectancy (DALE)". The Report stated that DALE is a simple measure easily calculable and understood. It is defined as "the number of years in full health that a newborn can expect to live, based on current rates of ill-health and mortality". This measure is now widely known as "Healthy Life Expectancy (HALE)". (See Figure 3)

In 1999, the global average of "HALE" at birth was 56 years [9 years less than the total life expectancy at birth]. The Global HALE for women was 57.8 years [2.0 years higher than that for men]. In the Region, the overall life expectancy was 61.9 years while HALE was 52.7 years.



According to WHO estimates, the Region accounted for nearly 30% of the global disability-adjusted life years (DALY) losses. (Note: One DALY loss is one year lost of "healthy" life.) Infectious and parasitic diseases accounted for 21% of the leading causes of morbidity. Respiratory infections and perinatal conditions also played a significant role. Cardiovascular diseases and neuropsychiatric disorders were the other leading causes of morbidity (See Figure 4). The changes in lifestyles which have resulted in sedentary habits, poor physical activity, unhealthy diets and smoking have all contributed to a high prevalence of cardiovascular diseases in the Region.





## HIV/AIDS

The HIV/AIDS epidemic continues in the Region and is placing an unprecedented demand on the health, social and economic sectors. According to WHO estimates, there are more than four million HIV-infected people in the Region. Over 267 000 AIDS cases were reported by March 2003, with more than 95% of them from Thailand, India and Myanmar. Globally, India has the second highest number of people estimated to be living with HIV next only to South Africa (see Table 1).

**Table 1: HIV prevalence and predominant modes of transmission, in SEAR countries, May 2003**

Country	Reported AIDS cases <sup>2</sup>	Estimated number of HIV cases <sup>1</sup>	Mode of transmission	
			Heterosexual	Injecting drug use
Bangladesh	17 <sup>1</sup>	13 000	+	+
Bhutan	13	<100	+	—
DPR Korea	0	<100	—	—
India	48 933 <sup>3</sup>	3 970 000	+++	+
Indonesia	3568	120 000	+	++
Maldives	9	<100	+	—
Myanmar	5 623	420 000	+++	++
Nepal	624	58 000	+	++
Sri Lanka	405 <sup>1</sup>	4 800	+	—
Thailand	208 456	670 000	+++	++
SEAR Total (approx.)	267 000	4 653 000		

<sup>1</sup> As of 2001;

<sup>2</sup> As of December 2002

<sup>3</sup> As of March 2003

(-) Unknown or minimal HIV transmission; (+) limited HIV transmission;

(++) moderate HIV transmission; and (+++) major HIV

Source: HIV/AIDS Unit, WHO SEARO

There is a potential for the rapid spread of HIV in all countries due to the risk behaviours and vulnerabilities that could fuel the spread of the infection. Some countries like Indonesia and Nepal recently experienced a rapid increase in HIV prevalence among injecting drug users and subsequently commercial sex workers after a prolonged period of low prevalence. I would consider the epidemic of HIV/AIDS in the Region highly dynamic.

All countries have made considerable progress in fighting the epidemic by implementing national strategic plans with the involvement of a number of government sectors, the private sector and nongovernmental organizations. Priority is being given to scaling up effective targeted interventions such as 100 per cent condom use at the situation of risk coupled with management of sexually transmitted infections and harm reduction among injecting drug users.





Even though there is a high level of political commitment to the HIV/AIDS problem in many countries, there is a need to scale-up interventions to help reduce the HIV incidence. The extent of interventions to prevent HIV infection and provide appropriate care and treatment for people living with HIV/AIDS as well as surveillance and programme monitoring is still low in most countries of the Region.

WHO continued its leading role in providing technical support in the health sector aspects of HIV/AIDS, such as surveillance, targeted condom promotion in situation of risk, STI prevention and care and blood safety. It also increased its efforts in supporting countries in scaling up harm reduction among IDUs, VCT, PMTCT and care including antiretroviral treatment for people living with HIV/AIDS.

As a follow-up of the UNGA Special Session on HIV/AIDS, WHO is developing a regional health sector strategy in order to define and strengthen the health sector's role within a multisectoral response. The involvement of people with HIV/AIDS in this response will especially require further strengthening. Continued advocacy and mobilization of resources as well as prioritization of effective interventions, preparation of health systems and allocation of sufficient trained human resources for scaling-up such interventions remain major tasks for all stakeholders at regional and country levels.

On 1 December 2003, WHO and UNAIDS announced a detailed and concrete plan to reach the "3 by 5 target" of providing antiretroviral treatment (ART) to three million people living with HIV/AIDS in developing countries by the end of 2005. It is a vital step towards the ultimate goal of providing universal access to treatment for HIV/AIDS to all those who need it. The "3 by 5" strategy will focus on five critical areas: (i) simplified, standardized tools to deliver antiretroviral therapy; (ii) a new service to ensure an effective, reliable supply of medicines and diagnostics; (iii) rapid identification, dissemination and application of new knowledge and successful strategy; (iv) urgent, sustained support to countries; and (v) global leadership backed by strong partnership and advocacy for reaching the target. WHO estimates that approximately US\$ 5.5 billion will be required over the next two years for this purpose.

Thailand and Indonesia have already started scaling up ART whereas India, Myanmar and Nepal are preparing to do so. A series of meetings, seminars and workshops are being organized in collaboration with various development partners. The challenge is how to make ART drugs available at affordable prices. Most importantly, India is negotiating with generic drug manufacturers to further reduce the drug prices and also to increase production to make ART easily available at an affordable price to a greater number of affected people.

## Tuberculosis

Tuberculosis (TB) is another priority disease, being the biggest killer of young adults, at an age at which they are economically most productive. The Region carries 38 per cent of the global burden of TB, with three million new cases and nearly three-quarters of a million deaths occurring every year. Rising trends in HIV infection in some countries, together with the emergence of multidrug resistant strains of tuberculosis, pose additional threats.

Directly Observed Treatment Short course (DOTS) now covers over 66% of the Region's population. Over 700 000 patients are being put on DOTS every year with a success rate of



around 80 per cent in areas where the DOTS strategy has been applied. The quality of diagnosis has been good; however, the number detected is still low - fewer than 40 per cent of estimated cases. It is necessary to further expand and intensify activities in order to increase case detection and ensure that an increasing number of those suffering from TB are successfully treated and cured. Related epidemiological issues are being analyzed.

Continuing constraints for national TB programmes are: lack of adequate technical and managerial expertise to sustain and improve the core functions of DOTS; transitional difficulties in the implementation of DOTS programmes during the process of health sector reform, including insufficient commitment to TB control, particularly at the level of local governments in countries where health care has been decentralized; and the need to meet emerging challenges such as HIV-associated TB and MDR-TB.

Partnerships with other key sectors have to be further developed. In addition, operational research to improve the reach and utilization of DOTS must be undertaken. The required key interventions have been identified and considerable resources committed by bilateral donors and partners as well as the Global Fund. Given the current impetus and additional resources, it is expected that the Region will reach the global targets set for TB control by 2005.

## Malaria

Malaria infection continues to be a major killer and crippler. An estimated 1.2 billion people or 85% of the total population of the Region are living in malaria-risk areas, and a few million people suffer malaria every year with many not able to get full access to essential care. The predominant malaria parasitic infection is *P. vivax* followed by *P. falciparum*, the latter accounting for a major proportion of all malaria-related deaths.

Over the decades, malaria prevalence has stabilized at around 2-3 million reported cases annually. All countries in the Region except Maldives have indigenous malaria transmission. After many years without malaria, DPR Korea has reported *P. vivax* outbreaks every year since 1999. While the malaria situation in Bangladesh, India, Thailand and Myanmar became better, the situation in certain parts of Bhutan, DPR Korea, Indonesia (Java), Nepal, and Sri Lanka started deteriorating. In 1999, India accounted for 77% of the incidence of malaria in the Region. In Myanmar, 64% of the deaths reported were due to severe malaria in 2000.

*P. falciparum* resistance to anti-malarial drugs has slowly but steadily progressed and now affects all countries of the Region. The problem is becoming acute with the progression from mono-to multi-drug resistance. The appearance of chloroquine resistance in *P. vivax* in India, Indonesia and Myanmar poses a serious challenge. An estimated 400 million people are at risk of contracting drug-resistant malaria.

Bangladesh, India, Indonesia, Nepal, Myanmar, Sri Lanka, and Thailand have revised their national strategies based on WHO's Global Roll Back Malaria (RBM) initiative. Twenty-four pilot districts have been selected covering a population of 15.57 million. Roll Back Malaria offers a great opportunity for joint action at regional and country levels, and in addressing cross-border challenges.



The RBM-Mekong Initiative reflects a range of partnerships in which the governments of the six Mekong countries, i.e. Myanmar, Thailand, Cambodia, Laos PDR, Viet Nam, and China (Yunnan Province), are committed to work jointly to achieve the goal to halve the global malaria burden by 2010.

### Global fund to fight AIDS, TB and Malaria

HIV/AIDS, TB and malaria, which are closely linked with poverty, have had a devastating global impact. To address these problems, a Global Fund to fight AIDS, TB and Malaria (the Global Fund) was established at the initiative of the UN Secretary-General, to mobilize and rapidly disburse additional financial resources through a new public-private partnership. The aim of the Fund is to make a significant contribution to the reduction of illness and death, and thereby contribute to poverty reduction.

The Region bears an extremely high burden of communicable diseases, and the availability of additional resources could make a considerable difference. The Fund, therefore, presents a good opportunity for the countries to substantially enhance effective interventions to combat these priority health problems, while at the same time efforts are made to use them effectively to strengthen their health systems. WHO worked closely with the Country Coordinating Mechanisms (CCM) in order to secure larger resources from the Global Fund as most countries in the Region need to accelerate efforts in combating the three main diseases.

Over the past year, the Regional Office supported Member Countries in preparing proposals and in mobilizing resources from the Global Fund. This resulted in US\$ 1.4b allocated over five years during the first round of proposals, of which US\$ 282m was allocated to countries in the Region. During the second round, US\$ 275 million was mobilized. In the third round, US\$ 152,157,129 were further mobilized.

### Disease prevention through immunization

#### *Poliomyelitis eradication*

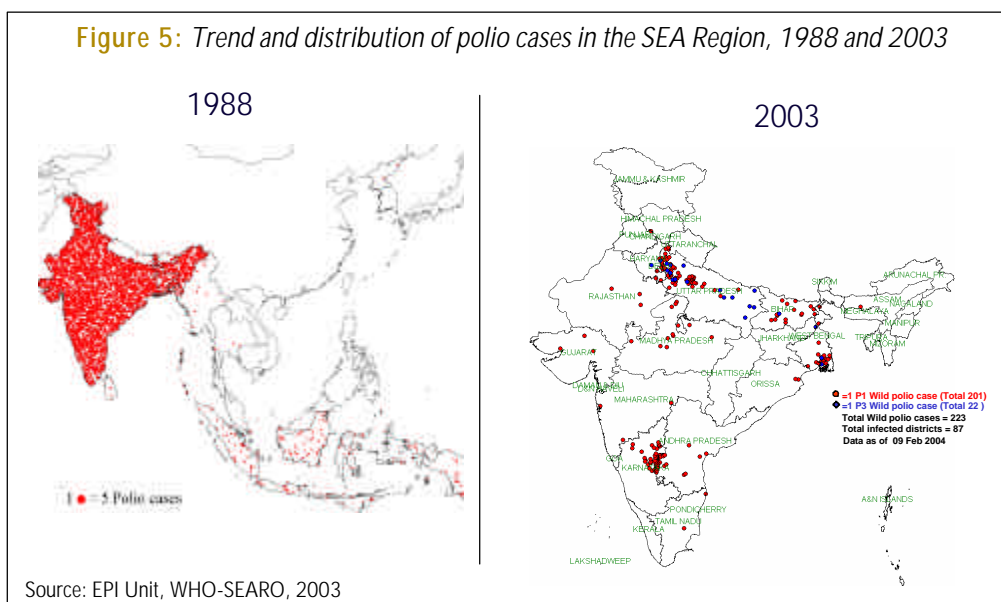
Since 1995, efforts in poliomyelitis eradication have expanded through mass immunization campaigns like national and sub-national immunization days and also by synchronizing them in border areas. Not a single poliomyelitis case was reported in the Region since November 2000, with the exception of India. High routine immunization coverage is an important strategy for controlling polio and many other diseases. WHO is helping governments expand and improve their surveillance systems and routine immunization services – building on the infrastructure put in place by polio eradication activities.

In 1988, almost all countries in the Region reported polio cases with India having the largest number. By end-2003, the Region accounted for 32% of the global wild poliomyelitis cases, with India as the only country in the Region still having wild poliovirus circulation (Figure 5). As of 31 December 2003, 220 cases of poliomyelitis were reported in India. This is much better compared to the previous year, when 1600 confirmed polio cases, an over five-fold increase compared with 2001, were reported.





**Figure 5:** Trend and distribution of polio cases in the SEA Region, 1988 and 2003



While the majority of polio cases are from two states – Uttar Pradesh and Bihar, that have been major reservoirs, the transmission has continued in West Bengal, Punjab, Maharashtra and Orissa. Of particular concern is the reintroduction of the wild virus to several other states which did not report any case during the previous years. These states are Karnataka (35), Andhra Pradesh (20), Tamil Nadu (2) and Assam (1). The upsurge in the number of cases in India occurred largely because of an accumulation of susceptible children in Uttar Pradesh and other states, due to the insufficient scale and quality of supplementary immunization activities. It is an important warning that no single geographical area, district, state or a country can be free of poliomyelitis infection until the entire Region becomes polio-free. Transmission of poliomyelitis in India could easily be stopped quickly, by maintaining a high level of coverage of children with effective routine and supplementary immunization activity and very high quality of disease surveillance. All other polio free states in India as well as other countries of the Region, however, continue to face a major risk of reintroduction of polio from the endemic areas of northern India. The regional polio eradication programme needs to ensure that the focus remains firmly on tackling transmission in northern India, the last source of wild polio virus in the Region.

In response to the geographical restriction of areas with intense transmission of polio virus and the need for multiple rounds of large-scale supplementary poliomyelitis immunization activities, WHO and the affected Member Countries have revised the strategic approach for eradication of poliomyelitis for the period 2003-2005. This new approach aims at mobilization of more funds to achieve the global eradication target.

The estimated resource requirements for polio eradication activities during 2002 in the South-East Asia Region were approximately US\$ 152m. Contributions came in the past year from a wide variety of bilateral and multilateral sources, including AusAID, Bill and Melinda Gates Foundation, CDC-USA, DfID, DANIDA, EC, Italy, Japan, KfW Germany, NORAD, Rotary International, UN Foundation, the World Bank, UNICEF and WHO among others. Funding the



additional polio eradication activities, particularly in India in 2003 following the epidemic outbreak, until the Region is certified polio free, will be a major challenge. The estimated resource requirement across the whole Region for 2003 is US\$ 184 million.

### Prevention of other immunizable diseases

During the last two years, WHO had assisted eight eligible countries in the Region to successfully apply for funding for hepatitis B vaccine from the global Vaccine Fund, supported through the Global Alliance for Vaccines and Immunization (GAVI). Over the next five years, approximately US\$ 200 million will be provided from the Vaccine Fund to SEAR countries for activities in three areas: immunization services, injection safety and introduction of new vaccines.

Within the framework of the Expanded Programme on Immunization (EPI), four countries in the Region (Bhutan, Indonesia, Maldives and Thailand) had introduced hepatitis B vaccine into their routine immunization programme prior to 2001. With funding from the Vaccine Fund, six countries in the Region will introduce hepatitis B vaccine in 2003. Timor-Leste will also apply for funds to strengthen immunization services in 2003. Through the Regional Working Group on Immunization for South-East Asia, WHO provided technical support to these countries in training, advocacy and monitoring activities. The longer-term challenge will be to develop plans for financial sustainability to ensure that this necessary vaccine programme is continued.

One of the main goals of GAVI is to achieve diphtheria, pertussis and tetanus (DPT) coverage of 80 per cent in all districts in at least 80% of GAVI-eligible countries by 2005. GAVI will also provide support for strengthening routine immunization, including the introduction of auto-disable (AD) syringes. WHO has committed itself to assisting countries in these areas.

The reported coverage of DPT immunization has always been between 70-80% of the target population for decades, while the coverage of TT immunization among pregnant women in the Region with two doses of TT is around 70%. Despite such achievements, sporadic outbreaks were reported in a few countries. In 2000, around 4 500 cases of diphtheria and 40 000 cases of pertussis were reported. These figures might be underreported due to problems in diagnosis and poor quality of routine reporting. Survey data indicated an annual estimated incidence of DPT in the Region as high as 8.5 million cases with 90 000 deaths.

Capacity building of the National Regulatory Authority (NRA) is a priority area to ensure continuous use of high quality vaccines in all immunization programmes. By 2002, NRA assessments were carried out in 9 countries. It is also critical for countries to have a surveillance system for Adverse Events Following Immunization (AEFI). Support was provided to several countries to develop AEFI reporting systems, including the production of guidelines and reporting forms.

While the total number of reported measles cases declined, with some countries experiencing more than 99 per cent reduction in incidence, sporadic outbreaks among school-aged children were reported in a few countries. Measles still accounts for an estimated 202 000 deaths/year in the Region. The infrastructure available to the programme is impressive, drawing as it does on a large investment in the context of polio eradication activities. A revision of the Regional Strategic Measles Mortality Reduction plan envisages measles and NT control campaigns across the Region based on improvements in national surveillance and laboratory capacity. A sub-national measles



campaign was initiated in Myanmar and WHO investigated a major measles outbreak in Maldives. These should enable an expansion of measles control activities in other countries of the Region.

The major challenge is to see that the Region maintains the momentum of investments in immunization to ensure sustainability in the long run. With guidance from the regional task force, a regional policy framework for vaccines was developed to provide standards on safe injections, the disposal of sharps waste in an environmentally sound way, internationally competitive vaccine manufacturing, management, and quality control systems. The framework offers a possible road map for technology transfer, long-term sustainability and self-reliance for regional immunization systems. The framework will also facilitate vaccine research and development. The policy will provide guidance to Member Countries on vaccine security and in sustaining immunization programmes.

## Leprosy

All endemic countries have made concerted efforts since the mid-1980s to eliminate leprosy as a public health problem. Apart from India, Nepal and Myanmar, Member Countries in the Region reached the global elimination goal of a prevalence rate of less than one leprosy case per 10 000 population by 2000.

The Region accounted for 74 per cent of the globally registered and 80 per cent of the new cases detected in 2002. India alone accounts for 90 per cent of the regional and 66 per cent of the global caseload. Bangladesh, Bhutan, DPR Korea, Indonesia, Maldives, Sri Lanka and Thailand achieved the elimination goal (prevalence rate < 1 per 10 000 population) at the national level, before the target date of December 2000. India, Nepal and Timor-Leste are targeted to achieve the goal by 2005 (Table 3). Myanmar achieved the global goal of leprosy elimination at the national level by January 2003. Ten of the fourteen states/divisions also achieved this elimination target.

**Table 3: Leprosy situation in the SEA Region (as of March 2003)**

Country	Population in '000	Registered leprosy cases	Prevalence rate per 10,000	Newly detected cases in 2002	New case detection rate per 100 000	Cumulative cured with MDT since 1982	Year of reaching elimination target
Bangladesh	129 248	8 143	0.63	11 287	8.73	131 101	1998
Bhutan	659	35	0.50	19	2.90	940	1997
India	1 067 482	330 880	3.10	617 993	42.00	9 814 686	2005
Indonesia	207 840	16 837	0.81	13 286	6.50	257 690	2000
Maldives	270	19	0.70	25	9.20	1 268	1996
Myanmar	52 827	4 965	0.94	8 231	16.60	226 698	2003
Nepal	24 154	7 291	3.02	8 020	34.10	83 243	2005
Sri Lanka	19 086	1 639	0.86	2 280	11.90	34 534	1995
Thailand	61 879	1 905	0.31	797	1.30	56 561	1994
Timor-Leste	849	249	2.93	N.A.	N.A.	N.A.	2005
<b>SEA Region</b>	<b>1 564 294</b>	<b>372 049</b>	<b>2.98</b>	<b>661 938</b>	<b>42.88</b>	<b>10 606 618</b>	<b>2005</b>

Source: WHO/SEARO, Leprosy Unit, March 2003



In India, the prevalence of leprosy is above 5 per 10 000 population in four states, 2 to 5 per 10 000 population in six states, and below 2 in the remaining states. Most states have integrated leprosy control activities into the general health services. WHO recruited state/zonal coordinators in the most endemic states and provided anti-leprosy drugs to the entire country and monitored its supply to the states. A leprosy elimination monitoring (LEM) exercise was carried out in the 12 most endemic states. WHO provided technical inputs and supported the simplification of a new leprosy information system being implemented since November 2002.

In Nepal, there were 7 291 registered cases as of March 2003, giving a prevalence rate of 3.02 per 10 000 population. The prevalence is high in the central, eastern and far-western regions. Support was provided for intensified leprosy elimination activities covering several areas. In Timor-Leste, a total of 249 cases were registered as of March 2003, giving a prevalence of nearly 3 per 10 000 population. The high prevalence is linked to the past unstable political situation which severely affected health care delivery systems.

To advocate and enhance political commitment towards leprosy elimination in the Region, an Inter-country Meeting of National Programme Managers for Leprosy Elimination was held in Colombo in November 2002. The meeting evaluated the progress towards the goal of leprosy elimination and made important recommendations. These included further strengthening the integration of leprosy, phasing out vertical structures within a definite time-frame and undertaking measures to prevent operational factors like "over-diagnosis" and "re-registration" of cases leading to a high level of new case detection in some countries. WHO will continue to provide technical support and supply free MDT drugs to Member Countries. WHO is continuing intensive work with partners, including The Nippon Foundation, Sasakawa Memorial Health Foundation, Novartis, NGOs, the World Bank, DANIDA and others to attain the goal of leprosy elimination in the Region.

### Other communicable diseases

During the last few years, the Region witnessed major outbreaks of communicable diseases such as cholera, acute diarrhoeal disease, dengue/dengue haemorrhagic fever, malaria, Japanese encephalitis, anthrax, rabies, hand, foot and mouth disease (HFMD) and influenza.

The burden of hepatitis B (HBV) varies widely among the countries, with around 14-16 million people infected annually. With an estimated 98 million HBV carriers (almost 6 per cent of the total population of the Region), all countries need to include HBV immunization as part of the routine EPI programme, as in Thailand and Bhutan.

The Region continues to account for approximately 70 per cent of the estimated 50 000 annual human deaths due to rabies globally. The disease is endemic in eight of the 11 countries of the Region, with India accounting for about 85 per cent of the deaths. The disease is invariably fatal but is preventable through an effective vaccine. Member Countries are being encouraged to give priority to rabies control. A Steering Committee for Rabies Control in Asia has been established to provide advice and guidelines.

Four countries – Bangladesh, India, Myanmar and Nepal – continue to produce and use the outmoded nerve tissue vaccines. A policy decision, however, has been taken in all countries to





phase out these vaccines and shift to modern tissue-culture vaccine (TCV). WHO is promoting the use of intra-dermal administration of TCV which is as potent and more cost-effective compared to intra-muscular administration.

Outbreaks of Japanese encephalitis are reported annually in India, Nepal, Sri Lanka and Thailand. Sporadic cases have also occurred in Bali (Indonesia), Myanmar and Timor-Leste. The affected countries are being supported in developing JE surveillance and appropriate outbreak response. The strategies for prevention and control of JE include health education, capacity building of concerned health staff, vector control and vaccination. Though effective vaccines are available, none are pre-certified by WHO. However, in view of the need, WHO recommends the use of vaccines produced in Japan and Korea.

With regard to plague, three countries – India, Indonesia and Myanmar – have rodent plague foci. The last outbreak occurred in Himachal Pradesh, India, in February 2002, which was rapidly contained. In order to assist Member Countries in establishing and strengthening plague surveillance and prepare them for appropriately tackling outbreaks, draft regional guidelines for plague surveillance and control have been prepared.

Leptospirosis is an infectious disease caused by “leptospire”, a group of bacteria and is mainly transmitted through human contact with the urine of rats. This is an emerging public health problem in some countries of the Region. In 2002, outbreaks occurred in Jakarta and in some states of India. WHO assisted Indonesia in the development of a fact file on leptospirosis.

The regional programme for the elimination of lymphatic filariasis is expanding to cover 38 million people living in lymphatic filariasis endemic areas in eight endemic countries by mass drug treatment with combination drugs. This prevalence accounts for 60 per cent of the global burden of lymphatic filariasis (LF). Around two billion people, mostly in developing countries, harbour worm infestations, while 300 million are severely ill. Of these, at least 50 per cent are school-age children. This group of infections, caused mainly by round worms, whipworms and hookworms, is a major public health problem in all countries of the Region.

Globally, 2.5 billion people live in dengue-risk areas. It is estimated that 50 million people have dengue infections each year, with 500 000 DHF cases and at least 22 000 deaths, mainly among children. Dengue/DHF is endemic in eight countries in the Region. As per information received up to August 2002, there were 85 197 reported cases and 252 deaths. WHO has created an internet-based global surveillance system called “DengueNet” to collect and analyse standardized information in a timely manner and to present epidemiological trends as soon as new data are entered.

### Noncommunicable diseases

Noncommunicable diseases (NCDs), including cardiovascular diseases (CVDs), cancers, chronic pulmonary diseases, diabetes mellitus, and other chronic diseases are assuming alarming proportions, becoming the leading causes of mortality, morbidity and disability in the Region. National NCD control programmes are aimed at important modifiable lifestyle-related risk factors like tobacco and alcohol consumption, physical inactivity, poor diet and nutrition, obesity and high blood pressure.





The key components of the programmes include: (a) surveillance as an essential tool to quantify and track epidemics of NCDs and their determinants; (b) preventive activities to reduce the burden of premature mortality and disability; and (c) strengthening health care and supporting health sector management. Presently, countries do not have adequate NCD morbidity and mortality data, which are mostly institution-based. Recently, the Regional Office published a regional profile on noncommunicable diseases which established a basis for developing sustainable databases for NCDs.

The World Health Report 2002 on “Reducing Risks: promoting healthy life” highlighted the fundamental role of risk factors as a cause of ill-health. Five of the top ten risk factors to health identified are: tobacco, alcohol, high blood pressure, high cholesterol and obesity - all major risk factors for NCDs. These risk factors are now becoming increasingly prevalent in developing countries leading to a double burden of disease.

The regional NCD surveillance programme focuses on strengthening regional health information systems and assisting countries in health planning, advocacy and evaluation of NCD programmes using the STEPS approach. The STEP-wise approach, advocated by WHO, is to intensify surveillance of risk factors with standard materials and to provide simple and flexible tools for collection of risk-specific health data which predict the major chronic diseases.

Reduction of morbidity and premature mortality due to NCDs requires vigorous action and involvement of many other sectors in the areas of primary prevention to treatment and rehabilitation. Although a majority of Member Countries implement various NCD prevention and control programmes, they are most often vertical, disease-specific and tertiary-care focused rather than integrated, oriented on population-based prevention and directed at addressing common determinants of NCDs and their risk factors.

Health promotion and disease prevention are more effective in an overall environment of suitable public health policy and appropriate legislation, supported by cost-effective interventions for established diseases and for individuals at greater risk. National NCD prevention networks will facilitate coordinated planning, implementation and evaluation of NCD prevention programmes.

### Nutritional disorders

The prevalence of protein-energy malnutrition (PEM) in the Region is alarming. Even though the total goitre rates (TGR) are decreasing, iodine deficiency disorders (IDDs) remain significant public health problems. TGR in Bhutan decreased from 64.5% in 1983 to 5% in 2001 due to concerted efforts in expanding the coverage of iodized salt. Thailand has reduced its TGR from 19% in 1989 to less than 5% in 1997 for the same reason. Progress has also been observed in other countries in the reduction of IDDs, largely through universal salt iodization programmes. The percentage of households having access to adequately iodized salt varies widely, ranging from 95% in Bhutan and Thailand to around 60% in other countries. The major constraints are: shortage of iodized salt due to under-production, lack of appropriate monitoring of iodine content in iodized salt and, most importantly, the ineffective implementation of legislation for iodized salt.

Vitamin A deficiency as a significant public health problem is decreasing, with 1.3 million children still at risk. Maternal night blindness is a proxy indicator of vitamin A deficiency, and it has



been identified as a major issue in some countries e.g. Bangladesh, India and Nepal. All Member Countries are implementing various strategies in order to accelerate progress in combating vitamin A deficiency, particularly through vitamin supplementation and food fortification (wheat flour, sugar, oil). At-risk children are also provided with vitamin supplementation within the context of the integrated management of childhood illness (IMCI) programme and the immunization services during routine and national immunization days. A more sustainable solution would be to encourage dietary diversification and ensure higher dietary intake of vitamin A in the form of carotene-rich foods.

The main cause of maternal anaemia is iron deficiency, which is still a major public health problem with a range of adverse effects including increased morbidity and mortality, pre-term birth, low-birth weight, delayed and impaired child-development, and decreased work productivity. About 600 million adolescent girls, women of reproductive age and young children suffer from iron deficiency anaemia (IDA) in the Region.

Another area of concern is infant and young child feeding. While the exclusive breastfeeding rate is still very low, inappropriate and untimely initiation of complementary feeding precipitates malnutrition in young infants. Inappropriate feeding accounts for at least one-third of malnutrition, and contributes significantly to morbidity and mortality among children under five.

The South-East Asia Nutrition-Research-cum-Action Network, established in 1990, organized nutrition-related health research activities in priority areas such as infant and young child feeding, adolescent nutrition and diet-related noncommunicable diseases. A web site of the network has been developed to enable sharing of information on research activities, training programmes and other nutrition development activities.

## Health sector reforms

The health sector reforms initiated in the 1990s in many countries were characterized by greater concern with demand due, in part, to the profound political and economic changes of the last 20 years including the transformation from centrally planned to market-oriented economies, reduced state intervention in national economies, lesser government control and more decentralization. It is well recognized that health for all (HFA) remains the central vision for health despite various constraints encountered during its implementation. It is for this reason that the “classical universalism” of providing health care to everyone was replaced by a “new universalism” – providing essential health care to the needy population. Further, the growing importance of civil societies in the governance of health has been recognized for enhancing partnerships which was not foreseen earlier. The importance of strengthening both local participation and structures for health and, simultaneously, acting globally to protect national and local health was also recognized (Figure 6).

Most countries have initiated intersectoral health actions to achieve better health development, especially health actions influenced by other sectors. Many governments have created National Health Committees or Councils or inter-ministerial Task Forces or Units. Some have even established separate units for Health Policy Development and Health Planning within or outside the ministries of health from whom health policy-makers seek advice. Experience clearly shows that the success



**Figure 6:** Coverage of population with interventions under different notions of PHC

Interventions included	Population covered	
	Only the poor	Everyone
"Basic" or simple	Primitive health care	Original concept
"Essential" and cost-effective	"Selective" PHC	New universalism
Everything medically useful	(Never seriously contemplated)	Classical universalism

Source: World Health Report 2000

of health sector reforms depends on how the process of reforms is applied and by whom, rather than the reform measures.

The health reform process in many countries of the Region is proceeding rapidly, usually spurred by a desire to improve equity and quality of care, to expand coverage, to decentralize health care management, and also, in most cases, to contain costs. In some countries, the reforms became more complex due to the presence of a wide range of contracting partners, including external agencies.

While every reform experience is country-specific and is usually based on solid evidence, there are important lessons to be learnt from comparing options, identifying common issues addressed and the tools used, and evaluating effects of various reform initiatives such as:

- ◆ Making the overall human resources and structure of ministries of health smaller and less hierarchical (decentralization efforts in Indonesia, Nepal, Sri Lanka and Thailand);
- ◆ Separating the functions of service provision and service financing to enable better performance through competitive measures: such as expansion of health insurance coverage, service contracting, autonomous hospitals, functional groupings, integrating the central health budget, and setting up management boards at large public hospitals (India, Indonesia, Myanmar, Sri Lanka and Thailand);
- ◆ Shifting the mix of staff and skills from an emphasis on technical and medical training to that of management, finance, and planning of human resources for health (most countries); and
- ◆ Legislation and regulations for the production and deployment of various categories of health workers including medical professionals. Not many countries, however, have well documented experiences of health systems reforms.

As part of political and civil service reforms, decentralization of health systems became the most common form of reforms. Experience, however, showed that the central government could not decentralize certain functions like selection of drugs, drug quality, and drug pricing policies, human resource recruitment and deployment, etc. Each country has to consider or identify an appropriate mix of centralized and decentralized functions, responsibilities, and/or authority to best meet policy objectives. The ministries of health could not, therefore, view the issue of decentralization in isolation.



## Health care financing reforms

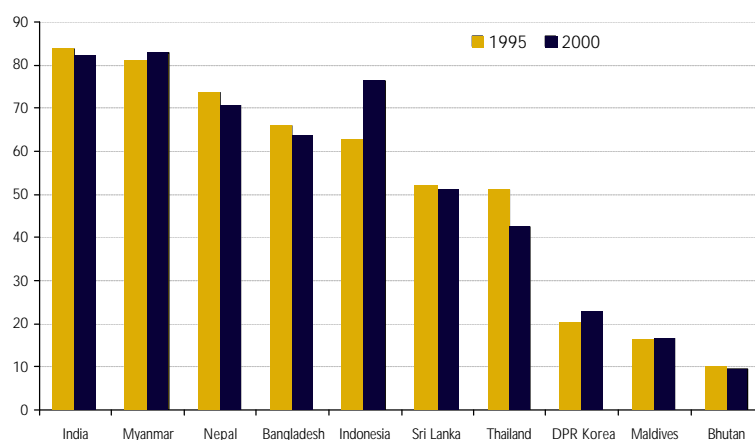
Health care financing reform is a major component of health sector reforms in most countries. There are three inter-related functions of health care financing: (a) collection of revenue, (b) pooling of financial resources, and (c) purchasing of interventions. The challenge here is how best to harmonize these functions in a way that health systems protect people financially in the fairest way possible and appropriate incentives are given to health care providers to motivate them.

All countries rely essentially on the general public for financing health care. Such financing is a major component of health expenditure in almost all countries of the Region (see Figure 7). The proportion of government contributions as a percentage of total health expenditure in the countries ranged from 20 to 60%, depending on the overall economy of the countries and the growth of private health care systems. The financing contribution through mandated social health insurance is very low (around 10%), even in countries where such schemes exist such as India, Indonesia, Myanmar, Sri Lanka and Thailand.

Low investment in health in most countries of the Region has not changed over the past few decades. In 1981, WHO Member Countries had set a target as part of the global health-for-all (HFA) indicators that each state needed to invest at least 5 per cent of its GNP on health. However, only four countries – Bhutan, India, Maldives, and Thailand are spending more than 5% of their GDP on health. Many countries in the Region as well as in other parts of the world have never achieved this global target till date.

The Commission on Macroeconomics and Health (CMH), established by the WHO Director-General in 2002, proposed that on average low-income countries should increase their budgetary outlays on health by 1% of GNP by 2007 and by 2% of GNP by 2015. The Commission also recommended an essential set of interventions with an average cost of US\$ 30-40 per person. There is evidence that a health system which spends less than US\$60 or so per capita finds it difficult to deliver a reasonable, minimum level of services.

**Figure 7:** Private expenditure on health as % of total health expenditure (THE), in SEAR countries, 1995 and 2000



Source: WHO Geneva, The World Health Report 2002



A few countries have tried to add extra resources for health by earmarking a proportion of revenue collected from indirect taxation for health promotion and disease prevention (earmarked taxation or mandatory contributions dedicated to specific health development). Those countries which run state lottery services have used this kind of earmarked revenue for social services including health and education. Thailand has recently enacted legislation to establish a Health Fund which has specified a certain percentage of general revenue from taxation on alcohol and tobacco to be set aside for health promotion activities. Nepal has also introduced legislation – “sin-tax” by increasing taxation on health-risk materials such as tobacco and alcohol.

National and international civil societies, including foundations, also play an important role in financing health, especially in the area of prevention as well as in the promotion of health care. The Rockefeller Foundation, Nippon Foundation, Rotary International, and many other international organizations have helped countries in programmes devoted to the prevention and control of global priority diseases such as leprosy, tuberculosis, malaria, blindness, and diabetes. In addition, a few multinational pharmaceutical corporations are donating their products to assist in the elimination of certain diseases of global importance, such as lymphatic filariasis, helminthic infections, and trachoma.

The recent entry of international entrepreneurs and foundations like the Nippon Foundation, the United Nations Foundation and the Bill and Melinda Gates Foundation as well as many multinational pharmaceutical corporations like Novartis, as private philanthropists in the health and other social sectors have resulted in multi-billion dollar contributions to specified health programmes. However, their inputs have benefited only a few developing countries, as the funds are earmarked for special purposes.

In most countries in the Region, various national, local and community trust funds and foundations have been established in order to protect the financial risks involved in health care, especially for poor patients and also for supporting the treatment of chronic diseases such as cancer and renal diseases (National Cancer Foundation or National Kidney Foundation). In some cases, governments heavily subsidize such trusts. Bhutan has established a national Health Trust Fund in order to safeguard public health activities and to secure essential drugs and vaccines.

There are a few countries in the Region that have a compulsory social security system and/or mandatory social health insurance scheme as well as private health insurance, covering a certain proportion of the general population (ranging from 3-20%). Social health insurance schemes in these countries are part of social security schemes managed either by the ministries of labour or the ministries of health generally covering government employees or employees of state-owned enterprises from whom the premium could be easily collected.

Increasing use of various forms of fee-for-service payments usually in the form of user charges at public health facilities has been the most noticeable change over the past few years in the Region. Many countries have introduced various systems of user charges to relieve the burden of public expenditure in hospitals and health centres.

This was most evident in countries facing economic constraints and where governments were responsible for providing a substantial proportion of free health care. Most countries allowed



the local health institutions to retain some proportion of the fees collected and to use them for drugs, services, and maintenance. Various mechanisms of exemptions for the poor are also in use, but most of these failed due to various political and administrative constraints.

Many countries have promoted privatization efforts in the health sector with or without the active participation of health ministries. Some countries have attempted to reduce public involvement in the management and delivery of health services as part of their privatization efforts. They have introduced appropriate policies towards the private sector and have redefined government activities to cover policy formulation, monitoring, coordination, and regulation.

Given the complexity of the public-private mix in the provision or financing of health care and the complementarities and partnerships between the public and private sectors, including civil societies, ministries of health should explore alternative financing of health care. They should introduce appropriate reform measures and ensure the quality of services and acceptable social responsibility of, and protection for the consumers, especially the underprivileged.

### External investment in health

Most countries receiving development assistance have linked their investment in health with a core set of essential health care packages. There has been a rapid expansion of some of the essential health care interventions in the Region during the past few decades. These selective health care interventions were related mainly to disease elimination and eradication programmes.

External resources contributed by donors to the health sector are of key importance for health development. They have accounted for a significant proportion of total government health expenditure in some countries, ranging from 33.8% in Nepal to 11% in Bangladesh. In India and Indonesia, donor contributions account for a small proportion, less than 4% of the total government health expenditure. They can, however, play a catalytic role in health sector reforms.

Recently, the global trend in donors' contributions to the health sector has witnessed significant changes. There has been a constant growth with health aid increasing from US\$ 100 million a year in the past to several billions of dollars at present with a 3% annual growth and an increased share of 7% in total bilateral and multilateral ODA. The main features of aid have also shifted from small, supply-oriented and supportive projects to the policy-oriented, capacity building and sector-work thrust projects. The total annual figure ranges from \$3.5 billion to \$6 billion, depending largely on the different definitions of aid and the discrepancies between the commitment made and actual disbursement. Asia is the largest recipient as it receives 50% of the total bilateral grants in support of the health sector. India and Bangladesh have been the largest recipients of World Bank/IDA assistance till date.

Some multi-million and long-term health development projects funded by aid from bilateral and multilateral donors to the countries in the Region in recent years are the National Population and Health Project from the World Bank and USAID in Bangladesh, the Health Trust Fund from ADB in Bhutan, the Health and Family Sector Investment Programme from the European Union in India, the Provincial Health Project from the World Bank/IDA in Indonesia, and the North- East Emergency Reconstruction Programme from the World Bank in Sri Lanka.



Recently, substantial international funding has also been initiated for immunization programmes. The Global Alliance for Vaccines and Immunization (GAVI) will provide more than US\$ 200 million to all countries of the Region (except Maldives and Thailand) over the next five years. Expenditure across the Region of at least US\$ 150 million annually from internal and external resources on poliomyelitis eradication activities is likely to continue until the target is achieved. WHO also mobilized external resources for its collaborative programmes at the regional and country levels. The WHO extra-budgetary resources for the Region increased from US\$ 53.4 million in 1996-97 to US\$ 121 million in 2000-2001.

## Challenges and impact of globalization

National and local decisions are being affected, as never before, by global forces and policies. The rate of globalization in trade, travel and migration, technology, communication and marketing has accelerated dramatically over the past two decades, resulting in huge gains for some groups and severe marginalization of others. All countries now acknowledge their interdependence by the fragility of our shared environment, an increasingly global economic system, and the potential for rapid spread of infectious diseases. There is concern for the survival of cultural and ethnic diversity in many countries.

### Globalization and health

Rapid globalization is the key challenge facing public health worldwide. There is increasing tension between the new rules, tools, actors, markets and the scope for domestic actions to protect the health of the people. The principal promoters of global market-based economic systems are multinational, international and intergovernmental agencies such as the World Trade Organization (WTO), the World Bank, the International Monetary Fund (IMF), as well as multinational and transnational corporations.

One of the multilateral trade agreements having an impact on health is the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). The situation on national patent laws within the framework of TRIPS varies extensively in countries of the Region. Due to the different stages of development, the effective implementation and compliance of the TRIPS agreement is also varied. Until recently, a few countries in the Region did not cover pharmaceutical products under their national patent laws or otherwise protect them, and tried to meet their national drug requirements at a low cost through various technological means. Other countries with no pharmaceutical industries have to buy these drugs at competitive prices.

There is a need to widely disseminate the importance and possible implications of the TRIPS agreement on health. People should not miss the emphasis on the need to ensure healthy public policies as a majority of the population lack access to essential medicines. Countries have to undertake multisectoral, concerted efforts in framing or amending national patent laws and regulations, in a manner to balance the rights and obligations of the patent holders and safeguarding public health interests while maintaining the requirements of the TRIPS agreement. Each country has to designate focal points in the ministries of health to maintain proper liaison and coordination with other ministries relevant to WTO issues. Some have to create national multisectoral coordinating





mechanisms to ensure national consensus on various issues in the implementation of the agreements and for future trade negotiations.

The Fourth Ministerial Conference of the World Trade Organization, held in November 2001 in Doha, Qatar, also adopted a landmark Declaration on TRIPS Agreement and Public Health. It was for the first time in the 50-year history of GATT/WTO that a separate declaration on public health was adopted. The Doha Declaration, while defining the relations between the TRIPS agreement and public health, stressed that the TRIPS agreement needs to be a part of wider national and international actions to address global health problems. It clarified the interpretation of the TRIPS agreement and defined public health crisis, especially that resulting from HIV/AIDS, tuberculosis, malaria and other epidemics, as the ground for compulsory licensing. The Doha Declaration also gave a mandate to the WTO Council for TRIPS, to find an expeditious solution to the problem of countries with insufficient and no manufacturing capacity in the pharmaceutical sector in making effective use of compulsory licensing and decided that the least developed countries will not be obliged to implement patent protection in pharmaceutical products until 2016. Although the TRIPS agreement aims to promote innovation by providing incentives to invest in research and development which are also required for new drugs, the discussions generated a lot of issues and questions which can be clarified and answered through situation analysis and monitoring.

Other WTO multilateral agreements, such as the General Agreement on Trade in Services (GATS), the Agreement on the Application of Sanitary and Phyto-sanitary Measures (SPS) and the Agreement on Technical Barriers for Trade (TBT), also have some bearings on health and the health sector. The GATS agreement covers the movement of health service consumers and providers across borders, foreign direct investment in health services and the emerging areas of telemedicine. The SPS and TBT agreements affect national policies on disease control, food safety, and technical regulation and standards for pharmaceutical and biological products.

Noting the needs for a public health perspective in international trade and for the evaluation of the impact of international trade agreements on public health, the World Health Assembly, has in recent years, recommended that Member States explore and review their options under the relevant trade agreements and to take effective measures to ensure public health interests and safeguard access to essential drugs in the implementation of trade agreements. Member Countries are initiating national studies and reviews for monitoring the health implications of the multilateral trade agreements, to enable them to adopt appropriate healthy public measures on evidence-based information. The expansion of international markets and the increase in competition when linked with public health policy will have the potential to save millions of people in the Region from ill-health. On the other hand, they may also leave some unprepared countries vulnerable to unforeseen challenges. It is, therefore, vital that the health community in each country plays an active role in formulating the national policy on international trade to ensure a healthy public health policy.

### **Response to emerging disease outbreaks**

Due to rapid and large movement of people across borders to improve trade amongst the countries, there is always the threat of diseases crossing borders. The intercountry collaborative programmes for control of communicable diseases at the border areas have been progressing well towards strengthening the planning and control of diseases at the local level. The emergence of severe





acute respiratory syndrome (SARS) in 2002/2003 created greater awareness on the importance of prevention and control of such new and emerging diseases. The result of national disease surveillance, intercountry and regional disease surveillance networks like Mekong basin and ASEAN disease surveillance system networks, as part of the global health alert and response network has led to increasing awareness about the disease among the public, the media and the countries. It has also created awareness on the cost of such diseases and how they may be spread. WHO being an inter-governmental health agency, is taking the lead in containing the spread of SARS, as well as in supporting studies to understand its genesis and dynamics of transmission. Global technical resources have been harnessed by WHO towards the control of SARS and shared with all the Member Countries.

### UN Millennium Development Goals

At the United Nations Millennium Summit in September 2000, representatives from 189 countries including 147 Heads of State adopted the Millennium Declaration (UNGA Resolution 55/2). The Declaration set out the principles and values that should govern international relations in the 21<sup>st</sup> century and identified seven areas in which national leaders have to make a series of specific commitments such as (i) peace, security and disarmament; (ii) development and poverty eradication; (iii) protecting our common environment; (iv) human rights, democracy and good governance; (v) protecting the vulnerable, (vi) meeting the special needs of Africa; and (vii) strengthening the UN.

As a follow-up, the UN Secretary-General submitted to the 56<sup>th</sup> UN General Assembly a progress report which sets out the "Road Map" towards the implementation of the UN Millennium Declaration. In this road map, the UN Secretary-General set out the specific goals, targets and indicators in each of the seven areas identified in the Declaration, provided an overview of the current situation and suggested strategies by which the goals can be achieved. (UNGA document A/56/326). These goals set in Section 3 – development and poverty eradication – are now referred to as the UN Millennium Development Goals (MDG). The UN MDG do not undercut in any agreements on goals and targets reached at any other international conference or global summit in the 1990s and 2000s. They are limited in number, stable for a longer period and are to be communicated clearly to the broad audience. There are eight goals, 18 targets and 48 indicators originally identified.

The UN has established various mechanisms and activities to support the achievement of MDG by the Member States. The Fifty-fifth World Health Assembly reaffirmed its commitment to the Millennium Declaration under resolution, WHA55.19. The strategic directions outlined in WHO's corporate strategy are closely linked with the development goals and WHO collaborative programmes at all levels are also linked with the implementation for achieving MDGs.

Three of the eight goals, nine of the 18 targets and eighteen of the 48 indicators are related to health, indicating the centrality of health to development and poverty eradication. The MDGs are assuming increasing strategic importance for WHO and the Member Countries as the majority of the goals, targets and indicators are health-related. Concerted efforts will be made to achieve the goals through an extensive body of normative and technical work of WHO. Together with UN agencies, WHO and its Member States are working closely to establish complementary and coherent reporting procedures. With the full involvement of and consultation with Member States, WHO



will establish appropriate databases as the main source of information in relation to the goals. The World Health Report will provide the status of progress from the 18 health indicators, in addition to the WHO core health indicators routinely published in previous reports. Monitoring of the indicators would not increase the burden of reporting by the Member Countries.

## Tobacco control

The last decade witnessed a major increase in tobacco-related illnesses and deaths worldwide. About four million people are killed by tobacco every year. The Region has become a lucrative market for the tobacco industry, and tobacco consumption is increasing rapidly, especially among the youth and the poor. In the absence of comprehensive tobacco legislation and effective implementation in many countries, tobacco use is reaching epidemic proportions. Thus, controlling tobacco use in the Region has emerged as a major public health challenge.

Eight Member Countries grow tobacco in commercial quantities, and among them, India, Indonesia, Bangladesh, Thailand and DPR Korea are included in the list of the world's 25 leading producers of tobacco. According to a World Bank publication in 1999, there was a 26% increase in production between 1994 and 1997 in India, Indonesia, Bangladesh and Thailand, with India being among the top five tobacco-producing countries in the world. India accounted for 65% of the Region's total tobacco leaf production in 1990-91. This increased to 71% in 1998-99. On the other hand, tobacco production in other countries of the Region decreased during this period.

Cigarette production in the Region increased from 282 billion in 1990-91 to 432 billion in 1998-99. Indonesia continues to be the largest producer of cigarettes in the Region, followed by India, DPR Korea, Thailand and Bangladesh. Myanmar is the smallest producer, while Bhutan and Maldives do not have in-country production. Bidi production is also on the increase in Nepal, Bangladesh and India. During 1999-2000, these countries produced more than double of what they had produced in 1990-1991.

The prevalence of smoking in the Region ranges between 25.7% and 59.6% among adult men and 1.7% and 28.7% among adult women. The prevalence differs significantly between and within countries. Female smoking prevalence in the Region was considered to be low (1.7-6.7%) except in Nepal (29%), Bangladesh (24%) and Myanmar (21%). Recent prevalence reports from Thailand, Indonesia and Bangladesh show increasing prevalence among females.

Tobacco consumption among the youth is also increasing. The Global Youth Tobacco Survey (1999-2001) conducted in India, Indonesia and Sri Lanka showed that 3.4%-46.7% of school-going children in the 13-15 year age groups were ever cigarette smokers and 4.5-59% were current users of tobacco. Alarming, 12-87.8% of school children smoked cigarettes at the age of nine years or earlier; 13-62% of students who never smoked were susceptible to smoke the following year, while 70-81% of current smokers who bought cigarettes in a store were not refused despite their age.

Exposure to second-hand smoke by the young was very high as one-third to two-thirds of the parents smoke. About 40-81% stayed around others who smoke in places outside their home. Effects of second-hand smoke in the Region (passive smoking) are more pronounced. The high



level of nicotine and tar levels in cigarettes, bidis and kreteks, the poor implementation of laws banning smoking in public places, or smoking in overcrowded and enclosed working and dwelling places, together with the lack of knowledge of hazards of second-hand smoke, put non-smokers at a high risk of tobacco-related diseases.

Extensive use of tobacco products containing high levels of tar and nicotine in the countries of the Region is a real health concern and poses a greater health risk for tobacco consumers in the Region. Cigarettes in most countries contain 18 to 30 mg of tar. Thai cigarettes contain relatively more tar (24-33 mg) than the regional average. Nearly nine out of ten smokers in Indonesia use only kretek (clove cigarette) which has a very high level of tar (58 mg, range 41-71 mg). Bidis also contain very high levels of tar (45-50 mg). Nicotine levels prevail in the range of 0.6-3.2 mg in different countries of the Region. Tobacco-related diseases and deaths are correspondingly on the increase in the Region. WHO estimates that over 500,000 tobacco-related deaths occur every year in the Region.

Only Thailand has a comprehensive tobacco regulatory policy. India, Indonesia, Nepal and Sri Lanka have recently formulated comprehensive tobacco regulatory policies. Legislation for implementation is under process. A few countries in the Region have partial bans on tobacco advertisements. The ban in Bangladesh is limited to bidi and cigarette advertisements on radio and TV only. In India, the ban on advertisement is limited to state-controlled electronic media only and continues unrestricted in the private media. In Sri Lanka, all cigarette advertisements must carry a health warning. The advertisements on TV are shown only after 9.30 pm and scenes of the persons smoking or the product (cigarette), cannot be shown in Indonesia. In Thailand, the advertisement ban applies to all national media.

Countries are developing comprehensive policies to reduce tobacco use. Thailand, with a comprehensive tobacco control policy, shows a decreasing trend in the per capita consumption of cigarettes, whereas Nepal, where such a policy does not exist, shows an increasing trend. Bhutan has declared 18 out of 20 districts tobacco-free. Two islands in Maldives have been declared smoke-free.

Significant steps have been taken at both regional and national levels towards tobacco control, keeping in mind the magnitude of the tobacco problem, increasing consumption of varied tobacco products and the aggressive marketing strategies of the tobacco industry in the Region. Intensified and sustained advocacy, coupled with technical support for strategizing demand reduction measures, should be the focus of all countries in the coming years.

### **WHO Framework Convention on Tobacco Control (FCTC)**

Concerned with the increasing prevalence of diseases due to smoking and other forms of tobacco use worldwide, the World Health Assembly in 1999, paved the way for multi-lateral negotiations on the WHO Framework Convention on Tobacco Control (FCTC), utilizing its instrument under Article 19 of the Constitution of WHO. During the last four years, through a series of meetings of its technical working group and inter-governmental negotiating body, WHO was able to negotiate and draft the FCTC. The Fifty-sixth World Health Assembly adopted the Convention through resolution WHA56.1.



The FCTC is an international legal instrument that will circumscribe the global spread of tobacco and tobacco products. This is the first time that WHO acted under Article 19 of its Constitution, which allows the Organization to develop and adopt such a Convention. The objective of the Convention and the protocol is to protect present and future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to tobacco smoke by providing a framework for tobacco control measures to be implemented by the parties at the national, regional and international levels in order to reduce continually and substantially the prevalence of tobacco use and exposure to tobacco smoke. The Convention covers measures relating to the reduction of demand for tobacco such as tobacco taxation, protection from exposure to tobacco smoke, regulation of the contents of the tobacco products and regulation of tobacco product disclosures, packaging and labelling of tobacco products, education, training and public awareness, tobacco advertising, promotion and sponsorship, and other demand reduction measures concerning tobacco dependence and cessation. The FCTC also includes measures related to the supply of tobacco such as illicit trade in tobacco products, sales to and by minors and provision of support for economically viable alternative activities.

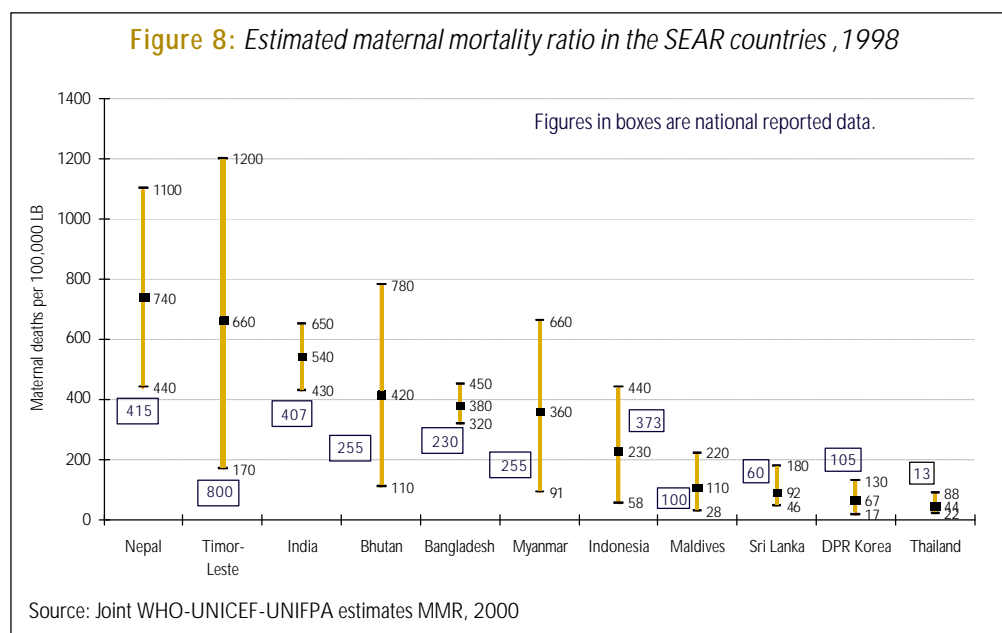
The 56<sup>th</sup> World Health Assembly requested the Director-General to provide secretariat functions under the Convention until such time as a permanent secretariat is designated and established and also to convene as frequently as possible meetings of the open ended inter-governmental working group for consideration and preparation of proposals on various issues identified in the Convention. The Convention is a ground-breaking step in advancing national, regional and international action and global cooperation to protect human health against the devastating impact of tobacco consumption and exposure to tobacco smoke. While some Member Countries have ratified the Convention, others have to do so to enable entry into force of the Convention. By December 2003, eight of our Members Countries had signed the treaty and one had ratified the Convention.

### Reduction of child and maternal mortality

All countries registered a significant decline in infant mortality rates (IMR). Between 1990 and 1999, Bangladesh, Indonesia and Nepal had an average annual rate of decline of over 5%. However, a considerable variation among the countries or between the provinces or districts within a country was also seen. While Sri Lanka and Thailand had an estimated IMR of 17 and 26 per 1 000 live births respectively in 1999, the rates in Bhutan and Myanmar were 80 and 79 respectively.

It is estimated that over 10.5 million children under five years of age died globally in 1999. One-third of these deaths were from the SEA Region. Despite the sheer number and proportion of deaths among under-five children, the under-five mortality rates (U5MR) of most countries have showed a continuous decline during the last few decades. All countries, except DPR Korea with a reversed trend of U5MR, have experienced a continuous decline in the last 25 years. Only Indonesia, Sri Lanka and Thailand were able to reach and maintain the HFA 2000 target of U5MR less than 70 per 1 000 live births.

More than 30% of global maternal deaths occur in the Region. Usually, maternal mortality is difficult to measure as the system of recording vital events including maternal deaths in developing countries is deficient. According to the estimates made by WHO, UNICEF, UNFPA and countries,



the maternal mortality ratio (MMR) in the Region in 1998 varied from 23 for Sri Lanka to 539 for Nepal (Figure 8).

A majority (70-90%) of the deliveries except in Sri Lanka, Thailand and DPR Korea were conducted at home without skilled attendance. It is estimated that in 2000, there was an increase of 35% in the proportion of births attended by skilled health personnel, compared to 1990.

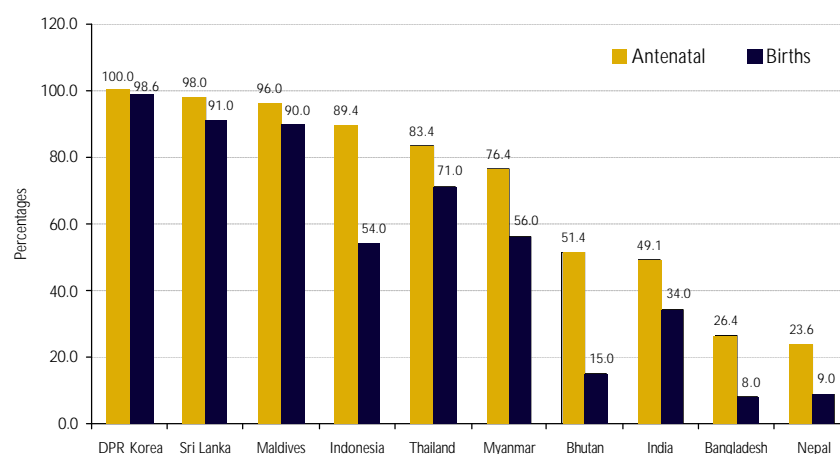
The relationship between maternal mortality ratio and the proportion of deliveries attended by skilled health personnel is clear – the higher the proportion of births attended by skilled attendants, the lower the maternal mortality ratio. (Figure 9) With four countries having less than 40% of births attended by skilled attendants, the Region faces the biggest challenge of providing all pregnant women with essential health care during pregnancy and childbirth by skilled personnel in the most resource-constrained settings.

Improvement in the quality of maternal and newborn care is another challenge to be addressed in the Region. Effective programme monitoring and evaluation is required as inputs for better implementation and improved programme planning and development. Access to essential obstetric care in most countries, except in Thailand, Sri Lanka and DPR Korea is very limited, because of lack of transport, high cost of services, and lack of knowledge on danger signs during pregnancy, childbirth and during the postpartum period.

In 1999, with WHO's guidance, many countries launched the "Making Pregnancy Safer" initiative, aimed at reducing the burden of unnecessary death, illness and disability associated with pregnancy, childbirth and the neonatal period, within the broader context of reproductive health. Evidence-based standards and norms for maternal and newborn health care services at primary health care and at first referral care levels have been introduced for adaptation and use in countries.



**Figure 9:** Coverage of ante-natal care and births attended by skilled health personnel, in SEAR countries, 1990s



Source: WHO/SEARO, Health situation in SEA, 1997-2000

Some countries conducted maternal death reviews in order to collect and analyse information on maternal death and use it for health action. The ultimate purpose of this surveillance process is to stimulate action, rather than simply count cases and calculate rates or ratios. Efforts to address the challenges identified by the UN Millennium Development Goals (MDGs) should pave the way to improve access to, and quality of maternal and newborn care, through strengthening existing partnerships and forging new ones for health development at all levels.

### Women's health

The health of women and men is determined not merely by biological factors or by factors related to individual lifestyles. Women, however, are affected disproportionately more than, and in ways different from, men. Women in every social stratum face gender discrimination, which results in fewer opportunities and more restricted access to resources. Some manifestations of gender discrimination are: the low investment in a girl's education, the pressure on girls to marry early, the restrictions on women's mobility that constrain their educational and income-earning opportunities, and the traditional laws and customs that deny women the same rights as men. The combination of poverty and gender discrimination increases women's health risks and limits their ability to take care of themselves when ill.

Policy makers in the Region had recognized the linkages between women's health and development, and identified gender equity as an important principle and special area of concern. A situation analysis published in "Women in South-East Asia: A Health Profile" 2001, provided the basis for future research, advocacy and sensitization. In 2002-2003, armed with solid evidence, Member Countries directed their efforts towards creating an enabling policy environment for investing in women's health and incorporating gender concerns into policies and programmes.



A number of initiatives were undertaken to raise awareness among opinion leaders, policy makers, programme managers, and service providers on women's health needs, and the role of gender in women's health status and access to health resources. Three Member Countries focused on specific women's health issues. These were: violence against women and health sector responses (Indonesia), sex-selective abortion (India), the needs of elderly women (Nepal) and health risk factors among female workers and women outside the reproductive age group (Sri Lanka).

The steps taken so far have been aimed at raising overall awareness of gender equity and health, in order to create an enabling environment for incorporating gender concerns into policy formulation, programme design, implementation, and evaluation. Whether or not this has been achieved will become more evident when focused efforts to integrate gender into specific health policies and programmes are undertaken.

### Human resources for health

One of the key factors contributing to health development in the Region is having a competent health work force, i.e. the right numbers and mix of health professionals with the right knowledge, skills and attitudes at the right location and at the right time. As human resources for health consume as much as 60-70% of the health budget, it is essential that they are fully developed and optimally utilized.

Very often, health professionals find it difficult to keep pace with new knowledge and skills. Hence, education and training of health personnel, whether pre-service, in-service or continuing education, needs to equip them with the requisite knowledge, skills and attitude to effectively keep up with the rapid advancement in health and other technologies as well as changes in health and societal needs. Another dimension of human resources is the imbalance in deployment between rural and urban areas.

All countries in the Region have pre-service educational programmes to produce nursing and midwifery personnel for their own national health services. Nursing and midwifery education varies considerably between countries of the Region, ranging from a certificate or diploma course to a bachelor's degree. Almost in all countries, nursing education includes a midwifery component, while some have separate midwifery training programmes. Each country is striving towards ensuring the quality and relevance of nursing and midwifery education. Increased attention is being given to the problem of continuing shortage and maldistribution of nursing and midwifery personnel along with inappropriate professional skills mix. Consequently, all countries have conducted an in-depth country assessment of their nursing and midwifery work force management.

In the area of medical education, countries have established useful linkages for conducting collaborative training programmes among different institutions in the Region. A situation analysis of the allied health work force in the Region in 1998 provided a better understanding of the existing situation and identified effective strategies to strengthen allied health services and education.

Countries are still confronted with issues such as (a) lack of clear national policies for allied health personnel development; (b) inadequate norms and standards for allied health professionals, resulting in an inappropriate mix of health personnel; (c) lack of mechanisms for the exchange of information on allied health professionals' education and training; (d) lack of common standards





for allied health professionals' education and training in countries of the Region; and (e) absence of quality control mechanisms in allied health professionals' practice.

Numerous strategies have been identified to strengthen allied health services and education. These include, among others, development of a comprehensive human resources for health plan for allied health personnel; ensuring that the curriculum prepares trainees to meet changing service needs and technology, and provide evidence-based and cost-effective care; ensuring uniformity in allied health education in the Region; establishing/strengthening regional training centres and establishing national and regional centres of excellence for allied health education that would address the changing health needs of the Region.

After a comprehensive review of public health practice, education, training and research in countries of the SEA Region, the Regional Conference on Public Health in South-East Asia in the 21<sup>st</sup> Century, held in November 1999 at Calcutta, India, adopted a Declaration and a few sets of recommendations. The Calcutta Declaration is highly relevant for all Member Countries as a policy framework in further enhancing capacity of public health with appropriate human resources. It highlighted strengthening and reforming public health education, training, and research with networking of institutions and use of information technology.

In order to strengthen the quality of public health education and training, Member Countries which have established public health graduate and post-graduate institutions met at a regional meeting organized by WHO in January 2002 in Chennai, India, and formulated various guidelines for accreditation of public health institutions. The countries in the Region used these guidelines in developing national standards. Networking of public health institutions in the Region was also initiated in March 2003 to strengthen the exchange of training experts and resources and to conduct joint research activities.

### **Essential medicines: access, quality and rational use (including promotion of traditional medicine)**

Access to essential medicines has been, and will continue to be the core element of health care in the Region. Within the framework of WHO's medicines strategy, Member Countries are strengthening their national drug policy and food and drugs quality control in order to promote rational use, and to ensure quality, quantity, safety and efficacy.

Currently all countries are initiating various activities related to the promotion of rational use, including setting up of national lists of Essential Medicines. Timor-Leste undertook it as one of the first tasks in the health sector. While India and Bangladesh manufacture their requirements of essential medicines, Nepal manufactures a major portion of its requirements. The recently invigorated manufacturing sector in DPR Korea has a strong focus on essential medicines too. Countries such as Myanmar, Maldives and Bhutan still import their requirements from manufacturers in the Region.

The Fifty-fifth session of the Regional Committee in a resolution restated the importance of essential medicines and encouraged countries to strengthen their Drug Regulatory Authorities to ensure safe and effective quality medicines. It also urged the countries to use regional bulk purchase schemes as a practical means of delivering the necessary medicines to the people. This resolution was a follow-up of the Health Ministers Meeting in Maldives in August 2001, which first discussed





bulk purchase schemes. Countries in the Region are now considering various methods of implementing the resolution. A single uniform scheme would not be successful given the diversity of the pharmaceutical capacities in the countries.

With the expansion of the private sector in health care, access to essential medicines has become an important issue. While most countries provide essential medicines in their public health sector, either free of charge or for a nominal fee, patients in the private sector have to pay the full cost.

Countries in the Region have long-standing price control mechanisms for essential drugs. India regulates drug prices through the National Pharmaceutical Pricing Authority (NPPA). Sri Lanka and Bangladesh too have price control mechanisms. However, the low margin on essential medicines may drive manufacturers to drugs with a bigger margin. To strike a balance between keeping essential medicines affordable and providing a sufficient return to the manufacturer is difficult. The Regional Office has been encouraging information exchange between countries and an evaluation of drug pricing systems.

Drug prices are not the only issue in access. Trade Related Intellectual Property Rights (TRIPS) may prevent countries of the Region from obtaining new drugs essential for their public health needs in future unless suitable national legislation is enacted by 2005. Bangladesh, with its well-developed pharmaceutical industry but least developed country status, has to amend its legislation only in 2016. This has stimulated the country to evaluate its position carefully.

Officials from the Drug Regulatory Authorities (DRAs) of the Region met in Hong Kong immediately after the International Conference of the Drug Regulatory Authorities in June 2002. The Regional Office supported this regional regulator's forum, where the officials identified Good Clinical Practices (GCP) and counterfeit drugs as the two areas in which WHO assistance was required. GCP, used in clinical trials of new drugs, is rapidly becoming important to the Region as such trials are increasing and DRAs also have to evaluate them as part of the Global Registration dossier.

The Delhi Society for Promotion of Rational Use of Drugs (DSPRUD), an NGO in Essential Medicines, has played a significant role in improving the medicines situation in the government sector in Delhi state. DSPRUD has now formed partnerships with institutions in other states and has promoted drug policies, essential drug lists (EDLs) and standard treatment guidelines (STGs) in these states. DSPRUD activities have been supported from WHO headquarters with coordination and technical support from the Regional Office.

Timor-Leste had developed a Master Plan for its medicines sector as part of the reconstruction of its health system. An evaluation of the Central Medical Stores by a joint team from the Regional Office and WHO headquarters noted the progress as also the need for more pharmaceutical expertise and for refining the supply system to suit peripheral health care institutions. The Master Plan is now being modified in the light of these recommendations. Timor-Leste has also requested further WHO assistance in developing human resources as well as drafting national legislation for the pharmaceutical sector.

The Region has a rich heritage of traditional systems of medicine, which have a place in the health care of its people from time immemorial. Even though modern medicine is widely available, traditional medicine (TRM) is still popular and provides a sizeable component of health care. All



Member Countries realized the potential of traditional medicine and have taken steps to promote it as part of the national health care system. WHO has been assisting the countries in developing their TRM, especially in the areas of policy formulation, research, standardization, regulation, quality control, human resource development and exchange of information. However, the task of integrating TRM into mainstream national health systems is far from being achieved.

Each country has its own TRM, and some, such as Ayurveda, Unani and Siddha, are practised in more than one country of the Region. Homoeopathy, a system from outside the Region, is also practised in many countries of the Region. The Indonesian system is known as Jamu, while Maldivians practise Dhivehibeys. Bhutan, Myanmar, DPR Korea and Thailand also have their own traditional systems of medicine. Apart from these, many people in the Region practice yoga, acupuncture and other alternative systems of medicine.

In the past, research on the efficacy of traditional medicines was based on anecdotal evidence and case studies. Recently, some countries have conducted systematic clinical research on various systems of traditional medicine. In India, research on TRM has identified several diseases where ayurvedic, unani and homeopathic medicines may have potential either as stand alone or in combination with other treatments. Bangladesh has conducted research in the use of medicinal plants in diabetes and diarrhoea. Myanmar has conducted research on standardizing traditional medicine preparations.

The WHO Traditional Medicine Strategy, 2002-2005, is the key document that addresses most of these issues. In addition, there have been guidelines on research methodologies, regulation and training. WHO has also assisted countries in publishing monographs of their medicinal plants.

In the past, the practice of TRM was passed down through apprenticeship. However, countries have now moved on to more formal training with India having well-established graduate and post-graduate training programmes. Bhutan, Myanmar, Nepal and Sri Lanka have also introduced formal training programmes. Until recently, individual TRM practitioners produced their own recipes, mostly on a limited scale. Realizing the popularity and demand for these preparations, private, multinational pharmaceutical companies started manufacturing them commercially. Ensuring the quality of the products as well as proper advertising remains a continuing challenge to governments of the Region. Ensuring Good Manufacturing Practices are being discussed and, when properly implemented, will provide a boost to the industry.

A few countries of the Region have wide networks for delivery of TRM services, both hospital and outpatient-care. Where integration of TRM and the allopathic system of medicine has occurred, it has been at the district level and below. Bangladesh has a 100-bed hospital for ayurveda and unani medicine, while Bhutan has a TRM hospital and TRM units attached to the district hospitals.

DPR Korea has a TRM hospital at the central level and district TRM hospitals in all districts. India has a wide system of TRM hospitals and facilities. Myanmar has two 50-bed hospitals and several smaller TRM hospitals and OPD clinics in the townships. Nepal has two hospitals, district ayurveda health centres and a network of dispensaries. Sri Lanka has two teaching hospitals and a network of dispensaries.

Legislation for licensing and registration of TRM is in place in some countries, with the support of official formularies and pharmacopoeias. Bangladesh, India, Myanmar, Nepal and Sri Lanka have



statutory boards or councils for TRM, established by Acts of the respective legislatures. However, implementation of this legislation has not been vigorous.

In most countries, a large number of traditional medicinal plants are being lost due to deforestation. A few countries have taken steps to reverse the trend. India has set up a Medicinal Plants Board to conserve medicinal plants. Myanmar, Sri Lanka and Thailand have established national and local TRM gardens for conserving medicinal plants. Most countries need to make greater efforts towards conserving the biodiversity in medicinal plants which is a part of their national heritage.

### Blood safety and clinical technology

Safe blood is one of the priority areas for WHO, both at the global and regional levels. The WHO Global Strategy aims at strengthening nationally coordinated blood transfusion services, promoting voluntary non-remunerative blood donation, reliable laboratory services for blood group serology and screening for transfusion transmissible infections, appropriate use of blood and its components, and implementing a quality system in blood transfusion services.

The incidence of adverse reactions as well as transfusion transmissible infections can be reduced by optimal use of components of blood. Currently, less than one-fourth of the collected blood is converted into components.

To provide continuous technical support to the trained quality managers and to monitor the progress made by them in ensuring quality in their respective blood transfusion services, the National Blood Centre, Thai Red Cross Society, provided technical support to Member Countries as a Regional Quality Centre. Two centres under the Ministry of Public Health, Thailand, are conducting an external quality assessment scheme for blood group serology as well as screening for HIV and hepatitis B for the Region. Three cycles of this scheme have been completed.

Sri Lanka has commenced an ambitious project for revamping its entire blood transfusion services with aid from the Japanese Bank of International Cooperation (JBIC). Technical support is being provided by WHO for the total duration of the project. Timor-Leste was similarly provided extensive technical support to establish a functional blood transfusion service.

A comprehensive review of quality assurance activities in public health laboratories was carried out in which critical lacunae were identified and suggestions made to improve the quality of laboratory results. Support was provided to Timor-Leste in developing its public health laboratory system in capacity building in this area.

The problem of chemical poisoning has become an issue of concern in some countries of the Region. A plan to strengthen the programme on prevention and management of chemical poisoning was developed in collaboration with the Medical Toxicology Unit, London.

### Health of the elderly

Member Countries have recently started giving attention to promoting the health of the elderly. Their actions are concentrated on partnerships and promotion of care in the community and



home, promotion of traditional family ties, making optimal use of existing health care delivery systems and establishment of old-age homes.

Some Member Countries have formulated national policies on ageing and health. A few have started collection and analysis of related information for advocacy, policy and programme development and for decision-making, dissemination to the general public, pensioners, health care professionals and policy-makers to promote appropriate services, advice and practice on healthy ageing. Efforts are also being made to develop an advocacy strategy with close collaboration among government agencies, NGOs and the media, aiming at influencing public opinion and encouraging support for community-based programmes for healthy ageing.

A few countries have also organized research studies related to epidemiology, patterns of the ageing population and determinants of healthy ageing and improved the capacity of health care providers in the area of care of the elderly. The economic, social and health status of the fast-growing elderly population poses a great challenge to all sectors. The major difficulties in developing elderly care programmes include the lack of reliable data for programme planning, a virtual absence of national policies and strategies for the care of the elderly and an inadequate infrastructure to cope with their rapidly increasing health needs. There is a need to promote the concept of “active ageing” in a spirit of broad partnership with all actors, including governments, professional organizations, the mass media, the education sector, and international and national NGOs.

The joint family system and family values are gradually being eroded in the Region. The number of the elderly living alone will increase with urbanization and migration of young people, coupled with decreased cohesiveness in family bonds. With regard to the health status, around 6% of the aged are immobile due to various disabling conditions. Approximately 50% of the elderly suffer from chronic diseases. Visual and hearing impairments are highly prevalent. At the same time, health services for the elderly are inadequate. Knowledge among health workers on the specific needs of the elderly is also minimal.

### Enhancing community actions for health and partnerships

In the rapidly changing socioeconomic and geopolitical situation, an increasing number of countries are facing diminishing government resources for health. In addition, they have to cope with rising expectations and demands from a more enlightened and affluent general public for more services. Governments are finding it increasingly difficult to meet this challenge alone, and are therefore looking for partnerships with other sectors, communities and NGOs.

During the past few decades, Member Countries have made many fruitful endeavours to enhance community actions for health with the full involvement of communities, political leaders and NGOs at various levels of health care delivery. The method and approaches involved vary from situation to situation and from country to country. Successful community health development programmes such as the Integrated Health Package Programme (*Pos Pelayanan Terpadu* or *Posyandu*) in Indonesia; the Village Health Volunteer Schemes and the integrated Basic Minimum Needs (BMN) programme in Thailand; and the Community Health Care Programme using a large force of health volunteers in Myanmar are at the crossroads due to changes in health care management with private-public partnership and decentralization.



An appropriate district health system is the level where integrated health development can be managed easily in response to local conditions and needs, using the available infrastructure and resources. There is a need to expand and strengthen the role that individuals, families and communities can play in the promotion and protection of health.

There has been a veritable blossoming of nongovernmental organizations in all countries of the Region working for the advancement of women in different ways. Their closeness to communities enables them to get a better understanding of the needs of women.

Many of these NGOs work in collaboration with respective governments. The Bangladesh Women's Health Coalition works primarily in the area of women's issues. In Indonesia, PKK (Family Welfare Movement) is the most prominent, working in every village throughout the country, undertaking various activities relevant to the needs of village women. In Myanmar, the Mother and Child Welfare Association (MMCWA) is a very large voluntary organization working to improve the health and welfare of women, children and families. Similar organizations exist in all countries of the Region.

Partnerships with schools have been important in health promotion. School health programmes have been functioning in the Member Countries and include components such as medical check-ups, health instruction and provision of latrines and water supply at schools. Today, schools present an extraordinary opportunity to help millions of young people acquire health-supportive knowledge, values, attitudes and healthy behaviours. Over 80% of children (6-14 years) in Member Countries are enrolled in schools. Schools serve as a means of promoting health of children, their family members and the community. School children can promote health and reach a very large population in the Region.

All countries have started improving their school health programmes with the focus on strengthening the capacity of schools and partnership mechanisms such as parent-teacher associations. Collaboration between the Ministries of Health and Education has been strengthened further through the health promoting schools programme. In most Member Countries, the education and health sectors are working together on health promoting schools at all levels.

### **Mental health and substance abuse**

An estimated 400 million people worldwide suffer from mental and neurological disorders and other psychosocial problems, such as alcohol and drug abuse. According to the World Health Report 2001, worldwide, an estimated 12.3% of all Disability Adjusted Life Years, were attributable to mental and neurological disorders in 2000, and in the South-East Asia Region, the estimate was 11% of all DALYs. Thus, it is clear that even the South-East Asia Region has a substantial burden of mental and neurological disorders.

Three neuropsychiatric conditions, namely unipolar depressive disorders, self-inflicted injuries and alcohol-use disorders ranked in the top 20 leading causes of DALYs for all ages. In young adults, i.e. in the age group 15-44 years, of the ten leading causes of disease burden, five were neuropsychiatric conditions. These conditions are unipolar depressive disorders, alcohol use disorders, self-inflicted injuries, schizophrenia and bipolar affective disorders. Disability in this most productive age group has serious social and economic implications.



Studies from different parts of India in 1999 revealed that the prevalence of epilepsy varied from 9 per 1000 in Bangalore to 3 per 1000 in Kolkata. A survey conducted in Kandy district of Sri Lanka revealed a prevalence of 9 per 1000. Studies in various parts of India revealed very low prevalence of Alzheimer's disease in people 65 years of age or older, ranging from about 1% in rural north-India to 2.7% in urban Chennai. Suicide rates vary from 8-50 per 100 000 population in countries of the Region. India and Sri Lanka record the highest number of suicide rates (11 and 37 per 100 000 population respectively) and occupy the 45<sup>th</sup> and 7<sup>th</sup> positions globally. Mental health disorders, such as dementia, depression and schizophrenia, generally affect the elderly. The burden of these conditions in the Region is expected to rise as the proportion of elderly people, 60 years and above, is expected to increase from 5.3 per cent in 1980 to 12.4 per cent in 2025.

Eight Member Countries have established mental health policies, laws or programmes. However, some national policies, legislation and programmes are based on outdated knowledge and technology, and need to be updated keeping in mind advances in medical sciences. Bangladesh, India, Indonesia and Sri Lanka have already initiated steps to develop mental health legislation based on current knowledge.

Mental health programmes in the countries of the Region have generally concentrated on hospital-based psychiatry. However, there is increasing awareness on the need to shift the emphasis to community-based mental health programmes. A major problem with the community-based approach is the lack of awareness among the community and lack of trained personnel, particularly community workers for basic disability work. WHO has supported the efforts of many Member Countries in developing training programmes for community health workers, general physicians and PHC doctors in basic mental health services.

Many countries of the Region have implemented innovative initiatives to address mental health issues, some with the involvement of NGOs and the community. In Bangladesh, the Protibandhi Foundation has been playing a key role in the area of mental retardation. The district mental health programme in Bellary district of Karnataka, India, has developed into a model that is being expanded to deliver mental health services at the district level elsewhere in India. In Nepal, the programmes of orientation and sensitization of traditional healers on mental disorders and epilepsy have been successfully conducted. In Sri Lanka, Sahanaya, a community mental health centre established by the National Council for Mental Health, provides a range of community-based mental health services by professionals and volunteers. Thailand has enlisted the support of village-level health workers in an intervention programme to prevent suicide. It has also developed a programme of "school counsellors" in public schools.

Since time immemorial, in most countries of the Region, harmful substances and drugs like cannabis and opium have traditionally been used, in addition to alcohol, for ritual, religious or recreational purposes. Usually, traditional societies had very clearly drawn the line between acceptable use and abuse. Currently, the Region is particularly affected by the problem of substance dependence. Injected drugs have become a key factor in the spread of HIV/AIDS. Most countries have developed policies to control substance abuse with the focus on demand reduction and prevention of harm to substance abusers. Such programmes are inter-disciplinary and involve not only many departments within WHO but also other UN agencies such as UNDCP, UNICEF, ILO etc., many government agencies and NGOs.



## Injury and violence prevention

In response to rapid globalization, Member Countries opted for several development activities to fulfill the public demand and move with the pace of globalization. Substantial resources have been invested in developing road networks. There has been a sharp increase in vehicles and traffic, construction of bridges and other infrastructure, industrialization and mechanization. These development activities have posed a significant and a different kind of threat to the general public. There is a sharp rise in injuries resulting from road traffic accidents in all countries of the Region. More people are dying in “accidents” on the roads, in factories and in construction sites, where simple preventive measures may have saved these precious lives. Many of these deaths and injuries are among the economically active population resulting in tremendous economic loss.

The ongoing development activities have also provided economic opportunities to millions. However, rapid urbanization, widening social inequity, rising unemployment and expectations of people has brought in several social maladies including rising incidents of violence within families, in the street and public places as well as organized violence at the community or country level. Children are exposed to more episodes of instigating violence or witnessing it in their real life. School children are more afraid of violent episodes than obtaining poor grades. Youth are involved in drug/alcohol abuse and violence. Violence has affected all sections of society. Yet, the health sector is at the receiving end, providing services to deal with its consequences. Development, therefore, should not only focus on economic growth, but also on strengthening social harmony and trust.

In the Region, road traffic injuries are rising rapidly. A projection estimate, on traffic fatalities and economic growth, shows that South Asia will have the highest increase – about 144-fold in deaths due to road traffic accidents/injuries by 2020 from the level in 2000. A recently-concluded study from Thailand (Burden of Disease and Injuries in Thailand) shows traffic injuries as the second leading cause of DALYs lost in Thailand in 1999. Other major causes of the burden among external causes of injuries include homicide/interpersonal violence and suicide. Member Countries in the Region are gradually taking up the issue of violence and injury prevention. However, the efforts have been very minimal in comparison to the gravity of the problem and its impact on health and development.

On the positive front, Sri Lanka and Nepal are in the process of formulating national policies for injury prevention. In response to the recommendations of the World Report on Violence and Health, Member Countries have been holding national discussions on violence as a public health problem. Despite these developments, concrete efforts and dedicated personnel are needed. In addition, more resources must be allocated to the national health programme.

Several UN Human Rights instruments consider the rights of an individual to be free from violence and abuse in all situations. Many countries in the Region have ratified these instruments. The global injury prevention community has proposed safety as a fundamental right of an individual. Therefore, pursuing injury and violence prevention in a rights-based approach is essential for obtaining commitment and action.

Efforts are under way in responding to the needs of injured persons or victims of violence in the health system. WHO is supporting countries in developing a science-based approach for pre-





hospital and essential trauma care. Several risk factors like alcohol and drug abuse, poor safety standards of public buildings, roads and industries are the potential threats for occurrence of injuries. While promotion of healthy lifestyles through information, education and communication (IEC) is very important, evidence has shown that these awareness campaigns alone do not have substantial effect on injury prevention.

Member Countries in the Region have shown keen interest and some commitment for preventing injuries and violence. The injury surveillance system in Thailand is often quoted as an example in a developing country setting. Nepal and Sri Lanka have been developing a national policy framework for injury prevention. Several countries in the Region have discussed the World Report on Violence and Health, showing the commitment and interest of public health in violence prevention. A regional survey commissioned by WHO for human resource and infrastructure on injury prevention will provide useful information on the resources available and an opportunity for need analyses.

### **Upholding and enforcing health ethics**

As health research is the prerequisite for health policy formulation and decision-making, Member Countries have strived to strengthen the health research systems as an integral and essential part of health systems. Based upon the regional strategies for health research systems development, Member Countries analyzed their national health research systems in the light of health sector reforms and globalization, and initiated policy actions to improve essential health research functions like knowledge generation, knowledge utilization, and also to improve appropriate governance of health research.

Countries strengthened health research management through empowering health researchers in managing and coordinating research within new management structures and mechanisms. India, Myanmar, and Nepal identified priorities in health research, using the conceptual framework developed by the Regional Office. Sri Lanka developed draft legislation for the establishment of a National Health Research Council. Bangladesh, Myanmar, and Nepal assessed the complementarities between the national health policy and health research activities including utilization of actual health research projects.

Thailand conducted an assessment of health research infrastructure and the future scenario of national health research development. Myanmar commissioned another study on “development of a generic monitoring system for health research projects”. In order to evaluate how research methodology was being used in a formal educational setting, Bangladesh, Indonesia, Myanmar, Nepal and Sri Lanka conducted studies on “review of curricula on research methods and research-related issues used in medical and paramedical institutes”.

Over 600 researchers and scientists around the world attended the International Conference on Health Research held in October 2000 in Bangkok, Thailand. The Conference adopted the Bangkok Declaration on Health Research for Development, which called for increasing investment on health research for priority health problems of developing countries, creating environments and networking for constant exchange of knowledge and improving capacity building in health research especially in developing countries. At the conference, ten pioneering, health research institutions, of which four are from this Region, received the “Rockefeller International Health Research Awards”





sponsored by the Rockefeller Foundation, COHRED and WHO. The award aimed to further support networking and cooperation among health researchers and institutions.

Health ethics has been on the agenda of a series of meetings of the South-East Asia Advisory Committee for Health Research (SEA-ACHR). At its meeting in 1996, the Committee recommended that further efforts were needed to promote health ethics as an integral part of health and health research practices. In 1997, a group of senior medical educators and health research experts from the Region formed a network – South-East Asia Health Ethics Network (SEAHEN), in order to establish national networks to promote ethical practices in medical education and health research. A multi-centred study on “Ethical Values in Teaching Hospitals” was conducted in Bangladesh, Indonesia, Nepal, India, Sri Lanka and Thailand, the results being published as “Health ethics in South-East Asia, Volumes 1, 2, and 3”.

In January 2000, an intercountry “Forum for Ethical Review for South-East Asia and the Pacific” (FERCAP) was established, to improve communication among national ethical review committees in facilitating training opportunities and to assist in development of national ethical guidelines. At the end of 2001, Indonesia conducted a study on “Mapping and profiling ethical review board”. The results provided valuable inputs for strengthening the capacity of national and institutional ethical committee members in reviewing biomedical research proposals involving human subjects.

Since 2000, the work on ethics in health research has received serious attention in the Region. Training alumni from India, Bangladesh, Nepal, Thailand, and Indonesia conducted workshops in their respective countries, in collaboration with national institutes for health research and the universities. Many medical institutions in the Region have included ethics in the first year of medical education, due to the complexity of ethical issues.

Much work has been done internationally for the development of guidelines for the proper conduct of health research involving human subjects. The declaration of Helsinki provides the most fundamental guidelines for clinical research where the responsibilities of those involved in research are outlined. It spells out the principles of ethics in health research. The CIOMS guidelines for biomedical research involving humans were focused on the principles involved in performing research. However, the various international guidelines in many circumstances are not always optimally suited to the real-life situations pertaining in SEA countries. It was abundantly clear that there was an urgent need to look at ethics in health research from a South-East Asia perspective.

In this respect, the Central Ethics Committee on Human Research of the Indian Council of Medical Research (ICMR), India, and the Health Research Council, Nepal, finalized the National Ethical Guidelines for Research involving human subjects in 2000. These guidelines have since become cardinal in assisting countries in dealing with ethics in health research. Bangladesh has revised its mechanism of reviewing ethical issues in the institutions. Presently, national ethical guidelines are available in India, Nepal, and Thailand. The National Institute for Health Research and Development, Ministry of Health, Indonesia, conducted a similar national workshop on ethics in collaboration with the University of Indonesia.



There is a need also to compile and collect case studies that are embedded in daily lives, in culture, norms and society. As is clear, ethics in health research is crucially important and needs to be strengthened in the Region. A regional compendium of case studies in ethics in health research would be a useful tool for Ethical Review Board Members to improve their understanding and knowledge on ethical issues in health research and, at the same time, to discuss and analyze specific country cases on the ethical dilemmas in health research. The discussions and recommendations of the scientific debate on “Genomics and health” during the 26th session of SEA-ACHR held in Bhutan in 2001 provided better insights on the ethical, legal and social implications of genetic research and health. The regional perspectives were further elaborated and shared at the Inter-Regional Consultative Meeting on “Genomics and Health” held at Bangkok in mid-July 2001. The conclusions and recommendations of all Regions were collated in the Report of the WHO Director-General entitled: “WHO Policy Paper on Genomics and Health”. This report places strong emphasis on the need to ensure that developing countries benefit from the genomics revolution and proposes a series of recommendations by which WHO can play its role in achieving this aim.

## **Role of WHO, Ministry of Health and Universities, Centres of Excellence and WHO Collaborating Centres**

During the last few decades, WHO, together with its Member States and development partners, has been able to fulfill its role in directing and coordinating international health on many fronts. WHO has been able to reach a consensus on global policies and strategies for health for all, using primary health care as the key approach.

Countries that have extensively implemented health for all strategies provide many successful examples. During this period, WHO strongly advocated health as being central to overall development. A few major communicable diseases, especially those preventable by immunization, have been virtually eradicated from many areas of the globe. A few are on the verge of elimination. WHO has developed norms, standards and guidelines in relation to various areas of health. This has been done through its extensive network of expertise, collaborating centres and institutions. WHO has also sponsored many international conferences. The Organization recently launched a few global health initiatives, such as the Global Vaccine Initiative, the Tobacco-free Initiative (TFI), Roll-back Malaria (RBM), Stop TB etc.

Recently, WHO redefined its mission to meet the challenges of the 21st century, at least to address issues and challenges for achieving the UN Millennium Development Goals. The original aim of achieving the highest level of health for all citizens of the world, as contained in its Constitution, will remain its foremost mission. WHO will continue to contribute to world health by increasing its technical, ethical, intellectual and political leadership. It has adopted a corporate strategy, which provides its Secretariat the main directions for the next medium-term period. It focuses on the technical work of the Secretariat in the following four directions: (a) reducing excess burden of diseases; (b) promoting healthy lifestyles and reducing risk factors; (c) developing health systems that equitably improve health outcomes, and respond to people's legitimate demands; and (d) developing an enabling policy and institutional environment. The four strategic directions are



interrelated, and the challenge now is to find the right balance. Keeping this view, the six core functions of the Organization have been redefined as follows:

- (1) Articulating ethical and evidence-based policy and advocacy;
- (2) Managing information, setting the international health agenda and stimulating research and development;
- (3) Catalyzing change through technical and policy support;
- (4) Negotiating and sustaining national and global partnerships;
- (5) Setting, validating and monitoring norms and standards, and
- (6) Stimulating the development and testing of new technologies, tools and guidelines for disease control, risk reduction and health care management.

The specific directions and core functions provide a clear focus for WHO's priorities. WHO's governing bodies will continue to provide guidance on the Organization's work from time to time, especially on how to set priorities, keeping in view its own declining resources. The above strategic framework and core functions have to be translated into country strategies. WHO has developed a mechanism called "Country Cooperation Strategy". The WHO Regional Office has worked with all Member Countries, including Thailand, to identify country issues/challenges and health priorities. A country-specific document has been developed and will be used as an important guideline for WHO on how to effectively and efficiently support countries with available resources.

As mentioned above, there are many players in health development. The Ministry of Health has the most important role in developing a national health development policy and plan as a component of the National Development Plan. A good plan should address not only health but also all determinants of good health, for example, education, environment, the economy as well as physical and biological factors. All national and international partners in health development in any particular country should implement programmes within the framework of the national health development policy. The Ministry of Health will therefore not only be planning but also coordinating, regulating and providing services covering all important health matters.

The ministry of health is the primary agency responsible for missions and essential services of public health. These include: (a) prevention and control of disease epidemics, (b) protection against environmental hazards, (c) prevention of injuries/disabilities and rehabilitation, (d) promotion of healthy behaviour, (e) responding to national/local disasters and restoration of health and (f) provision of health services and ensuring quality and accessibility of health services. The ministry of health will not be able to undertake these responsibilities all by itself. Strong partnerships and effective coordinating mechanisms with related agencies are required.

Universities are an integral part of health development. They play a most important role in human resource development of all professional health personnel. As a producer, the university should know what type of health personnel the user (ministry of public health) needs. With its wide-ranging expertise, the university should play a more active role in providing technical support to the ministry of health, through research and evidence-based development; developing broad-based curricula related to current problems; developing mutually beneficial academic linkages with similar institutions at national and international levels, and broadening service and research interests



in order to address the health concerns of society. In most countries of the Region, the university has a very small role in international health development, particularly in WHO's collaborative programme development and implementation. The ministry of health should consider involving the university more in this area in the process of planning, capacity building, reviewing of proposals etc.

Schools of public health, as leaders in health care and not merely in public health, should play an active role in reorienting medical education by technical inputs in the preparation of undergraduate medical curriculum and teacher training, and not be confined to public health. Therefore, the university faculties should seek out and participate in the training of health professionals at several interconnected levels - within the basic curriculum, as in-service training for health workers involved in part-time public health activities, at the master's level in public health, and also at the doctorate level for teachers and researchers in public health. Public health should also find a place as part of continuing education programmes. Besides universities, WHO collaborating centres and national centres of expertise have come to assume a crucial role in the dissemination and monitoring of health development, both nationally and internationally. The role of such centres is increasing to cover not only academic areas, but also research and training, standardization, information and services.

## Conclusions

In conclusion, during the last 50 years, international health development has evolved with new waves of globalization. Many developing countries are still struggling with poverty, poor health and poor management of health care. There are many players in international health development. Some developing countries which received external assistance in the early days are now external donor partners. Multinational private corporations are mushrooming. They must be persuaded to join global health development efforts.

Lastly, many countries are falling far short of their potential. There are many shortcomings in the performance of one or more functions in virtually all countries. The health system is not only concerned with improving health. It must be responsive to the expectations of the people and ensure fairness. The ultimate responsibility lies with the government which should promote equity and efficiency and provide opportunities for wider participation, especially by the private health care providers and the people.

## Suggested reading:

1. World Health Organization, Regional Office for South-East Asia. *Declaration on Health Development in the South-East Asia Region in the 21<sup>st</sup> Century*. New Delhi: WHO-SEARO, 1997.
2. World Health Organization, Regional Office for South-East Asia. *Health Situation in the South-East Asia Region 1998-2000*. New Delhi: WHO-SEARO, 2002. Document no. SEA/HS/222.
3. World Health Organization, Regional Office for South-East Asia. *Public Health in South-East Asia in the 21<sup>st</sup> Century: Report and recommendations of the regional Conference, Calcutta, 22-24 November 1999*. New Delhi: WHO-SEARO, 2002. Document no. SEA/HSD/235.
4. World Health Organization, Regional Office for South-East Asia. *Declaration on Health Development in the South-East Asia Region in the 21<sup>st</sup> Century: Review of Progress*. New Delhi: WHO-SEARO, 2003. Document no. SEA/RC56/10 and SEA/RC56/Inf.3.



# 2

## Public Policy, Public Health and the Medical Profession in Developing Countries: Challenges of Globalization in the 21<sup>st</sup> Century

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### Introduction

The need for updating public policies related to health and health development in the context of an increasingly interdependent world has been debated at many forums particularly from the perspective of developing societies which are facing a wide array of challenges. There are many choices to be made, priorities to be established, some hard facts to accept and important actions to be taken. The important role of the medical profession in establishing health policy is obvious. However, public health issues cannot be resolved by the profession alone. Public policies in health and health development require a constant interaction with the public. Success depends on the increasing understanding by the public and their support. For that to be done on a sustained basis requires a well defined approach. In developing countries, the problems faced in doing so are doubly more difficult than in developed countries. We lack both the resources and sufficient expertise.

We must address policy issues in public health taking into account emerging realities. In so doing, it is important to recognize that on the one hand there are issues that are universal in character and which therefore increasingly require global answers. In dealing with those issues, developing countries must be actively engaged even if they seem far removed from the current issues faced by developed societies. On the other hand, developing countries do have specific preoccupations that require specific answers. It is crucial that they be answered directly by those from the developing countries concerned. In the field of health care, specific public policy issues of relevance to developing countries need to be addressed by developing countries themselves, even if external assistance is greatly needed for their development efforts. External assistance could be better addressed if developing societies themselves define their problems in terms that are relevant to them.

As we approach health policy in an emerging global society let us first define what we mean by globalization. For our purposes, we shall define it as a situation where the world community is

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entering a stage of high level interdependence, arising from increased economic, technological and cultural interactions. This rapid development was made possible through rapid advancement in technology especially in telecommunications, electronic information and data processing, and the cheaper and swifter transportation. This has made all parts of the world reachable by instantaneous communication, making it possible to undertake instantaneous decisions and coordination across the globe.

We make no judgment whether the emerging new form of globalization is fair or desirable, which is still open for debate. We can assert that not to recognize this reality is to engage in escapism. We can also assert that not to prepare to face such a reality is tantamount to an abdication of the right to make an autonomous decision about one's destiny as an individual, a community, society and a member of humanity. Let us examine what these challenges are in relation to public policy on health.

## Defining the issues in the national context

Public health development in recent decades through systematic development of public policies and embarking as wider public activities, accompanied by an elaborate and organized mechanism is a relatively new phenomenon in history. It is the point of intersection between the technical aspect of the practice of the medical and public health professions, which is the domain of the medical and health professionals and the broader issues that are the concern of the public and, indeed, everyone in society.

As a specific area of organized public activity, it can be said to have begun in the late 19<sup>th</sup> and early 20<sup>th</sup> century when the concept of "public administration" gained prominence and became a subject of attention by governments. The state as a major actor in health policy is therefore something new. Being part of governmental function, public administration was also accompanied by budgetary allocations from government coffers. With it came a growing and elaborate process of budgetary debates at the national level.

One of the direct consequences of many technological and scientific advances including those in medical and health sciences, that took place in the 20<sup>th</sup> century, has been the change in demographic structure of the population of developing countries, and, consequently also in the global population. More people live healthier and longer lives, better than at any time before the 20<sup>th</sup> century. We have forgotten this aspect of improvement, while, at the same time, serious and large-scale poverty exists overwhelmingly in developing countries.

In the 21<sup>st</sup> century, one can expect even greater technological progress, particularly in medicine, public health, and biotechnology including genetic engineering. Whether this will be more or less evenly distributed across the world would be another matter. These expected advances, some of which can already be used extensively around the world today, will create new opportunities as well as challenges. It could also impose critical social and ethical issues, particularly by advances in biotechnology and genetic engineering. Societies are thus challenged to take a stand. The situation will usher a new set of dynamics which were not encountered earlier. The medical profession too is being challenged to take a clear political and ethical stand in this field. It is also expected to



actively participate in guiding society to answer those issues. Leadership in the profession is expected because lay persons would need professional guidance, simply because of the rapidity and complexity of the advances in medical science and technology.

Awareness of such issues that are of importance to society would not remain exclusively in the domain of the government (public) agencies and professional associations. Civil societies expressing specific areas of public interest are increasingly more active in such new and emerging issues, especially in the field of environment and medical technology. The 21<sup>st</sup> century therefore promises to usher a situation where there will be more players with different and increasing demands, with cross-border interrelations among societies and organizations, public and private, moving at an unprecedented speed.

For developing countries, the challenge is quite staggering. On the one hand, they must answer and resolve the remaining problems of the 20<sup>th</sup> century, in relation to reducing the burden of diseases that still exist and are highly prevalent. These aspects have clearly been largely resolved in developed countries, where attention is being directed to the more “expensive” health care issues, for example to deal with more complicated diseases such as cancer and other chronic diseases. On the other hand, developing societies must also cope with the advances in science and medicine and keep up with the developments that have already taken place in the developed world, at least in the hope of being able to apply them to the specific needs of developing countries. The two activities are almost diametrically opposed in the sense that from the point of view of resource allocation, they are trade-offs. Urgent activities in one often require the abandonment, or at least, the postponement of the other. Given the limited resources of developing societies, it would be difficult to do both at the same time. How would developing societies respond?

## National dimension of health policy

The bulk of public health issues fall within the domain of individual nation/state and their governments and their national societies. While we must face up to the challenge of internationalization of virtually all major activities – a subject we shall take up later; we could not proceed in our thinking, without first looking at it from the context of the individual society within nation/state and the way governments and societies in those nation/state will proceed, and how, together with other nations/states they would collectively act in the international community. Therefore, to be operationally meaningful, it would be useful to first outline the issues that are to be dealt with at the national level.

### Fundamental public choice

The determination of national goals and priorities, and the decision to allocate national resources have been debated for some time. In the past, perhaps the issues were more often debated among more selected/elite groups. It becomes a serious national issue when health care grasps an increasing share of public resources. In many developing countries, the public has shown an increasing interest in the issues and parliamentarians have begun to express their own political views. It is not infrequent that there is a low quality of national debate, leading to impatience among professionals, subsequently leading to the threat and danger of abdication of the professions in making important national choices. The society pays dearly for such a situation.





As medical/health care becomes increasingly more costly, there are public choices to be made, which, in the end, implies the choice of resources to be allocated. Developing countries with scarce resources must decide how to allocate meager resources for prevention, cure, rehabilitation and the development of knowledge and science. They must choose their priorities within these constraints – the resources allocated sometimes do not really reflect the priorities. Since the resources are scarce and the needs are enormous, this is a critical issue and will become even more so in future.

### Specific needs for health: economic factors related to social expenditure

Since each developing country decides on how much to allocate for cure, prevention and the development of knowledge and science of medicine, they must deal with resource allocation. Within their individual national settings, developing countries need to determine the choices on how much to allocate between:

- (1) basic services
  - ◆ physical infrastructure;
  - ◆ development of professional personnel;
  - ◆ doctors and nurses;
  - ◆ other paramedics;
  - ◆ administrative and managerial staff;
  - ◆ supply of medication;
  - ◆ development of networks: domestic and international for cure and prevention of disease
- (2) “premium” services
  - ◆ application of health care beyond basic needs
  - ◆ expensive cure
- (3) research and development of medical science
  - ◆ research for additional knowledge-intensive cures
  - ◆ biotechnology

It is important for the medical and public health professionals to recognize that the activities in these areas require important societal decisions. Thus, public health issues cannot be regarded as the sole prerogative of officialdom and/or the medical and public health professions. Indeed, professionals must increasingly engage in informing the public of the choices they would propose, the quality of health care services that the society wishes to have, how they would be implemented and who would pay for them.

In the meantime, there are serious burdens and constraints faced by societies to seek resources to meet the following situation: (a) high cost of education; (b) high cost of health care, and (c) high cost of retirement, especially with increasing life expectancy. Most societies will have to face the above situations and to find the resources to meet them. They are necessarily trade-offs. Not all of



the above items can be allocated with similar amount of resources. There are choices that involve the issue of intergenerational burdens that can be controversial. All the items above will be a serious burden for all societies. They are doubly serious for developing countries. It is important that we remind ourselves of the problems that we will have to face in the years to come. Whatever our political conviction might be as individuals, we must find a way to meet those challenges.

The public health and medical community must not ignore the economic reality when speaking of the resources needed for public health. We have briefly noted the major social challenges facing most, if not all of our societies. Somehow, somewhere, someone has to pay. This means each and every one of us in one way or another.

Therefore, it would be useful to put on the table all the major factors that need to be addressed. Each society will have to consciously judge what it wants to do. The debate in most societies about globalization to a very important degree (though not exclusively), has to do with the economic dimension, the choices to be made and the decision on what economic and political burden a society is willing to pay for what it wants to do.

### Importance of economic growth and trade

We cannot be insensitive to economic factors. The ability of a society to meet the social needs, including personal health care and public health development, depends in part on its capacity to succeed in economic growth. Although it is not the only factor in economic policy it cannot be ignored. Thus, it is true that economic growth should not be the only factor for consideration in policy and decision making, but it is an important factor for social development.

Growth is presumed to be associated with greater economic engagement (trade) in the world. Both the domestic and international trading are important elements in global growth. There are many factors that governments and societies take into consideration when deciding on trade policy (for within and outside the country) other than technical reasons. That is why some governments define how far trade liberalization can go at any given time. Nevertheless, as a general proposition, economic growth is still an important driving force in trade policy.

Developed and developing countries may differ in their views on how to go about it. But trade expansion is an important element for growth. And without growth it would be difficult to deal with rising expenditures. The technicalities of the choices are for the economists to analyze and present to the society. Their job is to tell a society how much it would cost collectively to undertake long-term tasks. They should do so as accurately as possible. Professionally, they may differ about the methodology, they may differ as individuals in their political preferences, but their professional responsibility is to show and advise the public how much it would cost economically.

The decision on what to do, arising from the alternatives presented, rest with the public, once the findings are put on the table. It rightly belongs to the public. And the public health and medical community will be touched by it, whatever decision is made by the society. Therefore, as stakeholders neither the general public nor the public health community can remain silent. They must be actively engaged in the debate, but without demagoguery. Moreover, as part of the developments during the late 20<sup>th</sup> century and likely to be more prominent in the 21<sup>st</sup> century, the civil societies will be increasingly active both nationally and across national boundaries.



## Increasing internationalization of public policies

The foregoing discussion deals with the national context of public health policy. At first, this interaction with the public and public authorities would be conducted within the national frontiers of each country. Moreover, the issues of public health policy have to be dealt with at the level of national governments. In the recent past, we have also witnessed increasing internationalization of medical and health development activities and internationalization of public policies. We can expect that this trend will escalate in the years to come. One such event is the adoption by the World Health Assembly of the Framework Convention on Tobacco Control.

Today, therefore, even if we deal with national issues, we face the internationalization of public policies in the area of medical and health care. In the process, we have witnessed a rapid increase in the technological and scientific progress in medicine that would create a new dimension of public policy in terms of the technical, scientific, technological and geographical aspects as well as policy content. This expansion imposes new challenges that we must face.

The fact that we face an escalation of internationalization in virtually all areas of public activity does not mean that the world is uniformly similar and the problems are identical for all countries. For many important and practical policy purposes, and for the purpose of our discussion, it is useful to simplify the world by dividing it artificially into two classifications, namely between the developed and developing countries. Indeed, in so doing, we are oversimplifying the matter. In dividing the world simplistically into two categories, the intention is to highlight that the two categories do not always see things the same way.

As countries have to deal with the increasing phenomenon of internationalization of societal activities in an increasingly globalized world, there are issues which have to be tackled differently between the above two categories of countries. Policy issues that are considered highly relevant in one category of countries are often not necessarily identical to those in the other. Indeed, in various multilateral international and intergovernmental meetings and conferences, the two groupings are pitted against each other. Nevertheless, there are also areas where their problems are largely similar. It is in the latter area that more work needs to be done. However, in so doing, the specific problems of developing countries must receive the importance they deserve because there are resource constraints to be overcome.

As developing countries enter the 21<sup>st</sup> century, there are a number of constraints that need to be overcome in the process of development. The right to adequate essential health care has become a new and emerging demand, with greater urgency that has been articulated forcefully. At the same time, the post-cold-war reality has ushered a period of a more vocal society and the emergence of better organized nongovernmental organizations, in the field of health care.

### Context of developing countries in Asia

A sub-group of developing countries, especially in Asia and particularly in South-East Asia, are currently facing a major economic crisis. Different countries are affected differently and in varying degrees. The upshot is that there is a slower rate of economic growth in the Region than previously.



The prospect of achieving the rate of growth of the pre-crisis era is not bright in many countries. The increasing burden of health care costs has, therefore, become serious. This must be faced with sobriety.

Since the number of people in the low-income bracket is very large, the burden of health care cost cannot be assumed by them alone. This must be assumed by the society as a whole, rich or poor. The question of appropriate allocation from the national budget is therefore critical. Health insurance coverage in most countries in South-East Asia is also low, and in some countries, it is almost negligible. The fundamental question is whether the developing countries can afford the kind of health care systems being demanded by people, and if so, how will they be financed.

Most developing countries in Asia have a complex society with multiple demands, including health care and other social services. Different segments of the society, especially the vulnerable groups being large segments, require different services. Box 1 below enumerates the different constituencies in health services that require different sets of health care.

Box 1: Major Issues in public health faced by different segments of Society in developing countries	
Target Group	Policy Implications
Rural Poor	Provision of basic essential health care to large number of population. Problem: dispersal of location, lack of personnel to administer in rural areas, expensive.
Urban Poor	Difficult to administer; Poor people may not have the traditional social system of leadership as in rural areas; Difficulties in finding community counterparts; Expensive.
Old Rural Poor	What should be done for the rural poor? Some improvements in medical care may have resulted in a longer life span even for the rural poor. Decision about health services needs to be made specific to this group.
Young Urban Poor	What specific policy is needed, in view of the need for them to be economically productive over their lifetime even if current prospects for employment may be dim?
Young Rural Poor	Similarly, the rural poor will be the backbone of the next generation of agricultural labour. What specific policy is needed, in view of the need for them to be economically productive over their lifetime, even if current prospects for employment may be dim?
Young Urban Middle Class	As a group, they are the most well-off when they are gainfully employed. This is an increasingly more demanding group in terms of quality. What would the appropriate mixture be between privately financed and publicly financed health care system?
Old Urban Middle Class	Probably contains the most affluent but also some not so affluent but reasonably well off segments of the population.



Another emerging problem is the increase in the number of people over 60 years in most countries. How will their increasing medical costs be financed? At the same time, there is an emerging middle class, with higher income, that demands better quality of health services. They can afford to pay. If appropriate health care cannot be provided to them in the country, they will go abroad to obtain the service. The society will have to decide on the process of liberalization in the context of these competing priorities.

## Key social issues within broader social infrastructure

Considering the national debates in various countries, we could acknowledge that, as mentioned earlier, there will be three fundamental social issues in the coming years. Since societies are responsible for discussing and prioritizing major social services, and deciding on what policy actions to take, these three key issues are very relevant for societal preoccupation. They are: (a) high cost of education; (b) high cost of medical care; and (c) high cost of retirement. These items take up a great deal of the expenditure for individual families as well as the national budgets. Therefore, as we discuss the question of liberalization of trade in services, especially in health (and education) services, the question of financing those expenditures becomes a serious part of the discussion. How will liberalization of health services help to resolve the above problems?

Will opening of national markets to foreign providers increase or decrease the cost to society? Will it be neutral? Each society will have to answer the question in its own way and on its own terms. As we enter the realm of the economics of health it should be noted that we are entering the realm of another international agency which is not yet well known among the health community – the World Trade Organization (WTO). We will deal with this later.

## Range of international forums that need attention

The increasing complexity of dealing with health issues requires that developing countries pay attention to a wide-ranging international forum than was felt necessary in the past. There is a need to set priorities in dealing with these forums. Developing countries are compelled to deal simultaneously with the following:

- ◆ national concerns: national focus;
- ◆ internationalization: role of international agencies and regional cooperation; and
- ◆ cooperation among countries: ASEAN, SAARC, and with other countries Asia-Pacific area; Global alliances.

In dealing with the internationalization of public health, it is important to rely in part on the membership of international organizations that function as intergovernmental agencies to deal with specific health-related issues and measures. In public health, the premier institution is, of course, the World Health Organization. As discussed above, the national context of public health is still important that developing countries continue to focus on the national arena, because that is where governments and societies of developing countries are fully responsible. Technical assistance would be gratefully acknowledged but the final responsibility rests with the individual national governments and their societies.



However, the international aspect must receive increasing attention even in performing national tasks. Many of the health and health-related issues have international dimensions. The interventions at the international level to tackle them head-on, while focusing on meeting the national needs, can help in resolving them. The handling of outbreaks like SARS and similar regional and global epidemics of new and emerging diseases, is a case in point where the actions at the domestic level and also at international levels are two faces of the same coin.

Another dimension of international activity that requires increasing attention is the regional, “horizontal” cooperation among developing countries. This can help them to share their experience and even resources, including human resources. The networking among individuals and institutions within and across borders in furtherance of technical cooperation in Asia has grown over the years. This must be continued and further developed.

Another manifestation of this interdependence amongst nations is the increase in the number of intergovernmental agreements that pertain to health care and the medical profession. For the public health community, the most significant international organization is, of course, the World Health Organization, with its regional offices, active throughout the world. It has diligently and often thanklessly performed its tasks under difficult conditions. Public support for its work must continue.

There is another intergovernmental organization called the World Trade Organization, responsible for a set of intergovernmental agreements that will affect the conduct of the medical profession, namely the General Agreement on Trade in Services (GATS). Ten years ago the medical profession would not have imagined that this would be the case. But now, it is a reality and it is therefore important that the medical profession deals with this agreement in order to have an understanding of how it will affect medical practices and health services.\*

It is useful to deal with the WTO in some detail, especially its agreement on trade in services, because one can suspect that there has been insufficient understanding of the WTO and there is probably a need to explain about the content of the GATS and the implications on health services and the medical profession. Since this is one aspect of globalization that could be potentially controversial if not well understood, we shall discuss it in some detail.

The spirit of the GATS agreement calls for progressive liberalization in the provision of all services, including medical and health services. Therefore, as we approach the question in the context of the WTO and GATS, we are confronted with the problem of dealing with a subject that affects the entire society of a country. It is therefore understandably a sensitive issue and also potentially controversial politically. The issues are complex. But they must be addressed directly and the medical profession must be actively engaged in the public discussion.

Although the WTO could be interpreted by members of the medical profession as international interference in the “domestic affairs” of national medical services, it must also be emphasized that the medical profession itself has undertaken its own process of internationalization autonomously.

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\* It may be noted that WTO and WHO have sought to ensure that the two organizations would work in tandem. A joint study on WTO Agreements & Public Health has been conducted by the WHO and the WTO Secretariat and the joint study report was published in 2002.



For example, it has been engaged in activities within the auspices of WHO. Even in the context of WHO, the medical and health profession has taken steps in its agenda for discussions to deal with:

- ◆ development of international standards;
- ◆ harmonization of standards and practices;
- ◆ establishing a process of mutual recognition;
- ◆ permitting greater freedom of movement of personnel engaged in professional activities;
- ◆ joint research, and
- ◆ technological developments that are not limited by national boundaries.

Thus, the profession is no stranger to internationalization. The process in the WTO is just another aspect in the internationalization of the profession.

What does health care have to do with the WTO? The WTO is an organization dealing with international trade. Since the Uruguay Round was concluded, trade is defined as both the trade in goods as well as trade in services. The agreement in services is known as the General Agreement on Trade in Services (GATS). The purpose of the agreement is to provide an international framework in order for international trade in services to grow for the benefit of all participants. It does so by progressive liberalization of trade in services. Medical services are included in the agreement.

We have seen where the WTO comes in contact with the health profession. In the preceding pages, we touched on the problems of resources and their allocation for health care and health policy. When we do so, we enter into a discussion on the economics, and also on the trade in medical services. More specifically, we are now entering into the discussion on the *international trade* in services, including health and medical services. There is an increasing need to deal with economic aspects. By implication, we are dealing with the provision of services that may involve health services provided by those who are not nationals of the country receiving the services. When we deal with such questions, we are referring to the liberalization of the domestic “market” of health services. Let us therefore define the questions, in a more structured manner.

Although officials and health professionals may often be embarrassed speaking about the commercial aspect too blatantly, nevertheless, if we are talking about activities which are expensive, we are talking about the economic aspect of the issue. By implication, we are forced to confront the subject of health services, in part, as an issue of a market that is likely to grow. As we discuss the question of liberalization of health and medical services, we must also remember that there are two functions when a health service is performed. These two aspects of health care are basically two sides of the same coin, and nevertheless, require different policy and regulatory treatment, namely:

- (1) health care as public service, and
- (2) health care as a business.

Each society will have to decide on how to combine and/or harmonize the two aspects. When these considerations involve operations across national boundaries, we are dealing with international trade. When we deal with multilateral trade in services, we have to deal with the WTO. It depends on how a society would determine in what way and how to deal with the WTO. Some of the questions that would be posed in any national debate are likely to be:



- ◆ How will the increasing health cost be paid?
- ◆ Who will carry the burden?
- ◆ Would cross-subsidy work?
- ◆ Would it be accepted?
- ◆ To what extent?
- ◆ Where does the foreign service-provider enter into the picture?
- ◆ What requirements are they to be subjected to?

These are not theoretical questions. They are real and they must be answered by each society. They are not simple questions, but they need to be tackled directly and seriously. In order for the process to be orderly, countries need to negotiate their commitments with each other to decide on how they will liberalize their service sectors. Once they agree on the commitments, after a process of requesting and offering commitments, they would place their binding commitments in a formal *Schedule of Commitments* submitted to the WTO. This commitment document applies without discrimination to all WTO members.

As mentioned above, when we deal with resource allocation, we are dealing with economic issues. The economic dimension of health care must therefore be faced more directly by society as a whole. Within the context of WTO, the question is how the liberalization of the commercial aspects of health and health care services is to be treated internationally, and what kind of commitments countries would be willing to make with regard to opening their health sector, at least those aspects that are commercial in character. It should be stressed that this aspect would grow more rapidly, since countries are becoming increasingly more interdependent and are living in a globalized world.

Let us reiterate the context of the WTO regarding trade in health services. The rules of the game and the choices available for public policy in health services could be summarized as follows:

- ◆ Most governments are members of the WTO and, therefore, have subscribed to the rules of the WTO.
- ◆ Part of the WTO system is the General Agreement on Trade in Services (GATS).
- ◆ The GATS covers all service sectors, including medical and health services.
- ◆ The GATS calls for progressive liberalization of services, done in stages – as each society decides on how to deal with it.
- ◆ Within the above context, each country decides how much to open its health sector, first to commercially-based activities domestically, then to foreign health service-providers.

Market opening is done through negotiations. Countries who are interested in exporting their medical services (across border trade in services) would request those countries whose market they intend to enter. The process usually involves the opening of each others' markets to each others' providers across many sectors, not just for health care. When countries are engaged in such negotiations, some of the policy choices they would make would involve such questions as:

- ◆ Can liberalization in medical and health care services be undertaken and still meet the requirements of public service? How?





- ◆ Some medical services are clearly not “basic”. They are largely privately funded. Some are linked with other services, like finance (insurance) or the tourism sector. These are undertaken with clear commercial considerations. They are expensive.
- ◆ Can these “non-basic” activities be internationalized under international agreements with a clear, binding commitment by governments to deal with them?

The commitments are made on the basis of how foreign health care service-providers are allowed to enter a market: (a) by cross-border transaction; (b) by movements of consumers; (c) by commercial presence; and (d) movement of ‘natural’ persons. The schedule of commitments as announced by WTO could designate the limitations that each country makes on foreign service-providers. If a country does make a commitment for opening a sector, such as health services, that country can structure in a specific manner the extent of its commitments and the limitations imposed on foreign service-providers. The host country determines how and what limitations are imposed for access to markets. The host country also determines to what extent they would be treated as the same as nationals of that country. Therefore, the host country also determines the extent to which the foreign service-providers would be given “national treatment”. In so doing, it would “modulate” how to open the domestic market of that country to foreign service-providers.

A summary that schematically describes the WTO context of health services can be seen in Box 2.

#### Box 2: Drawing up commitments in Health Services in WTO

When WTO member countries draw up their national commitments in medical and health services, they need to remember the following:

- (1) The name of the game: Liberalization.
- (2) The pace of the game: Progressive.
- (3) The Mode of Choosing Liberalization: Request and Offer.

Given the progressive nature of liberalization in the General Agreement on Trade in Services (GATS), there is a whole range of imaginative combinations that could offer the following general approaches:

- ◆ offer and request with precondition in the same sector;
- ◆ offer and request with precondition in other sectors in the field of services;
- ◆ offer and request with preconditions in the field of goods;
- ◆ offer and request with time table;

Some of the examples of the types of liberalization measures that could be offered and requested would be:

- ◆ Mutually compensating offers of access (e.g. more opening for hospitals from one country in exchange for more opening for nurses);
- ◆ Joint-venture requirements;
- ◆ Training requirement;
- ◆ “Understudy” requirement;
- ◆ Liberalization within a time-table.



This aspect of globalization is an important aspect of the international dimension of health services. It should be part of the thinking in the development of a country's public health policy although certainly it should not be the only factor.

## Civil society and the emergence of more players

What we are experiencing during the rapid process of globalization is a process of interpenetration of activities between different parts of society. Not only is this process becoming internationalized, we are facing a situation where there will be many more actors in the decision making process. The medical profession that is engaged in a technical and scientific endeavour is the domain of specialists. However, it does have a tremendous impact on the rest of society and its welfare. Moreover, the rest of society also wants to have a say in how the medical profession conducts itself because what it does would affect the rest of society.

Looking beyond our national borders, therefore, we live in a world of increasing interdependence whose impact is growing rapidly, or as some would argue, too rapidly. In this world of increased interdependence, the medical and health professions, as with other professions, have been penetrated by outsiders, by the rest of society with its multiple demands, and by colleagues from abroad. In the process, there is an increasing acceptance worldwide that all activities that have an impact on a wider scope, beyond the private domain of the actors, must take into account the interest of stakeholders. And the stakeholders have also become internationalized.

Therefore, a trend that is increasingly part of modern society and a fact of life is that there will be an increasing role played by stakeholders in major decisions that affect society, which is the reality of the 21<sup>st</sup> Century. Therefore, it would be an illusion to continue to think that issues concerning health can only be decided by the medical and health professionals and especially the Ministry of Health without taking into account the views of society at large. At the same time, international institutions such as WHO would be asked to be engaged more in dealing with health issues that cannot be resolved solely at the national level. In the process, private initiatives taken by civil society will also grow.

## Conclusion

It should not be surprising, as we enter the 21<sup>st</sup> century, that we are encountering challenges for which we are not yet fully prepared. Each new era brings in a new set of challenges that a society must face. It is not unusual that a society does not have all the answers as it moves into a new era. However, each generation learns to cope with the challenges by first defining what is happening, and by measuring what has happened against the background of its fundamental values and against the backdrop of where it wishes to go in the future.

Perhaps one major difference between the past and the present, and by implication, also between the past and the future, is that there are more things that tie the fate of the world together than in the past. The lives of people in this planet are more interdependent than in the past. We are no longer able to solve our own problems exclusively by ourselves, within our own individual countries. What we do will usually affect others elsewhere. What others do elsewhere would also



affect us with increasing intensity and within a shorter time frame than ever. Moreover, advances in science and technology promise to move even faster. In the process, there would be new discoveries, and with new discoveries, there will be new opportunities, new problems and probably some serious ethical choices that have to be made, to preserve humanity.

What applies to the activities of societies in general also applies to the area of health. As we have witnessed recently, the international community faced an unexpected threat arising from SARS which was fortunately tackled successfully through speedy and concerted international efforts across continents and involving developed and developing countries. This event can be used to take stock of the longer term issues that will need to be tackled as we look at the 21<sup>st</sup> century. Indeed, there are a whole set of issues to reconsider. We have tried to identify some of them.

The world is becoming increasingly more complex. We must also deal with it with care, with humility, and yet, with a renewed sense of solidarity, living together in this small and fragile planet, where good health will have to be treated as a precious commodity. Hopefully, if we take good care of it, we might still be able to afford it.

#### **Suggested reading:**

1. Responses to Globalization: rethinking health and equity. *Development* 1999; 42 (4).
2. World Bank. *Facets of Globalization: International and local dimensions of development*. World Bank Discussion Paper No.415. Washington D.C: 2001. 278 p.
3. World Health Organization and World Trade Organization. *WTO Agreements & Public Health: A joint study by the WHO and the WTO Secretariat*. Geneva: 2002. 171 p.

## Introduction

A very important element in the public health system of any country is the availability of good quality medicines, including vaccines, at affordable prices. In several countries in the South-East Asia Region of the World Health Organization, it has also been a tradition to provide these medicines free to the patients. These medicines should be of good quality. From available information, it seems that extensive network for delivery of primary health care developed in the countries since the Declaration of Alma Ata in 1978 is not being used optimally since very often medicines are not available at these centres. Doctors seem unwilling to work at these centres and the public are reluctant to visit these centres which, in many instances, have neither medicines nor doctors.

It is therefore in the fitness of things that one of the objectives of the World Health Organization in the field of essential medicines is to enhance the access of the population to good quality medicines. The other three objectives are to develop medicine policies in the countries, to ensure that the medicines are of good quality and to promote their rational use. The cornerstone of all these activities is the development and use of a List of Essential Medicines which would take care of about 90% of the diseases and the symptoms normally seen and treated at primary health centres, the first referral centres and the tertiary centres. This concept of a carefully selected, limited list of essential medicines was first developed twenty six years ago by WHO when it published the first List of Essential Drugs in 1977 and has been nothing less than a therapeutic revolution which has brought succor and help to millions of people all over the world who otherwise would either have had to go without medicines or pay heavily for medicines, often of indeterminate quality, and often, for the poor and needy, at the cost of incurring debt or selling off personal belongings.

There is still a long way to go. Very often all the medicines are not always available. Countries are finding it difficult to provide medicines free and are trying out systems where the patients pay a small amount for the medicines they obtain. Sometimes, even when medicines are available they are prescribed irrationally. Procurement systems sometimes break down and sometimes medicines of inferior quality are purchased and distributed. Again, all these developments have largely taken

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place in the public sector while the private sector remains relatively untouched. In spite of all these constraints it must be recognized that by introducing the concept of rational use of medicines, WHO has launched a crusade in the countries in this important field – one of the essential elements of the Alma Ata Declaration which stated that the provision of essential medicines was necessary for primary health care.

There has been, as a result of the efforts of the WHO Regional Office for South-East Asia, a sea change in the countries to provide good quality medicines. Ten years ago there would hardly be a mention about provision of medicines or about rational prescribing or about pooled procurement of medicines in any national health policy document. Today, as a result of the unceasing efforts of the Organization there is no policy document on health which does not deal with this important subject of accessibility to medicines and their proper use. It is this change of thinking – of bringing out the use of medicines from the domain of clinical medicine to that of public health which has been the achievement of the World Health Organization globally, regionally and in the countries.

This paper deals with the background of the development of the Essential Drugs Programme, provides a regional perspective of activities in the countries and the efforts they have made in partnership with SEARO. It also describes in detail programmes initiated in three countries: in India, in the state of Delhi, Myanmar, a medium-sized country and in Bhutan, a smaller country. It is hoped that it will provide an idea of the tremendous changes which have occurred and also a perspective of what is likely to happen in the coming years.

The concept of essential drugs was first described at the World Health Assembly in 1975. In 1977, the World Health Organization brought out the first List of Essential Drugs. This has been reviewed every few years and the 13<sup>th</sup> Model List of Essential Drugs was brought out in 2002. The Alma-Ata Declaration in 1978 identified, as has been mentioned earlier, the provision of essential drugs as one of the eight elements of primary health care(1). The list of essential drugs was prepared on the premise that these drugs are those that satisfy the priority needs of the population. The WHO lists were only model lists to provide guidance to countries to prepare their own lists based on disease prevalence. These drugs were selected on the basis of efficacy and safety, ease of administration and cost(2). The idea was widely accepted and today at least 156 countries have adopted national essential medicines lists that are widely used for public procurement systems, reimbursement schemes, training, public education and national health activities(3). The rapid acceptance of this visionary and innovative step can be appreciated when one sees that today 100 countries have national drug policies in place or under development and 135 countries have their own therapeutic manuals and formularies which provide accurate and unbiased information about drugs and their rational use. Several countries have their own Standard Treatment Guidelines which they use to improve rational prescribing of medicines. In countries with a federal system of government like India, the different states have their own Lists of Essential Drugs, Formularies and Standard Treatment Guidelines. The impact of this programme can be gauged by the fact that in 1977 less than half of the world's population had regular access to essential medicines while in 2003 nearly two-thirds of the population have such access. In absolute terms, the number of people estimated to have access to essential drugs grew from approximately 2.1 billion in 1977 to 3.8 billion in the nineties(3). Some of the many interesting recent developments in some countries of the Region, will now be described to be followed by a more detailed study of the programme in three countries.



## Regional perspective

*Bangladesh* has developed its own list of essential drugs and in 2001 brought out a national formulary. It also enhanced its capacity to manufacture essential drugs and was one of the first countries in the Region to develop a national drug policy and implement it in 1982(4).

*Bhutan* has developed its own list of essential drugs and procurement of drugs is carried out strictly according to this list. The country also has a national drug policy and the government is enacting appropriate legislation to institutionalize the policy.

The Essential Drugs List of the *Democratic People's Republic of Korea* (DPRK) has been updated and Standard Treatment Guidelines are being prepared to bring these to the attention of all health care facilities. Emphasis is also being laid on carrying out well-planned clinical trials.

Even though *India* has a federal system of government, it brought out a national list of essential drugs in 2002. Eight states have their own lists of essential drugs. Procurement in states like Delhi, Tamil Nadu, U.P. and Andhra Pradesh is carried out only for the drugs in this essential drugs list. The quality control laboratories are being strengthened and more laboratories are being established. Five states have developed their own standard treatment guidelines and two states have state formularies. In states where programmes in rational use of medicines have been initiated, medicines are obtained at cheaper prices. More of the essential drugs are purchased and the population's accessibility to medicines has increased significantly.

*Indonesia* has a formally authorized drugs policy. It has also reorganized its national structure for the governance of its drugs programme. A Food and Drug Agency was created as an independent entity under the direction of the President of the country. It has now been succeeded by the National Agency of Drug and Food Control. Indonesia has a list of essential drugs and a national formulary was published in 2000 which is used throughout the country. Indonesia is a member of the WHO Global Programme for Monitoring of Adverse Reactions and is also participating in efforts to bring about regulatory harmonization of pharmaceuticals within Member Countries of ASEAN. During the financial crisis in 1996 the WHO Regional Office organized a programme for the country to purchase, at much lower prices than usually paid, good quality raw materials for medicines from India. A thorough and detailed study of the raw materials available in India, their quality and prices was carried out by the writer under the direction of the Regional Director, Dr Uton Muchtar Rafei. Visit to the manufacturing units in India for high-level Indonesian officials was arranged as part of this programme.

*Maldives* has introduced a computerized system to monitor all drugs imported into the country since it does not have manufacturing units. This is complemented by a system for monitoring drug consumption. The country has a link, with help of the WHO Regional Office, with a laboratory outside the country for carrying out quality control analysis of drugs.

*Myanmar* has a national list of essential drugs which was developed in 1987. This list is currently being revised and a modified national list will soon be published. A national formulary has also been brought out. The drug quality control laboratories are being strengthened. In 1988, a comprehensive programme for distribution of essential drugs of good quality and rational prescribing of the same was initiated with the help of WHO in nine townships. This successful programme has now been expanded to many more townships and is being supported totally by the government.



The government of *Nepal* has identified quality of medicines as an important objective of its essential drugs programme. With the help of WHO, the drug quality control laboratory is being strengthened. This programme includes supply of equipment and reagents needed for the quality control analysis of drugs and training in the modern techniques in drug quality control.

*Sri Lanka* has a national policy document, which lays down the framework for the functioning of the programme for medicines. It has a list of essential drugs which was updated in 1999. At the moment, experts are revising the Sri Lanka Hospital Formulary. The country is strengthening its quality control laboratory and is also evaluating the introduction of a computerized data registration system. Sri Lanka is also participating in the WHO Global Programme for the Monitoring of Adverse Reactions to Drugs.

*Thailand* has a list of essential drugs since 1982 and procurement of drugs in the public sector is restricted to this list. The country has a well-established Food and Drug Administration, which functions in an autonomous manner. The drug quality control laboratories have been strengthened. The administration has, in recent years, greatly improved the good manufacturing practices (GMP) prevailing in the country. GMP inspections were rigorously carried out and appropriate standards have been enforced. Thailand is part of the WHO Global Programme of Monitoring of Adverse Reactions to Drugs. The country is also working towards regulatory harmonization in the area of pharmaceuticals for member countries of ASEAN.

During the financial crisis, Thailand introduced strictly as an economic measure, several components of an aggressive programme in the rational use of drugs. This included a pruning of the list of essential drugs, procurement of only these drugs, restricting prescribing to these limited medicines and reimbursing, to those entitled to this benefit, the cost of only those drugs in the list. These measures ensured considerable savings to the government. Thailand has also introduced an innovative system known as the "30 Bahts Scheme" as a measure towards an insurance system for obtaining medicines. People have to pay 30 bahts to become part of this programme and they receive the medicines they need from the hospitals when they are ill. The government then reimburses the expense undertaken by the hospital within the regulations of the system. This system merits careful study by other countries in the Region.

The government of *Timor-Leste* together with the World Health Organization is setting up a chain of warehouses for the procurement, storage and distribution of essential drugs. Other components of the programme are also being planned.

Only some of the many activities, being carried out in the countries with the help of WHO have been touched in the foregoing section. It would, however, give the reader an idea of what is going on and how this endeavour towards enhancing the access to good quality medicines has now been accepted in all countries of the Region. Each is trying in its own way and in its own circumstances to find solutions on how to provide medicines to all – either free or at affordable prices. This programme of rational use of medicines does not get the high profile attention given to specific programmes like control of TB, malaria and HIV/AIDS. The programme, however, is relevant to all these programmes and results not only in better use of resources but in the practice of better medicine. The rational use of medicines is an area which addresses several issues. It results in good therapeutics. It reduces side-effects of medicines – sometimes prescribed unnecessarily or wrongly



used. It also reduces side-effects due to interactions when several drugs are prescribed together. Rational use of drugs saves money for the individual, the hospital, the provider of health care and for the country. Finally, there is the ethical issue. It is unethical to prescribe to a patient a more expensive medicine when an equally effective medicine is available at cheaper prices.

## Country experiences

**India - Delhi State:** The State of Delhi with a population of 14 million and an area of 1 483 square kilometers has different health systems operating in the city. The Government of Delhi runs the majority of hospitals in the state including two teaching hospitals, large hospitals of around 500 beds, dispensary hospitals with around 100 beds and dispensaries/health care centres. The programme described below relates to the hospitals and health care centres of the Government of Delhi. It is known as the Delhi Model. The numbers of beds are around 4 300. The ratio between the population/number of beds is 2.6/1000 as against the national figure of 0.8/1000.

In 1994 there was no drug policy for the state. Every hospital had its own list of medicines and they purchased the drugs themselves. Medicines were purchased by brand names. Many combination medicines were purchased including some which were not required nor asked for. The doctors using the medicines had little say in the selection of medicines supplied to the hospital. Herbal medicines were also supplied. On occasion, medicines very close to their expiry dates were dumped on the hospital and could not be used. The situation regarding availability was most unsatisfactory. Medicines were not available after about four months of receiving the supplies as the entire budget for purchase of medicines had been spent. There were frequent “Stock Outs” of medicines in the stores. As a result, medicines were bought from the market at very high prices. This local purchase of drugs was carried out in an “ad hoc” manner. The hospitals had no list of essential drugs and no effort was made to inculcate the habit of rational prescribing in doctors at the hospitals. There were no tools to help the doctors like standard treatment guidelines or a hospital/state formulary. There was no system of quality assurance to ensure that only medicines of the requisite standard would be purchased or given to the patients. There was no system to monitor medicines procurement nor of the access of medicines to the patients nor of the prices at which medicines were purchased.

In the words of Dr Harsh Vardhan, the newly-appointed Health Minister of Delhi State immediately after the new government was formed: “One of the first things which struck me was the chaotic situation regarding the availability of medicines at these hospitals. At nearly every hospital I visited there were complaints from the patients that drugs were not available. Other complaints related to the quality of drugs, the system of procurement and distribution of drugs and the information provided to the patients about the drugs. Every hospital had its own list of drugs, medicines were coming to the hospitals in many different brand names, the supply was erratic and the prescribing, very often, unrestrained. What made the situation more disturbing was the fact that a large percentage of the health budget is spent on medicines. It has been calculated that about 30-35% of the national health budget of the country is spent on medicines. In spite of this, a regular supply of good quality drugs to the patients was not achieved and the patients and the public, notwithstanding the other care received at government hospitals, became dissatisfied and critical of the facilities and of the doctors because of the lack of drugs”.





By December 1997, there was a significant change in the medicine scenario in the state. All hospitals now had one list of essential drugs prepared by the doctors themselves. This list is modified as necessary every two years and till now four lists have been prepared. The government purchased only those medicines which were on the list. Very few combination medicines or injections were purchased. All medicines asked for in the tenders for procurement were by generic names and no brand names were used. All the medicines were purchased by the system of pooled procurement.

Training programmes were organized not only in rational prescribing but also in stores management. Finally, a system of quality assurance was in operation which ensured the quality of the medicines being purchased. The selection of the firms from which medicines were purchased was made by a special high-powered purchase committee while the selection of the medicines to be purchased was made by a committee for selection of the list of essential medicines. The system had special features of procurement according to the “two-envelope” system and also had specific criteria which had to be fulfilled by a pharmaceutical company to qualify for its price tender to be considered.

As a result, “Stock-Out Days” were reduced to a minimum. Ninety per cent of the budget for medicines had been spent on essential drugs. The tools for rational prescribing produced, distributed and used were, “List of Essential Drugs”, Delhi State Formulary and “Standard Treatment Guidelines”. Information about medicines was provided to doctors and to the patients. In addition, there was continuous monitoring of all programmes. The impact of introducing the new system was immediately seen. Medicines were purchased at prices which were about 30% less than earlier leading to considerable savings. These savings were used to purchase more of the essential medicines. The availability of medicines also increased which resulted in an enhanced coverage of the population. The quality of medicines improved as also the quality of prescribing. Prescribing of medicines by generic terms increased. Interestingly, as a result of a structural framework of procurement of medicines, the prices of medicines supplied did not increase over the years and were, in fact, reduced in many instances.

How did this tremendous change occur? These changes were possible because a comprehensive programme in the rational use of medicines based on the concept of essential drugs was implemented by the Delhi Government from January 1995. Some of the steps taken and the components of this comprehensive programme are described below.

An official Drug Policy Statement was prepared and approved by the Cabinet of the Government of Delhi in 1995. The members of the core team visited every hospital to explain in detail to the doctors the new system being introduced and its benefits. Procurement was centralized and all hospitals were ordered not to purchase medicines unless these were from 10% of the medicines budget kept aside for purchase of medicines, as and when required, outside the list of essential medicines, or, if the medicines in the essential drugs list were not available in the hospital medical stores. Doctors were asked not to prescribe medicines which were not on the list of essential medicines. Serious action was taken in a few cases when doctors prescribed medicines not on the list and asked the patients to purchase these medicines from the market even while equally effective medicines on the list were available in the stores.

These were some of the crucial steps in the implementation of the new drug policy. The dedicated complementary efforts of the three factors which contributed to the success of the programme were – the political leadership, technical expertise and the bureaucratic system.



The Minister of Health, his team of bureaucrats and the experts functioned and are still functioning as one team in a spirit of joint partnership in this endeavour. The components of the programme, each one as essential as the others were:

- (1) Development of a medicines policy;
- (2) Development and use of a list of essential medicines;
- (3) Quantification of the medicines needed;
- (4) Pooled procurement of the medicines;
- (5) Establishment of a quality assurance system;
- (6) Development of tools for rational prescribing, (a) Formulary; and (b) Standard Treatment Guidelines;
- (7) Rational prescribing;
- (8) Training programmes in all areas;
- (9) Providing unbiased information to the doctors, and
- (10) Research and monitoring of the programme.

Since procurement of medicines is such an important factor in the programme, those interested in more details can get them in the publication, “The Medicines Scenario in India: Perceptions and ~~Respectives~~”(5). The next part of this paper will demonstrate some of the results after introduction of this programme in Delhi State.

**Table 1: Comparative prices at which drugs were purchased - 10 examples (in Rupees)**

Sl. No.	Name of drug	A	B	C	D
1.	Syrup Amoxicillin	14.65	23.10	11.45	7.50
2.	Injection Cloxacillin	8.19	19.22	13.50	4.79
3.	Tablet Erythromycin 250 mg.	3.24	3.75	5.78	1.54
4.	Syrup Erythromycin	12.95	26.00	20.80	9.80
5.	Injection Amikacin 500 mg.	47.88	68.00	92.85	23.61
6.	Tablet Ciprofloxacin 250 mg.	1.85	4.25	2.88	1.36
7.	Tablet Norfloxacin 500 mg.	2.18	3.75	4.09	1.22
8.	Tablet Atenalol 50 mg.	0.42	0.50	0.55	0.17
9.	Injection Ranitidine	1.87	3.80	4.25	1.63
10.	Injection Diazepam	5.53	7.70	5.20	0.93

Note: A - Drugs obtained by a government agency by Open Tender  
 B - Drugs obtained by a government outlet for selling to the public  
 C - Drugs obtained by a national government drug procurement agency  
 D - Drugs obtained by Delhi State Govt. by pooled procurement and selective tender

Table 1 above shows the comparative prices at which medicines were purchased in different systems – (a) by open tender, (b) by obtaining medicines from a government outlet, (c) by a national procurement agency, and (d) by the Delhi Government by pooled procurement (Chaudhury)(6).



The percentage savings made for five medicines by the system of pooled procurement and selective tender as compared to the open tender can be seen in Table 2. This varied from 12.5% to 80%.

**Table 2: Drugs purchased at competitive prices (Rupees)**

Drugs	Open tender	Pooled procurement	% cost reduction
Syr. Amoxycillin	14.65	7.50	50
Tab. Erythromycin (250 mg)	3.24	1.54	50
Tab. Atenolol (50 mg)	0.42	0.17	60
Inj. Ranitidine	1.87	1.63	12.50
Inj. Diazepam	5.53	0.93	80

Table 3 shows the availability of drugs in the medical stores and some other features in a medium-sized hospital(7).

**Table 3: Drug use in a medium-sized hospital**

	Before	After
Availability of Drugs in Stores		+ 85%
Drugs from EDL	74%	87%
Expenditure on Essential Drugs	87%	93%
Expenditure on Non-Essential Drugs	13%	7%
Average Stock-Out Drugs (Days)	110	24

Source: Khanna N., Chaudhury R.R., Bhoi N., Tekur U. and Bapna J.S. "Impact of drug policy in improving access to medicines in Delhi". Abstract of paper sent for presentation in ICIUM 2004.

It becomes clear that the supply of medicines in hospital stores increased after introduction of the essential drugs programme even though the budget for medicines remained the same. It is interesting to note that the "Stock-Out Days" in the medium-sized hospital were reduced from 110 days in a year to 24 days a year. The same parameters are seen in a large hospital in Table 4.

**Table 4: Drug use in a large-sized hospital**

	Before	After
Availability of Drugs in Stores		+ 25%
Drugs purchased from EDL	62%	78%
Expenditure on Essential Drugs	73%	85%
Expenditure on Non-Essential Drugs	27%	15%
Average Stock-Out Drugs (Days)	43	31

Source : Khanna N., Chaudhury R.R., Bhoi N., Tekur U. and Bapna J.S. "Impact of drug policy in improving access to medicines in Delhi". Abstract of paper sent for presentation in ICIUM 2004.



The following figure on key drug availability (Figure 1) shows the increase in the availability of the key drugs at a government hospital before and after introducing the pooled procurement system. It can be seen that the availability reached 90%. This means that 90% of the drugs prescribed were actually given to the patient-free. These drugs were of good quality.

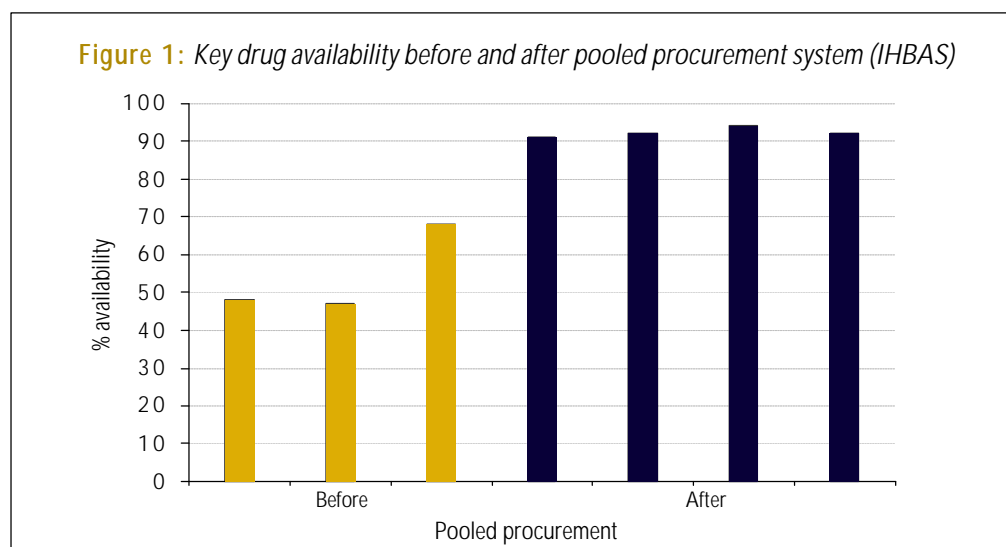


Figure 2 shows the medicines actually dispensed at various levels of health facilities. The analysis of medicines dispensed at primary health centres showed that at five of the six centres studied, a level above 90% was recorded with four centres dispensing around 100% of all the medicines prescribed.

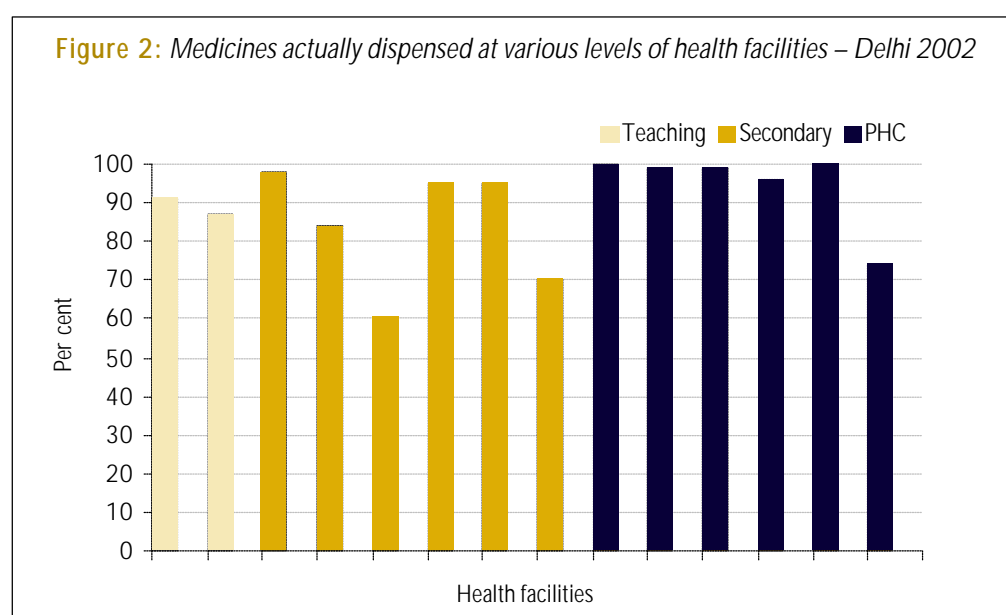




Figure 3 shows the percentage of medicines, which were prescribed from the essential drugs list. It is interesting to note that even at the two teaching hospitals where medicines not on the list are sometimes required, 90% of the medicines prescribed were from the essential drugs list.

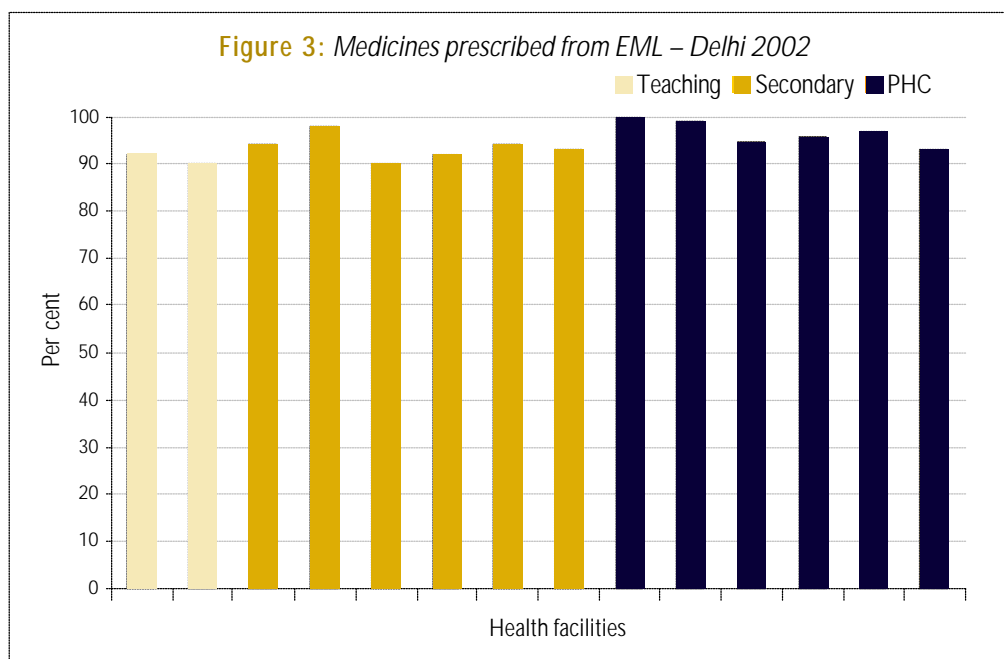
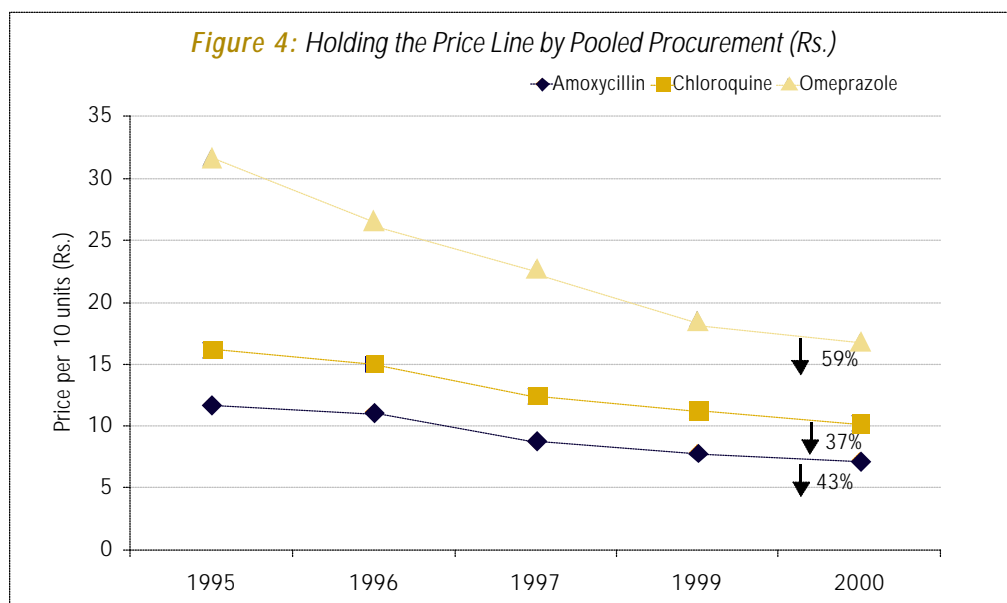
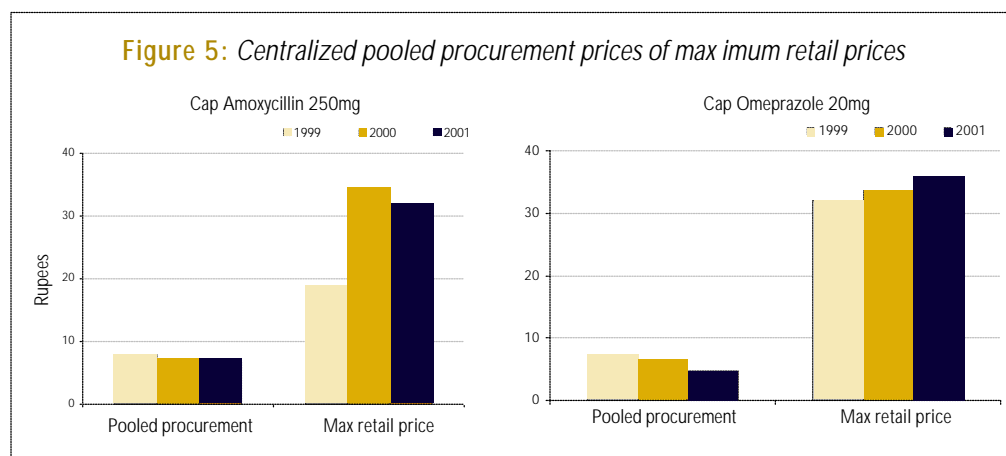


Figure 4 shows the price at which three drugs - amoxycillin, chloroquin and omeprazole were obtained from 1995 till 2000. Not only was there no increase in the price of the medicines but the prices were substantially lower in 2000 as compared to 1995. This was a specific decrease in the prices at which the medicines were obtained and not a general reduction in prices.

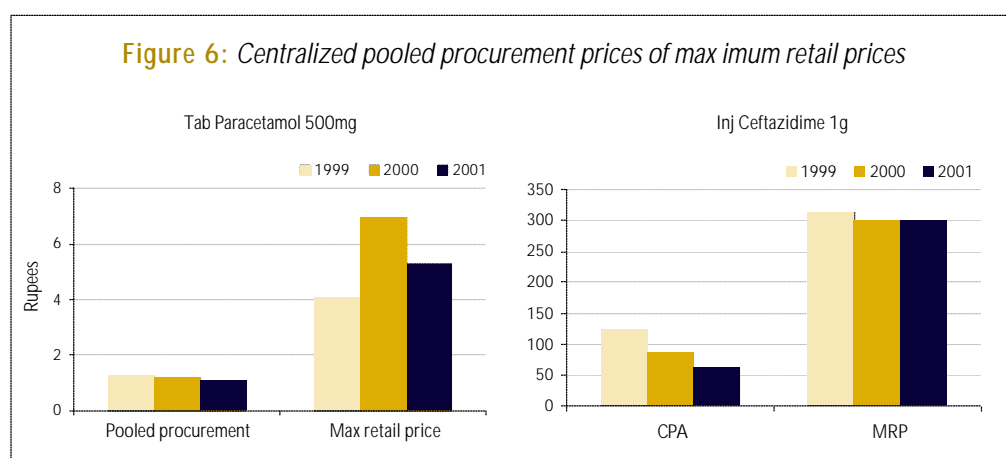




This can be seen in Figure 5 which shows that there was an increase in the maximum retail price of the medicines, amoxicillin and omeprazole, while the procurement prices of the same medicines for the programme remained the same or, in the case of omeprazole, decreased over the years.



A similar trend was obtained for paracetamol and injection ceftazidime (Figure 6).

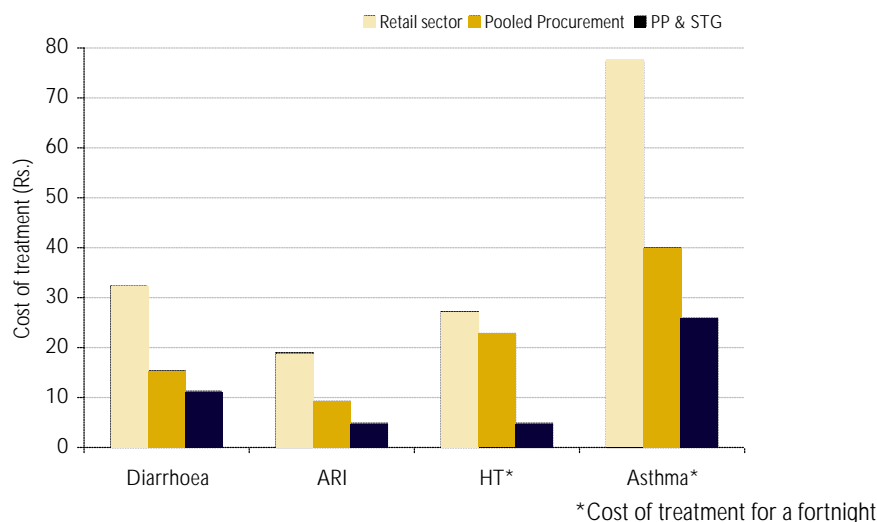


The results of testing batches for quality of the medicines indicated - over the period July 2000 to October 2000 - that 0.6% of the samples were not of standard quality. The total number of batches tested was 3 306 out of which 28 were found not up to the mark. The total expenditure for carrying out these tests worked out to only 0.5% of the budget provided for medicines. Another interesting study demonstrated that while pooled procurement alone reduces the cost of treatment, this is further reduced if pooled procurement is combined with the use of standard treatment guidelines.

Figure 7 below demonstrates this for the treatment of diarrhoea, acute respiratory infection, hypertension and bronchial asthma.



**Figure 7:** Comparative Cost of Treatment on Pooled Procurement followed by STG's



To summarize, the following is the impact achieved:

- (1) Cost of procurement of medicines has been reduced;
- (2) Price line over the years has been held;
- (3) Quality of medicines' procurement is up to the standard;
- (4) There is improved availability of medicines;
- (5) Prescribing is on rational lines and the medicines prescribed are from the list of essential drugs, and
- (6) There has been an upsurge in human resource development for all categories of personnel involved in selection, procurement and use of medicines.

There has been continuous monitoring of the programme since it was initiated. The early success of the programme has been maintained through 2000, 2001 and 2002. Public participation in the programme has increased. The WHO-India Essential Drugs programme has spread to about fourteen states in India. Reviews of the programme have been carried out regularly. The latest External Review of the programme carried out in 2002 by an international team on behalf of the World Health Organization has concluded, "The Delhi State Drug Policy has been implemented and an effective transparent pooled procurement and distribution system has been introduced. As a result, good quality essential drugs are being procured at reasonable prices and are now almost available in the public sector. The impressive achievements are mainly due to the efforts of DSPRUD based on volunteer inputs." It goes on to say: "A number of high-quality basic tools have been developed by DSPRUD (for example policy, pooled procurement system, standard treatment guidelines, essential drug lists, state formulary). These can provide excellent models for other states". Finally, the Report says, "The impact in Delhi State Hospitals and clinics is self-evident to anyone who visits these places. The basic elements of the EDP have been developed and are implemented or being implemented. The administrators are convinced about the merits of the system and the need to protect it, the



doctors in the hospitals are happy about the availability of drugs and are mainly prescribing essential drugs, thereby changing in a suitable way the prescribing behaviour of these doctors. Equally importantly, the patients are getting most of the essential drugs free of cost to them than they have ever received and an increasing number of patients are using the public health facilities.”

This programme could not have been implemented without the tremendous support received from the Government of Delhi and the World Health Organization. The Delhi Society for Promotion of Rational Use of Drugs implemented this India-WHO Programme in Essential Drugs. This work could be accomplished only because of the dedicated efforts of a large team. I gratefully acknowledge the contributions of Dr Harsh Vardhan, Dr Usha Gupta, Mr R. Parameswar, Dr Sangeeta Sharma, Dr Uma Tekur, Mr Ramesh Chandra, Dr R.N. Baishya, Dr A. Dhalla, Dr R.K. Agarwal, Ms A. Banerji and Dr J.S. Bapna. A special thanks to WHO, particularly to Dr Hans V. Hogerzeil at EDM/Geneva. Finally, I would like to acknowledge the constant support, help and guidance received from Dr Uton Muchtar Rafei for the programme for the last many years.

## Myanmar

The programme of rational use of drugs was initiated by the Government of Myanmar and the World Health Organization in July 1989. The national drug policy was formulated at a national seminar organized together by the government and WHO. Other participants included representatives from WHO's EDM Programme at Geneva, from the Regional Office at New Delhi and from the Ministry of Home Affairs, Finance and Trade, Ministry of Industry, Ministry of Labour and the Ministry of Cooperation. In addition, representatives of the Institute of Medicine, Dental Medicine, Paramedical Sciences and Nursing participated. This landmark seminar heralded the beginning of the programme in the country. The Myanmar Essential Drugs Project was initiated and support was obtained from Finnida to implement it.

The components of the programme were to:

- ◆ Develop a drug policy and subsequently promulgate a law;
- ◆ Strengthen the regulatory systems;
- ◆ Strengthen the quality control of drugs, and
- ◆ Improve the systems of procurement, storage and distribution of drugs.

A list of essential drugs was prepared in 1987 and reviewed in 1989. This list is reviewed every two years and identifies the drugs to be used at different levels of health care. Procurement of drugs was restricted only to drugs on the list and doctors were encouraged to prescribe drugs on this list. Standard treatment schedules were also prepared and served not only as guidelines for prescribing drugs but also for calculating the number of drugs which needed to be procured. This can only be calculated if there is a list of essential drugs and the drugs are prescribed according to standard treatment schedules. Myanmar had developed both of these and at workshops held to quantify drug needs for the country, worked out the annual requirement of every drug on the list of essential drugs in a scientific manner.

In addition, the other objectives of the programme were to:

- ◆ Make quality essential drugs available at minimum cost in sufficient quantities at the township level;





- ◆ Improve the diagnosis, prescribing and dispensing skills of targeted health workers;
- ◆ Improve patient compliance, and
- ◆ Design and test a pilot project in one area for eventual replication on a national scale.

Supported by the WHO Regional Office and WHO headquarters, the Government of Myanmar successfully implemented this programme. Activities were undertaken in each of the components. Some of these activities were training programmes in collection of morbidity data and in quantification of drug requirements. The project also trained health workers at the four levels of health care – the township level, the station hospital, the rural health centre and the rural health sub-centres. This training helped the health workers to use the drugs rationally. The health workers also learnt how to dispense drugs properly by labelling and packaging the drugs. The project trained 450 health workers in the public sector and 186 general practitioners within the project area. This training of the general practitioners was an innovative approach. Finally, the communities were informed about the project and were educated to use the drugs properly. They were also asked to rely entirely on the medicines provided by the project. Every fortnight there was a talk on Radio Myanmar about the proper use of medicine. A television programme was developed and a copy provided to every township so that they could use it to promote the rational use of medicine. This participation of the public in the health programme – and specifically the programme in rational use of drugs – was unique and also, of course, in keeping with the philosophy of community participation in health care which is so very special in Myanmar.

The pilot project was initially initiated in 4 townships in Bogo Division, and later expanded to another 5 pilot townships in 1991. All the components of the Myanmar Essential Drugs Project (MEDP) were implemented in these 9 townships. An evaluation was carried out in 1992 and further studies were carried out on drug use in 1994. Some of these results will be shared in this paper. Further details of the MEDP can be obtained in the paper by Hla Myint et.al(8).

**Table 5: Prescribing practices of health workers in 9 pilot townships, 1992**

Description/Tsp	TDY	MHL	GBK	SDG	DKU	NTL	WAW	ZGN	TNP
No. drugs/ prescription	1.1	1.4	1.5	1.5	1.3	1.3	1.4	1.5	1.3
% of generic drug	100.0	93.5	100.0	100.0	100.0	100.0	100.0	96.9	100.0
% of antibiotics	34.6	18.9	32.2	42.2	16.1	18.4	34.4	40.0	22.2
% of injections	0.0	17.8	4.4	11.1	7.1	0.0	7.8	5.5	6.7
% of drugs on NLED	100.0	93.5	100.0	100.0	100.0	100.0	100.0	96.9	100.0
% according to STG	69.0	82.2	91.1	92.2	75.0	86.8	73.3	62.2	78.8

NB:- NLED = National List of Essential Drugs: STG = Standard Treatment Guide: Tsp = township:

TDY = Thayawady: MHL = Minhla: GBK = Gyobingauk: SDG = Shwedaung: DKU = Daik-Oo:NTL = Nattalin:

WAW = Waw: ZGN = Zigon: TNP = Tanapin

Table 5 above shows the prescribing practices in the 9 pilot townships. It is very interesting to note that the percentage of drugs prescribed by their generic names was 100% in 7 townships and 93.5% and 96.9% in the other 2 townships. This is indeed remarkable. The percentage of



drugs prescribed from the national essential drugs was 100% in 7 townships and 93.5% and 6.9% in 2 townships. There is obviously a link between prescribing outside the list and prescribing by brand names as the figures are the same.

Table 6 shows the prescribing practices of health workers in 3 townships.

**Table 6: Prescribing practices of health workers in 3 townships, 1994**

Description/Township	Lepadan	Taikkyi	Thayawady
No. of prescriptions analysed	4300	3100	3000
No. of items of drugs involved	83	64	48
No. of drugs per prescription	1.3	1.3	1.3
% of generics on all prescriptions	65.9	91.5	99.7
% of prescriptions with 1 or more injections	8.9	7.9	2.3
% of prescriptions with 1 or more antibiotics	7.9	27.2	22.6
% of drugs on NLED	74.2	90.8	96.0
% of steroids on all prescriptions	0.2	0.0	0.0
% according to STG	0.4	76.7	84.8
% not according to STG	99.6	23.3	15.2
% not included in NLED	25.8	9.2	3.9
% of prescriptions with vitamins	54.3	2.9	0.1
% of prescriptions with only 1 drug	70.3	68.5	71.7
% of prescriptions with only 2 drugs	21.2	20	22.3
% of prescriptions with 3 or more drugs	6.9	7.7	4.9

Table 7 compares the prescribing practices of health workers in 1 township, the Tharyawady township in 1992 and 1994. The percentage of antibiotics decreased from 34.6% to 22.6% perhaps as a result of training in rational prescribing and providing information on the proper use of antibiotics to the population. The percentage of drugs prescribed according to the standard treatment schedules remained high at 82.6% and 84.8%. In fact, the increase was probably due to repeated training, constant supervision and monitoring by the Myanmar Essential Drugs Programme.

Although assistance from finnida has ended, the government is maintaining and expanding the programme with national funds. Technical inputs continue to be provided by the World Health Organization. As Hla Myint and his co-authors put it, "The implementation of MEDP not only supplied drugs for 22 townships of the project pilot areas and replicated areas but also trained health workers to use the drugs rationally. This had a tremendous impact on the improved quality of health care at the primary health care level. The health workers were trained to estimate the requirements of drugs based on the morbidity - standard treatment methodology for their respective areas or departments. This facilitated not only the procurement of adequate amount of drugs but also prevented the earlier experiences of acute shortages of essential items with unnecessary accumulation of non-essential drugs".

**Table 7: Prescribing practices of health workers in Tharyawady township, 1992 vs 1994**

Description / Year	1992	1994
No. drugs/prescription	1.0	1.3
Percentage of generic drug	100	99.7
Percentage of antibiotics	34.6	22.6
Percentage of injections	0	2.3
Percentage of drugs on NLED	100	96.0
Percentage according to STG	82.6	84.8

None of this could have happened without the help and guidance of the World Health Organization. Grateful acknowledgement is made to Dr U Ko Ko, who was the Regional Director when the writer was WHO Representative to Myanmar and to Dr Uton Muchtar Rafei, the then Director, Health Systems Infrastructure, for their guidance and constant support.

## Bhutan

At the meeting of the Ministers of Health of the South-East Asia Region of the World Health Organization, held at New Delhi on 8 September 2003, the Minister of Health and Education of Bhutan, H.E. Lyonpo Dr Jigmi Singay prefaced his remarks on the discussion on essential drugs by stating that Bhutan's programme of essential drugs was due largely to the support provided by WHO. This collaboration between WHO and Bhutan began in 1984. The major objectives of the programme were to:

- (1) Ensure the availability of quality essential drugs at all times, and
- (2) Ensure that these drugs were stored, distributed, prescribed, dispensed and used correctly.

Bhutan developed its national drug policy and legislation which was approved by the cabinet in 1987. A national list of essential drugs was first formulated in 1978. This list has been revised regularly. The lists of drugs to be used at different levels of health care have been delineated. Rational prescribing has been encouraged by the use of standard treatment guidelines. In addition, the drug management system has been computerized to facilitate procurement, storage and distribution of essential drugs for the national health programme(9). Readers who would like to know more about the Bhutan Essential Drugs Programme are encouraged to reach the document entitled "Bhutan Essential Drugs Programme – A case history" [WHO/EDM/ DAP2000.2].

The programme has been evaluated in 1990 and 1998. It is clear that 90% of the population were able to have access to 27 essential drugs at a low cost. This has become possible because of strengthening of the system of procurement and stores management. The system of procurement ensures that the quality of drugs is maintained at a high level. Testing of samples of the key drugs is carried out in quality control laboratories outside the country. The results indicate that 97% of the products tested are of the requisite quality. It is encouraging that Bhutan has succeeded in ensuring that the population is able to obtain a limited number of good quality medicines at affordable prices.

Improvements in procurement were probably responsible for the fact that drug prices fell rather than rose over the years. The prices at which drugs were obtained in 1990 were 6% lower



than the prices paid for drugs in 1985. “Stock Out” days were reduced because of improved stock management. Training in stores management contributed to improved procurement and storage systems and an improved quality of the drugs. From 1988 till 1992, only 25% of the drugs purchased had a WHO good manufacturing certificate. In 1995, 95% of the drugs purchased had such a certificate.

A few tables taken from the report of Stapleton (2000)(9) illustrated some points as mentioned above. These were brought out when the programme was evaluated.

Table 8 shows the percentage availability of the allocated drugs available at the health facilities on a particular day in January 1986, December 1989 and December 1997. There has been a steady increase in the availability of drugs both at health units and at hospitals. The percentage availability rose from 64 to 83% at health units and from 82 to 88% at hospitals from 1986 to 1997.

**Table 8: Percentage of allocated drugs available on a particular day at health facilities (% availability)**

Health Facilities	1986 (%)	1989 (%)	1997 (%)
Basic Health Unit	64	75	83
Hospitals	82	87	88

Table 9 shows the percentage of the 27 core drugs available at health facilities over deferred time periods using the six-monthly drug report data. It can be seen that the availability of drugs was 89% at the basic health units and 97% at the hospitals. It had increased in 1997 from the earlier figures of 81% and 92% in 1987-1988 at the two health facilities. Availability was always found to be higher at hospitals than at the basic health units.

**Table 9: Study B2. Percentage of 27 core drugs found to be available at health facilities over defined time-periods using six-monthly drug report data**

Health facilities	Jul. 1987 - Jun. 1988 (%)	Jul.-Dec. 1989 (%)	No. of health facilities (%)	Jan.-Dec. 1997 (%)	No. of health facilities (%)
Basic health units	81	89	45 (39)	89	20 (14)
Hospitals	92	97	16 (72)	97	6 (21)
Average	86	93		93	

Table 10 shows a slight decrease in the use of antibiotics after introduction of the drug policy. The percentage of antibiotics prescribed fell from 52% to 48% for doctors and from 42% to 40% for paramedics as compared to 1990 and 1998.

**Table 10: Antibiotics as % of drugs prescribed**

Year	Paramedics (%)	Doctors (%)	Average (%)
1990	42	52	47
1995	n/a	n/a	45
1998	40	48	43



Table 11 shows the CIF value of a basket of drugs in 1985 (before the drug policy was introduced) and in 1990 and 1997. It can be seen that the procurement prices in 1990 were 6% lower than in 1985. In 1997 however, the procurement prices were 60% higher. Part of this could be due to inflation which was 10% between 1990 and 1997.

**Table 11:** CIF value of a basket of drugs compared with the CIF value of the same basket in 1985 (pre-EDP)

Drug name	CIF unit prices, Nu		
	pre-EDP:1985	post-EDP:1990	post-EDP:1997
Ampicillin 250 mg cap	0.67	1.10	0.92
Antacid tab	0.03	0.05	0.07
Aspirin 300 mg tab	0.03	0.03	0.06
Chloramphenicol eye applicaps	1.11	0.12	0.25
Contrimoxazole 400 mg/180 mg tab	0.59	0.28	0.33
Ergometrine 0.2g tab	0.68	1.02	0.28
Mebendazole 100 mg tab	0.18	0.10	0.22
Metronidazole 400 mg tab (2 x 200 mg strength in 1985)	0.48	0.21	0.28
ORS sachet	3.30	1.17	2.74
Paracetamol 500 mg tab	0.63	0.09	0.12
Penicillin V 250 mg. Tab	0.45	0.22	0.46
Procaine penicillin 3 G inj	1.72	4.82	9.05
Total Nu	9.87	9.21	14.78
Exchange rate US\$	12.23	16.97	35.50
35.50 Total US \$	0.81	0.54	0.41
% of the value in 1985		-6%	+49%
% of the value in 1990			+60%

It is clear that the essential drugs programme in Bhutan has been another success story in which WHO in partnership with the government, has been able to provide affordable and good quality medicines to the people.

## Conclusion

The experience described demonstrates that if there is political will, then ethical programmes for the rational use of medicines can be established. Such programmes will benefit the ill, particularly the poor and the needy, save money for hospitals and the country and ensure that the programme leads to equity and good therapeutics. However, such programmes need to be established within existing systems and it is not easy to change systems and mindsets. Those involved in setting up these programmes need to be congratulated because they have worked against considerable odds. It is only team work, use of evidence-based medicine as a tool by doctors, and considerable patience which has led to the achievements described.



What are these odds? Doctors believe they have a right to prescribe whatever medicines they want to and any programme which restricts this freedom interferes with this right. They therefore look with suspicion at any programme that promotes a list of essential drugs. There are two more danger points. If, after introducing the system of pooled procurement some drugs are not available in the medical stores, then there is a tendency to blame the whole system. Again, if some of the medicines turn out, unfortunately, to be sub-standard, the system is blamed. In the early stages any lapse will be used to decry and change the system.

It is therefore important to think ahead and to counteract these apprehensions which are only natural. The new programme should be explained, time and again, to the doctors in hospitals and health care facilities. They should be convinced that the list of essential drugs is their list, that they can add medicines or remove medicines from this list. They need to know that if additional medicines, which are not on the list, are needed, there is a provision for this and 10% of the medicines budget has been kept aside for this. A transparent system of adding or deleting medicines should be set up – perhaps on a scoring system based on evidence. A new medicine added to the list should be more effective or have some additional beneficial effect or be more cost-effective or easier to administer. Doctors should be convinced that this new system with a list of medicines available throughout the year is preferable to the older and existing system where medicines are available only for 5-6 months in an year. Once this is realized, the same doctors who were the greatest critics of the system earlier become ardent crusaders for the new system.

The issue of sub-standard medicines being used in the new system can only be counteracted by having a procurement and quality assurance system whereby only good quality medicines are procured. Several mechanisms, such as criteria for eligibility for tendering, a minimal cut-off point in the turnover of the pharmaceutical company, GMP inspection by top technical experts, testing of each batch as they reach the stores and random testing of medicines, are to be built into the system. Unless this is done there is no point in embarking on a programme in rational use of medicines based on the concept of essential medicines. A few sub-standard samples can wreck the whole programme.

Similarly, for this programme to succeed, the medicines have to be there – always available – otherwise the system will fail. If medicines are not available due to a faulty procurement and distribution system, the confidence in the system will be lost. Medicines would be purchased in the market and would be purchased at very high prices. Further, this local purchase would not have any built-in quality assurance system and sub-standard medicines may be purchased. Finally, this purchasing of medicines locally increases the possibility of corruption and of a nexus between those purchasing the medicines for the hospital, and unscrupulous suppliers.

Besides these three fundamental issues, there are other factors which may act as a constraint in introducing this programme. Pressure to prescribe products of pharmaceutical companies, very often supported by gifts such as participation in meetings, could play a part in bringing into the list of essential medicines some special brand name medicines. The list should contain only generic names of medicines and the tenders should be invited by generic names. Very often there is patient pressure for a particular drug. All this could lead to irrational therapeutics. The success of the programmes described and several other examples in countries such as Sri Lanka, Indonesia and Thailand show that these could be overcome. The value of continuous training of the residents and the faculty in rational prescribing cannot be over-emphasized. One training exposure does nothing



more than make them aware that there is such a concept. This training should be in-built into the system and repeated regularly.

Finally, there is the sobering thought that nearly all that has been achieved has been in the public sector. Programmes in rational use of medicines to enhance access to the essential medicines in the private sector need to be introduced. It would be much more difficult to achieve. However, if one goes by the success achieved in the public sector there is no doubt that there would also be success in the private sector – the general practitioners, the nursing homes and the corporate hospitals. There are some helpful factors in the scenario. The entry of health insurance in the field would be helpful because insurance companies are not going to give reimbursement for irrationally prescribed medicines. There is considerable consumer awareness and very often patients complain that they have perhaps been made to take medicines which they did not need. The doctors soon will need to subscribe largely to standard treatment guidelines to protect themselves against consumer action. Finally, the setting up of Drugs and Therapeutic Committees in hospitals and medical institutions will also help in rational use of medicines. These advantages should be made use of and fashioned into a strategy for the private sector.

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## Prevention and Control of Noncommunicable Diseases

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### Introduction

Noncommunicable diseases (NCD) represent a cluster of major chronic diseases which include cardiovascular diseases (CVD), cancers, diabetes and chronic obstructive pulmonary disease (COPD). The common risk factors which contribute to the causation of these groups of diseases, such as unhealthy diet, physical inactivity, tobacco consumption and overweight, bring them together under the rubric of NCD. The demographic and developmental transitions which are occurring in the developing countries are accompanied by an epidemiological transition characterized by a progressive rise in the burden of NCD. The Global Burden of Disease Study provided detailed estimates of the disease burden posed by different groups of diseases in 1990 as well as the projections for their levels in 2020(1). These burdens were described both in terms of absolute mortality (numbers of deaths) and disability adjusted life years (DALYs) lost. The World Health Reports of WHO have also sequentially described the changes in global and regional burden of diseases over the years(2-4).

These estimates clearly profile NCD as the largest contributor to global death and disability. The World Health Report 2001 indicated that NCD contribute to almost 60% of the deaths and 46% of the global burden of disease(3). The developing countries account for 75% of the total NCD-related deaths and an even higher proportion of the NCD-related disability. Of the estimated 57 million global deaths that occurred in 2002, CVD contributed seventeen million, cancer accounted for 7 million, COPD for 4 million and diabetes for about 1 million(4). The projections for the year 2020 are also grim and foretell a sharp rise in absolute and proportional burden of NCD, principally in the developing countries and, thereby, at the global level. The DALY loss attributed to CVD would rise by 55% during 1990-2020 in the developing countries(1) and the number of persons with diabetes would rise by 195% in a large developing country like India, during 1995-2025(5). Based on the current trends, the NCD are expected to account for 73% of deaths and 60% of DALY loss globally, by year 2020(1).

The World Health Report 2002 profiles the disease burden contributed by individual risk factors(6). It is not surprising that risk factors for NCD, like blood pressure, tobacco, cholesterol, overweight, low intake of fruits and vegetables figure prominently among the major risk factors at

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the global level and also in the developing countries. These risk factors will become even more important, in magnitude as well as ranking, as the developing countries advance to 2020.

## Do NCD affect the poor?

It is also well recognized that, as the epidemiological transition progresses, the burden of diseases would shift not only to the poor people *among developed and developing* countries but also to the poor *within* these countries. Risk factors like tobacco are now much more common among the poor in all countries, while others, such as high blood pressure, diabetes, overweight and abnormal blood lipids, are becoming increasingly common among the poor in many developing countries(7-9).

Even in SEAR countries, there is recent evidence that lower income is associated with higher risk of CVD(10) and that diabetes and cardiovascular risk factors are widely prevalent in the urban slums(11). Tobacco consumption is very clearly predominant among the poor(12) and poses the threat of multiple NCD to these disadvantaged groups.

WHO reports that the NCD are assuming alarming proportions and are becoming the leading causes of mortality, morbidity and disability in the South-East Asia Region(13). In 2001, they accounted for 50 per cent of the deaths and 42% of disease burden in the Region. The diversity in levels of demographic transition as well as development, among the countries of the Region, is reflected in the varying proportional burdens of NCD in different countries(14). Absence of surveillance systems for NCD, in many of the SEAR countries, makes nationally representative estimates difficult. However, the available data do indicate a large and growing burden of NCD which warrant urgent public health attention and action.

## Strategies for prevention and control

### The risk factor concept

The prevention of NCD is guided by the risk factor concept, which recognizes social, behavioural and biological risk factors as the causes of disease and attempts to prevent the acquisition or augmentation of those factors in population groups as well as individuals who are currently not at high risk but are moving in that direction.

It also implies the recognition of individuals who are already at a high risk because of adverse risk factor profiles and reduction of that risk before it leads to disease manifestations. The control of NCD requires that individuals with NCD are detected early and provided cost-effective care which can reduce the risk of death and disability and prevent complications or recurrences.

Since risk factors precede and predict disease-related events, it is essential to influence them. For this it is necessary to understand the following principles of risk, which have emerged from a large number of observational epidemiological studies and clinical trials, conducted in many populations across the world.



- ◆ **Principle of Continuous Risk:** Risk operates in a continuum and not across arbitrary thresholds. Risk reduction, therefore, benefits across the range of distribution of the risk factor in the population.
- ◆ **Principle of Population-wide Risk:** A majority of disease events arise in a population from the main body of the distribution (of a risk factor) than from its high end, since there are many more people in that large segment than in the small 'high risk' sub-group.
- ◆ **Principle of Multiplicative Risk:** Coexistence of risk factors leads to interactive risk which is multiplicative, hence leading to large increases in overall risk even when many of the individual risk factors are only modestly elevated.
- ◆ **Principle of Comprehensive (Absolute) Cardiovascular Risk:** The absolute risk of a major CVD event (CHD/stroke) is dependent on the overall risk profile contributed by coexistent risk factors, each operating in a continuum. This combined risk is more predictive of future events, than the level of any single risk factor.

These principles are especially true of atherosclerotic vascular diseases which are multifactorial in origin. Multiple risk factors coexist in variable combinations in different individuals (depending on diet, ethnicity, hereditary influences etc.). This clustering of risk factors interacts in a multiplicative fashion to enhance the risk of CVD. Each of these risk factors operates in a continuum. Thus the absolute risk of a major CVD event is dependent on the overall risk profile contributed by coexistent risk factors operating in a continuum. In most populations, the majority of CVD events arise from individuals with modest elevations of many risk factors than in individuals with marked elevation of a single risk factor.

While stated most often in relation to CVD, these principles are also applicable to other NCD. Diabetes (Type 2) disease results from an interplay of diet, inactivity, overweight, central obesity and heredity. The outcomes of diabetes are strongly influenced by other risk factors such as blood pressure, blood lipids and smoking. Several cancers too are caused by an interaction of multiple risk factors like tobacco, diet and inactivity. COPD results from the combined effects of tobacco, indoor and outdoor pollution and other environmental factors.

### Strategic pathways: Population and individual approaches

The two strategies which have been conventionally advocated for NCD prevention are:

- (1) the population approach, and
- (2) the high-risk approach

The '*population approach*' aims at reducing the risk factor levels in the population as a whole through community action. Since there is a continuum of risk associated with most NCD risk factors, this mass change will result in mass benefit across a wide range of risk. While individual benefits are relatively small, the cumulative societal benefits are large.

The '*high-risk approach*' aims at identifying persons with markedly elevated risk factors and, therefore, at the highest risk of diseases. These individuals are then targeted for interventions to



reduce risk factor levels. The individual benefits are large but, since the number of such persons is proportionately small in comparison with the total number at risk, the overall benefits to society are limited in terms of deaths or disability avoided. The population strategy has the advantage of being life-style linked, inexpensive and is behaviourally more appropriate. The high-risk approach is often pharmacological and more expensive but the large quantum of projected risk and anticipated benefit elicits better motivation in both patients and providers.

These two strategies are not mutually exclusive but are synergistically complementary. In the regional context, the 'population approach' is especially attractive since the relatively leftward distributions of NCD risk factors in SEAR countries, in comparison with populations of most industrial countries, makes a life-style linked non-pharmacological approach feasible. Thus community-based preventive efforts must aim at effectively preventing a rise in NCD risk factor levels whenever possible, through the promotion of appropriate lifestyle practices (such as healthy diet, adequate physical exercise, avoidance of addictions and stress management). Simultaneously, programmes must be evolved and implemented to provide affordable, cost-effective case management of clinically manifest disease. The widespread use of aspirin which can save tens of thousands of lives of those presenting with acute or chronic coronary and cerebrovascular events is illustrative of such powerful, yet low-cost, interventions.

### Measures directed at populations

At the population level, policies and programmes should aim to:

- (1) Promote healthy diets (calories appropriate to the level of physical activity; avoidance of trans-fats, moderation in the intake of saturated fat, salt and refined sugar; high intake of fresh fruits and vegetables; fish in preference to red meat in non-vegetarian diets);
- (2) Encourage adequate physical activity and regular exercise;
- (3) Control tobacco consumption (prevent primary uptake; promote cessation);
- (4) Control indoor and outdoor air pollution;
- (5) Prevent alcohol abuse (since excess alcohol intake is a risk factor for hypertension, stroke, some cancers and aggravates diabetes);
- (6) Promote societal interventions which reduce individual stress, and
- (7) Increase general awareness of the dangers of overweight and obesity.

Tobacco control is a major public health imperative which will provide the largest benefit, for NCD prevention. Tobacco-related cancers, CVD and chronic obstructive airway disease are among the diseases which can be effectively prevented if abstinence from tobacco and cessation of the tobacco habit are encouraged in the population. Other interventions too are clearly of great importance, as indicated by the World Health Report of 2002 which emphasizes the potential benefit of population-based interventions to reduce salt intake. Increasing the intake of fruits and vegetables would substantially reduce the risks of CVD, several cancers, diabetes, overweight and obesity. If population-based measures are effectively implemented, much of the projected burden of NCD in the SEAR countries can be avoided (6).



The success of population-based interventions, addressing multiple risk factors common to many NCD, through lifestyle-linked community programmes has been demonstrated both in developed and developing countries (15, 16). Such population strategies require both 'bottom up' (community health education and empowerment) and 'top down' (legislation and regulation) approaches. Whether it is food (production, pricing, labelling) or tobacco (production, sale, advertising) or physical activity (a conducive transport policy which favours urban cycle lanes and curbs vehicular transport as well as provides facilities for leisure time exercise in community playgrounds) - active health policy measures are required alongside public health education. An enlightened policy and an empowered community can together stall the advance of the emerging epidemics of NCD in SEAR countries.

### Measures directed at individuals:

Individuals at high risk of disease must receive clinical services to:

- (1) Detect, assess and stratify risk, using methods which are appropriate to low resource settings, and
- (2) Reduce risk through cost-effective interventions which emphasize lifestyle measures and add inexpensive drugs where necessary.

Risk detection strategies can never involve mass screening as an option, as it would be expensive, operationally difficult, needs to be repeated at frequent time intervals and can lead to mislabelling of 'false positive' cases whose frequency increases with mass screening in population groups in whom diseases or risk factors are uncommon. Instead, 'opportunistic screening' is a preferred option, wherein health care providers check for presence of easily identifiable risk factors like tobacco habits, blood pressure, overweight, abdominal obesity, past and family history of NCD. Some pre-cancerous conditions and early cancers also could be screened for, through simple clinical examination techniques, such as oral examination. Such initial evaluation should be complemented by 'targeted screening', whereby individuals who are detected to have a high risk status at opportunistic screening are subsequently examined by laboratory tests for diabetes, dyslipidemia, presence of cancers, lung dysfunction etc. Based on the risk profile, cost-effective interventions should be provided to reduce the risk. These should be principally guided by the 'absolute risk' (comprehensive risk) estimates (6, 16).

Individuals with manifest disease should also be provided facilities for early detection through appropriate opportunistic and targeted screening strategies. They should also be assisted with easily accessible and affordable clinical care which can cure or reverse the disease, reduce disability and the risk of future adverse events. The clinical services must include both essential acute care (for emergencies such as heart attack, stroke, severe asthma) as well as dependable chronic care for long-term therapy and monitoring. Many effective interventions have been identified for reducing cardiovascular risk, in high risk individuals, through primary as well as secondary prevention. This is possible through lifestyle measures (such as diet, physical activity, smoking cessation) as well as through drugs (such as aspirin, beta-blockers, ACE inhibitors, statins and diuretics). Diet and physical activity regimens have been demonstrated, in several recent clinical trials, to reduce the risk of developing diabetes by 58%, among high-risk individuals (17). Several of the drugs too have



a life saving potential, especially when used for secondary prevention of CVD(18) and can be cost-effective when used in generic or off-patent preparations. Effective control of blood pressure and blood glucose will also help to reduce mortality in persons with diabetes(19).

## Implementation

Programmes for the prevention and control of NCD need to adopt a '*life span*' approach, attempt to reduce risk at stage of life through appropriate public health interventions. They also need to be variably integrated into different levels of health care (primary, secondary and tertiary). The principal functions of such a programme would be to: (a) provide information and an enabling environment for increasing awareness and adoption of healthy living habits by the community; (b) early detection of persons with risk factors and cost-effective interventions for reducing risk and (c) early detection of persons with clinical disease and cost-effective care to prevent complications, through: life saving acute care, utilizing low cost – high yield technologies; secondary prevention to reduce risk of recurrent events; rehabilitation and palliative care, in cases where disease has resulted in complications or is incurable.

Many of these activities can be performed in primary care settings (e.g. health education, blood pressure checks, tobacco cessation, chest pain algorithms, oral cancer screening). Some would need to be strengthened in secondary care (e.g. management of some cancers, treatment of cardiac dysfunction). In settings of tertiary care, technology needs to be utilized cost-effectively to provide advanced care as per clearly defined guidelines. *The operational components listed in the table provide a set of essential and optimal activities which can be sequentially implemented to facilitate NCD prevention and control.*

## Chronic care and optimization of available resources

Since the demands of chronic care are many and the available resources are restricted, efforts to optimize the use of those resources should include the following elements.

- (1) *Identifying a menu of core components for providing an 'Essential Package' of chronic care with possible extension to an 'Optimal Package'*: A list of core (essential) and other (optional) components of chronic care needs to be prepared, as appropriate to the context of each country or (where feasible) of each province. The delivery of the 'essential' package must be the immediate objective of the health care system, while the extent to which the 'optimal' package can be delivered is subject to the availability of resources.
- (2) *Integration of these services into various levels of health care*: The 'essential' package of services must be integrated into existing health care infrastructure, by involving care providers, of all categories at various levels of care.
- (3) *Clinical practice guidelines*: The development of clinical practice guidelines (which are evidence-based, context-specific and resource-sensitive) and their integration into various levels of health care will facilitate greater use of *low cost-high impact interventions*.
- (4) *Provider training*: Education and training of health care providers, of diverse categories, would need to be modified in order to enhance the levels of their learning and skills as relevant to chronic disease prevention, surveillance and management. A review of present



**Table: Implementation: Operational components**

Area	Essential Package (core components)	Optimal Package (other components)
<b>PREVENTION</b>	Tobacco Control (Taxation, Regulation, Education) Promotion of Healthy Diets (Production, Pricing, Consumer Empowerment) including the preparation and dissemination of national food-based dietary guidelines Promotion of Physical Activity (Planning of cities and worksites, community education) Mass media campaigns + targeted special group programmes for community health education School-based programmes for 'Learning to Live Healthy'	Phasing out tobacco agriculture and industry (alternative-crops and occupations)  National Nutrition Policy (involving agriculture and industry)  National Transport Policy (Pollution control and promotion of physical activity)
<b>SURVEILLANCE</b> <i>(Adopt and adapt the STEPS approach of WHO)</i>	<ul style="list-style-type: none"> <li>• Tobacco Consumption Habits</li> <li>• H/o Diabetes, Hypertension</li> <li>• Blood Pressure</li> <li>• Pulse Rate</li> <li>• Body Mass Index</li> <li>• Waist circumference</li> <li>• NCD mortality (by cause, age and sex)</li> <li>• National Aggregate Indicators (e.g. production and consumption of tobacco, fruits and vegetables)</li> </ul>	Blood lipids (total cholesterol, HDL cholesterol) Diabetes (by blood chemistry) Health Beliefs Dietary Consumption Patterns Physical Activity Patterns NCD Morbidity (Disability)
<b>SCREENING</b>	'Opportunistic' screening for: <ul style="list-style-type: none"> <li>– Tobacco consumption</li> <li>– High Blood Pressure</li> <li>– Overweight</li> <li>– Central Obesity</li> <li>– COPD</li> <li>– Cervical cancer</li> <li>– Oral cancer</li> </ul>	'Targeted' Screening for: <ul style="list-style-type: none"> <li>– Diabetes</li> <li>– Dyslipidemia</li> <li>– Other Cancers</li> <li>– Transient Ischaemic Attacks</li> </ul>
<b>MANAGEMENT</b>	Clinical Algorithms for: <ul style="list-style-type: none"> <li>– Acute Myocardial Infarction</li> <li>– High Blood Pressure</li> <li>– Congestive Heart Failure</li> <li>– Diabetes Mellitus</li> <li>– Transient Ischaemic Attacks</li> <li>– Childhood Leukaemias</li> <li>– Other cancers (eg. oral, breast, cervical)</li> <li>– COPD</li> </ul>	Clinical Algorithms for: <ul style="list-style-type: none"> <li>– Angina</li> <li>– Dyslipidemia</li> <li>– Stroke</li> <li>– Other cancers</li> <li>– Obesity</li> </ul>
<b>HEALTH SYSTEMS</b>	<ul style="list-style-type: none"> <li>– Integrate core components of prevention, surveillance, screening and management into primary and secondary health care</li> <li>– Strengthen Health Provider Education Learning and Skills relevant to NCD control)</li> <li>– Enhance the knowledge and decision-making ability of health care managers in the elements of NCD control</li> <li>– Implement essential drugs policy for provision of NCD-related drugs</li> </ul>	Strengthen Quality Assurance in NCD-related health care delivery. Perform technology audits to identify and correct inappropriate use of expensive technologies. Strengthen the production and distribution of cost-effective drugs and devices for NCD care in collaboration with industry.
<b>RESEARCH</b>	Strengthen capacity for research relevant to NCD control through national and international partnerships (Implementation Research, to effectively apply available knowledge).	Support innovative research in the aetiology of NCD and for the identification of new technologies which are contextually cost-effective.



training programmes should be undertaken to identify areas which need to be added or strengthened.

Current training programmes for health care providers do not equip them adequately to deliver appropriate chronic care. The training of paramedics and primary care nurses is especially deficient, as their traditional role deals mostly with 'pre-transitional' disorders and population control. Even physicians are not trained to follow an evidence-based, guideline-directed, algorithmic approach that is contextually appropriate and cost-effective. The concept of a team approach, involving shared responsibilities among the health workers, nurses and physicians is not practically ingrained during the training process. These deficiencies need to be addressed, through an in-depth review of the curriculum as well as the training methodology, so as to appropriately strengthen the learning process in terms of chronic care delivery.

- (5) *Referral linkages and follow-up systems:* Efficient systems for referred care, linking primary care to other levels of provider services (secondary and tertiary) and effective systems for subsequent follow-up care (by primary and secondary care providers) need to be established to ensure cost-effective bi-directional movement of patients across the health care chain.
- (6) *Providing patient education and promoting self-care:* The constraints of limited health care provider resources may be overcome by investing in patient education and encouraging self-care which will reduce the demands of follow-up care.
- (7) *Essential drugs and technology Needs:* Any programme for providing chronic care must ensure the availability of essential drugs at affordable prices and meet the technology needs of managing a variety of chronic diseases.
- (8) *Situational analysis:* Estimates of existing and required capacity for delivering chronic care to communities must guide the process of planning. Qualitative and quantitative research methods will help to identify key indicators for such a situational analysis.
- (9) *Customization:* While the general needs of chronic care are likely to be similar for most SEAR countries, the specific mix of prioritized services would differ from country to country. These variations would be determined by the current state of health transition, projected pace of the chronic disease epidemics, geographic epidemiology of disease patterns, status of health services, resource scenario and prioritization within the health sector. Since there are also likely to be disparities related to socioeconomic status, gender and age resulting in a diversity of health states as well as variable access to health care, provisions for chronic care would also need to be customized within a country. This applies, for example, to guidelines and algorithms for detection and management of risk factors and disease states.

The interventions proposed for the prevention and management of chronic diseases should be based on demonstrated efficacy as well as likely financial and operational feasibility of integration into various levels of health care. Cost-effectiveness of specific interventions will, however, need to be estimated or modelled for each country, based on country-specific estimates of costs and impact. Ideally, such a cost-effectiveness analysis should be generalized, employing a sectoral approach, and seek to evaluate a wide range of interventions and resource allocation options.





- (10) *Influencing policy-makers and health system managers:* Concerted efforts must be made to enhance the knowledge of policy-makers and health system managers, at various levels, about the potential impact of cost-effective chronic care interventions and the high costs of 'missed opportunities' so that they become motivated agents for improving the delivery of chronic care.

## Overcoming the barriers

The operational priorities listed above face several barriers for effective implementation, in the context of the developing countries. These include: short supply and maldistribution of trained health care providers (with a disproportionately large selective urban clustering of physicians and massive shortage of trained paramedics); inadequate knowledge and skills for providing chronic care, in the currently deployed primary care providers; ill-defined roles of the public, private and voluntary sectors in providing chronic care and inadequate purchasing power among consumers for accessing chronic care. The following strategies are suggested as potential methods of overcoming those barriers.

- (1) *Community participation:* Empowerment of the community, through effectively communicated health information and support of enabling social environments will allow individuals to perform many tasks related to chronic care ranging from self-care to assisted care of others.
- (2) *Broadening the base of care providers in primary health care:* The use of trained public health nurses, community health workers and practitioners of complementary systems of medicine, to deliver some of the services currently assigned to physician care providers in primary health care, will extend the outreach at a lower cost.
- (3) *Training and reorientation of existing primary health care providers for delivering chronic Care Services:* Currently deployed primary health care providers, of different categories need to be retrained, along with restructuring of their work schedules, and supported by guidelines to deliver essential chronic care at that level.
- (4) *Promoting public, private and voluntary sector mix and quality of care:* Delivery of chronic care in primary and secondary health care settings, requires a partnership of public, private and voluntary sectors, with definition of standards, adoption of guidelines and monitoring of practice patterns to ensure quality of care. While SEAR countries have traditionally depended on public health systems for provision of primary care, private care providers have become increasingly important contributors to the delivery of such services. The role of the private sector has also grown rapidly in secondary and tertiary health care services. In a number of countries, the voluntary sector (represented by health NGOs) has also been contributing to primary and secondary care through direct services, apart from playing the watchdog role.
- (5) *Health care financing:* A mix of public sector provision of free health care, social insurance and private insurance would have to be evolved to enable universal access to essential chronic care.

## Prioritization of interventions

While planning the organization of health services, the goal should be to shift the centre of gravity of chronic care delivery progressively towards the base of the health care pyramid. By strengthening





the capacity for care by self, family, community, paramedic or traditional healer and by encouraging guidelines-based practice and a rational referral-follow-up pattern which obviates the need for frequent revisits to secondary and tertiary care providers, the responsibility for delivering chronic care devolves downwards closer to the community and away from the more expensive and less accessible higher health care stations. Only such a shift can ensure a sustainable system of chronic care, with the promise of extended coverage and containment of costs.

## NCD prevention and control programmes

The double burden of communicable and noncommunicable diseases, which SEAR countries presently are suffering, has so far led to an inadequate policy response to the accelerating epidemics of NCD. This is because the health systems have been principally geared to prevent, detect and treat infectious diseases and nutritional deficiencies and the care of NCD is perceived to be too resource-intensive to be integrated into public health programmes. However, the nature of these mass epidemics must be understood not only in terms of their huge disease burden but also in terms of economic and developmental consequences. In developing countries, especially in the SEAR Region, NCD occur at a much earlier age than in industrially well-developed countries and prematurely kill or disable many persons during their productive mid-life period of life(1,20).

Prevention and cost-effective control become urgent public health imperatives not only to save lives and prevent adverse developmental effects but also because the huge costs of technology-intensive clinical care will be unaffordable. As the NCD epidemics mature, the poor will become increasingly vulnerable victims, as the groups who are affected in the largest numbers and are the least able to access care.

Recognition of these realities has recently spurred on the national and regional efforts to initiate integrated NCD surveillance programmes and community-based integrated prevention programmes(13,14). Some SEAR countries have recently initiated tobacco control programmes, while cancer control programmes have been operational for several years in many of them. CVD and diabetes control programmes are being pilot-tested in countries like India, while others have initiated vertical programmes for tobacco control of CHD, stroke and diabetes. Integrated NCD prevention and control programmes are being implemented in only two countries (Thailand, Maldives) while they are being pilot-tested at demonstration sites in Bangladesh, India and Indonesia. School-based or industry-based programmes are also being implemented and evaluated in some countries like India.

The adoption of the Framework Convention on Tobacco Control (FCTC) by the World Health Assembly in May 2003 marks a major advance in the campaign for global tobacco control. The SEAR group of countries played a major role in international negotiations leading to the FCTC's adoption and ensured that strong provisions were included for demand and supply side actions to curb the menace of tobacco. Even as the follow-up process of signature and ratification by countries is in progress, countries like India have enacted national legislation for tobacco control, incorporating many of the FCTC provisions. Some other, like Thailand, have already enacted such legislation in the past. Most of the countries in the Region would need to develop or amend national laws in conformity with the FCTC, after they ratify it. Post - FCTC, it is now time for action at the country level. National capacity for health education, regulation, enforcement, laboratory



testing and surveillance must be enhanced to ensure effective implementation of tobacco control programmes.

Similar actions are also needed in the areas of diet and physical activity. The WHO Global Strategy on Diet and Physical Activity has been evolved after a series of Regional and global consultations and is expected to be presented to the World Health Assembly in May 2004. Based on this, countries would need to take major initiatives to promote healthy diets, discourage unhealthy diets and to encourage and facilitate regular, pleasurable and safe physical activity among people.

Individual care of NCD too needs to be strengthened by integrating cost-effective detection and intervention algorithms into primary health care settings. This requires development of guidelines which are evidence-based, context-specific and resource-sensitive, and which enhance capacity-building among health professionals. In the twenty-fifth year after Alma-Ata, it is time to revisit the content of primary health care in the context of the health transition that is occurring in the Region, and integrate NCD care into that package.

## Conclusion

As the SEAR countries experience a rapid health transition, the mismatch between health care needs and resources is widened by an expanded list of health conditions that vie for policy-makers' attention and public health action while posing competing claims for clinical care. The complexities are compounded when policy has to prioritize on the basis of disease burden, cost-effectiveness and equity while the delivery systems have to simultaneously cope with the transformative pressures of economic restructuring and health care reforms. The challenges of providing acute and chronic care for NCD in such settings are immense, yet the imperatives of proper planning and performance for delivering such care become increasingly urgent as health transition rapidly rewrites a new agenda for health care in the Region.

Much of the economic and health burdens of NCD could be obviated:

- (1) *in the short term* by strategies which involve low-cost screening for early detection of NCD in those in whom early interventions effectively alter the natural history of disease and the use of the several low cost-high impact interventions for secondary prevention and clinical care which are now readily available, *and*
- (2) *in the medium and long- term* by investment in population-based prevention strategies for preventing the acquisition or augmentation of risk in hitherto low-risk populations and reduction of risk in populations already affected by health transition.

The existing health systems need to be reorganized and reoriented to deliver the expanded mandate of health care involving the prevention, surveillance and management of chronic diseases. The sustained nature of preventive interventions, required over many years, as well as the growing demand for acute and chronic care of NCD will need to be accommodated into the agenda of primary and secondary health care. Surveillance of NCD and their risk factors should also become an integral function of health systems, complementary to the other surveillance functions they are currently performing. Evidence-based clinical practice and appropriate use of technologies should be promoted at all levels of health care, including tertiary services.



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# 6

## Maternal Health: Current Status and Challenges

*Professor Dulitha N. Fernando\**

### Introduction

Globally, about half a million women die each year from complications of pregnancy and childbirth, with about 90% of such deaths occurring in Sub-Saharan Africa and Asia. Many more experience pregnancy-related health problems during or after pregnancy and childbirth, with about 15% of them suffering from serious or long-term complications. Underlying the medical causes of death and disability are a range of social, economic and cultural factors that contribute to women's health, which are integrally linked to low utilization of available health services (1).

The global interest created in recent decades on this important public health problem culminated in the launching of the Safe Motherhood initiative in 1987. At its launch, the then Director-General of the World Health Organization, Dr Halfdan Mahler, depicted maternal mortality as "a neglected tragedy, neglected because those who suffer it are neglected people, with the least power and influence over how national resources should be spent; they are poor, the rural peasants and above all, women", highlighting the multifaceted nature of the problems related to maternal health.

The past decade has seen dramatic changes in the socioeconomic situation and in the health status of countries in the South-East Asia Region (SEAR) of the World Health Organization. In all countries, there has been a decline in the birth and death rates. Literacy rates have improved and special attempts have been made to improve female literacy. Easy access to contraception has resulted in a decline in fertility. In spite of these gains, however, maternal, perinatal and neonatal mortality rates have remained high in several countries of the Region.

The gender-related development index (GDI) highlights the sex differentials in the average achievement of human development of both sexes as given by the Human Development Index (HDI). Both these indices are available for 8 countries of the Region for 1999. Comparison shows that GDI is lower than HDI in all countries indicating gender differentials, the lowest differences seen in Maldives, Sri Lanka and Thailand, which have higher values for HDI and GDI (2). Other indicators such as the sex ratio favouring females and total fertility rate (TFR), indicate between-

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country variations, attributable to a variety of factors (Table 1). Six countries of the Region, namely DPR Korea, Indonesia, Myanmar, Nepal, Sri Lanka and Thailand report sex ratios favouring females. The TFR ranges from a low 1.5 in DPR Korea to 4.7 in Bhutan.

**Table 1: Selected socio-demographic indicators for the SEAR countries**

Indicator	BAN	BHU	DPRK	IND	INO	MAV	MMR	NEP	SRL	THA
Sex ratio( males 100 females )	103.8	102.0	95.2	107.2	99.8	103.0	98.6	99.7	97.4	97.0
Total fertility rate (per woman)	2.5	4.7	1.5	2.85	2.6	2.8	3.4	4.1	2.0	1.8
Human Development Index (2001)	0.502	0.511	NA	0.590	0.682	0.751	0.549	0.499	0.730	0.768
Gender-related Development Index (2001)	0.495	NA	NA	0.574	0.677	NA	NA	0.479	0.726	0.766
% of GDP spent on health (2000)	3.8	4.1	2.1	4.9	2.7	7.6	2.2	5.4	3.6	3.7

BAN = Bangladesh; BHU = Bhutan; DPRK = DPR Korea; IND = India; INO = Indonesia; MAV = Maldives; MMR = Myanmar; NEP = Nepal; SRL = Sri Lanka; THA = Thailand

Source: Health Situation in SEAR 1998 – 2000 WHO (Latest available data)

## Current status

Multiple determinants influence women's health, which is closely linked with maternal health. The term, maternal health, encompasses all aspects of physical, mental and social well-being of women related to pregnancy. Hence, it includes the health status during pregnancy, delivery and the postpartum period, and the health consequences related to pregnancy.

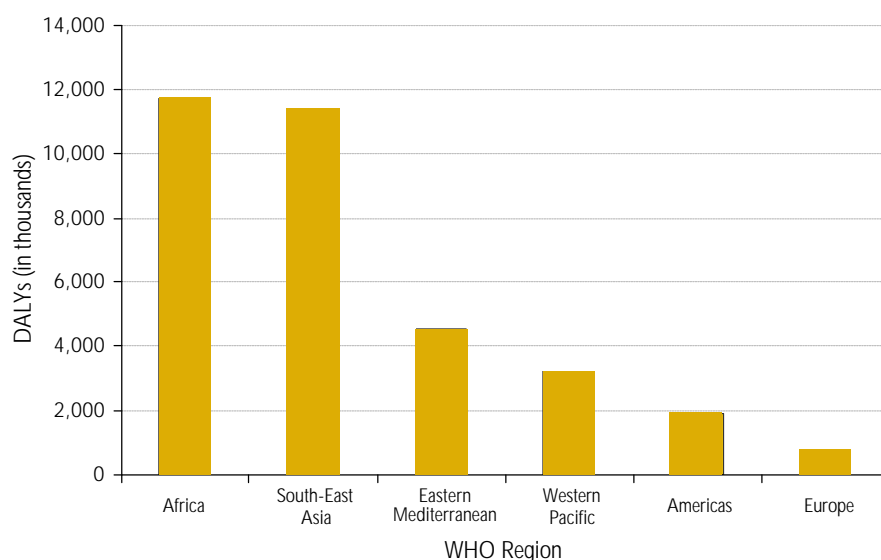
Poor maternal health affects the health of the mother in the short term (during pregnancy, delivery and the postpartum period) and in the long term (reproductive morbidity associated with pregnancy and delivery), health of the newborn, the infant and the young child. The composite indicator, "disability adjusted life years" (DALY), expresses years of life lost to premature death and years lived with a disability of specified severity and duration. The World Health Report 2002 provides information on DALYs due to maternal conditions, at the global level and by WHO regions(3). As shown in the following (Figure 1), Africa and South-East Asia contribute to a substantial proportion of the DALYs due to maternal conditions. Such data for each country, within the Region, however, are not available for comparison.

## Maternal mortality

An indicator based on the negative end-product, a maternal death i.e. maternal mortality ratio, is commonly used to assess maternal health. It is considered a sensitive indicator of the social status of women and the adequacy of the health system to respond to their needs. Maternal mortality is difficult to measure, especially in countries where the system of death registration is not adequate.



Figure: Burden of disease (DALYs) due to Maternal conditions by WHO Region, 2002



Source : WHO Geneva, World Health Report 2003

Even in countries where there is a satisfactory system of death registration (e.g. Sri Lanka), it is difficult to correctly identify a maternal death as this depends on the accuracy of the certification of the cause of death. This situation has led to the development of alternative approaches to identify maternal deaths e.g. sisterhood method, and reproductive age mortality studies (RAMOS)(4,5) etc.

According to WHO and UNICEF estimates, 31% of the 515 000 maternal deaths that occur globally are in SEAR countries. The lifetime risk of a maternal death varies widely between countries in the Region, from 1 in 1100 in DPR Korea and Thailand, to 1 in 21 in Nepal and 1 in 30 in Bhutan(3).

Causes of maternal deaths are available from 5 countries in the Region. This information indicates that leading causes are: haemorrhages of pregnancy, pregnancy-induced hypertension, unsafe abortion and indirect causes. Intercountry variations are evident. In India and Nepal, the leading cause of maternal deaths is haemorrhages of pregnancy, accounting for 23.7% and 36.4% of all maternal deaths respectively. In Myanmar, unsafe abortion accounts for 38.3% of all maternal deaths with haemorrhages of pregnancy accounting for another 14.6% of the deaths. In Sri Lanka, 45% of deaths are due to indirect obstetric causes while obstructed labour led to 37.1% of maternal deaths in Thailand (6).

The process indicators are useful, as they reflect the changes in the processes that are believed to influence the event of interest. It is also indicative of responsiveness, as they reflect changes within a short period of time and hence permit feedback for programme management. Several groups have identified process indicators for monitoring maternal health. Those listed by

**Table 2: Selected indicators for the SEAR countries**

Indicator	BAN	BHU	DPRK	IND	INO	MAV	MMR	NEP	SRL	THA
<b>Human resources</b>										
Hospital beds /10 000 population	3.36	16	136.1	6.9	6.03	17.4	6.3	1.5	2.9	22.3
Physicians / 10 000 population	2.51	1.6	29.7	5.2	1.1	8.4	3.0	0.5	4.1	3.0
Nurses / 10 000 population	1.40	7.0	NA	6.4	4.0	20.8	2.5	2.67	NA	16.2
Midwives / 10 000 population	1.22	NA	NA	NA	3.0	NA	2.05	NA	NA	NA
<b>Health service indicators</b>										
Infant mortality rate per 1000 live births	51.0	60.5	21.8	68.0	41.4	21.0	59.8	64.2	15.4	21.5
Prevalence of low birth weight ( % )	19.5	15.1	9.0	23.0	7.7	17.6	15.0	23.2	16.7	8.1
Maternal mortality ratio per 100 000 live births	230	258	105	407	373	100	140	415	22	13.2
Pregnant women attended by trained personnel during pregnancy (%)	33.7	72.0	100	65.1	71.9	93.0	60.1	35.0	98.0	83.4
Deliveries attended by trained personnel ( % )	21.8	23.7	98.6	42.3	62.3	97.0	77.5	13.5	97.0	94.5
Women of childbearing age using family planning (%)	53.8	30.7	67.0	48.2	66.4	42.0	55.1	38.9	71.0	72.2
Women who have been immunized with tetanus toxoid, during pregnancy (%)	63.7	73.0	91.1	66.8	73.4	94.0	77.0	24.2	90.0	76.3

BAN = Bangladesh; BHU = Bhutan; DPRK = DPR Korea; IND = India; INO = Indonesia; MAV = Maldives; MMR = Myanmar; NEP = Nepal; SRL = Sri Lanka; THA = Thailand

Source: Health Situation in SEAR 1998 – 2000 WHO; (Latest available data are included in this table)

WHO include: number of maternal deaths, maternal mortality ratio, prevalence of anaemia among pregnant women, proportion of pregnant women who received antenatal care, births by trained personnel and proportion of births by the caesarean section, skilled attendance at delivery and the proportion of institutional deliveries (7). Table 2 presents the most recently available data on selected indicators for ten of the eleven countries of the Region.

### Maternal morbidity

Maternal morbidity is more difficult to define, interpret and measure. Maternal morbidity includes direct obstetric morbidity resulting from pregnancy during the antenatal, natal and postnatal period; indirect obstetric morbidity resulting from conditions aggravated by pregnancy e.g. anaemia, malaria. Direct obstetric morbidity includes temporary conditions which occurred during pregnancy, labour



and puerperium such as sepsis, hypertensive disorders and haemorrhage and chronic conditions or long-term complications related to pregnancy and its outcome e.g. vesico-vaginal and recto-vaginal fistulae, pelvic inflammatory disease, and incontinence, etc. Psychological obstetric morbidity including postpartum psychosis, depression and other mental health problems related to pregnancy and childbirth is another area.

Methods of obtaining data on morbidity and validity of such data also pose problems in interpretation and in making comparisons of reported data from different studies. Definitions vary between studies and range widely from minor complaints such as backache to life-threatening conditions such as eclampsia. If maternal morbidity included information on all health problems related to pregnancy i.e. incidence, consequences in the short term and long term, duration and the extent of disability, such data could be used to study the burden of disease directly related to childbearing.

Limited data available indicate that in several developing countries, morbidity is a more common phenomenon than a maternal death. Studies in Indonesia have shown that there are 240-300 instances of maternal morbidity per maternal death. Health services data from Bhutan indicated that anaemia-and abortion-related morbidity are common while similar data from Indonesia showed that prolonged labour was the most common morbidity, reported among 19% of pregnant women(8).

A community-based study in Bangladesh reported that 33% of women experienced a serious complication of delivery and 92% reported ill-health during the first 2 weeks after delivery, 50% of them reporting symptoms until the end of the postpartum period. Another study reporting on long-term morbidity, two years after delivery, showed that 15% of women suffered from uterine prolapse and 7.7% had utero-vaginal fistulae and incontinence (9). A recent study in a district of Sri Lanka indicated that during the first 42 days following delivery, 34% of women had an obstetric morbidity confirmed by a medically qualified person, the common conditions being wound infections, breast problems and psychological morbidity (10).

## Factors influencing maternal health

A wide range of factors influence maternal health. These include the well-documented socio-demographic variables that influence health status, irrespective of the pregnancy status or gender e.g. educational level, socioeconomic status. The key factors that influence maternal health include maternal nutrition, level of fertility, adolescent pregnancy, abortion laws and policies, status of women and the availability and use of health services. Cultural practices influence maternal health directly or indirectly.

### Maternal nutrition

The influence of nutritional status of the mother during pregnancy and prior to pregnancy i.e. during the growing years, on maternal health is well documented. Maternal height, weight gain in pregnancy and the body mass index (BMI) are the commonly-used anthropometric indicators of maternal nutritional status.

Shorter women are exposed to the risk of obstructed labour during delivery which enhances negative implications for maternal and neonatal health. The proportion of adult women with a height less than 145 cms is a commonly used indicator of nutritional status. Available national-





level data on such indicators from the SEAR countries, are limited. A study in Bangladesh reported that 15% of pregnant women and 12–15 % of non-pregnant women had a height less than 145 cms.<sup>(11)</sup> Reported data from India, Indonesia and Nepal indicate that the proportion of pregnant women with a height < 145 cms were 13%, 8 % and 15% respectively (2).

The proportion of women with a BMI of less than 18.5 i.e. undernourished, also varies between countries and within countries. In Bangladesh, this percentage is 47% among rural women and 25% among urban women. The proportion of women with a BMI < 18.5 has been reported to be 35.5%, 28.6%, 21.3% and 15.2% in Indonesia, Nepal, Sri Lanka and Thailand, respectively (12, 13, 14, 15).

Anaemia in pregnancy aggravates the effects of haemorrhage and sepsis during delivery and is a major contributory factor influencing maternal morbidity and mortality. It was estimated that among the WHO regions, SEAR has the highest prevalence of anaemia. In the early 1990s, the prevalence of iron deficiency anaemia (IDA) among pregnant women was 74%, with a wide variation among countries, from 13.4% in Thailand to 87.5% in India (16). The common causes of IDA in many SEAR countries include dietary inadequacies, poor absorption and/or utilization of the nutrients and parasitic infections e.g. helminthiasis, malaria.

In recent years, a significant decline in its prevalence has been reported in several countries of the Region. In Thailand, the prevalence of IDA was reduced by 50% between 1985 and 1995, with Indonesia reporting a decline of 30% between 1986 and 1995 (6). A recently conducted study in the Western Province of Sri Lanka reported an IDA prevalence of 15% among pregnant women (17). There are no national-level studies reported from SEAR countries in recent years, hence it is not possible to study the trends further.

## Fertility

The total fertility rate (TFR) per woman, could be considered as a relatively good indicator of the ultimate family size of a given cohort of women, hence indicative of the exposure to risk associated with pregnancy.

Comparison of the TFR for the periods 1950-1955 and 1995-2000 indicates a marked decline in all countries of the Region, except for Bhutan and Maldives where the decline is marginal. Bangladesh, India and Myanmar are in the intermediate stage of fertility transition with DPR Korea, Indonesia, Thailand and Sri Lanka, in the advanced stages (6).

Increasing literacy rates, improved child survival and improved family health services in the countries of the Region have contributed to the decline in the fertility rates, along with an increase in contraceptive use. Comparison of contraceptive use during the period 1980-1985 with that of 1995-2000 shows that in countries that had low levels of contraceptive use in the 1980s, there was a marked increase in the late 1990s. In Myanmar, the contraceptive use increased six-fold from 5% in 1980-1985 to 32.7% in 1995-2000. In Bangladesh and Nepal, the contraceptive use doubled during this period while Sri Lanka and Thailand, which had relatively high levels of contraceptive use in the 1980s, showed a modest increase (6).



## Adolescent pregnancy

Childbearing in adolescence has wide implications for adverse social, economic, psychological and health consequences for women. A higher rate of fertility among adolescents (15-19 years) is often associated with a lower age at marriage for women, even prior to bone maturation and hence linked with obstetric complications. In SEAR countries, the highest adolescent pregnancy rate of 147 per 1 000 women aged 15-19 years was reported from Bangladesh with Nepal (132) and Bhutan (120) also indicating high rates (2, 18). DPR Korea and Sri Lanka show much lower rates of 26 and 27 respectively (14). Indonesia with a TFR of 2.4 had an adolescent pregnancy rate of 62 live births per 1000 women aged 15-19 years, much higher than Sri Lanka because of the low age at first marriage. Myanmar with a TFR similar to that of Bangladesh and India has a much lower adolescent fertility rate because most women marry in their mid-twenties. In Thailand, despite the high mean age at marriage and low TFR, the fertility rate among 15-19 year-olds was 53.8/1000. Another indicator of adolescent fertility is the proportion of all births to women less than 20 years of age. This percentage varies from a low value of 3% in DPR Korea to a high value of 20 % in Bangladesh.

## Abortion laws and policies

Abortion is an important cause of maternal morbidity and mortality. Thus, laws and policies pertaining to abortion have an important influence on maternal health. In 4 SEAR countries, namely, Bangladesh, Indonesia, Myanmar and Sri Lanka, abortion is legally permitted only to save the life of the mother. In Bhutan and Maldives, abortion is permitted when the life and health of the woman is at risk. In Thailand, the grounds for abortion include rape and incest besides saving the life and health of women. In India, abortion can be sought on broad health grounds. In Bangladesh, menstrual regulation is available as a method of family planning. Initiatives to bring about changes are in progress in many countries in view of the negative health consequences of unsafe abortion.

Even though the high level of abortion has been a problem in the Region, there is a paucity of data. The proportion of births reported as being unwanted/unplanned could be considered as an indirect indicator and it is reported that nearly a third of all births in Bangladesh are unwanted or mistimed with the comparable proportion for Sri Lanka being 19% (14, 16).

## Cultural factors

Access to education, ability to use available health services, access to food and the empowerment of women are all influenced directly or indirectly by cultural factors. Gender discrimination against the girl child in intra-family food distribution has been reported from India, Bangladesh and Nepal (18, 19, 20, 21).

Other forms of gender inequities exist, which are contributed to by varied cultural practices. These inequities influence the provision of optimal care for girls and women, especially in ensuring that the special needs of pregnant women are met.

Cultural practices related to care during pregnancy, delivery and the postpartum period could influence maternal health directly and these practices vary between and within countries. However, well-documented evidence on the health implications of such practices in recent years are limited.



## National programmes for promoting maternal care

Services for maternal care are intricately linked with the pattern of health services available in a given country. The Region shows a wide variation in the availability of resources for health care in general and maternal care in particular.

In recent decades, the SEAR countries have used varied approaches to improve maternal health and minimize morbidity and mortality, depending on the status of maternal health and health services in a given country at the time. The policies for maternal care, that are adopted in recent years in many countries of the Region, have been directly or indirectly influenced by the maternal health and safe motherhood programme formulated by WHO in 1987.

The key approaches considered to have an impact on maternal health are:

- ◆ Strong public commitment
- ◆ Professionalization of delivery care
- ◆ Access to professional care including referral

**Public commitment** is reflected in the policies adopted for improving maternal care. Even though other sectoral policies e.g. education, have an important contribution to make in improving maternal health, the focus of this paper will be on the health sector policies.

In **Bangladesh**, the objective of the health policy is to provide a client-centred service with a focus on improved utilization. Thus, an essential service package, which includes safe motherhood and maternal nutrition programmes, has been an important part of the health and population sector programme introduced in 1998. The national population policy of **India** approved in 2000 aims at achieving the target of 80% of deliveries to be in institutions, 100% of deliveries by trained attendants and 100% registration of births and deaths. Strategies include decentralized planning and programme implementation, convergence of service delivery at the village level, empowering women, reaching underserved groups, collaboration between NGOs and the private sector and strengthening information, education and communication.

**Indonesia** is implementing a policy of decentralization with the responsibility for planning, programming, implementation and monitoring given to the districts. The strategies to improve maternal health include: empowerment of women and families, empowerment of communities, improving quality and accessibility of care, improve the skills of health care providers, improve home care and health care-seeking behaviour of families and communities. In **Myanmar**, according to the National Health Plan for the years 1997-2001, maternal health services are included under the community health care programmes, and services for maternal care have been integrated into the programme for Integrated Management of Maternal and Childhood Illnesses. Further integration is envisaged during the next 5 years.

The safe motherhood programme in **Nepal** is a major programme of the Ministry of Health, implemented in about a third of all districts. Government and nongovernmental organizations have been involved in providing such services. Health sector policies in **Sri Lanka** have made maternal and child health and family planning services a high priority and services are provided free of



charge to the consumer. Other sectoral inputs, especially through the free educational system leading to a high level of female literacy, and the easy access to institutions for mothers seeking institutional services, has increased the utilization of the services provided.

The 8th and the 9th health plans for **Thailand** have focused on provision of care for children and mothers with the emphasis on quality of care. The policy recognizes the need for community awareness and the importance of institutional deliveries and health centre-based health care for mothers. In keeping with the priorities of the country, policy support has been provided to control the HIV/AIDS epidemic.

## Professionalization of delivery care and access to referral services

The main components of maternal care services focus on providing antenatal care, family planning, ensuring clean and safe delivery and essential obstetric care. Availability of skilled personnel for maternal care and facilities for provision of quality essential obstetric care (EOC) is a major requirement of programmes aimed at improving maternal care.

In several SEAR countries – Bangladesh, Bhutan, India, Indonesia, Myanmar and Nepal – Traditional Birth Attendants (TBAs) have continued to remain the major providers of delivery care and postpartum care. Training of TBAs has been undertaken with the aim of improving the availability of skilled attendance at birth.

Developing categories of trained personnel to replace TBAs is an approach implemented in several countries of the Region. In Indonesia, community midwives were trained and were authorized to conduct life-saving procedures (e.g. administering oxytocin, manual removal of the placenta etc.). Female family welfare visitors and family health assistants at the community clinics and Union Health and Family Welfare Centres in Bangladesh provide a range of maternal and child health services including midwifery services (22). In Nepal, a cadre of mother-child aides was formed whose tasks include assisting in institutional and home deliveries and in mobile antenatal clinics.

These interventions were expected to lead to a situation where more women are delivered by skilled attendants. However, many challenges have to be faced in making this programme more effective. These include upgrading of skills, supervision and support for monitoring. Efforts have been made to build partnerships between the services provided by TBAs and the trained midwives.

In recent years, varied views have been expressed regarding the benefits of training TBAs. Even though they are more culturally acceptable and accessible, their role in reducing MMR has not been clear. According to the Interagency Group for Safe Motherhood (IAG 2000), skilled professional attendants who can either provide or ensure access to essential obstetric care, have an important role in preventing maternal deaths (23). The extent to which a trained TBA could play this role effectively has been a subject of debate. Nessa (1995) reported that in Bangladesh, the MMR has remained relatively high, despite training of TBAs for a long period of time, in the absence of essential obstetric care (24). The major contribution made by the referral hospital and continuing education programmes to effective functioning of TBAs in a district of Bangladesh has



been highlighted by Choudhury in 1998 (25). The positive contribution made by training of TBAs, for the improvement of early neonatal care has been documented.

The important contribution made to reduction of MMR by a combination of two key elements in a service programme i.e. availability of trained personnel and institutional support for essential obstetric care, is demonstrated by the experience of two countries of the Region, Sri Lanka and Thailand. These countries have shown a marked decline in MMR during the past few decades.

In **Sri Lanka**, field-based maternal care services through trained public health midwives were first introduced in 1926. A network of institutions with facilities for obstetric care backed up the field-based services. A sustained political will to provide maternal and child health services (including family planning) has contributed to the development of a strong infrastructure for provision of services supported by a good road network, enhancing access to services. However, there are some discrepancies noted within the country especially in the conflict-affected zones and the plantation sector.

Experience in **Thailand** during the past four decades shows a different approach being successful in a relatively short period of time. Up to the 1960s Thailand had maternal mortality levels above 400. The first three health plans gave priority to the training of paramedical personnel resulting in the TBAs being replaced by certified village midwives. Maternal mortality halved during the 1970s. The next two health plans put the main thrust on strengthening and equipping district hospitals, leading to a marked increase in the number of beds and doctors. This led to an increase in the use of institutional facilities for delivery. There is concern that there is over-medicalization with 28% of deliveries by caesarean section (26).

Available data indicate that between 1994 and 1999, improvements have been made in the development of referral facilities in many countries, where the proportion of institutional deliveries have been relatively low e.g. Bangladesh, Nepal, Indonesia. It has been reported from Indonesia that the success of referrals has been hampered, and in fact has been confounded by poverty, geographical factors and inadequate facilities for supervision and emergency care at the referral centres.

A study undertaken in Sri Lanka in 2000 showed that the availability of essential obstetric services (EOC) varied within countries. Under the decentralized health care delivery system, action is being taken to upgrade institutions in all provinces, so as to improve the availability of EOC services (27).

The geographical features of some countries in the Region also influence service availability for maternal care, especially essential obstetric care services.

In **Bhutan**, in addition to the referral hospital and the three district hospitals, which have specialist services, other district hospitals and health units are manned by Auxilliary Nurse-Midwives (ANMs). The villages are mostly serviced by the outreach clinics organized by ANMs and field-level village health workers and health volunteers. Availability of ANMs in Bhutan is 4.8 per 10 000 population. **Maldives** is another country where geographical factors have an influence on the provision of health care services. Specialist services are available at the referral hospital and three district hospitals. At island level, there are health posts manned by village health volunteers and community health volunteers.



**DPR Korea** has a strong institutional base for provision of health services influencing maternal care. Human resource availability too is satisfactory with ratios such as 18 nurses, 29.7 doctors per 10 000 population and a bed availability of 136.1 per 110 000 population.

## Role of NGOs

In many countries of the Region, NGOs play an important role in promoting women's health through multifaceted programmes. Bangladesh has a number of NGOs operating at national, regional and local levels e.g. Women's Health Coalition, and the Bangladesh Rural Advancement Committee (BRAC), who continue to play an important role in promoting maternal health, directly or indirectly. The PKK, Family Welfare Movement, a national NGO in Indonesia, takes an active part in service provision to women at village level. Strong links exist between the state sector services and the Myanmar Maternal and Child Welfare Association.

Even though the role of NGOs is relatively limited in Sri Lanka, the NGO, Family Planning Association of Sri Lanka has played a pioneering role in advocacy and service provision in fertility control even before the state sector health services incorporated such activities in the national family health programme. In Nepal too, several NGOs have contributed towards awareness generation and advocacy for safe motherhood programmes e.g. Safe Motherhood Network in Nepal.

## Innovative approaches to improve maternal health

Addressing the health issues of women using a life cycle approach, from conception and birth to infancy, childhood and adolescence, through the reproductive years to old age, taking into consideration their biological and social vulnerabilities, enables taking into account the specific and cumulative effects that influence the health status of a woman at different points in her life cycle. Such an approach highlights the linkages between the different strategies that need to be adopted to improve women's health in general and maternal health in particular.

The SEA Region accounts for approximately 31% of the world's maternal deaths. Many of the women live in rural areas with limited access to health facilities. Many of them do not have antenatal care, deliver at home and often do not have trained assistance at delivery.

Several initiatives have been undertaken to promote women's health in the countries of the Region, especially during the period 1998-2001. These include capacity-building to address women's health issues and development of a gender strategy in health and population programmes in Bangladesh, implementation of a series of activities aimed at empowering women especially in rural communities of India, training of women leaders and advocacy programmes in Myanmar. Bhutan has recently completed a study to collect gender-disaggregated data in several sectors including health (6).

In recent years, many innovative approaches have been used to improve maternal health. The initiative for 'making pregnancy safer', a health sector strategy aimed at reducing the global burden of unnecessary death, illness and disability associated with pregnancy, childbirth and the neonatal period within the broader context of reproductive health, was developed following the



lessons learnt from the Safe Motherhood Initiative. In-service training programmes adapted to suit a given country have been a key input in many of these initiatives e.g. Integrated Management of Pregnancy and Childbirth (IMPAC).

The initiative intends to promote effective evidence-based interventions that target the major causes of maternal and neonatal morbidity and mortality. A regional document - 'Making pregnancy safer: A Health sector strategy' for reducing maternal and perinatal morbidity and mortality has been published. An information kit on MPS for countries in the SEA Region has been developed. Indonesia, with a relatively high maternal mortality rate was identified as a country in which the initiative was to be put in place. Indonesia has asserted its political commitment to this initiative through the launching of the MPS initiative by the President of the Republic of Indonesia and the Director-General of the World Health Organization in October 2000.

Multicentric operational research on community and facility-based interventions has been finalized in six countries in the Region i.e. Bangladesh, Bhutan, India, Indonesia, Myanmar and Nepal. Adaptation of the protocol for each country has been completed and it is hoped that completion of the study in approximately a year will enable identification of effective interventions.

An important initiative to strengthen midwifery services was initiated by WHO SEARO, by developing prototype midwifery standards. These have been field-tested to assess the applicability and usability in 4 countries of the Region - Bhutan, Indonesia, Nepal and Thailand with different levels of midwifery services. The field test was carried out in communities, primary care units and first-referral units in both urban and rural areas. Experiences indicate that the use of midwifery standards can enhance the competence of midwifery-trained personnel. Based on the outcome of the field test, the standards were finalized in 1999 and widely disseminated throughout the Region.

Five countries in the Region, Bangladesh, Indonesia, Myanmar and Nepal, are using these standards as a means of assessing the quality of midwifery care. It is expected that these standards will contribute to better quality midwifery services and thus improve maternal and newborn health in countries within and outside the Region.

## Challenges for the future

Due to the multi-factorial dimensions relevant to ensuring women's health in general and maternal health in particular, a wide spectrum of issues have to be addressed in promoting the health of women with the focus on health issues related to pregnancy.

The ministries of health, other relevant ministries, NGOs, community leaders, women's groups etc. need to address the complex social, economic and cultural factors that influence women's empowerment, and their role in society, ensure access to services and enable women to make informed choices that will contribute towards improving maternal health.

Multiple strategies including improved educational opportunities, economic opportunities, development of life skills, legislative reforms, human rights approaches etc., which go beyond the health sector programmes will be required.





The SEAR countries vary widely in the extent to which the broader aspects relevant to maternal health are taken into consideration. Highlighting the social and economic costs of poor maternal health could be a way of stimulating the responsible authorities to take appropriate initiatives.

In recent years, attention has been focused on improving maternal health. In general, there seems to be political commitment and a range of inputs have been put in place, depending on the health status and, health infrastructure of a given country. Improvements are seen in some of the key factors that influence maternal health e.g. maternal nutrition and in outcome and process indicators.

Much emphasis has been placed on including maternal health on the policy agenda and several innovative approaches have been initiated. The extent to which such programmes have been implemented and yield the expected outcomes, remain to be seen.

Delaying first births until women are prepared to become mothers, through community education strategies especially in countries where tradition encourages early childbearing is an area that needs to be focused on. In recent years, the role of antenatal care and its cost-effectiveness as an input to improve maternal health has been debated. Rooney (1992) reviewed the evidence on the effectiveness of antenatal care and identified a list of antenatal interventions known to be effective.<sup>(28)</sup> In most SEAR countries, contact during the antenatal period provides opportunities for education, establishes relationships between the health care providers and women, and encourages women to seek delivery services. Effective interventions to improve the health of mothers form an important component of antenatal care in countries of the Region e.g. nutrient supplementation. Providing quality care during pregnancy to all those who need such services, is a challenge that has to be faced.

Programmes to ensure improvements in the quality of delivery care need to be continued. Attention has to be paid to improving training of personnel and access to EOC along with monitoring midwifery practices, taking into consideration the variations in cultural, socioeconomic and geographical factors. Such services have to be responsive to women's needs in a given setting.

Prevention of unwanted pregnancy and unsafe abortion requires a client-centred approach with attention paid to abortion and post-abortion care. Relevant legal and socio-political issues have to be addressed in a country-specific way.

Availability of an effective health information system and a registration system for vital events is essential for monitoring progress. Availability of such systems varies between countries. Surveillance of maternal mortality is being done in some countries of the Region through case reviews and verbal autopsies. Introduction of other approaches such as maternal death audit and, confidential inquiries have to be considered wherever possible.

Maternal morbidity is a larger health issue compared to maternal mortality, in terms of numbers affected as well as the negative, long-term health consequences. Lack of information mainly due to problems with definitions and the non-existence of a surveillance system have led to a situation where identification of maternal morbidity is not possible. Further development of programmes addressing maternal health need to include the issues related to maternal morbidity





and its determinants, especially in countries of the Region where the maternal mortality is relatively low (e.g. Thailand, Sri Lanka). Thus, the short-term and long-term consequences of maternal morbidity clearly justify the need for an organized approach to address this problem, which includes identification of the problem and its determinants, and development of appropriate interventions.

Due to the interrelationship between the determinants of maternal health and neonatal health, much of the challenges to be faced to improve maternal health will be similar to those required for the improvement of neonatal health. There are well-documented, evidence-based components of essential neonatal care, some of them requiring partnerships outside the health sector (e.g. female education, status of women).

Attention for improved quality of antenatal care including improvement of maternal nutrition, immunization with tetanus toxoid, natal care with the focus on resuscitation of the newborn as appropriate, infection control and promotion of breast-feeding and postnatal care with emphasis on the well-being of the newborn, with support facilities for emergency neonatal care and referral, would form the basis for activities for promoting neonatal care.

In addition to paying attention to specific inputs to improve the health of the mother and the neonate, promoting the health of the girl child with special attention to nutrition could have a long-term effect on maternal health through inter-generational influences.

Despite many barriers to women's development, considerable gains have been made in the countries of the Region. These gains have had a positive influence on women's health, specifically in maternal health. Much more however needs to be done to consolidate these achievements.

One of the challenges identified in the Declaration on Health Development in the South-East Asia Region in the 21st Century, made by the Ministers of Health of South-East Asia countries in 1997 reads as follows: "Women's health, throughout the life span, is far from satisfactory. The continuing high maternal morbidity and mortality and the number affected by domestic violence are serious concerns of our Region. Furthermore, women lack the freedom of choice to limit their family size, and to improve their own health" (29). This highlights the commitment to invest in women's health and ensuring gender equity as fundamental to the sustainable pursuit of health for all. This declaration forms a strong background to develop and support need-oriented health sector programmes of good quality, using a holistic approach and for forging partnerships. This is a challenge for all countries in the Region, especially in a scenario where health sector reforms of varying patterns are to be put in place.

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# 5

## Combating Priority Communicable Diseases in the South-East Asia Region

*Dr Sangay Thinley\**

### Introduction

The certification of DPR Korea, India and Thailand as being free from guinea-worm disease in February 2000 by the fourth International Commission for Certification of Dracunculiasis Eradication was a shining example of successfully combating communicable diseases in the Region. Another scourge, leprosy, is on the verge of elimination in the Region. Poliomyelitis is on the threshold of eradication with concerted efforts being made in India, the last source of poliovirus in the Region.

Efforts for the prevention and control of TB, HIV/AIDS, malaria and other communicable diseases are being sustained. However, communicable diseases still remain the leading cause of death, accounting for 40% of all deaths in the Region. Ninety per cent of communicable diseases deaths are caused by only six diseases, i.e. acute respiratory infections (ARI), diarrhoeal diseases, malaria, AIDS, TB and measles. The Region is also prone to epidemics and outbreaks of communicable diseases, emergence of new diseases and re-emergence of old ones. This situation is compounded by the fact that South Asia is among the poorest, most illiterate, most malnourished and the region with the highest human deprivation in the world. According to the World Bank estimates, over 500 million people survive below the absolute poverty line. Over 400 million people go hungry every day and the deprivation of human capabilities and access to opportunities affect over 510 million people. In the face of such formidable social and economic challenges, the achievements with regard to the health-for-all goals and gains in combating communicable diseases are noteworthy.

The success in guinea-worm eradication has shown that given the political will, multisectoral response, community participation and partnerships, such scourges can be wiped out, thereby relieving the burden from communicable diseases and improving the quality of life in the Region and the world. Success in the Region is bound to have a global impact as a fourth of the world's population resides here.

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## Priority communicable diseases and their prevention and control

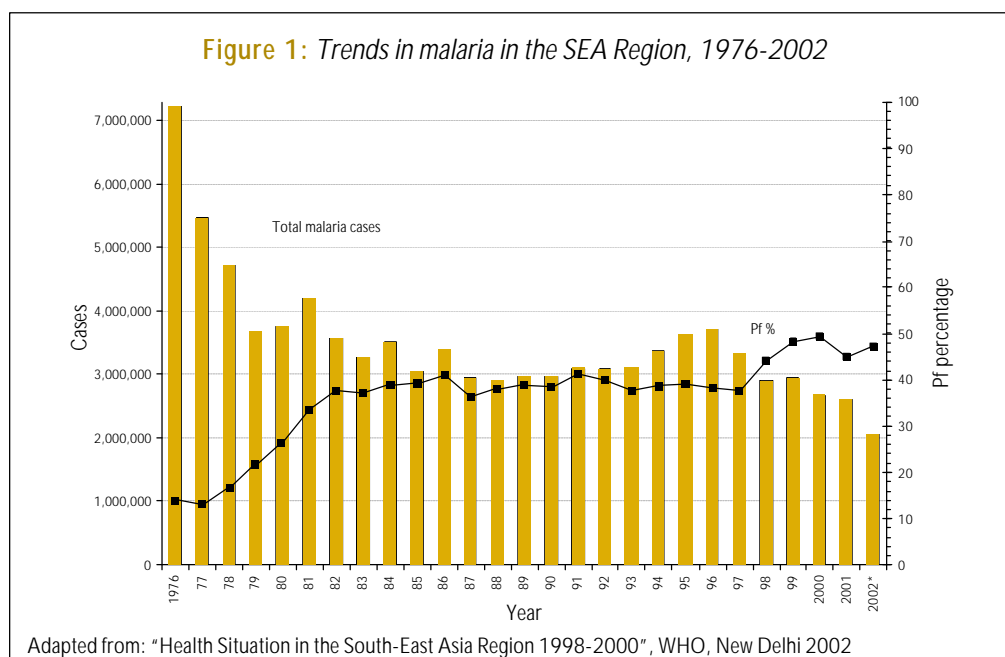
The most common communicable diseases causing deaths are ARI, diarrhoeal diseases, malaria, HIV/AIDS, tuberculosis and measles in the South-East Asia Region. Poliomyelitis, leprosy, lymphatic filariasis, visceral leishmaniasis (kala-azar) and rabies have been endemic in many countries and Japanese encephalitis, dengue/dengue haemorrhagic fever and hepatitis etc. are highly prevalent in some. Infectious diseases in the Region account for 46.1% of the global burden and the Region's "Health-Adjusted Life Expectancy" or HALE, was 52.7 years as compared to the global average of 56 years in 1992.

### Malaria

About 1.2 billion people (85% of the population) in the Region are at risk of malaria. Of these 90% live in India, Myanmar and Thailand. Though malaria cases have declined from 2.9 million in 1998 to about 2.5 million in 2002, the rising trend of *P.falciparum* in the Region is a serious concern as all malaria deaths are due to *P.falciparum* malaria.

Except Maldives, all countries of the Region have indigenous malaria transmission. DPR Korea, after many years without malaria, has been reporting *P.vivax* transmission and outbreaks every year since 1999. Drug resistance, reported first in 1962, now affects all countries. The problem is becoming serious with the emergence of multidrug resistance and chloroquine resistance in *P.vivax* in India and Myanmar.

The implementation of Roll Back Malaria initiative is providing an excellent opportunity to control the disease. Most countries in the Region have already started implementing the strategies. The initiative has opened up crucial avenues for joint action at the regional and country levels.





Successful malaria control in Maldives, innovative community-based approach to control malaria like the Sarvodaya Shramadana in Sri Lanka, Integrated approach to Malaria Control in Maharashtra (India), and examples of successful bioenvironmental control of malaria in the Region are showing the way to effective malaria control.

#### **Integrated Approach to Malaria Control – Maharashtra, INDIA**

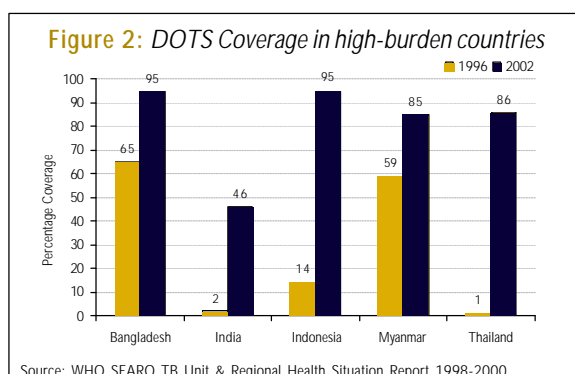
A combination of larvivorous fish usage, medicated bed-nets and residual insecticide spraying along with community participation was Maharashtra's magic *mantra* for controlling malaria. For the bioenvironmental control of the malaria vector, a community-based larvivorous fish (Guppy fish) hatchery project was introduced in 1996. While funds for this venture were provided by the state, their management was a joint responsibility with the community. The population coverage increased from 22 million in 1996 to 90 million in 2000. The Annual Parasite Index (API) declined from 3.5 in the first year to 0.2 in 2000. Larvivorous fish introduction was not the only method used for vector control. In the endemic areas, indoor residual spraying using synthetic pyrethroid was done to cover a population between 2 million and 4.9 million, depending on the severity of the problem. Soon, reported cases in these areas declined, with API coming down from 20 in 1995, to 8 in 2000. Also insecticide-treated bed-nets were distributed in medium transmission areas where the population was small (less than 1 000). People were educated about the importance of using treated bed-nets, which were treated with synthetic pyrethroids every six months by trained health workers. In 4 years, 283 villages with a population of 259 089 were covered. Tracking cases and localized epidemics was given high priority and an effective sustainable village and sub-centre-based surveillance system was established. Surveillance was conducted on a weekly/fortnightly basis. Primary health centres (PHCs) were provided with microscopy facilities for prompt diagnosis. Maximum outreach was ensured with health volunteers taking the drugs to remote hamlets not within easy access of health care sub-centres. The malaria control programme was discussed at each level of the administration and the input of the community incorporated during the planning process. Before undertaking any control measures, the state government made sure that the local community was oriented and involved in the programme. So successful has Maharashtra been in its efforts to control malaria that the population "at high" risk has declined substantially from 12.2 million in 1996 to 6.1 million in 2000. There has been a more than four-fold reduction in reported cases of malaria, including the deadly *P. falciparum* strain.

*Source: Health Development and Prosperity in the SEA Region. Control of Communicable Diseases, WHO Regional Office for South-East Asia, New Delhi, 2001*

### **Tuberculosis**

Since the introduction of DOTS (Directly Observed Treatment, Short-Course) in 1994 impressive progress has been made in its implementation-saving over 500 000 lives from TB in the SEAR Member Countries. The DOTS strategy has led to an 80% success in treatment rate. While Maldives and Nepal have achieved global targets (70% case-detection and 85% cure rate), Bhutan has achieved complete population coverage by DOTS. High-burden countries like Bangladesh, India, Indonesia, Myanmar and Thailand have made commendable progress in the expansion of DOTS.

DOTS coverage now extends to over 60% of the Region's population and the quality of diagnosis has been good. However, only 30% of the estimated total cases are detected in some areas.



resistance, pose a major threat to TB control. The impetus provided by the establishment of the Global Fund for AIDS, TB and Malaria and the assistance of the Global Drug Facility (GDF) is bound to have very positive effects on helping the countries reach the global targets in TB control by 2005. However, TB is a major problem that needs to be tackled in a collaborative manner.

Forging partnerships with other health care providers, such as the private sector, medical teaching institutes and stakeholders in civil society have played a crucial role in the progress of TB control measures.

#### NGO Collaboration in TB control – Bangladesh

Besides health sector reforms that made TB control a part of the essential service package, collaboration with NGOs is another remarkable feature that has enabled the TB Control Programme in Bangladesh to have a good impact. NGOs have taken up the responsibility of implementing the programme to cover 40% of the population in rural and urban areas. The Bangladesh Rural Advancement Committee (BRAC), is a large NGO, collaborating closely with the Government to provide a full range of preventive and curative services for TB control. A pilot study conducted by BRAC in one *thana* showed that community health workers played an important role in the diagnosis and treatment of TB. After confirmation of the disease, they ensured that the patients completed the full course of treatment under direct observation. They helped to bring down the prevalence of sputum-positive cases to 50% in the DOTS areas compared with areas where DOTS was not implemented. During 1992-1994, 9 *thanas* were included in the programme by BRAC, with another 8 added in 1995. Thereafter, the programme has expanded further covering more people and areas. BRAC provided a big boost to the national programme by helping in capacity-building through manpower training and human resource development. This helped in the rapid expansion of the TB control programme throughout the country. In 1998 alone, 12 000 smear-positive cases were detected and treated. BRAC also brought workplaces into the DOTS purview. One example of this effort was establishing a DOTS treatment centre in a large textile factory to reach the workers and their families. The BRAC experience has shown that more than 90% patients accept the treatment, of which 81-86% get cured. The Bangladesh experience illustrates the potential of government-NGO collaboration in rapid expansion of the programme to achieve countrywide coverage. NGOs have helped in the national effort to scale up operations without adversely affecting the quality. As a result of the collaboration, the programme has been able to reach areas where the government infrastructure is inadequate.

Source: *Health Development and Prosperity in the SEA Region. Control of Communicable Diseases*, WHO Regional Office for South-East Asia, New Delhi, 2001



## HIV/AIDS

The HIV/AIDS epidemic continues to spread in the Region, and very alarmingly in some of the countries. According to WHO estimates, there are more than 6 million HIV-infected people in the Region, which is 18% of the global estimate. Of the 216 443 cases of AIDS reported from the Region, more than 95% are from Thailand, India and Myanmar. Globally, India has the second highest estimated number of HIV-infected people next to South Africa.

There is potential for rapid spread of HIV as risk behaviours and vulnerabilities exist in all countries. High-risk sexual behaviour and sharing needles among injecting drug users are well known modes of HIV transmission. However, exchange of information on sexual matters is extremely difficult as there are cultural taboos surrounding sexual behaviour hindering the promotion of safer sexual practices. This is compounded by poverty and low level of education giving rise to lack of awareness about HIV. Also, gender inequity in many countries increases the vulnerability of women and girls to HIV infection.

It is known that a comprehensive prevention and care package supplemented by strong and sustained political commitment and community involvement can arrest the spread of the disease. Priority is being given to targeted interventions and scaling-up of effective interventions, such as 100% condom use in sex workers, syndrome management of sexually transmitted infections, prevention of mother-to-child transmission and dose reduction among injecting drug users. Attention to cross-border spread of infection and establishment of cross-border interactions are having a positive effect.

### Thailand's 100% Condom Programme

The government introduced this innovative programme in 1998, realizing that information alone, while important, would be insufficient to prevent the rapid spread of HIV. It had been observed that sex workers knew about AIDS and wanted their clients to use condoms, but were unable to enforce this. In addition, brothel and bar owners often pressured sex workers to meet their clients' demands even if it meant not using a condom. The authorities sought the cooperation of brothel owners, trying to persuade them to have their workers use condoms in all encounters, and if the customer refused, then to withhold services.

An important part of the programme was to ensure that all owners of sex establishments in a particular area implemented the policy at the same time, so that customers could not threaten to go elsewhere. Meetings were arranged in each province between health officers, police and local authorities and all sex establishment owners. The owners were educated about the severity of AIDS and the current situation in their province and were also told that condom use would be monitored and that penalties for not complying will include temporary or permanent closure of their establishments.

Condom use was monitored through interviews with male clients at STD clinics, collecting information from STD clinics outside the area, monitoring STDs among sex workers and monitoring the number of condoms provided to each establishment. The results have been highly encouraging, from an average 14 per cent condom use among sex workers in 1989, the percentage increased to over 90 per cent in 1995 and has remained stable since. The existence of a strong infrastructure for STD service and the policy of tolerance and monitoring of prostitution along with the strong commitment from the Royal Thai Government were integral to the success of the 100 per cent condom programme.

*Source: AIDS Watch Newsletter, WHO South-East Asia Region*





## ARI and other communicable diseases

Every year, more than ten million children die before they reach their fifth birthday. Seven in ten of these deaths are due to acute respiratory infections, diarrhoea, measles, malaria or malnutrition. On an average, children below 5 years of age suffer 5 episodes of ARI, per child per year, making ARI responsible for about 30-50% of visits to health facilities and for about 20-40% of admissions to hospitals.

It is estimated that 6 countries of the Region (Bangladesh, Bhutan, India, Indonesia, Myanmar and Nepal) account for 40% of the global deaths. Inadequate financial support for ARI programmes is a major constraint in achieving programme targets in the Region. However, recognizing that the promotion of child health and development is an integral part of any health strategy and the poor are more vulnerable to such diseases and deaths, countries are increasing collaboration with NGOs in carrying out activities in the area and training their staff in the integrated management of childhood illness (IMCI).

### Expanding IMCI – Indonesia

Indonesia was one of the first countries in the Region to implement the Integrated Management of Childhood Illness (IMCI) strategy and expanded it successfully. It actively collaborated with several technical programmes and used its existing health infrastructure to make the project a success. Since the strategy had a lot in common with family health programmes, the government involved the districts and community health workers. The programme was initiated in 1995. A wide consensus was obtained and the several variations that emerged were incorporated into the programme. Despite arguments that the inclusion of variants can compromise a programme, the Indonesian experience has shown that adapting the programme to local needs without diluting the basic principles actually increases participation from donors. The Ministry of Health (MoH) partnered with the World Bank, UNICEF, ADB, AusAID, ICDC and local governments to implement the IMCI programme.

After sharing the programme in two districts in East Java in 1997 technical programmes outside the Directorate of Community Health have now assumed the responsibility of implementing IMCI. Funded by the ADB, the ARI Control Programme in the Directorate of Disease Control is implementing IMCI in the districts. Guidelines for health workers developed by the Regional Office were adapted for use by village midwives and health sub-centre staff and training courses were organized with funding from different sources. The high cost of the eleven-day training programme forced the government to reduce the duration to 6 days and extend the training of participants late into the evening. Follow-up training and supervisory visits were recommended to make up for the deficiencies arising from the shorter time span of the planned course. A programme review in 1999 recommended a six-day, in-service training format, and proposed the eleven-day course as a 'gold standard' for facilitators undergoing additional training. Innovations in in-service training led to the development of distance-learning packages for health workers in remote areas. A five-day training package has also been made for health centre doctors who can train staff in selected components of IMCI, such as nutrition, counselling of mothers, dispensing of drugs etc. Considerable emphasis is laid on the implementation of IMCI, reorganization of work, and management of drug supplies and linkages to ensure the success of the programme and its sustainability.

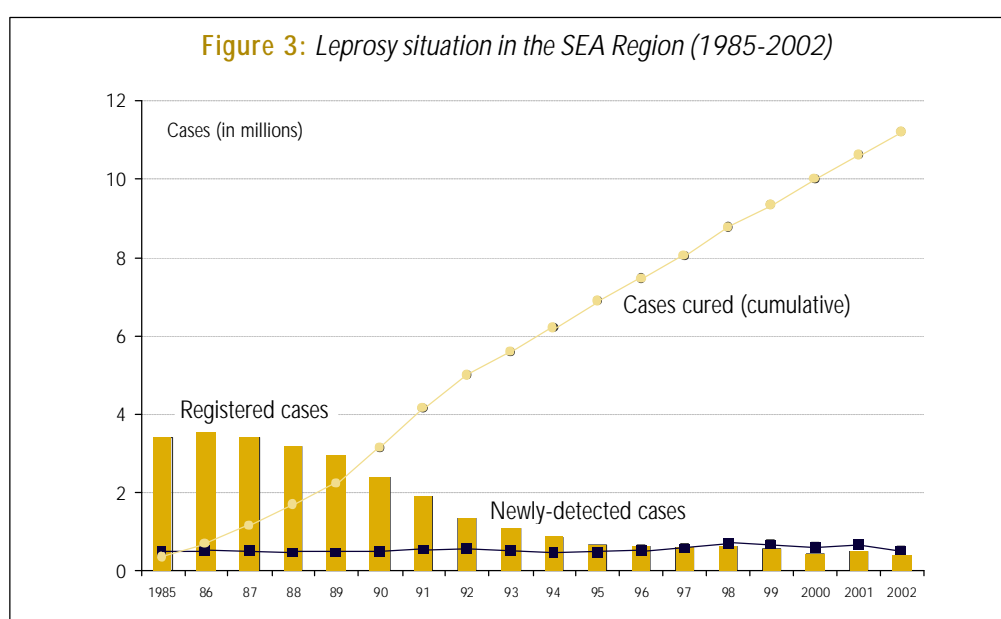
*Source: Health Development and Prosperity in the SEA Region. Control of Communicable Diseases, WHO Regional Office for South-East Asia, New Delhi, 2001*





## Leprosy

Since the introduction of multidrug therapy (MDT) from 1982, there has been a marked decline in the prevalence of leprosy in the Region. Over ten million cases have been cured with MDT. There are still some concerns about the static level of new case-detections in India, Nepal and some other countries of the Region. There is increasing evidence that this is mainly due to operational factors such as setting case-detection targets, over-diagnosis, recycling and active search/surveys. Factors contributing towards elimination have been: integration of leprosy services into the general health services; collaboration and partnerships with NGOs, service organizations, media and key communication groups; effective implementation of case-detection, treatment and case-holding; political commitment, and technical guidance of WHO.



## Kala-azar

Kala-azar or visceral leishmaniasis, though showing a downward trend, is a problem in the Region particularly in Bangladesh, India and Nepal who contribute 20% of the global case-load. Poverty, as in the case of many other diseases, is a major determinant of visceral leishmaniasis as the poor have inadequate access to health facilities and cannot afford the necessary treatment. However, there are very encouraging initiatives to eliminate the problem. India, for example, has launched a kala-azar elimination programme with 2012 as the target year.

## Diarrhoeal diseases

Household surveys carried out during 1994-1995 show that diarrhoeal episodes ranged from 0.7 to 3.9 per child (less than 5 years of age) in countries of the Region. Diarrhoeal diseases are associated with unsafe water and poor sanitation coupled with poor food-handling practices and bottle-feeding of infants during the first 6 months of life. Oral Rehydration Therapy (ORT) in



association with other key interventions had led to marked reduction in deaths caused by diarrhea among children. However, more efforts need to be made to improve the coverage/access to water and sanitation facilities in many countries.

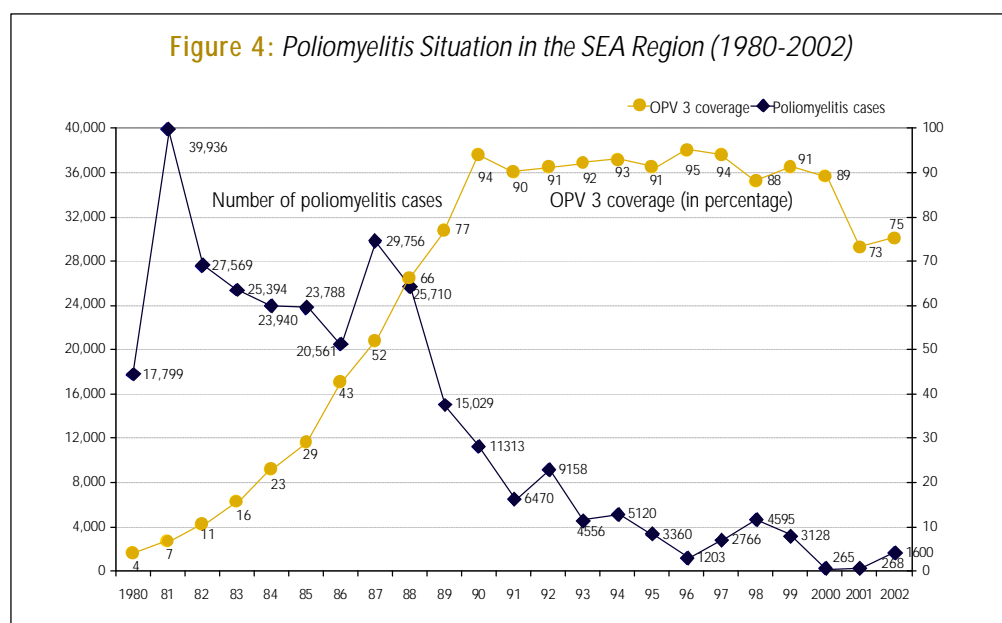
### Lymphatic filariasis

Except in Bhutan and DPR Korea, lymphatic filariasis is a major public health problem in South-East Asia. About 60 million people in the Region harbour microfilaria or are suffering from clinical signs of the disease. Though the disease is not fatal, it causes considerable morbidity and social stigma. Lymphatic filariasis can be eliminated or eradicated with appropriate measures. Endemic countries in the Region have developed national plans to eliminate it by 2020 through mass drug administration and disability alleviation. Continued effort in the countries with support from regional and global networks is anticipated to bring about a reduction or elimination in the transmission of this disfiguring scourge.

### Vaccine-preventable diseases

The Region has made substantial progress in achieving reduction in vaccine-preventable diseases due to sustained immunization coverage. After setting the universal child immunization targets, countries have maintained the coverage at acceptable levels. However, in 2000, around 4 500 cases of diphtheria and 40 000 cases of pertussis were reported. While the total number of measles cases has declined, with some countries experiencing more than 99% reduction in incidence, sporadic outbreaks of measles were reported in school-aged children in a few countries.

The coverage of immunization against poliomyelitis generally exceeded 80% in the countries of the Region. As a result of increased OPV coverage supplemented by National Immunization Days (NIDS), polio cases have declined. Cases are now reported only from certain parts of India.





### Success with Measles control – Bhutan

Measles is a leading cause of death and suffering among children in Bhutan. To learn about the epidemiology of measles, 5 outbreaks of the disease were investigated. It was found that 95% of the children affected were above 5 years. Therefore, immunizing children between 9 months and fifteen years was made a national policy and the resultant increase in immunization reduced the number of reported measles cases from 1 060 in 1984 to just 84 in 1999.

Immunization against measles has become an integral part of the national health policy. The government formed a corpus and set aside funds to finance the programme. Apart from routine immunization against measles, a special vaccination campaign was organized in 1995 to increase the coverage. Taking advantage of the high rate of school attendance in the country, children were vaccinated against measles through the school system. The programme has been sustained with immunization campaigns being organized every 3 years to increase its outreach.

Care was also taken to ensure safe immunization through the use of auto-destruct syringes. Health workers were trained in the correct use and disposal of these syringes and boxes. An effective hospital-based surveillance system was established to sustain the programme.

*Source: Health Development and Prosperity in the SEA Region. Control of Communicable Diseases, WHO Regional Office for South-East Asia, New Delhi, 2001*

The burden of Hepatitis B (HBV) varies from country to country with about 14-16 million people infected annually.

### Japanese Encephalitis

An estimated 40 000 cases of Japanese Encephalitis occur every year in the Region. Outbreaks are reported annually in India, Sri Lanka and Thailand with case fatalities of up to 25%. Though regular control measures like vector control, case-detection and outbreak response have not had much impact on the disease burden, systematic vaccination programmes are bound to have the desired impact as experienced in countries like Japan and South Korea.

### Rabies

Approximately 80% (35 000 – 40 000) of human deaths due to rabies worldwide occur in South-East Asia. Bangladesh, India and Myanmar are high-incidence countries, with >1000 human deaths annually. Many countries face the problem of inadequate control measures, including a large population of dogs that are unprotected against rabies. Rabies is not seen in Maldives as dogs are prohibited. Deaths have steadily declined in Thailand because of mass vaccination of dogs and use of post-exposure treatment.

Lack of political commitment, surveillance systems and appropriate vaccines are major obstacles. Adequate resources need to be allocated, and support for local production of human and animal rabies biologicals needs to be mobilized.



## Future directions

The Region has made remarkable progress in health service development and control of diseases, particularly in the last couple of years. This is true more so in the area of communicable diseases. Diseases such as leprosy, poliomyelitis and neonatal tetanus are on the verge of elimination and eradication. Marked reductions have occurred in vaccine-preventable diseases, and morbidity associated with poor sanitation and hygiene is slowly declining. Overall, there have been impressive reductions in infant and child mortality rates and improvement in the health status of the people in general.

However, old scourges such as tuberculosis, malaria and acute respiratory tract infections still continue to take an unacceptably high toll of lives. With the additional burden of noncommunicable diseases becoming a reality in an environment of poor capacity of health systems, countries in the Region face a triple burden; the burden of communicable and noncommunicable diseases, and the poor capacity of health systems. Therefore, the challenges ahead are many.

In the context of communicable diseases the challenges are to sustain the achievements made, build on the successes that we have had and prepare to face the emerging challenges. In order to ensure the highest possible level of health by lifting the burden of communicable diseases that our Region carries, we not only need to scale up the response to communicable diseases but also to improve our health systems in general. In doing so there is a need to address issues like inadequate resources, poor health systems and political commitment; issues that are relevant at this juncture like globalization, drug resistance and socioeconomic changes, and issues that are anticipated like emerging diseases and appropriate responses to tackle them.

## Health systems, integration and partnership

Experience has shown that one of the factors impeding successful elimination of diseases is a highly centralized vertical disease control programme. An integrated approach appears to be the best way to achieve elimination and eradication of communicable diseases. Be it in leprosy elimination or HIV/AIDS control, integration has played its part. Further, integration appears to be the means to ensure the geographical coverage that is required and the only sustainable mechanism for disease control.

Though all countries in the Region have initiated health systems reform, in many, health systems' capacity in general appeared to be poor. An important challenge is to find ways to reduce the gap between health infrastructure and the demand for care. Another challenge is to reduce the inequities in access to health services. There is wide gap between the rich and the poor. Vulnerable populations like women and children need more attention. Concerted efforts need to be made to address these inequities. Effective health governance by stepping up decentralization and community participation in health development needs to be established wherever it is lacking.

Experience has also shown that partnerships play a crucial role in disease prevention and control. The role of community organizations, the private sector and nongovernmental organizations in taking care of the whole or part of a spectrum of service has been invaluable. Therefore, more attention needs to be given to foster and strengthen partnerships as these are proven mechanisms for successful disease prevention and control.



### Advocacy and political commitment

Political stability, strong leadership and political will are crucial factors for communicable disease control. Major political, management and operational barriers need to be overcome to achieve communicable disease control, elimination and eradication. Advocacy and communication play a major role to address these barriers. Health needs to be kept at the centre of development and high on the political and social agendas of governments. HIV/AIDS prevention, polio eradication and other disease control efforts would require high political commitment for success.

### Globalization, health information, surveillance and rapid response

Rapid globalization is one of the challenges that the prevention and control of communicable diseases face. Whether it is the global market or the concept of a global village, all affect public health. It is imperative to put in place mechanisms to monitor multilateral trade agreements to enable countries to adopt appropriate public health measures. Further, since the world has become a global village with improved transportation and affluence, there is increasing movement of people. Geographical boundaries have become insignificant creating an environment conducive for rapid spread of epidemics. And so it was with the recent outbreak of SARS. Experience has shown that the failure to control an epidemic in one country can have global repercussions with serious impact on traffic, trade and tourism. Therefore, the issue of health information, surveillance and rapid response has become very relevant. There is an urgent need to strengthen health information systems, improve surveillance and develop the capacity to mount rapid responses to emergencies. Currently, the health information systems are generally weak in many countries. There are constraints in data collection and transmission, data analysis and presentation due to inadequate training of staff. Under-reporting is a major problem.

Surveillance is extremely important for early detection and rapid control of diseases. However, this aspect also needs strengthening in many countries. The initiative taken by WHO to weave various systems into a Global Outbreak Alert and Response Network is an important step forward. Surveillance systems need to be sufficiently developed to provide early warning to enable health authorities to mount rapid and effective responses. There is an urgent need to train more epidemiologists. A surveillance system with a daily, weekly or monthly reporting of notifiable diseases or unusual outbreaks through district and provincial levels to the centre and then to the regional and global levels is crucial in the current context.

### Capacity development and resource mobilization

Paucity of human resources continues to affect health development in many countries. In tackling communicable diseases an appropriate mix of health workers with adequate knowledge and numbers are required. However, countries in our Region are still grappling with the problem of maldistribution of health professionals between rural and urban areas as well as the problem of insufficient numbers of professional health workers. Countries need to address this issue through policy reviews, development of comprehensive human resource plans for health and networking of institutions. To enhance capacity in public health, implementation of the policy framework outlined in the Calcutta Declaration is important.

In addition to improving human resources, emphasis needs to be given to mobilize financial resources. Per capita health expenditures need to be increased for the desired impact on access to



health services and reduction in communicable diseases. The flow of external resources for health development needs to be kept up and large resources need to be mobilized to combat specific communicable diseases like HIV/AIDS, polio, TB and malaria. Further, financial inputs into water supply and sanitation infrastructure require to be scaled up to reduce the burden of diarrhoeal diseases.

### Technological considerations: drugs and drug resistance, vaccines and innovations

There is an increasing trend of irrational and indiscriminate prescribing practices, often leading to multidrug resistance and adverse drug reactions. The problem is burgeoning both in hospitals and community settings leading to social and economic hardships. Drug resistance not only prolongs illness but also increases mortality. It is estimated that the cost for treatment of a case of multidrug-resistant TB is >US \$ 10 000. Therefore real efforts need to be made to advocate rational drug use, set up active surveillance mechanisms and implement hospital policies for antibiotic use to control and eliminate communicable diseases.

Technological advances and research and development open up avenues for availability of new drugs and vaccines. However, availability is one matter and affordability is another. A case in point is antiretroviral drugs. Until recently, they were beyond the reach of the masses that needed them the most. Governments, multinationals and the community need to come together if technological advances are to have the desired impact on the lives of the poor and to control communicable diseases.

### Poverty, ill-health and communicable diseases

The inextricable link between poverty and ill-health needs to be seriously taken into consideration in tackling communicable diseases. It is possible to remove significant obstacles that keep people in poverty by controlling AIDS, TB and malaria. Investments in curbing communicable diseases will have a significant impact on poverty alleviation. Since SEAR houses about 1.5 billion people and half of the world's poor, the impact will be very visible in reduction of disease burden and improvement of the health status. On the other hand, strengthening other measures of poverty alleviation through sound policies, political will and concrete actions will have a tremendous impact on communicable diseases and the health of the people. Therefore, we should aim to break the vicious cycle of poverty and ill-health to fulfil the hopes and aspirations of millions in the Region.

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# 4

## Rebuilding Health Systems towards Health Security: Some Essential Indicators

Professor Chitr Sitthi-Amorn\*

### Introduction

Health is a state of complete physical, mental and social well being and not merely the absence of disease. Despite the unprecedented progress in health technologies and economic growth in this century, unnecessary illnesses and early deaths persist in the developing world. Millions of poor children are dying yearly due to malnutrition, preventable illnesses and injuries. Economic benefits have occurred along side wider health disparities between the rich and the poor, the elite and the socially deprived groups, the industrialized and the developing societies.

The world has an unprecedented opportunity to secure health for all if nations put emphasis on strengthening their health systems and not only their health care systems. A strong health system can be represented by a healthy tree. A healthy tree has roots, a trunk, branches, and must survive in the changing atmosphere and environment.

The **root of a healthy tree** is represented by the societal values and principles in building the national health system. In recent years, several trends have emerged in values, health system, including health as the **right** of citizens, access to *quality* services (prevention, promotion, treatment, rehabilitation), development of *evidence-based standards, norms and guidelines*, expansion of the *definition of health to capture the notion of quality of life and holism, adequate finance to achieve and sustain universal access* and social justice. The trends and values must be firmly rooted within society and guide the evolution of a strong health system.

The stakeholders in society **form the trunk of the tree**. They include people, both rich and poor, the provider, the government, NGOs, professional organizations as well as the private sector and the health industry. The most important stakeholder is the public and society at large. At times, there can be conflicts between these stakeholder groups. The values of the health system must be debated by these groups and must become the basis of accepted methods of conflict resolution. The role of the government must change from a key provider of services to overseeing the healthy growth and function of the overall health system. Delegation of authority to regions and provinces while maintaining an effective oversight function centrally will be required.

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Professional organizations are expected to capture and assess the dynamics of technological advances and give advice to stakeholders for their adoption, dispersion and rational use. Many more public organizations have been established for special functions such as hospital accreditation, monitoring health professionals' education, and public health services, as well as presenting options for the public. These organizations are expected to have good governance, efficient management, and are expected to explain their decisions to the public and stakeholders. The NGOs have played active advocacy roles for the society.

The public have been better informed and have been entrusted with more responsibility for self care and have been encouraged to make appropriate decisions concerning their health. Public education, incentive packages and legal measures have been updated to facilitate more appropriate choices. Indeed, the actors in health will be diversified and the relationship between them must be nurtured to ensure a healthy trunk of a strong health system.

A health system includes a health building system, disease prevention and health care. Together, they form the **branches** of a healthy tree. A health building system forms the first branch of a healthy tree.

In addition to health promotion, a **health building system** must be based on healthy public policy, including health considerations in development policy. Development policies must take into account health concerns. Energy policy (dam for hydropower), agriculture (use of fertilizer and design of irrigation systems), industry policy (industrial wastes and environmental pollution), and urbanization among others can no longer be considered in isolation from health and the well-being of the public.

A **disease prevention system** forms the second branch of a healthy tree. In recent years, the world has experienced the need for more collaborative efforts to deal effectively with emerging diseases. Outbreaks of ebola virus, plague, Nippah virus, multi-drug resistant TB and SARS have emphasized the need for nations to have the capacity to protect their people and work with others to protect national and global society.

Finally, an important branch of a healthy tree is the **health care system** which has to be efficient, equitable, of high quality, good self care, amenable to choices for alternative care with elements of consumer protection. With the rapid technological advances in the genomic era, the actors in health must work together and make a nation's health care reflective of the values (the root) of the society.

In this epoch of globalization, a nation's health system does not work in isolation. The healthy tree must not be rigid, but must strive and survive under rapid changes of the environment. The changes include globalization, global advances in sciences, health sector trends, privatization, trade, technology, including drugs (driving up the cost), genome discovery which brings advances and opportunities for mankind but also can have unwanted ethical, legal and social consequences and can create chaos if the knowledge from genome is misused. The global environment, which can benefit as well as threaten health systems is dynamic and moving fast beyond expectation.

The current trend of globalization and cooperation has emphasized economic growth. It is undeniable that economic growth can bring in resources needed to build an advanced health



system for securing health. However, economic growth alone is inadequate to build a strong health system. The right understanding of the broad concept of health and the need for a healthy tree concept for building a responsive health system is fundamental to securing health.

Resources from economic growth must be redistributed to increase social opportunities for a nation's citizen, including education, health, and an equitable access to natural resources within the framework of the economy of the country. This will guard against inappropriate competition for the most advanced and expensive high technology and drugs among the public and private sectors. The role of the government and the management of the health system have to change. Good governance through involvement of the most important stakeholders has to be a critical element in defining the new roles as well as setting up good management system.

We propose that the current bias on economic growth through globalization be balanced with an emphasis on a fairer redistribution of economic benefit to increase social opportunities to people across income and household consumption per capital. Social opportunities include education, health, and fair access to natural resources. We argue that economic benefits must be channeled to tackle two specific areas: (1) *strengthening health systems* for health priorities focusing on inequality; and (2) develop *standards to protect health in development policies* including agriculture, industry, energy, and urbanization.

In *strengthening health systems*, economic benefits must be redistributed according to priorities based on relevance, financial and technical feasibility, the acceptability of stakeholders, the utility of results, timeliness, and ethical standards. As resources are scarce, priorities must aim at significant health needs. If resources to deal with the priorities come from the public sector, then the emphasis must be on a fair redistribution of economic benefits towards sector-specific equity objectives, such as equal services for equal needs. The underprivileged must be targeted since the poor can be most hard hit when economic crisis strikes, as demonstrated during the economic crisis in Asia and in many parts of the world.

The challenge is to make the targeting through public channels efficient, i.e., the underprivileged and the main intended beneficiaries are the main receivers of the benefit from the economic deliberations within the environment where there is an increasing pluralism of health care system including the unprecedented growth of private medical services; the use and abuse of increasingly sophisticated medical technology; the inequity of access to health care through the various payment and insurance mechanisms; as well as social changes associated with increased urbanization have led to higher prevalence of drug dependence, AIDS, problems of the elderly and child abuse.

In terms of protecting health while promoting development, *standards* must be developed when development policies are conceived. These include agriculture, industry, energy and urbanization or housing policies. The contemporary modes of industrialization, agricultural practices, energy consumption and urban planning are generating unprecedented occupational and environmental health problems. Development activities can change the ecology affecting the occurrence of emerging and re-emerging diseases. Development can also pollute the environment with toxic wastes. An effective surveillance system must be in place as a preventive measure to deal with unexpected outbreaks of infectious diseases and toxins even when standards are in place.



*It is important to develop indicators and benchmarks to track and monitor progress towards the redistribution of economic benefits to secure health.* Indicators have to reflect the components of health security within the framework of the changing paradigm at the national, regional and international levels.

**Components of health security** include health promotion, disease prevention and health care (treatment and rehabilitation) within the framework of rapidly changing technological possibilities and disease profiles at the local and global levels (Garrett L. 1994). **Health promotion** involves healthy environment, adequate nutrition, good lifestyles affected by globalization and international dependency. **Disease prevention** requires control of known infectious and non-infectious diseases, active and passive surveillance of emerging and re-emerging diseases as well as mounting appropriate control in concert with active and passive surveillance information. **Effective health care** refers to access to treatment and rehabilitation of acceptable quality across social classes. Therefore, treatment and rehabilitation involve the development and adaptability of health systems that can ensure access to quality services within the framework of technical possibilities according to current and emerging needs in a most efficient way. This means access to the right service, at the right time without undue delay, at the right level of facility by the right personnel to maximize health gain and minimize disability.

There are at least **four perspectives** to guide health actions for health security: (a) the perspective of the **beneficiaries** of health actions (patients, relatives and family), (b) **the providers** of health, (c) the perspective of **health facilities** and (d) that of the **society**. The beneficiaries of health action want the best services for individuals and their relatives (quality regardless of cost). Health providers seek the most technically desirable and cost effective services to their intended beneficiaries (technical efficiency).

Health facilities must make sure that the services provided are efficient, and the facilities are financially viable. The society must make sure that tax money collected from all is used to provide health to all sectors of the society, rich or poor, men and women. When resources are scarce and finance limited, choices have to be made to strike an appropriate balance between equity, efficiency, quality and social accountability of health actions.

*The choice of health actions will depend on the perspectives to be adopted.* When there is a conflict between perspectives, the decision must be based on **the sources of funds and use of resources** to provide health actions. When resources to deal with a fair redistribution of economic benefits come from the public sector, then the society perspective must be adopted, i.e., equal services for equal needs, healthy public policy, disease surveillance, environmental and food security.

On the assumptions discussed above, we propose some possible indicators to channel the redistribution of economic benefits towards health security using the society viewpoints as described below.

## Indicators for health security

### A. Health promotion:

- (1) **Environmental pollution:** Global **environment changes** can threaten individual and global health security and harm sustainable development. Environmental changes can lead to emerging



and re-emerging infectious diseases and other health hazards due to ecological changes resulting from population increase, population migration as refugees or for job opportunities, traveling, trade and industrial growth and wastes, acid rain, deforestation, over use of natural resources and urbanization. When forests disappear, wild animals, insects and other living creatures migrate and can spread unfamiliar infections to human beings. In addition to infections, environmental pollution also lead to more asthma and respiratory infections and cancers. Individual nations cannot deal effectively with the environmental problems alone. Indicators include:

- (a) Agreements among nations (international, regional, bilateral) to create concerted efforts and standards to reduce environmental pollution, undesirable ecology changes, and overuse of natural resources.
- (b) Collective short, medium, and long term plans with milestones and time line to implement and monitor adherence to the agreements and standards among nations.
- (c) Periodic forum where the results of the implementation and adherence to the agreements and standards are discussed and plans modified.

At the national level, people in many urban slums, rural areas and refugee camps are suffering from insufficient environmental sanitation essential to disease prevention and child development. This has added to environmental pollution resulting from development policies. Therefore, the indicators for a fair redistribution of economic benefits for health security at the local level include:

- (a) The magnitude and trend of resource allocation to built up infrastructure, human capacity, and programmes to improve environmental sanitation and reduce environmental pollution harmful to human health.
- (b) The existence of standards and effectiveness of campaigns, incentives, law and law enforcement to reduce environmental pollution resulting from agriculture, industry, energy and housing policies.
- (c) The magnitude and trend of adherence to standards in urban and rural areas as well as refugee camps where health problems associated with poor environmental sanitation and pollution still prevail.

- (2) **Nutrition:** Malnutrition remains a widespread problem in the developing countries. Malnutrition can adversely affect the growth and development of children. Pregnant mothers with inadequate nutrition deliver low-birth-weight babies. Unhealthy children and babies have less access to social opportunities needed for human security. Both over- and under-nutrition can make people unhealthy. Food security implies that people in each household have the physical and economic ability to access healthy food (total calories and trace elements) at all times (adequate production, procurement, or acquisition via welfare). It also requires that the country has the ability to have adequate food acquisition (production or procurement) as well as an efficient food storage and supply system. **Food security is therefore a critical element to prevent malnutrition and enhance health and human security.** The indicators for a fair redistribution of economic benefits towards food security include:

- (a) The magnitude and trends of resources from economic benefits which are diverted to programmes to ensure adequate production, procurement or acquisition of food to all sectors of the population.



- (b) The re-examination of tax barriers and trade agreements between countries can affect food security with implications on health and human security (Fouere T, et al. 2000).
  - (c) The involvement of countries in negotiating with the World Trade Organization (WTO), World Health Organization (WHO), as well as Food and Agricultural Organization (FAO) to review, amend, implement and monitor tax barriers and trade agreements to guarantee food security for all.
  - (d) The magnitude and trend of household quintiles (classified by household consumption per capita) that have the physical and economic ability to access healthy food in terms of total calories and trace elements.
  - (e) The magnitude and trend of anthropometric indicators including weight for height, height for age, weight for age, upper mid-arm circumference using quantitative technique for equity analysis (WB technical report #2).
- (3) **Consumer protection** ensures efficacy and safety of consumer products including food, drugs and medical equipments as well as healthy selection of products for consumption. The proposed indicators for redistributing economic benefits for tracking consumer protections are:
- (a) The magnitude and trends of resources from economic benefits that are allocated for effective consumer product surveillance systems, including the tracking of the nature and extent of use and abuse of products by various household consumption groups through unethical promotion strategies.
  - (b) The existence of standards and effectiveness of campaigns, incentives, law and law enforcement to reduce unethical promotion.
  - (c) The magnitude and trend of complaints and lawsuits for compensation due to poor products by various household consumption groups, urban and rural areas as well as refugee camps.
- (4) **Indicators for general health:** Indicators for measurement of general health (as distinct from diseases) may be used to assess the impact of health promotion. These indicators are available such as WHO Quality of Life (QOL) (1995), the World Bank Measurement of Adult Health (WB technical Note #3, accessed 2003), and the "Concentration Curve" and "Concentration Index" (WB technical note #6, 7, 2003). Indicators include medical models, functional models, and self-perceived models. The methodology for comparison of health among different quintiles of wealth (poorest 20%; 2<sup>nd</sup> poorest; middle; 2<sup>nd</sup> richest, richest 20%) has been published and is available for use.

## B. Disease prevention:

- (1) **Surveillance for infectious diseases:** Surveillance is considered a tool for diagnosis of conditions, which can easily become an epidemic and affect many people in the community, a country and across countries. It is an important tool for health security. Surveillance has been traditionally applied to the control of infectious diseases. Now, surveillance will have to encompass the detection of toxins, such as hazardous chemicals, pesticides in human milk and lead in blood of children, as well as genetically modified products. Of particular importance are the diseases transmitted from animals to man such as the outbreak of chicken virus in Hong Kong, Nippah virus in Malaysia and recently the Severe Acute Respiratory Syndrome (SARS). Also, there is an increasing concern about intentional use of infectious agents to



achieve military and political objectives, commonly referred to as bio-terrorism (WHO Report of Executive Board 2000 & 2001).

Surveillance can be active, passive and targeted periodically towards special groups seeking treatment from sentinel sites. To be effective, a surveillance system must be integrated with other measures to orchestrate a control of the spread of diseases under surveillance. Therefore, the role of surveillance is: to monitor secular and long-term trends of diseases and public health issues affecting health security; to provide early warning for disease outbreaks, which threaten health security; to evaluate prevention and control programmes; and to monitor the effect of climate changes which affect emergence and re-emergence of infectious diseases. Effective surveillance of infectious disease has to be **international in scope to share information** on such diseases as Ebola, Dengue, SARS, outbreak of plague etc.

Three types of surveillance can be used to diagnose the nature and extent of a health problem in a community: active surveillance, passive surveillance and sentinel surveillance. Each has its own sensitivity of detection of health problems and will need different requirements. Most countries only have a passive surveillance system because to maintain an active system would entail sophisticated laboratories. Some infrastructure and human resource requirements will be needed to maintain a sentinel surveillance system.

- (a) **Active surveillance: A case study from India:** Plague in India highlights the need for international cooperation and surveillance. In the first 25 years of the century, India lost about 12 million people to plague. The government launched an effective control programme and in the 1950s, plague was mostly under control. In 1959, plague was eliminated from India and in 1966, India declared the eradication of plague. Since then, very little efforts related to the control of plague were carried out. There was no research and laboratory work being done on plague. The lack of laboratory diagnosis during the outbreak in 1994 caused an epidemic of panic. There was a loss of 2 billion US dollars to the Indian economy and probably several billion dollars globally. What should have been a focal public health event turned into a worldwide emergency.

The goals of active surveillance are: a) to detect without delay the introduction of change in incidence of a specific disease agent (active surveillance has to be disease specific although there are also some exceptions); b) to alert public health officials early on in the course of the epidemic, i.e., the early warning system (emphasis on pre-epidemic period as opposed to epidemic period); c) to assess the extent of risk transmission of a particular disease; and d) to estimate and monitor the efficacy of control activities. Active surveillance has to be laboratory-based. The case definitions of an active system can vary. These case definitions can be non-specific in the pre-epidemic period and become more specific during the epidemic when the incidence increases. There must be standardized sample collection and reporting. The surveillance tool must be convenient and easily transportable (Cassol S, et al. 1996; Frerichs RR 1994).

When a clear disease definition is not available, syndromes can be used to cover multiple diseases. When a syndromic approach is used, the case definition is very non-specific but can be supplemented later with a more definite diagnostic technique.





Laboratories must be able to: (1) conduct routine surveillance for priority diseases important in the area; (2) focus on epidemic transmissions of priority diseases; (3) recognize new diseases, natural disasters, imported disease and bio-terrorism.

At least the laboratory should be able to conduct surveillance on priority diseases and if it is not capable of detecting the broad spectrum of new and other infections there must be some reference laboratory in the Region such as a WHO reference laboratory where samples can be sent for identification and confirmation. Ideally, every country should have a national laboratory with satellite laboratories at the district and local levels. However, this can be expensive for poor countries. A more efficient way of sharing existing resources is to map out existing laboratory facilities in a region, coordinate sharing and standardization among them and develop new facilities, which might be needed. The WHO reference laboratory should be capable of a wide array of diagnostic capability and WHO can link up with other sophisticated laboratories such as the Center for Disease Control.

Every national laboratory should have some well trained personnel, enough facilities, equipment and basic microbiology. The state-of-the-art technology such as PCR is important but not as important as basic microbiology. A mechanism should exist to ensure quality assurance so that people are confident of laboratory results.

Once an infection has been identified, the standard public health measures must be actively applied such as the identification of individuals, the quarantine, the sanitary regulation, the sacrifice of infection sources in animals, the measures to heighten precautions in individuals before vaccines and definitive treatment becomes available.

- (b) **Passive surveillance:** Passive surveillance is most useful to monitor long-term secular trend but insensitive to track the epidemic activities. Most countries have a passive surveillance system. The key components of a passive surveillance system include the use of standardized case definition and a standardized reporting system. Passive surveillance relies on physicians and health officials to report disease from the peripheral and therefore very insensitive for predictability of epidemic activities. Constant communications, reference and referral, political and economic support are all crucial components of an active and passive surveillance systems.

Effective emergency response is a necessary complementary measure to prevent the spread of infectious diseases. Good coordination between epidemiology, laboratory diagnosis and people in the field doing control is critical. Effective control has to be disease-specific and the knowledge about the dynamics of transmission is essential. Further, strong community involvement is needed for sustainability. There has to be a real-time response and timely policy decisions. Therefore, laboratory capability must be credible so that rapid decisions can be taken to respond to the problems in real-time rather than wait until the epidemic spreads or peaks.

- (2) **Empowering the community to be integrated in surveillance and control:** Outreach is an area where public health has often failed. Despite the availability of health education materials for all kinds of diseases and health problems, people usually ignore them. Social scientists and medical anthropologists who know how to communicate with the community should be encouraged to play a greater role in developing health education messages. The use of one



message for all recipients with diverse ethno-social backgrounds is unlikely to succeed. The public must know their responsibility about disease transmission and disease prevention. They cannot rely on the government to do everything. Governments must have an honest assessment of what the epidemiologists have to say and must not hear only what the government wants to hear.

An integrated community-based approach must be based on common ownership and relevant policy decisions and must capitalize on updated technology and instruments available to cope with epidemics and prevent disease. People must have some say in the programme and set the priority. Government officials must not simply go and tell people how to do things. Without community ownership there is no sustainability. Policy decisions have to support the community-based approach.

Therefore, possible indicators for a fair redistribution of economic benefits for health security based on disease prevention include:

- (a) **Agreements among nations** (international, regional, bilateral) to create standards and concerted surveillance of infections and toxins as well as effective emergency response, including effective sharing of information, effective surveillance laboratory networks with various degrees of sophistication.
- (b) **Collective short, medium, and long term plans** with milestones and time line to implement and monitor adherence to the agreements and standards among nations.
- (c) **Periodic forums** where the results of the implementation and adherence to the agreements and standards are discussed and plans modified.
- (d) **The magnitude and trend of resource allocation** to develop an effective surveillance system, emergency response and community empowerment to help control disease outbreak and spread of toxic substances.
- (e) **The magnitude and trends of disease outbreaks and spread of toxic substances.**

### C. Effective care (Treatment and rehabilitation):

When people get sick or become disabled, they must be able to access essential, cost effective and quality care, regardless of the ability or willingness to pay for it. In other words, people's health and their ability to function productively must not be a victim of market forces; and the universal coverage of essential care must be ensured for all. Several lessons have been learnt from the recent economic crisis in Asia. These lessons can be useful to prepare nations to deal with the opportunities and threat of agreements negotiated through the World Trade Organization so that nations can guard against the unwanted consequences on health.

#### Lessons learnt from the economic crisis

The effect of globalization on health has been affected by the corruption and poor governance in the health system. There have been many non-productive investments and wasteful practices in the health sector. Before the economic crisis in Asia, resources were invested in speculative markets. Since the 1980s and well before the economic crisis, South-East Asia invested in many private hospitals.



In Thailand, for example, private hospital beds increased dramatically over the years, i.e., from 8,066 in 1982 to 21,297 in 1992 and 34,973 in 1996. The number of doctors in private hospitals and the ratio of specialists increased, leading to a shortage in the public sector (Ministry of Public Health; Bureau of health policy and Plan 1997). The culture of free enterprise, the enlarged middle class, the inclusion of hospital insurance in salary packages, and tax incentives for the private health care industry, provided strong inducements for investment in private hospitals, advanced technology, migration of leading specialists from the public to the private sector at the expense of the public sector (Chaudhary V. 1992). Increases in the import of new expensive drugs and wastage due to treatment occurred in response to aggressive pharmaceutical industry promotion and consumers' demands for more expensive medicines and procedures (Ministry of Public Health, Bureau of health policy and Plan 1997; Barnett A, et al. 1980).

Medical care costs provided as "welfare" to government civil servants and those employed in medical enterprises has increased sharply from 4,315 million bahts (US\$ 108 million) to 16,500 million bahts (US\$ 412 million) in 1995, a four-fold increase in seven years. Inadequate management, monitoring and evaluation necessary for good governance and lack of regulation of the corporate health care business sector have prevailed (Barraclough S. 1997).

Due to the crisis many direct health consequences such as an increase in suicides occurred as well as other adverse health effects such as malnutrition, abandoned children, low birth weight among the poor, mortality from acute respiratory tract infections and vaccine preventable diseases including diphtheria, measles and hepatitis (Prida Tae-Arruk 2001; Choprapawon C. 2000.). These adverse health effects were partly due to the lower rates of utilization of services especially by those who had no prepaid insurance (Prida Tae-Arruk 2001). The poor were disproportionately affected by adverse health consequences of the economic crisis. Ironically, such injustice was apparent despite the fact that the public hospitals in the Ministry of Public Health received increased budgets for their poor patients through the "Good Health at Low Cost" programme (Prida Tae-Arruk 2001).

Moreover, free health insurance received by poor people decreased from 19.7% in 1997 to 13.5% in 1998 (Prida Tae-Arruk 2001), adding greater inequity in access to health care. The government has recently developed a universal coverage scheme to enhance the social safety net for effective access to treatment and rehabilitation.

## The World Trade Organization (WTO) and health

The WTO was established in 1994 to facilitate negotiations leading to rules to liberalize international trade through multilateral trade agreements. Since its inception, more than 140 nations have joined the WTO. Indeed, countries have used the WTO to negotiate guidelines for a relationship leading to economic growth via foreign investment and opportunities to export to larger markets.

There are three key multilateral agreements: the General Agreement on Tariffs & Trade (GATT), the General Agreement on Trade in Services (GATS) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). The GATT can affect health by trade on health products such as genetically modified foods. The GATS liberalizes markets in service industries including health services and can promote consumers' choices particularly those who have the



ability to pay for the services. The TRIPS agreement is relevant to intellectual property rights on drugs and medical equipment.

Therefore, these agreements can affect health in general as well as access to medicines and services in particular. Nations must develop measures to monitor access to services and medicines of people of different social classes as well as the barriers to medicines and services. Tools must be developed to monitor the various interrelated markets. Nations need tools to measure the performance of the finance market (various insurance schemes), the human resource market (human resource mobility in the light of GATS implementation), optimal facility and equipment planning, rational use of drugs and medical commodities, as well as the market for human resource training and education.

Information generated from the analysis of the various markets must be collated, integrated, and synthesized to guide the organization of optimal services as well as setting rules to pay providers and facilities to promote equity in health for development. The most important measure is to promote the “Robinhood Rules”, in redistribution of resources to increase social opportunities and guard against the reversed Robinhood Rules, which channel public resources to support the for-profit sector.

***Indicators for a fair redistribution of economic growth for equity of access in health care*** include:

- (1) The availability and use of tools to analyze various markets: financing, human resource, facilities and equipment, commodities and pharmaceuticals, and education of human resource for health.
- (2) The presence of documents which analyze the relationship between the inter-related markets: finance, human resource, facilities and equipment, drugs and commodities, as well as professional education.
- (3) The use of evidence-based analysis of inter-related markets for organizing service delivery and setting rules for payment of providers and facilities both in the public and private sectors.
- (4) The magnitude and trend of resource allocation for improvement of registration and de-registration of drugs and medical devices.
- (5) The differential distribution of health care personnel and facilities between urban and rural areas, between private and public sectors.
- (6) The magnitude and trend of resource allocation for development, revision, implementation, monitoring of evidence-based health care guidelines.
- (7) The existence of a mechanism to monitor adherence of guidelines as well as the effectiveness of guidelines.
- (8) The differential coverage and access to health care services across individuals or household quintiles ranked by their living standards based on individual income and household consumption per capita.
- (9) The progressivity of health care payments as measured by out-of-pocket payment for health care services across individuals or household quintiles ranked by their living



standards based on individual income and household consumption per capita (World Bank technical note # 16, accessed June 2003).

- (10) The magnitude and trend of resources to address important neglected areas; human resources; accountability; central government functioning; evidence for policy. This would depend on an adequate understanding of the relationship between culture, illnesses and care. (Kleinman, A. 1995).
- (11) The “benefit incidence analysis” for assessing the target efficiency of public subsidy, across individuals or households ranked by their living standards based on household consumption per capita (World Bank Technical Note #12, accessed June 2003).
- (12) The probability of contacting health system when needed across individuals ranked by their living standards (World Bank Technical Note #13, accessed June 2003)
- (13) Mortality, morbidity, and disability rates across individuals ranked by their living standards.
- (14) Periodic forums where the results of the above indicators can be discussed.
- (15) Documents collated from the meeting between the Ministry of Finance and the Ministry of Health on potential threats from WTO agreements, such as regulations and deregulation by the government on health services as well as public sector subsidies for health services.

## Strategies to ensure health security

### Strategies at the national level

- ◆ *Uphold values of public health with focus on health security:* Equity, social justice, self-sufficiency, and sustainability have been suggested as the key values for public health, and should be upheld (Berlinguer, Giovanni. 2000). The fundamental role of the government in the provision of health security should be revitalized. For example, in Thailand, tax incentives for use of expensive equipment and 25% taxation on essential drugs should be dropped (Bennett S, Tangcharoensathien V. 1994). Guidelines and options are available to guide a wider application of the concept of sustainable development through involving more players in, for example, private sector contracts for primary health care (Palmer N. 2000).
- ◆ *Appropriate restructuring involving public health values, health security and new players.* Restructuring the health system requires involvement and commitment of all stakeholders if appropriate technology is to be delivered to desirable targets. Thus, even though effective medicines are available to treat AIDS, control of the disease will not be possible without a robust infrastructure to bring the medicine to those in greatest need: the poor and the underprivileged. The restructuring of health security systems by means of involving both the public and private sectors has been tarnished by inadequate governance which never considered impact in terms of adverse health impacts, but solely on cost containment (Barraclough S. 1997; Palmer N. 2000; Learthiendumrong, J & Tangcharoensathien, V. 1999).

The key question is what kind of organizational change is optimal for a health system, which can uphold the key public health values focusing on health security and is still cost-effective and affordable by a country. Answering this question requires some hard



decisions involving changes in the role of different government ministries, and changes in the roles of both the public and private sectors. Such changes are paralleled by the unsuccessful health system changes attempted in the USA during the first Clinton administration (Brock, DW & Daniels, N. 1994); and the new National Health Service plan now being attempted in England. (The NHS Plan, <http://www.doh.gov.uk/nhsplan>) One of the keys to effective organizational reform is to create a platform for evidence-based discussions among the main stakeholders. This may result in some degree of wider ownership of the reform agenda and a system of compensations or allowances to reward good performance (Israr SM, *et al.* 2000).

- ◆ *Focus on evidence-based decisions.* Several tools and methods are available for knowledge management to aid movement towards better decisions. These tools and methods are needed for estimating demand for health resources based on needs to ensure health security (Abel-Smith B. 1986; Mach EP & Abel-Smith B. 1983). Instruments that are capable of estimating needs, resources, utilization, costs and outcomes of care are essential if the full impact of decisions is to be understood, and public values for health security maintained. Research focusing beyond epidemiology and onto health security systems is needed when financing, incentives for providers, incentives for facilities, acquisition of technology, and the production of human resources are all integral parts of the decision process. Efforts are needed by countries to explore, collate, use and refine these tools and instruments to guide decisions, such as questions about the feasibility of national health insurance purchase cooperatives to foster equity, efficiency and quality of actions towards health security.
- ◆ *Empower the intended beneficiaries to participate in evidence-based policy decisions.* Social policies that focus on human development must be the main aim of the public sector, i.e., investment in human capital. To enhance equity, any human development policy should set as a target increasing the social opportunities of all members of society in their access to education, health security, and natural resources. According to Amartya Sen, re-vitalized intended beneficiaries with sufficient opportunities for access to social opportunities will not be content with reliance on welfare but would rather produce quality activities that can compete in any market or can bring in resources (Sen A. 1993; Sen A. 1999). Such users of services will have more freedom to choose and can make more informed decisions, which, in turn, can strengthen the market. Stronger members of the society will increase the efficiency of the market through more freedom of choice. Investing in human capital must involve cooperation of the social, economic and environmental sectors (Woodward A, Hales S, Litidamu N, Phillips D, Martin J. 2000). Improved social opportunities for the voices of the poor to be heard through democratic means are essential to deal with the unwanted consequences of economic or environmental crises, which disproportionately and unfairly affect the poor. Enhanced democracy will make the voice of the poor loud and clear, and it is likely that demands for appropriate “safety nets” and greater fairness in the society will result (Woodward A, Kawachi I. 2000).

A key to success in implementing these strategies and actions lies in a nation’s capacities - which include epidemiology, public health focusing on health security – to manage knowledge for good governance. Each country may need to review the kind of expertise, information and management system required for knowledge generation and management to achieve good governance. Good governance is needed for both the health system



and the health research system through building strong interactions between the two. Income per capita alone does not ensure health security of the people in a country despite demonstrated relationships between health and economic growth. Some poor countries appear to do things right and have better health at a low GNP than others that do not. This is not to deny the fact that the biggest killer in the developing world remains poverty. It is rather a challenge for nations to make plans using long term goals, intermediate goals and step-by-step measures. Appropriate infrastructure and information system will have to be inputs to logical decisions. The infrastructure and information system will have to focus on development of capacities for knowledge management to facilitate decision-making based on good governance through a check and balance mechanism participated by key stakeholders in a society.

### Strategies for the international community

Globalization has moved the world from an era of national concerns to an era of global health. There is an increasing international transfer of health risk such as pollution and epidemics which increasingly threaten the health of countries. Nations are increasingly losing power and capacity to ensure their policies are securing the health of their people.

International development agencies and enterprises need to define clear moral authority and values on the acceptable norms and standards of accountability and compliance, fair conflict resolution as well as negotiated dispute resolution. These should be based on a “level playing field” rather than unilaterally imposed by sanctions. New global health contexts, architecture, rules and regulations are needed to define new ways of cooperation and setting priorities to balance the positive and adverse interactions between economic growth and disease, and between health and wealth.

- ◆ *One moral aspect is a concern for equity.* Efforts must be made to enable countries to participate in the opportunities for economic growth but through knowledge management for good governance. Price and profit control might not work as expected if not focused on economic evaluation and good governance (Bloor K, Freemantle N. 1996). Health must be considered a global public good particularly if a concern for equity is to be honoured. The World Health Organization has been exploring ways to partner with the private sector to enhance better equity and security in health (Buse K, Walt G. 2000a; Buse K, Walt G. 2000b).
- ◆ Basically, the world is looking for *new rules and new platforms for collective action* and these cannot emerge from nation states. We need global rules for global governance. The new global rules have to go beyond being concerned solely with economic phenomenon (i.e., growth) but have to link with cultural and political processes, which shape the ways people and nations live their daily lives. The use of new electronic media in addition to other means can serve as a platform to transfer information and to engage the attention of stakeholders. Trying to find and to work with a set of rules that satisfies all stakeholders and produce a global agreement is a challenge. But, transparency, accountability and consistency in managing knowledge to make balanced decisions respecting a concern for equity and health security will be fundamental to recast and sustain an effective global health governance infrastructure. The key requirement is for nations and stakeholders to find effective ways of working together, in alliance with public and private, north and south, so that the world can rise to the challenges of health security mankind is facing. Nations and stakeholders must demonstrate their achievements and overcome differences, mistrust, skepticism, and fragmented development efforts.





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## Introduction

Almost all countries in the South-East Asia Region (SEAR) were colonized by the British, French, Portuguese, Dutch, etc., during the eighteenth and nineteenth centuries except Thailand and, to some extent, Nepal, Afghanistan and Maldives. Japan invaded South-East Asia and occupied vast territories up to the Myanmar-India border during World War II. After 1945, these countries gained independence one after the other. When WHO was established on 7<sup>th</sup> April 1948, five countries of Asia opted to join South-East Asia, one of WHO's six regions. These five countries were: Afghanistan, Burma (Myanmar), Ceylon (Sri Lanka), India and Siam (Thailand). For political reasons, some of the countries which are geographically located in same regional areas, like Malaysia, Laos, Vietnam and Cambodia joined the Western Pacific Region, while Pakistan (both East and West together at that time) joined the Eastern Mediterranean Region. While Afghanistan left SEAR in 1968, new countries also joined the group during 1974 to 1994, and the number of Member Countries of the Region reached 10. They are Bangladesh, Bhutan, India, Indonesia, DPR Korea, Maldives, Myanmar, Nepal, Sri Lanka and Thailand. Mongolia which joined the South-East Asia Region on 18 April 1962 later left the Region in May 1994. With Timor-Leste joining the Region in May 2003, the number of Member Countries increased to 11. (1)

The emergence of newly-independent countries during 1950s-1970s coincided with the spirit and theme of international cooperation and collaboration, and the establishment of the Economic Commission for Asia and the Far East (ECAFE) (later transformed as United Nations Economic and Social Commission for Asia and the Pacific – UNESCAP), in Bangkok, for coordination in economic and social development. The countries were enthused by the focus on community and rural development as the platform for furthering social welfare, covering many social and technical components including health. WHO's Constitution, adopted in 1948, with a preamble defining health and aimed at attaining the highest standard of health by all people impressed all Member Countries.

All the newly-independent countries were committed to uplifting the general situation and welfare of their citizens. The health and education sectors which were ignored during colonial rule

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were given greater attention. The objective of health services during the colonial rule was mainly focused on providing medical care to the elite colonists and their immediate families, and undertaking public health measures in order to protect the rich urban population, the civil servants and military personnel. After gaining independence, all the newly-independent countries aimed at providing comprehensive health care to their people as the main objective of their national health services.

In South-East Asia, the development of health care systems was heavily influenced by the British model (mostly the pre-World War II model), and, to some extent, by those systems adopted by the Dutch and by America. The British local government administration operating in the British India Empire including Burma, Pakistan and Ceylon continued after Second World War, though in a gradually modified way. The Bhore Committee Report of India was studied by many neighbouring countries for planning health sector development. The British system (the tripartite hospital, public health and general practice), following the National Health Act of Great Britain of 1948, was seen by ex-British colonies as their model for further development. During those periods, a number of countries of South-East Asia Region became independent and adopted a socialistic political philosophy in their respective constitutions. There was also an influx of fellowships and missions visiting the USSR. Thus, the health administration pattern of the Soviet Union as conceived by the Schmesko Institute of Public Health in Moscow played an important role in influencing the development of health systems in South-East Asia(2).

WHO also encouraged the development of basic health services in one form or the other, to develop the rudiments of health services inherited from the colonial administration. Except in relatively less populated countries like Nepal, Bhutan and Maldives, other countries had medical faculties/schools/colleges and nursing schools and public health institutes like the Pasteur Institute, and institutes of public health training for health auxiliaries and paramedical workers, even before gaining independence(3).

To meet the changing health needs, new types of medical and health personnel were introduced; examples are medical aides, health assistants, nurse-midwives, family planning workers, nurse-aides, sanitarians, laboratory and X-ray technicians, etc. Many health workers of various categories were recruited from among standard professionals or para-professionals and given special training. In many cases special training courses were organized to train the new recruits.

On account of its size and needs, India already had a large number of medical colleges/schools, as well as centres of excellence in health sciences, like the Haffkine Institute in Bombay (Mumbai), the Malaria Institute in Delhi, and the Tropical Diseases Institute in Calcutta (Kolkata). By courtesy of the Rockefeller Foundation, a number of public health field training schools and field practice areas also had been operating in Member Countries starting from the early 1950s, such as Hlegu Health Demonstration Unit in Myanmar, Kalutara School of Health Science in Sri Lanka, Singur Health Centre in Calcutta, and the demonstration health centres in Assam and in Tamil Nadu in India.

The League of Nations was fully aware of the deplorable health situation under the colonial rule and one of the major efforts of the League was to stimulate interest on the health of people of the countries and initiate international collaboration by organizing the Intergovernmental Conference on Rural Hygiene, in Bandung, Indonesia in 1937. WHO convened another global Conference on



Rural Health in New Delhi in 1957, whereby it was emphasized that the rural health centres (RHC) were the basic units in the health care system, through which comprehensive health care could be provided to rural populations. The principles of integrated health care and an effective referral service were also accepted<sup>(1)</sup>.

Parallel to these developments, Member Countries recognized the urgent need for strengthening and improving human resources for health. Through the WHO Fellowship Programme and the Colombo Plan, massive fellowships programmes were implemented along with technical support to national training programmes, through visiting consultants and professors. While opening up public medical schools and colleges, providing post-graduate degrees and Masters/Doctorate programmes, a number of schools for paramedical and auxiliary health workers were also established.

Taking a lead from the concept of social medicine as propounded by Sir J.A. Ryle, F.A.E Crewe, Rene Sand, Sigerist etc, the newly independent countries of the Region tended to adopt the principle of social medicine. However, due to the shortage of leaders in this new discipline and also due to the enthusiasm of conventional public health teachers, social medicine was sidetracked by socialized medicine, by including the social science concept in the practice of medicine. Many medical schools established departments for Preventive and Social Medicine, Social Medicine or Community Medicine, where, in practice, they taught public health in the context of social science, rather than social medicine<sup>(2)</sup>.

The socioeconomic development during the fifties and sixties was accepted by most as synonymous with “economic development”. In 1961, the UN General Assembly launched the UN Development Decade, aiming at self-sustaining growth and social advancement. After observing a lack of progress or unsatisfactory social achievement within the framework of the UN Development Decade, the developing countries began questioning the traditional economic approach to development. After soul searching studies and extensive debates among the UN Agencies, the UN General Assembly (UNGA) decided in 1970 that the 1970s be declared as the Second United Nations Development Decade. This had set forth more specific social goals and objectives. But it soon became obvious that very slow progress was being made in implementing the strategy for the Second UN Development Decade. The UNGA during a Special Session therefore adopted two major resolutions: “Declaration on Establishment of a New International Economic Order” and “Programme of Action on the Establishment of a New International Economic Order”. However, from the text of the two resolutions the steps to be taken to redress the economic imbalance which persisted between the North and South were devoid of a social dimension except by implication<sup>(1)</sup>.

With great hopes in the strategy for the UN Development Decade, countries recognized the limitations of socio-economic development per se in improving the health of the people. Realizing the intimate relationship between health and socioeconomic development, they placed emphasis on adequate investment in health and socioeconomic development. It was in this context that a “South-East Asia Charter for Health Development” was conceived to provide potent means through which countries of the Region could plan to work for health development on the basis of cooperation and collaboration. After nearly four years of intense discussions at the country, regional and international levels, the Charter was finalized, and endorsed at the 31<sup>st</sup> Session of the WHO Regional Committee for South-East Asia in 1978. By 1980, nine countries of the Region had signed the Charter. The Charter gave due recognition to health as a fundamental human right and set in motion a series of actions to improve health and the quality of life of peoples in the Region.<sup>(1)</sup>



## Health-for-All (HFA) movement

### Pre-Alma-Ata conference

One of the first working principles of WHO in 1948, after identifying six common endemic diseases and programmes, was to concentrate efforts on the BIG six areas, namely Malaria, Tuberculosis, Venereal Disease, MCH, Nutrition and Sanitation(4).

With intense public health efforts, VD and yaws were tackled first. In WHO-SEARO, the first technical unit established was the VD Unit. With the discovery of penicillin, Yaws was controlled effectively in Indonesia, Thailand and Myanmar. After recognizing the effectiveness of DDT and noting the successes achieved in Yugoslavia, Italy, Greece, Crete, etc. and in Sri Lanka around the 1950s, WHO promoted the global Malaria Eradication Programme (MEP). Although the MEP had helped the nationals to develop expertise in malaria prevention and control, and in saving a considerable number of lives through protection against malaria, it was nevertheless very difficult to eradicate malaria globally. While there were initially technical problems of insecticide resistance by the vector – *Anopheles*, and the drug resistant strains of the infective agent - *Plasmodium*, there were later serious administrative and organizational problems compounded by lack of resources – both financially and materially.

While disease control programmes and other public health projects were being developed during the 1950s to 1970s, contrary to expectations, the resources were being diverted from establishing and further developing basic health services in many countries. These anomalies resulted in short-comings in meeting the basic health needs of the people. In the decade of the 1970s, various health service research studies were conducted in many developing countries. Keeping all the results and experience in mind, the World Health Assembly in May 1977, adopted a resolution (WHA30.43), stating that the main social target of governments and WHO in the coming decades should be the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life. This resolution became known as the “Health-for-All by the year 2000 (HFA2000) Resolution”.

In order to assess the basic health needs and underlying problems and to explore alternative approaches to meeting basic health needs of the people, WHO and UNICEF jointly organized an International Conference on Primary Health Care at Alma-Ata, capital of the Kazakh Soviet Socialist Republic, in USSR, from 6-12 September 1978. Before the Alma-Ata Conference, the two agencies had organized a series of national, regional and international seminars and conferences, and other technical meetings to prepare for this Conference. The regional-level conference on Primary Health Care for South-East Asia was held at New Delhi in November 1977. These meetings helped to arouse the interest of Member Countries and stimulated the governments to note the gaps in basic health services and the peoples’ needs. The Alma-Ata Conference with the ensuing “Alma-Ata Declaration” turned out to be an extremely important international milestone, which had a major global impact(5).

The World Health Assembly in 1981 adopted the Global Strategy for Health-for-All by the year 2000, with national, regional and global action plans for implementing the strategy (WHA43.36). This had a tremendous impact in all countries, where national plans for HFA2000 were being developed.



## Post-Alma-Ata

The HFA2000 action plans varied from one country to another in the scientific principles and contents, but everywhere in the world, countries reviewed their own health situation and developed their national health plans. All countries in South-East Asia, *without exception*, undertook health planning exercises to develop action plans for HFA2000. They were being monitored every two years and evaluated every six years. In most countries, national health plans were being developed within the framework of Global Health-for-All strategic plans but, in some, the two plans got somewhat divorced.<sup>(6)</sup>

Indeed, history has proved that the Report of the International Conference on Primary Health Care of 1978, and the Alma-Ata Declaration itself were taken as a conceptual basis for health development in each country, especially in the developing world. Starting with the eight essential elements of Primary Health Care as minimum components in health care, the countries implemented national health development plans with the purpose of covering at least these eight elements. As early as 1980, many countries began intensification of primary health care activities, and some countries took initial actions for implementing extensive PHC. Thailand and India conceived the idea of basic minimum needs programmes, and began adding a few elements other than the eight essential elements identified at Alma-Ata. Thailand always maintained that nationally they would cover ten elements by adding mental and dental health care, in addition to the original eight elements. In India, Kerala State planned for a state-wise cancer control programme using the PHC approach. On the other hand, Karnataka State, through the National Institute of Mental Health, implemented the national mental health programme as part of the PHC package, which was later extended to other states.

WHO also modified its structure and functions to be more effective in its work covering PHC/HFA. The most important change related to accelerating the operational methods of the Organization: from technical assistance to technical cooperation at country level. As a planning mechanism, WHO adopted and approved one that was very different from UN programming, termed "Country Health Programming-CHP". This national process aimed at developing and activating countrywide health programmes that included the country's main health priorities. The process promoted the formulation of plans and programmes for health development by the countries themselves. In Bangladesh, CHP was conducted in 1973 – the first in the world. The 31<sup>st</sup> World Health Assembly had reviewed and endorsed the progress of implementing CHP (WHA31.12), and by 1980, all the countries in the Region had undergone CHP exercises. When Plans of Action were being developed as an integral part of HFA Strategy, Member Countries in the Region were very well trained and were capable of undertaking planning efficiently.<sup>(1)(6)</sup>

The change of emphasis from technical assistance to technical cooperation and collaboration progressed along with the principle of regionalization. The most obvious and effective regionalization was decentralization of research. Till the mid-1970s, research was a taboo for the regions and countries. After a couple of years of preparation and consultations, the 28<sup>th</sup> session of the Regional Committee in 1975, while encouraging health research activities in the Region, requested the Regional Director to establish a Regional Advisory Committee on Medical Research. The South-East Asia Advisory Committee on Medical Research (SEA/ACMR) met for the first time in January 1976 and again for the second time in August 1976, and then once a year around April. The objectives of SEA/ACMR were: (1) to strengthen national research capabilities, (2) to promote and





coordinate research on regional problems related to social and economic development and (3) to promote research designed to facilitate the rapid application of existing and emerging scientific knowledge. Another historic resolution, SEA/RC29/R1, on research promotion and development, was adopted by the Regional Committee in 1976, requesting the Regional Director to allocate 2.5% of the Regional Budget for biomedical and health services research promotion and development activities under intercountry programmes and to have a matching fund from WHO-HQ. Due to the zero-growth budget and reduction in regional budget allocation, this resolution could not become effective policy.<sup>(7)</sup>

### The turn of the century

By the time the 20<sup>th</sup> Century was ending, the entire UN System was under close scrutiny and review with many new developments taking place. The first major review was done by Sir Robert Jackson in the late 1960s whereby efforts were made to look into the operational activities of UN Agencies, including specialized agencies like WHO. A majority of the recommendations contained in the two-volume Jackson Report were accepted and implemented. Jackson's Report highlighted the need for more effective coordination of country-level operations of UN and specialized agencies. However, efforts to forge coordination among UN agencies at country level did not come to fruition, except the creation of the post of Director-General, Development and International Economic Collaboration, at the UN, soon after. This post was disestablished in 1992. All agencies also felt the need to review and reassess their own structure and organization and functioning, for cost effective and efficient operations at the country level and to improve interagency coordination and cooperation.<sup>(1)</sup>

WHO changed the country operations from technical assistance to technical collaboration, whereby the countries themselves implemented programmes with WHO collaboration. The UN programme planning system was replaced by Country Health Programming, though WHO maintained its' close relations with the UN System by participating in the UN Joint Planning exercise which was later changed to UN Coordinated Planning, UN Country Assessment (UNCAS) and UN Development Assistance Framework (UNDAF).

In 1988, the UN General Assembly adopted a resolution (44/211), propounding the concept of coordination at the country level under UN leadership. The resolution chalked out details of coordination between the UN and its agencies including specialized agencies. When it came to putting the resolution into practice, a number of practical difficulties became obvious.

Firstly, Member Countries themselves objected at the UN since the new proposal would be creating new positions, like UN Ambassadors with all paraphernalia, to coordinate inputs from UN agencies and submit to Governments as UN Country Plans. The UN Secretary-General, Boutros Boutros Ghali, who began implementing the resolution, expressed that there were many Barons who proved to be mightier than the King. He found out that the UN agencies, and more so, the specialized agencies had mandates which the Secretary-General, or, for that matter, UNGA even could not over-rule. After a series of UNGA resolutions, notably 47/199 of 1992 and 50/120 of 1995, which improved the text of 44/211 in operational aspects and became more realistic and workable, the UN Coordination System, including Resident Coordinator, was evolved which was acceptable to both UN and its specialized agencies and to the governments.



## WHO in the UN family

WHO has, in fact, been endeavouring to modify its operational, managerial and administrative systems to meet the changing global situation. First, in 1975, Country Health Programming (CHP), a country-focus operation was introduced. It went along well with technical collaboration, as distinct from technical assistance. The Managerial Process for National Health Development, introduced during the 1980s, for implementation of technical collaboration, included the systems' approach of operational research; programme budgeting; management information system; use of economic and management techniques; and team concepts, etc.

As guided by the Executive Board in 1977, the Organization had been studying its role at the country level, particularly with regard to development of strategies leading towards the goal of HFA/2000. In 1983, WHO introduced a new managerial framework for the optimal use of its resources in direct support of Member Countries, in which it identified the respective responsibilities of individual Governments, of the Secretariat and of the Organization as a whole. In that framework, emphasis was laid on the assumption of responsibility by the Governments for the use of WHO resources, to enable the Organization to perform well within the managerial framework. The Regional Programme Budget Policy and also financial audit in policy and programme terms were also introduced (1).

In connection with the implementation of the Report of the Executive Board Working Group on WHO's response to global change, the office of the Director-General studied various components of WHO's operation by constituting six Development Teams, each focussing on a specific area. These included topical subjects like Communications and Public Relations, Management Information System, Programme Development and Management, Personnel matters and WHO Representation at country level. The reports of the Development Teams were submitted to the Executive Board in 1995 and 1996, contributing substantive material for further directions by the Executive Board for organizational adjustments (8).

This was the time when WHO began the process, at all levels, of evaluation of the implementation of the Global Strategy for HFA/2000. The evaluation report provided an analytical basis for the preparation of the "World Health Report 1998: Life in the 21<sup>st</sup> Century – A vision for all". The evaluation report contributed substantial background material, analysis and future vision for the preparation of a revised policy and strategy for health for all in the 21<sup>st</sup> Century which was submitted to the 51<sup>st</sup> World Health Assembly in 1998 as document A 51/5 and was discussed in detail. The policy direction, technical contents and the operational approaches for implementation of the HFA strategy, greatly influenced the country operations at the turn of the century (9, 10, 11).

## International agencies and health

Earlier, in November 1979 the United Nations General Assembly adopted resolution 34/58 recognizing health as an integral part of development and endorsing the Declaration of Alma-Ata. It called upon relevant bodies of the United Nations system to coordinate with and support the efforts of WHO appropriately. Between 1990 and 1996, nine international conferences were held supporting Health for All, in which WHO participated actively. These conferences included the World Summit for Children (1990), the International Conference on Nutrition (1992), UN Conference on Environment and Development (1992), the International Conference on Population



and Development (1994), the World Summit for Social Development (1995) and the Fourth World Conference on Women (1995)(10). Many others followed, such as the UN Millenium Summit (2000), UNGA Special Session on Children (May 2002), World AIDS Conference (2002) and the Second Earth Summit (2002). In as much as these global conferences reflected the growing interest of various agencies in the health sector, they also resulted in increasing competition among agencies resulting in overlapping and duplication of efforts at the country level.

Founded in 1948, WHO is the UN designated specialized agency in health mandated to play a leading role in coordinating international health activities. Today, according to Gill Welt (2001), there are 13 health-related UN Organizations, with WHO as one of them. These do not include powerful donor agencies like USAID, British DFID, Scandinavian agencies like SIDA, FINNIDA, and NORAD and others like CIDA, Aus Aid, JICA etc. and several international NGOs interested in health. <sup>(12)</sup>

UNICEF, which was established soon after World War II as an emergency unit with the title, United Nations International Children Emergency Fund, got its mandate changed to Children's Fund with broader responsibilities. UNFPA, with its mandate focussing on population activities with family planning as one of the technical programmes in the 1980s, broadened the scope of reproductive health in 1994. UNDP, which had always concentrated on funding and had a coordinating role, gradually moved into technical operations through its new section, OPS, and undertook technical activities in many sectors including health. The World Bank and Asian Development Bank which always utilized economic development as an entry point into social development extended its interest and moved into the health sector.

The UN itself changed. WHO's technical programme on HIV/AIDS, implemented by WHO's Global Programme on AIDS was de-established in 1995, and the UN took over the operations by establishing the UNAIDS Programme with WHO as one of the six co-sponsoring agencies.

Most of these health activities were carried out as part of other programmes of the specific agency and mostly planned and budgeted outside the country and presented to national Governments for approval. WHO is unique in this aspect since country operations were implemented as technical collaboration and since country programmes were planned by nationals and executed by them. Though WHO deals with all ministries – Foreign Affairs, Planning and any line ministry as necessary, the technical focal ministry in the country level is always the health ministry. WHO has always asserted that a strong health ministry is fundamental to ensure an efficient and effective health programme in the country.

## **Influence at the regional and country levels**

The year 1998 is an important milestone in health development internationally when WHO also celebrated its 50<sup>th</sup> anniversary. Consequent to the evaluation of the implementation of the global strategy for Health for all by 2000, and after serious in-depth discussions at all levels of WHO and its governing bodies, the Director-General submitted to the 51<sup>st</sup> WHA, a policy document "Health-for-All in the 21<sup>st</sup> Century". While addressing the new global challenges, the principles of WHO's Constitution were reaffirmed and primary health care with its eight essential elements were accepted including societal values such as human rights, democracy, equity, social justice, gender and ethics



and so on. The companion document – “World Health Report 1998: Life in the 21<sup>st</sup> Century: a vision for all” also had a tremendous impact on the countries. Based on the review of health trends in the past 50 years and highlighting the achievements as well as duly recognizing the shortcomings, the World Health Report 1998 concluded with a health agenda for the 21<sup>st</sup> century. WHO’s leadership also changed that year. The fourth Director-General of WHO, Dr. Hiroshi Nakajima, retired in July 1998 and was succeeded by Dr. Gro Harlem Brundtland. The new Director-General, who had been studying the situation and preparing for her leadership role and had appointed a transition team, took over the helm of the Organization and straight away began structural and organizational changes.

With Health for All targets endorsed by the World Health Assembly in 1998 as a suitable starting point, the Organization set out four key strategic directions, to reach these targets:

- (1) reducing excess mortality, morbidity and disability, especially in poor and marginalized populations.
- (2) promoting healthy lifestyles and reducing risk factors to human health that arise from environmental, economic, social and behavioral causes.
- (3) developing health systems that equitably improve health outcomes, respond to people’s legitimate demands, and are financially fair.
- (4) framing an enabling policy and creating an institutional environment for the health sector, and promoting effective health dimension to social, economic, environmental and development policy (13).

In pursuing these strategic directions, WHO in 1999 proposed developing country cooperation strategies (CCS) for activities within the framework of WHO’s Corporate Strategy. In a few countries, on an experimental basis, CCS were prepared jointly with national authorities and WHO teams composed of staff from the country, regional and global levels. The CCS were based on an analysis of country-specific developmental challenges and health needs; the activities and approaches of other development partners; and WHO’s strengths and weaknesses in the country concerned. It provided a basis for the programme of work reflecting WHO’s comparative advantages and defined its management.

During this period, Member Countries of the South-East Asia Region had been participating in the WHO reform process. The countries and the Regional Office had actively contributed to the HFA movement since 1979. They had participated in the mid-term review of PHC held at Riga in 1988, “Revisit to PHC” in Alma-Ata in 1993 and in the celebrations of 20 years after Alma-Ata at Almaty in 1998. They also participated in the evaluation of the implementation of the Global Strategy for HFA/2000 – (1979-1996).

With these vast and intimate experiences in global health development and anticipating challenges and changes at the turn of the century, the South-East Asia Regional Office began preparing for the vision and mission since 1997. The consultative meeting on Health Development in South-East Asia in the 21<sup>st</sup> Century held in New Delhi in March 1997 was the first in the series of regional consultations with countries to develop a conceptual framework for health development in South-East Asia and to prepare the foundation for a regional charter or a declaration. These were presented to and refined at the Conference on Health Development, “A new Vision for a new



Century", in June 1997. The conference produced a document which served as the background document at the 15<sup>th</sup> meeting of the Health Ministers of the South-East Asia Region held in Bangkok in August 1997, where the Ministers adopted a Declaration on Health Development in the South-East Asia Region in the 21<sup>st</sup> Century (14).

The Ministers of Health from the Region met informally in the Regional Committees, World Health Assembly and at international conferences but the Meeting of the Ministers of Health as a regular formal event was institutionalized in September 1981 at the first meeting held in Jakarta. At this meeting, the Ministers strongly reconfirmed their commitment, both in terms of national, as well as political intention, to reach the social goal of HFA/2000. They agreed to take steps to establish technical cooperation and collaboration amongst the countries of the Region and to help each other in their efforts for health development. The Ministers decided to meet regularly, every year, if possible.

Though the health ministers at these meetings shared experiences on all the health and related activities in the Region, they generally focused on one or two important subjects. At successive meetings, they reviewed and advised on subjects including Health for All and Primary Health Care, Technical Cooperation among Developing Countries, Essential Drugs Programme, Health Manpower Development, the role of NGOs and training of HFA leaders, Intensification of PHC, Review and mobilization of Financial Resources, topical disease programmes such as Malaria, Tuberculosis, Leprosy, HIV/AIDS and so on. Therefore, the countries of the Region benefited tremendously when in 1997, the 15<sup>th</sup> Meeting of Health ministers held in Bangkok, Thailand, reviewed health development.

Meanwhile, WHO published the World Health Report 2000 entitled, "Health Systems: Improving Performance". The Report had a dynamic effect on the countries. While welcoming a critical analysis and soul searching and thought provoking concepts and ideas in health systems development, most countries had reservations on the correctness of the statistical data which were mostly juxtapositions or generalizations of findings of sample surveys or the results of estimates using various statistical methods not cleared by governments. With relation to HALE and the health attainment index, the chosen measurement of good health, many academicians found them to be untested and needing refinement before generalised application globally. The South-East Asia Regional Office convened a Regional Conference and requested WHO to reconsider the interpretations. The Regional Committee of PAHO rejected the report and the WHO Executive Board in 2001 demanded that WHO should, in future, examine the statistical methods used in producing the Report and also to consult countries before using national statistics.

Nevertheless, the Report had a great impact on the Member Countries in the sense that the countries were stimulated to review their national health systems, including health information; mobilization of financial resources and judicious distribution of funds; integration of sub-systems both vertically and horizontally; greater use of private service providers and optimal mix of the private and public sectors. Governments assuming seriously their stewardship role, recognized the need to lead their own people effectively in the changing world (15).

## Developments at the country level

With strong political will and national commitment since their independence after World War II and with 50 years of coordinated and collaborative efforts internationally among the countries themselves



and within the United Nations and its agencies as well as donor agencies, the countries are taking various steps in Health Systems Reforms and in health development. The most remarkable achievement during this period was the advancement in health planning capability and capacity, though the degree of effectiveness and achievements varied from one country to another.

All countries now have a planning machinery with overall responsibility for the health sector, such as the health planning department in the Health Ministry etc. Today, their role and effectiveness are extremely important, when more than a dozen UN Agencies, another dozen governmental donor agencies (developmental agencies) and scores of nongovernmental agencies are offering assistance to the countries in health development. Their inputs can be deployed properly and relevantly with effective usable outputs, when the national planning authorities can utilize their external resources in collaborative activities, to meet the priorities and felt needs of the people considering the national resources. Otherwise, as in many instances, external resources may be squandered, diverted back to donor countries, with very little positive results at the country level and, in turn, create competition and confusion.

## Health systems development

### Basic health services

The countries developed basic health services as a prerequisite to improve health care of their people. Even though there were some limitations and variations in the approach, they all enthusiastically accepted the Alma-Ata declaration on primary health care. Subsequently, in response to the call for HFA/2000 all countries in the South-East Asia Region participated in developing HFA action plans which, after evaluation, were refined and improved. In the 1980s, the health system infrastructure was further strengthened in line with the primary health care approach. Integrated health services, aimed at achieving total health care – promotive, preventive, curative and rehabilitative were highlighted and promoted. The intersectoral approach, which was one of the basic principles of primary health care was actively promoted and the health ministries emphasized the mutual supportive role of health and development, putting health in the centre of development.<sup>(14)</sup>

### District health system

All countries accepted the District Health System as an effective and pragmatic organizational framework in the national health system. Indonesia, Myanmar, Nepal, and Thailand are good examples of the organization of district health systems under unified management with one professional leader at the top. Some states in India also have unified leadership at the district level but, in many states, the district administration is under multiple leadership, one district chief each responsible for hospitals, public health and family welfare. Decentralization of health services is an important feature in health sector reforms and almost all countries are striving towards effective decentralization. Bhutan is well organized operationally in this aspect, since their health service system is functionally decentralized and locally overseen by the Dzongs. Maldives may also be mentioned where the health care system is closely associated with the Atoll administration.



## Human resources for health

The countries have for long recognized the importance of human resources for health in the development of basic health services. In this process, they endeavoured to establish training schools, institutes and universities to produce necessary health manpower.

The existing medical colleges and universities were strengthened or consolidated and new medical institutes were established along with training programmes for nurses, paramedicals and auxiliaries. Most importantly, greater focus was given to teacher training in medicine. From two regional training centres, one in Chulalongkorn in Thailand and the other in Peradeniya (Sri Lanka) the emphasis shifted to development of national teacher training centres(9). Beginning with the first meeting on Reorientation of Medical Education (ROME) held in Surabaya in 1979, a series of meetings were held, taking various components, reviewing the progress and resetting targets for orientation of medical education in all countries. In March 1988, a Regional Task force on ROME met in Bangkok to develop indicators for monitoring and evaluating the progress(1).

Under the HFA movement, health manpower planning methodologies became more scientific and rational. Since 1993, Bhutan, Bangladesh, Nepal and Sri Lanka have completed HRH Policy analysis using WHO Guidelines and formulated human resources for health master plans. Indonesia and Thailand undertook a similar exercise later.

Almost all countries in the Region have medical and health institutions where the necessary human resources for health are produced. India, of course, is the lead country with more than 200 medical colleges and scores of post-graduate institutions such as the All India Institute of Medical Sciences, New Delhi, the Post-Graduate Institute of Medical Education and Research, Chandigarh, JIPMER in Pondicherry, the Sanjay Gandhi Post-Graduate Institute of Medical Sciences in Lucknow, the S.I.K Institute of Medical Sciences, Srinagar and so on. Thailand also has a long tradition of medical institutes under the Mahidol and Chulalongkorn universities. Nepal established the B.P. Koirala Institute of Health Sciences in Dharan in 1993. In Myanmar, there are five institutes of medicine, (including one for the Armed Forces) two institutes of nursing and 10 other professional institutes. The School of Health Sciences was upgraded to university level with the title University of Community Health Sciences. The University of Traditional Medicine was established in 2002 to prepare traditional medicine practitioners at graduate level.

The countries realized that even though health manpower was increasing, sometimes exceeding the national capacity to absorb them, it was important to ensure that the quality of teaching and professional standards were maintained, that the different categories of health personnel were kept in balance, and that there was appropriate area-wise distribution of health professionals in the country.

## Voluntary health workers

After the Alma-Ata Conference in 1978, most countries in the South-East Asia Region introduced the scheme of Voluntary Health Workers or Community Health Workers. Thailand recruited, trained and utilized community health workers in its basic health system extensively. The selection procedure using a systematic socio-metric approach by networking of contacts in the community was very interesting and effective. In India, where health is a state subject, various types and subsystems were utilized as authorized at the State level; naturally, they contributed to the health work of the state in a variety of ways, with varying degrees of effectiveness, as evaluated by the National





Institute of Health and Family Welfare in the early 1990s. In Myanmar, trained voluntary health workers have been used systematically in the national health system since 1978.

The countries of the South-East Asia Region have had a long tradition of volunteer services through missionaries or other charitable organizations. In India, there are more than 7000 voluntary organizations according to a rough estimate, working in community health care programmes, providing health care for special groups of people, and in health work sponsored by social organizations and professional associations. The Voluntary Health Association of India is a major organization with branches in states taking an active role in coordination of voluntary health work by different groups (16). The Sarvodaya Shramdana movement has been operating with great success in Sri Lanka for many decades. It had identified 10 basic needs including physical and psychological environment, adequate supply of clean water, adequate food, communication, education, energy/fuel, and cultural needs (17). The Myanmar Maternal and Child Welfare Association is a well established NGO with its main focus on the health and welfare of the generally vulnerable group – women and children. With branches at all levels – states/divisions, townships, wards and villages, and with over 3 million members, the Association mobilizes volunteers and, in collaboration with government services, undertakes various activities related to health, education and welfare. In addition to basic activities focussing on care of pregnant women and children's health, other elements in health care are also covered – through social mobilization, such as communicable disease control, immunization, control of epidemics, nutrition, personnel hygiene etc. and also in non-health sector activities to improve health and welfare of women and children, such as income generation, literacy campaigns, small-scale home industries, providing fellowships and establishment of day-care centres.

### Private sector services

For decades, the for-profit private service providers in the form of private hospitals and private medical practitioners have existed side by side with government institutions. By the middle of the 1980s globally, there was a shift in financing policy in health care with a rapid development of private sector health care services in most countries. The World Bank, UNICEF and USAID strongly supported this policy shift whereas WHO was more cautious in its approach and insisted on evidence-based progress from such a policy shift. The most common for-profit private service providers in all countries are private practitioners. This phenomenon was noted in most countries (18). The important role played by private hospitals was obvious in India and Thailand first, but now there is an unprecedented growth of private hospitals and clinics in other countries as well. India reported that 57% of hospitals and 32% of hospital beds and 80% of 390 000 qualified doctors are in the private sector (19). Today, Indian private hospitals and Thai private hospitals are attracting patients from neighbouring countries and are also extending their services in neighbouring countries in the form of offshore activities.

## Health sciences development

### Essential medicines

Since the World Health Assembly adopted a resolution – WHA 28.66 in 1975, Member States have been participating in the Essential Drugs Programme established by WHO in 1979. The





programme concentrates on ways and means of strengthening national procurement mechanisms, suitable training and provision of information to health workers. Countries have established essential drug lists with a provision for strengthening their periphery distribution system. The mission of WHO's medicines strategy in partnership with the countries covers four objectives: Policy, Access, Quality and Safety, and Rational use.

The countries are, in fact, implementing the National Drugs Programme, taking up various components – use of generic names and rational use of drugs, adequate supply and distribution system, drug regulatory mechanism and drug control authorities, essential drugs programme and good manufacturing practice etc. Countries have also been studying the impact of Patenting Procedures and Trade Related Intellectual Property Rights in health. At their 19<sup>th</sup> meeting in 2001, Health Ministers for the Region identified bulk purchase of quality generic essential drugs as a priority for the Region (20).

### Health Research

Research is another area which countries have been promoting steadily during the last two or three decades. After the establishment of the South-East Asia Region Advisory Committee on Medical Research in 1976, all the countries showed great interest and collaborated with WHO, both with the Regional Office as well as with divisions in Headquarters such as TDR, HRP and other research activities of WHO programmes. At its peak in 1988-89, before WHO adopted a zero growth budget, the research budget for the South-East Asia Region was \$ 5.97 million – \$3.4 million for inter-country and \$ 2.57 million for country programmes. Without being presumptuous to claim credit for research activities at country level, as WHO's success, one may refer to Research Abstracts Nos 1 to 4 of WHO/SEARO enumerating those activities undertaken by countries in the Region with WHO/SEARO support between 1986 to 1994. There were 253 research projects under various disciplines (21) (22).

Meanwhile, the Regional Research Programme has undergone changes reflecting global trends. Research promotion and development (RPD) evolved to Research Policy and Strategy coordination (RPS) and then to Research Policy and Cooperation (RPC), concentrating on policy development and cooperation within the partnership framework (23). Indeed South-East Asian countries, after 20 years of collaboration with WHO RPD and other research divisions and the Regional Office are increasingly aware of the significance of research in health development. They have strengthened their research management and coordination, with a critical mass of scientists with basic equipment, to enter into discussions and implement research activities, proposed and funded by various research organizations, nationally as well as internationally.

As an illustration, one may summarize the coordinating mechanisms at the country level, which are the managerial and coordinating authorities in respective countries. The Indian Council of Medical Research had its roots in British colonial days of 1911. It was established in 1949 with regional bodies and affiliated research institutions and has now achieved maturity and sophistication of a senior institution. The Myanmar Medical Research Council, later taken over by the Medical Research Department, Myanmar, the National Institute of Health Research and Development, Indonesia, the Medical Research Council of Bangladesh, Nepal's Health Research Council and DPRK's Academy of Medical Science have had long and varied experience spanning about 30



years. In Sri Lanka, where the Natural Resources Energy and Science Authority, NARESA was the research coordinating authority for the same period was recently succeeded by a National Medical Research Council. In Thailand, research management and coordination is done by Ministries mainly, but the medical branch of the National Research Council serves as the secretariat to the Medical Research Council(21, 23).

### Smallpox eradication

Of the many endemic and epidemic diseases, smallpox was declared eradicated from the entire world in 1980. Subsequent to a series of World Health Assembly resolutions, the 19<sup>th</sup> WHA in 1966 resolved to intensify global efforts and to increase WHO participation in the global programme for smallpox eradication. At that time, no smallpox cases were reported in DPR Korea, Thailand, Sri Lanka, Maldives and Mongolia (which was part of WHO South-East Asia Region till 1995). Myanmar which initiated planning with pilot projects in 1963 was already in the middle of the first three-year round of mass vaccination programme from 1964 to 1966. Smallpox ceased to exist domestically in Myanmar in 1970. Other countries pursued the smallpox eradication programme systematically with close technical support from WHO. In Indonesia, the last known case of smallpox occurred in January 1972. With intensification of the Programme, Bhutan, Nepal and India also succeeded in smallpox eradication and the last smallpox case in Bangladesh of Rahima Banu, occurred in October 1975. In 1980 the World Health Assembly adopted resolution WHA33.3 and declared that the world had won freedom from smallpox (24, 1).

### Eradication of guineaworm

India was the only country in South-East Asia, where Dracunculiasis or guineaworm infection was found in some states. When India launched its guineaworm eradication programme in 1979, the disease was estimated to infect 1.3 million people in Rajasthan and in 6 other states. In 1991, the 44<sup>th</sup> World Health Assembly decided to commit WHO to eradicate guineaworm infection and thus mobilized international resources. Much progress was made in the programme, and the International Commission for the Certification of Dracunculiasis Eradication reviewed the situation in 2000, when India was certified to be free from this disease (25).

### Elimination of leprosy

Leprosy is an age-old disease highly prevalent in South-East Asia. In spite of national leprosy control programmes, it was estimated in 1987 that the number of leprosy cases in 9 countries of the Region was 5.34 million out of a global estimate of 10-12 million. India alone was estimated to have 4 million cases. The prevalence rate ranges from 50 to 150 per 10000 population; and out of an estimated 5.34 million cases only 3.4 million (68%) were registered.

In May 1991, the 44<sup>th</sup> World Health Assembly adopted resolution WHA44.9 aiming at global elimination of leprosy by 2000, using control measures including Multidrug Therapy (MDT) together with intensification of case finding. SEARO convened a Regional Conference soon after, to endorse the WHA Resolution and to prepare strategies and work plans for the elimination of leprosy. Maldives, Sri Lanka and Thailand were proposed as priority countries, since the case load and prevalence rates in these countries were lower than in others. Ten years later, in April 2001,



Bangladesh, Bhutan, Indonesia, Maldives, Sri Lanka and Thailand reported that the prevalence rate in these countries were lower than 1/10 000, the target of elimination. In February 2003, Myanmar announced that the prevalence rate in the country had decreased to less than 1/10 000. Nepal and India still have a prevalence rate higher than 1/10 000 and the two countries are accelerating their efforts to reach the global goal of elimination by 2005, which is the revised goal adopted at the South-East Asia Regional Consultation of programme managers of leprosy control held in New Delhi in 2001 (26).

### Poliomyelitis eradication

Poliomyelitis affects mostly children under five years of age globally but most commonly in developing countries of South-East Asia. With intensified efforts in developed countries, the number of cases had been decreasing and in 1988, when the 41<sup>st</sup> World Health Assembly launched the global programme to eradicate poliomyelitis, there were an estimated 350 000 cases in the world (27).

In South-East Asia, Indonesia, Maldives, Mongolia, Sri Lanka and Thailand are already observing polio-free zones and with WHO leadership and the support of Rotary International, countries have stepped up the eradication activities (7). India, Indonesia and Thailand were producing oral polio vaccine and in the meanwhile the polio eradication initiative spearheaded by WHO, was joined by Rotary International, US/CDC and UNICEF and several governmental and nongovernmental agencies. Strategies for eradication, in addition to systematic routine high immunization coverage with OPV, were extended to include National Immunization Days, surveillance for wild virus and targeted mopping up operations. In 2001, Bangladesh reported no cases as well as no wild poliovirus. In Myanmar, Acute Flaccid Paralysis cases were investigated thoroughly. Wild polio virus has not been detected since 1996 except in 1999 when 7 wild polio virus cases were detected in border areas and investigated. India which is reporting polio transmission and occurrence of Wild Polio Virus, is mobilizing resources and intensifying surveillance and undertaking mopping-up operations. All the National Certification Committees are endeavouring to meet the global target of certifying a polio-free world by 2005, by meeting specific standard criteria and evidence (28).

### Future outlook

With half a century of experience in health development and having established a basic health services infrastructure supported by human resources in health, the countries in South-East-Asia are serving their people more efficiently (1). However, there are still shortcomings in our efforts to meet the basic health needs of the people and the gaps between the haves and have-nots are still wide. The service system needs to move fast from quantitative coverage to qualitative health care. Health manpower should now concentrate on further improving technical competency and relevance and also observe the equitable balance in manpower categories and balanced geographical distribution. Many countries are pushing actively in privatizing the public sector services in health without adequate studies in optimal mix and evidence-based results to adequately prepare the private sector (18). Management and coordination in research as well as capacity building has been gradually developed but funding for research is still too meagre in the countries. Thailand, one of the best organized countries, spent \$ 15.7 million on research and development in 1998, which was 0.06% of the total government budget or 0.9% of the health budget, and 0.012 % of GDP (29).



Disease eradication programmes are feasible only when effective and affordable disease control technologies are available supported by high-powered national commitment and international support and collaboration. With its many success stories in the past, countries in the South-East Asia Region can expect to plan and succeed in elimination/ eradication of Tetanus Neonatorum, Hepatitis B, and lymphatic filariasis and, when affordable, effective and safe vaccines become available, the MMR group of diseases, – Mumps, Measles and Rubella. When that happens, the Region will be well on its way to emerge as a leader in health development.

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# 9

## Promoting Healthy Environment in the South-East Asia Region: An Overview

*Professor K.J. Nath\**

### Introduction

The physical environment is the most important determinant of human health and its protection is a key element in preventing human illness. Environmental health comprises those aspects of human health and disease which are determined by factors in the environment and also includes the theory and practice of assessing and controlling those factors in the environment which determine the health and well-being of the community. Environmental services, such as community water supply, sanitation, waste disposal, personal and domestic hygiene along with nutrition, health education and immunization, have been central to our concept of preventive and social medicine and they are the key pillars of Primary Health Care. An estimated 60 to 80 per cent of all diseases and over one-third of deaths in the developing countries are caused by environment-related factors and on an average as much as one-tenth of each person's productive time is sacrificed to water and sanitation-related diseases.

Despite significant progress during the last two decades, the demographic and environmental health scenario continues to be a cause of serious concern in the developing countries of South-East Asia. The traditional problems of water and air-borne infections combine with malnutrition and poor environmental sanitation to form a vicious cycle which is increasing the burden of diseases beyond the capacity of the existing health infrastructure and jeopardizing the productivity of society. Today, while the urban population of these countries faces the development and environmental degradation, concurrently the rural population continues to suffer lack of sanitation and safe drinking water, malnutrition and ecological insecurity. The health authorities are trying to maintain a balance between the competing priorities of curing diseases, containing epidemics along with promoting environmental and preventive health. The heavy and critical burden of disease is putting tremendous pressure on the health infrastructure, which can hardly cope up with the same.

### Water supply and sanitation

#### Review of the progress and achievements (1990-2000)

The South-East Asia Region of WHO is one of the most diverse regions, having some of the most populous countries like India, Indonesia and Bangladesh as also some of the least populous countries

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like Bhutan and Maldives. Six of the 11 countries, namely India, Indonesia, Thailand, Sri Lanka, Myanmar and Maldives, fall in the medium human development category and 3 (Nepal, Bhutan and Bangladesh) fall in the low human development category. These countries are primarily rural population in nature, and the per capita GDP varies from \$ 1 027 in Myanmar to \$ 6 132 in Thailand. The adult literacy rate varies from 40.4% (Nepal) to 96.2% (Maldives). Life expectancy varies from 56 (Myanmar) to 71.9 years (Sri Lanka).

The varied socioeconomic characteristics as described above are also reflected in health parameters and level of environment and hygiene-related services. Table 1 depicts the water supply and sanitation coverage, by country, in the South-East Asia Region in the year 1990-2000. Table 2 depicts some of the vital health and socioeconomic parameters of these countries.

**Table 1: Water supply and sanitation coverage, by country, in South-East Asia**

Country	Year	Total pop (mil)	Urban pop ('mil)	Rural pop ('mil)	% Urban water supply coverage	% Rural water supply coverage	% Total water supply coverage	% Urban sanitation coverage	% Rural sanitation coverage	% Total sanitation coverage
Bangladesh	1990	109.5	21.1	88.4	98	89	91	78	27	37
	2000	129.5	31.6	97.5	99	97	97	82	44	53
Bhutan	1990	1.7	0.8	1.6	-	-	-	-	-	-
	2000	2.1	1.5	2.0	86	60	62	65	70	69
DPR Korea	1990	20.5	11.9	8.5	-	-	-	-	-	-
	2000	24.0	14.5	9.6	100	100	100	99	100	99
India	1990	850.8	217.3	633.5	92	73	78	58	8	21
	2000	1013.6	288.3	725.4	92	86	88	73	14	31
Indonesia	1990	182.8	55.9	126.9	90	60	69	76	44	54
	2000	212.1	86.8	125.3	91	65	76	87	52	66
Maldives	1990	0.2	0.06	0.16	-	-	-	-	-	-
	2000	0.3	0.08	0.21	100	100	100	100	41	56
Myanmar	1990	40.5	9.9	30.5	88	56	64	65	38	45
	2000	45.6	12.7	33.0	88	60	68	65	39	46
Nepal	1990	18.7	1.7	17.1	96	63	66	68	16	21
	2000	23.9	2.8	21.1	85	80	81	75	20	27
Sri Lanka	1990	17.0	3.6	13.2	90	59	66	93	79	82
	2000	18.8	4.4	14.4	91	80	83	91	80	83
Thailand	1990	55.6	10.4	45.1	83	68	71	97	83	86
	2000	61.4	13.2	48.1	89	77	80	97	96	96

Source: Health Sanitation in South-East Asia – 1998-2000 (WHO)

The Global Water Supply and Sanitation Assessment 2000 Report indicates that during the International Water Supply and Sanitation Decade (IDWSSD) and in the nineties, increasing number of people in the South-East Asia Region got access to some form of improved water supply, though access to sanitation continued to be extremely poor in the Region.





**Table 2: Socioeconomic and health parameters in countries of the South-East Asia Region**

Country	GDP per capita (US\$)	Human poverty index (%)	Estimated adult literacy (%)	Life expectancy at birth (Years)	% of life span lived with disability	IMR (infant mortality rate/1000 live births)	Under-5 mortality
Bangladesh	1 483	43.3	40.8	58.9	18.5	58	115
Bhutan	1 341	-	42.0	61.5	20	80	114
India	2 248	34.3	56.5	62.9	15	70	101
Indonesia	2857	21.3	86.3	65.8	12	38	58
Maldives	4 423	15.8	96.2	66.0	19	60	88
Myanmar	1 027	28.0	84.4	56.0	162	79	134
Nepal	1 237	44.2	0.4	58.1	21.4	75	113
Sri Lanka	3 279	18.0	91.4	71.9	14.5	17	22
Thailand	6 132	14.0	9.53	69.9	13.5	26	34

Source: Health Situation in South-East Asia – 1998-2000 (WHO)

It has been estimated that from 1990 to 2000, India, Indonesia, Bangladesh, Thailand, Nepal, Myanmar and Sri Lanka together managed to extend water supply coverage to an additional 133 million population. While the progress is significant, it is almost equivalent to the population growth in these countries. Which means that the number of people without access to improved water supply have not decreased significantly. Region-wide, over 232 million persons, or 15% of the population lack access to improved water supply. Nearly four times that number or some 916 million people lack access to improved sanitation. India, with more than 699 million people lacking access to improved sanitation facilities, accounts for more than two-thirds of the total number of people without this basic service in the South-East Asia Region. More than three-quarters of people who lack access to improved water supply in the Region live in rural communities.

In general, urban populations have greater access to improved water supply and sanitation than rural populations while sanitation coverage is low in countries with low GDP, high poverty and low adult literacy rates. Besides DPR Korea, which has achieved almost 100% water and sanitation coverage, Thailand with the highest GDP and literacy rates in the Region, and with a very low level of human poverty, has also achieved almost total sanitation coverage. What is interesting to note however is that Bangladesh with one of the lowest GDP and adult literacy rates and with very high poverty, is having the highest (excluding Maldives) rural and urban water supply coverage, better than even Sri Lanka and Thailand.

At 14%, India is having the lowest rural sanitation coverage though the country's achievement in rural and urban water supply is praiseworthy. The water supply coverage in Sri Lanka and Thailand appears to be relatively moderate, given their socioeconomic and health status. In this connection, it might be useful to bear in mind that the quality and level of water supply and sanitation coverage in Bangladesh or Nepal are likely to be different from that in Thailand or Sri Lanka. In Bangladesh, 80% of Community Water Supply System (CWSS) coverage is by means of





manually-operated shallow tube-wells, 6% through manually-operated deep tube-wells and only 10% through piped water supply. It is important that one is clear about what the coverage figures show and what they do not.

The figures of water supply and sanitation coverage given in Table 1 are based on precise definitions of improved water supply and sanitation and of access. Improved water supply could connote household connection to a piped water supply or public tap/standpost, bore well or protected dug well/spring or rain water collection. However, it says little about water quality or safety or about adequacy and reliability of supply services. Similarly, improved sanitation could mean a sewerage system with or without treatment plant, septic tank toilet or VIP/PF pit latrines.

There is another angle to the achievements of Bangladesh in the Water Supply and Sanitation sector, or for that matter, to India's extremely poor performance on the sanitation front. It shows that lack of resources is not the only constraint for improving water and sanitation situation in developing countries. The linkage of poverty and literacy with lack of sanitation and hygiene cannot be denied, but even a poor country can improve access to water and sanitation significantly through appropriate policy and institutional reforms, and adequate participation of its people. India's poor performance in improving sanitation all through the eighties and the nineties is primarily due to the:

- (1) Lack of political will and administrative support for the sanitation programme;
- (2) Lack of awareness among the people particularly those in the rural areas, about the need of sanitation and its health consequences;
- (3) Health sector's total indifference and lack of adequate advocacy on its part, and
- (4) Failure to develop a demand-driven approach with adequate participation of the people at the grass-roots level.

The qualitative difference between the urban and rural water supply coverage also needs elaboration. In most countries of the Region, the urban/city water supply means piped supply with house supply varying between 100 to 250 litres per capita per day (lpcd). But substantial portions of rural water supplies in countries like Bangladesh, Bhutan, India, and Nepal are from spot sources – hand pumps, tube-wells, protected dug-wells or protected springs.

The norms of rural water supply coverage in India specify, at least, one tube-well for 250 persons or within a distance of 1.6 km, and a per capita water supply varying between 20 to 40 lpcd. In Bangladesh, the number of people served from one public tube-well is much less. In the mountainous areas of Bhutan and Nepal, and in the drought-prone areas of India, like Rajasthan and Gujarat, rural women have to often cover long distances for water collection spending 2 to 8 hours a day. The energy spent by them on water collection amounts to 25 to 30% of their total calori intake. (*Time-Energy Study, (UNICEF), Nepal, 1992-94, Prof. Nath & Prof. Chakravarty, AIHH&PH*).

## Reliability and adequacy of community water supply

The coverage figures shown in Table 1 give us some idea about the efforts undertaken by national governments and international organizations for extending community water supply services to the unserved population during the eighties and the nineties. But they do not convey the full picture.



In many countries of the South-East Asia Region, particularly those with high human poverty index and low GDP (Bangladesh, Bhutan, India, Indonesia, Myanmar, Nepal), providing a street standpost in the vicinity of urban slum or squatter colony or the presence of a bore-well or protected dug-well in a rural community, qualifies the population as covered. But it often does not guarantee a reliable and continuous supply of adequate quantity of water, not to talk of quality and safety. In a country like India, with the official figure of 92% urban water supply coverage, it is a common sight in cities like Kolkata or Mumbai to see a number of people queuing up before a street standpipe, which has hardly any pressure. Often they dig below ground level to get water, because of lack of pressure.

The validity of country figures for urban water supply appears to be questionable, when they are compared with city-specific population coverage figures. For example, it is reported that population coverage in Jakarta, Colombo, Kolkata and Bangalore is 27%; 58%; 66%; and 70% respectively, while the country urban water supply coverage figures for Indonesia, Sri Lanka and India are 91%; 90%; and 92% respectively. If situations in large cities with adequate institutional and infrastructural capacities of the municipality are so poor, the condition in small and medium towns can hardly be better. As such it is difficult to reconcile the country coverage figures with those of cities/towns. It appears that while computing urban water supply figures for the country, the unserved and underserved areas of the cities and towns have not been given due weightage.

According to the Asian Development Bank (ADB), the cities worst affected by a discontinuous water supply are mainly in South Asia, where the water availability is restricted, as given in Table 3. The ADB has ranked Delhi, Mumbai and Chennai among the four worst cities in Asia in terms of water availability. Contrast the supply hours (2.5 to 5 hours) in Bangalore, Delhi, Chennai and Mumbai, with those in Beijing (24), Kuala Lumpur (24) and Manila (18). The per capita water supply figure is also very confusing. It is computed by dividing the total quantity of water produced by municipal authorities, by the total population. *Although the per capita water supply in Delhi and Kolkata is more than 200 litres per day, 30 to 40% of the urban population in slums and squatter colonies, receive less than 20 litres per person per day.* This only shows that huge quantity of water is wasted by the urban elites who pay a very paltry tariff, and through leakages in the distribution systems. Some 30 to 50% of water in Indian cities are unaccounted for. The crisis could have been alleviated to a large extent, but for paltry tariff, flagrant flouting of laws and poor maintenance of distribution systems. The urban water crisis is also about defiled rivers, poisoned and overdrawn aquifers and swelling demographics eating into ponds, wetlands and lakes.

**Table 3: Water supply in Indian cities**

Cities	Coverage (%)	Availability (hours)	Consumption (Ltr/capita)	Demand (million ltr)	Supply (million ltr)
Calcutta	66	10	209	1 125	1 125
Chennai	97	4	80	600	400
Delhi	86	4	200	3 600	2 925
Mumbai	100	5	178	3 200	2 700
Bangalore	70	2.5	105	970	680

Source: ADB (1997B)



A grave consequence of these crises has been the tapping of groundwater in an indiscriminate and unplanned manner. In the metro cities of Delhi, Kolkata and Chennai, etc. 10 to 20% of the water needs are met from groundwater sources. For small and medium towns it could be 30 to 100%. But this indiscriminate use has given rise to serious depletion of the groundwater table. In Kolkata, Hyderabad and many other Indian cities, the groundwater table has fallen by 50-80 feet during the recent decades. Similar reports have also come from other cities of the South-East Asia. This may give rise to serious soil subsistence and groundwater quality problems.

The present crisis faced by most of the urban water services of megacities in the South-East Asia Region are primarily due to: shortage of water sources (seasonal); miss-match between demand and supply; lack of cost-recovery and financial management; poor operation and maintenance of distribution systems; intermittent/discontinuous supply with frequent disruptions, and almost universal faecal contamination of the distribution system.

The reliability and sustainability of community water supply units installed in the rural areas of countries like Bangladesh, Bhutan, India, Nepal, and Myanmar, etc. are also questionable. Because of lack of proper operation and maintenance, many treatment units attached to the bore-wells become non-operational. In India thousands of iron-removal and defluoridation plants attached to hand pump tube-wells installed under the Rajiv Gandhi Drinking Water Mission, in the eighties and the nineties, became totally defunct within years, if not months. As a result, people of many of the so-called covered villages have to use water of contaminated sources like ponds or have to travel long distances for collection of water. Already there are reports, that many arsenic treatment units, attached to tube-wells, in the villages of West Bengal, India are malfunctioning due to lack of adequate operation and maintenance. There are many reasons behind the problem, but one of the key factors is the lack of a demand-driven and participatory approach and people's participation.

### Adequacy of water resources in SEAR Countries

Table 4 indicates that most SEAR countries are rather comfortably placed in the matter of per capita availability of water, except for possibly India and Sri Lanka. However, it must be understood that the average per capita availability does not give the whole picture, and depending on the

**Table 4. Water availability in SEAR countries**

Country	Per capita availability of water in (m/p/y) 1998
Bangladesh	9 636
Bhutan	NA
DPR Korea	3 372
India	1 947
Indonesia	12 625
Maldives	NA
Myanmar	23 515
Nepal	9 199
Sri Lanka	2 329
Thailand	6 698



effectiveness of water management, and hydrogeological variations, there could be pockets of water-scarce areas.

A country with an annual per capita availability of less than 1 700 cubic meters for all major functions (domestic, industrial, agricultural and natural eco-systems) is likely to experience water stress.

India as a country is on the brink of a water crisis with some of the arid and semi-arid regions (Gujarat, Rajasthan) having a per capita availability of less than 1 000 cu.metres per year. Maldives, with the least population in the Region, and spread across 2 000 miles of ocean, is facing a serious water resource problem due to salt water intrusion, though accurate data about water availability are not available.

In terms of quantity, water resources in localized regions around large urban agglomerations like Mumbai, Delhi, Kolkata and Chennai metropolitan districts, are under pressure due to increasing population and per capita demand, and high rate of industrialization along with high demand of irrigated agriculture. Gross contamination of surface water sources and indiscriminate and unplanned withdrawal of groundwater (as discussed earlier) have further aggravated the situation (discussed under Section 2.2).

Rainwater harvesting and ground water recharge in urban areas could redeem the situation to a large extent. The citizens and urban local governments in many cities are waking up to the benefits of rainwater harvesting. Civil agencies in Delhi, Chennai and Hyderabad have made rainwater harvesting and groundwater recharging mandatory for domestic and institutional buildings in urban areas. In Hyderabad, because of such measures, the groundwater table has risen by more than 10 feet. It goes without saying, that governments and local bodies in the SEAR countries must work on water resource conservation equitable distribution, and must enact and enforce laws on groundwater extraction and rainwater harvesting, less water-intensive flush systems and making industries pay for polluting water sources.

### **Water quality problems in the Region**

The following are the major water quality problems in the Region and according to the writer, their significance and public health importance should be ranked in that order:

- (1) Microbial contamination of drinking water supply systems: source, distribution system and at home;
- (2) Geogenic and anthropogenic contamination of ground water, and
- (3) Pollution of surface water sources.

### **Microbial contamination**

The urban water supply systems in majority of SEAR countries, particularly in Bangladesh, Bhutan, India, Nepal, and Myanmar, are having serious problems of faecal contamination of water distribution systems. Only 2 countries (Maldives and Thailand) in the Region satisfy the dual criteria in urban systems of continuous positive pressure in distribution systems and universal disinfection.



Water quality is critically affected in intermittent supply systems. Given the poorly maintained water distribution systems, with innumerable leaks and unauthorized connections, ingress of faecally contaminated water occurs, when the pressure drops. The situation is particularly serious in cities and towns of the Indian sub-continent, which is reflected in the high endemicity of faecal-oral infections of diarrhoeal and other water and sanitation-related diseases and periodic epidemics of the same.

Though half of the SEAR countries (India, Maldives, Nepal, Sri Lanka and Thailand) reported to WHO in 1999, that disinfection was practised in all urban systems, in reality however, in most of the small and medium towns in countries like Bangladesh, Bhutan, India, Indonesia, Nepal, and Myanmar, regular and effective disinfection is not practised all over the distribution system. Even in metro cities, the desired free residual chlorine (0.2 ppm) is not maintained throughout the distribution system.

There is sufficient evidence of contamination of urban water systems, in SEAR countries, particularly those with low GDP and low human development index. Table 5 titled: "Water quality (bacterial contamination) status of Kolkata city" depicts the acute problem of faecal contamination of the municipal water supply system, consumer points in the distribution system, overhead/underground reservoirs in houses, hand pump-operated shallow bore-wells and even deep tube-wells. On an average, more than 50% of the samples were bacteriologically contaminated. Presence of salmonella was found in 50% of the contaminated samples, 42% contained *staplylococcus* spp and in 14% of samples *sigella* spp were found.

Fifty per cent of water samples collected in Kathmandu city from 1991-1995 were microbially contaminated. In the year 2000, the same was 24%. Examples are cited from two cities, but situations in other cities and towns of the Region with discontinuous supply and inadequate disinfection are likely to be no different. High level of faecal contamination of almost all urban systems in Timor-Leste created serious water-borne infection and periodic epidemics of cholera and diarrhoeal diseases.

It is most unfortunate that in many cities and towns of the SEAR countries, faecal contamination of distribution systems, including domestic reservoirs, has been accepted by people with a sense of resignation and the consequent faecal-oral infection of diarrhoeal diseases as a fact of life. In urban systems, many consumers are so used to poor service that they refuse to drink municipal tap water.

In a consumer survey carried out by the ADB, which obtained data from 100 randomly-selected customers in some cities in 31 Asian countries, including many in SEAR, only 33% of

**Table 5: Water quality (bacterial contamination) status of Kolkata city**

Samples collected (Nos.)				Samples bacteriologically contaminated (Nos. and %)			
Deep tube-well (owner's own)	KMC consumer points	KMC hand pump	Overhead/underground tank inside houses	Deep tube-well	Consumer points	KMC hand pumps	Overhead/underground tank inside houses
40	600	150	200	11 (27.5)	382 (63.66)	37 (24.66)	175 (87.5)



domestic consumers reported that they drank water directly from the tap. In a similar survey in Kolkata, less than 25% of surveyed households used municipal tap water without any treatment. Those who can afford it, are increasingly using bottled water. It is quite apparent that the lack of water quality management is affecting the poor and the lower middle class groups the most (see Box).

Citizens willing to pay for Water Quality in Kolkata	
In a survey undertaken by the Jadavpur University, Economics Department, Kolkata, it was found that out of 240 households, only 53 drank water collected from municipal taps, without any treatment. The rest spent time and money or both to purify the same.	
<b>The Survey in a nutshell</b>	
Number of households surveyed	240
Number of households using untreated water	53
Number of households using own purification methods	187
Minimum amount spent monthly per household for purification	Rs. 5
Maximum amount spent monthly per household for purification	Rs. 140
Those who did not opt for purification had to incur indirect costs in the form of medical treatment. The feedback that the researchers got from the consumers is that they are willing to pay for water, just as any other commodity, provided the civic authority ensures its credibility by providing the best quality drinking water.	

There are also reports about microbial contamination of rural community water supplies, mostly provided by spot sources. In Nepal, 50 to 60% of tube-wells in terai districts were found to be microbially contaminated. In India, a number of studies have indicated gross microbial contamination of groundwater sources in rural areas. The so-called protected dug-wells/springs are almost universally contaminated. A study sponsored by UNICEF and conducted by AIH&PH in India, during the early nineties, indicated serious bacteriological contamination of gravity-fed rural water supply services in 5 hilly states of India, mostly served from protected springs. A study in the Kerala state (Socioeconomic Group and AIH&PH) indicated ineffectiveness of chlorination of dug-wells, which were considered to be robust in respect of microbiological quality.

## Water and sanitation-related disease burden in South-East Asia

### Communicable diseases

Despite substantial improvement in water and sanitation coverage, both mortality and morbidity figures indicate a significant burden of communicable diseases derived from water, sanitation and other environment-related factors. Table 2 indicates high IMR and under-5 mortality and significantly high percentage of lifespan lived with disability, in most SEAR countries. Table 6 depicts the morbidity and mortality of water-borne diseases in South-East Asia. Figure 1 depicts the unabated burden of water and sanitation-related diseases in India, during 1989-1998. Diarrhoeal diseases account for 6.6% of all deaths and 7.2% of all DALYs in the Region. The majority of this health burden is carried by children and the poor.



As the data on environmental epidemiology is scanty in countries of this Region, it is difficult to accurately ascertain the extent to which the deficiencies in water and sanitation-related services contribute to the heavy burden of diarrhoeal, helminthic, vector-borne and viral diseases. However, morbidity due to water and sanitation-related diseases, has not declined to an extent commensurate with the investments made in the CWSS sector. The reasons could be traced to lack of effective water quality surveillance and extremely poor level of environmental sanitation. Having said this, one could also question the validity of these coverage figures which perhaps do not adequately reflect the plight of millions of unserved or underserved people, mostly the poor and the marginalized, of countries with a low GDP in the Region, living in squalid and unhealthy environments.

**Table 6: Estimates of morbidity and mortality of water-related diseases in SEAR countries (late 1990s)**

Disease	Morbidity (episodes/year or people infected)	Mortality (deaths/year)
Diarrhoeal episodes	0.7 to 3.7 episodes per child less than 5 years of age	
Malaria	3 100 000	NA
Dengue Fever	400 000	8 000
Hepatitis	NA	28 000
Lymphatic Filariasis	60 000 000 (people infected)	—

### Environment-related noncommunicable diseases

Data in respect of noncommunicable diseases related to environmental pollution and lifestyle are scanty. Cardiovascular diseases and cancer are on the increase in urban and industrial areas and psychological and neurological sickness due to high noise pollution are also causing concern. Both ambient air pollution and indoor and workplace environment are responsible for increasing respiratory episodes, asthma and acute respiratory infection. Though it would be difficult to project the exact burden of environmental and lifestyle-related noncommunicable diseases, they may become one of the major public health problems in the Region, unless adequate measures are taken to arrest the environmental degradation of urban and industrial areas.

**Table 7: Annual health incidence and health costs due to ambient air pollution Levels exceeding WHO guidelines in 36 Indian cities (using data from 1991-1992)**

	Physical Impacts	Cost valuation (US\$ millions)
Premature deaths	40 351	170 – 1 615
Hospital admissions and sickness requiring medical treatment	19 800 000	25 – 50
Minor sickness (including restricted activity days and respiratory symptom days)	1 201 300 000	322 – 437
Total		517 – 2 102





### Water quality monitoring and surveillance: Institutional issues

Six of the 10 countries of the Region have established national drinking water quality standards, which are more or less similar to the WHO guideline values. But setting water quality standards has little meaning, unless the quality of water supplied to the community is monitored regularly and remedial actions taken promptly. In most of the SEAR countries, institutional set-up for water quality surveillance is extremely inadequate. Only in metro cities, the municipalities have adequate laboratory infrastructure and manpower for regular water quality monitoring and surveillance. In most small and medium towns in the Indian sub-continental countries, water quality monitoring is undertaken only occasionally and under emergency situations.

Theoretically in many SEAR countries, the responsibility of WQS rests with the Ministry of Health. In rural areas in India, and also in small and medium towns, the Public Health Engineering Department of the state governments or Panchayati Raj organizations are supposed to have the same responsibility. In Bhutan, Maldives and Nepal, the responsibility for surveillance of drinking water rests with the national health authorities, while in Bangladesh it is assigned to the Ministry of Environment and Forests.

The responsibility for surveillance is shared in Sri Lanka between the National Water Supply and Drainage Board and the Rural Water Supply Division, Ministry of Urban Development. But irrespective of the institutional responsibility for drinking water quality surveillance, it remains a function that is seldom fulfilled with adequate coverage or integrity in SEAR countries. In most rural systems it is non-existent. The most glaring example of a non-existent water quality surveillance system in rural areas, is the episode of arsenic contamination of groundwater sources in Bangladesh and India. People were using arsenic-contaminated sources for years, without the quality of water sources having been tested even once. It is only after some of them got sick, that the problem was identified. One of the beneficial fallouts of the arsenic problem is that the need for water quality monitoring and surveillance is better appreciated now by the water providers.

The above assessments are indicative of the need to **develop more effective operation and maintenance of rural water supplies and to promote sanitary inspection, along with community-based water quality monitoring in rural areas, as a mechanism to identify problems**. On a positive note, it should be mentioned that the indifference and apathy to the water quality issue on the part of programme managers appear to be changing and a number of initiatives are now being taken in countries like Bangladesh, Bhutan, India, Indonesia, Nepal and Thailand, etc. for building capacities of water quality monitoring and surveillance at the grass-root level. In India during the last five years, hundreds of laboratories have been established at district and block levels. The World Bank is helping the Government of Bangladesh to undertake a massive programme for WQM for arsenic all over the country, with the help of field kits. However, **institutional framework and laboratory infrastructure for an independent surveillance agency are yet to be developed in most countries of the Region**.

For urban municipal water supplies, there is an urgent need to have appropriate regulation, institution and infrastructural facilities for regular and effective water quality monitoring and management. Accepting that intermittent supply system would continue in most SEAR countries





for some time to come and that restoration and rehabilitation of distribution systems would also require considerable investment, immediate need of the hour is effective disinfection of water reservoirs.

## Chemical contaminants in water and the environment, and issues related to chemical safety

The WHO Guidelines for Drinking Water Quality (GDWQ) set guideline values for some 100 distinct chemicals. Not all of them occur in all countries of the Region in significant concentrations or with significant frequency. Their public health significance may also vary from country to country. As such, in developing national risk management strategies for chemicals in water and environment, care should be taken to consider all local social, health, economic, cultural and ecological issues. It should be ensured that resources are not unnecessarily diverted towards monitoring substances of relatively minor health importance.

Arsenic and fluoride contamination of groundwater in Bangladesh, India and a number of other countries in the Region is a serious health concern. Nitrates, heavy metals and pesticides are the other chemicals of health concern in countries of the Region. With increasing industrialization and increasing use of pesticides and fertilizers, industrial and agrochemical contaminants are being discharged into rivers/lakes and are leaching into groundwater. Recent studies in Bangladesh and India indicate a wide range of heavy metals and pesticides in surface waters. Though nitrate concentrations above the WHO guideline value have been reported from parts of India and other countries, there is no epidemiological evidence of morbidity or mortality arising out of the same.

Data in respect of pesticide residues and toxic heavy metals in the environment is rather inadequate for a rational and scientific assessment of environmental health impact. However, despite limitation of available data, the points of grave public health concern for countries of the Region are:

- (1) Residues of pesticides contribute significantly to contamination of food, water, soil, animal products and human milk and tissues;
- (2) The ubiquitous presence of DDT and HCH in the environment;
- (3) High body burden of DDT and HCH in the general population, and the possible risk of breast cancer among women, and
- (4) Widespread contamination of bovine milk and baby feeds with hard-to-degrade organochlorine pesticides.

The increasing use of chemicals and pesticides in agriculture, industries and commerce as well as in public health and medical care services poses serious risk for humans and the environment. The WHO publication on health situation in SEAR has reported a number of cases of pesticides poisoning in Bangladesh, India, Indonesia, Myanmar, Nepal and Thailand, affecting large number of people. The present level of management of hazardous chemicals and also wastes from hazardous chemical industries including bio-medical wastes from hospitals, is a serious health concern in the Region. Though a number of regulations and legislation have been enacted in recent years in India and other countries, enforcement of the same is poor. There is an urgent need to strengthen national capabilities for ensuring sound management of chemicals and hazardous wastes.



## Arsenic and fluoride in groundwater: the new menace in South-East Asia

The excess of naturally-occurring harmful inorganics like arsenic and fluoride in groundwater is a major health concern in the South-East Asia Region. Drinking arsenic-rich water over a long period is unsafe, as it is a documented carcinogen. Almost 50 million people in Bangladesh are at risk of drinking water with arsenic concentration above 50 micrograms per litre. The same figure for West Bengal in India would be between 5-120 million. The most commonly reported symptoms of chronic arsenic poisoning include hyperpigmentation, hypopigmentation and keratosis. Skin cancer and internal cancer can also occur. The estimated risk of excess lifetime skin cancer in Bangladesh at the present arsenic contamination level is put at 3754 000 (0.29% of the population). A scientific epidemiological assessment of the extent and magnitude of the problem in Bangladesh and India has not yet been made. A high concentration of arsenic in community water sources does not necessarily correlate with high levels of arsenicosis symptoms in the community.

The problem of arsenic in groundwater has also been reported from other SEAR countries, such as Myanmar, Nepal and Thailand. The critical concerns for governments and other sector partners in the affected countries are:

- ◆ Restricting the people from drinking arsenic-contaminated water;
- ◆ Providing alternative sources of arsenic-free safe drinking water;
- ◆ Informing the people about the health risk associated with drinking arsenic-contaminated water, and
- ◆ Providing medical relief, by way of training medical practitioners serving either in government systems or outside.

Unfortunately, however, efforts so far have been less than adequate. The approach has been *ad hoc*, piecemeal and fragmented. Informing people about the risk and the status of their drinking water sources, is a fundamental responsibility of all sector partners. The absence of proper infrastructure and lack of laboratory facilities, etc. have posed a challenge for the government to

**Table 8: Cost of implementing WHO GDWQ in Bangladesh**

Arsenic level in drinking water	Present level	< 50ug/l	< 10ug/l
Total risk of skin cancer	377 000	55 000	15 000
Per cent of population	0.290	0.042	0.012
No. of TWs to be abandoned	—	2.0 million	3.5 million
Cost of abandoned TWs (Takas)	—	9.1 billion	15.5 billion
Cost of alternative water supply (Takas)	—	12 billion	24 billion
Cost of monitoring remaining safe tube-wells (Takas/year)	—	170 million	800 million

Note: Assumptions: No. of shallow tube-wells = 75 million

Cost of a shallow tube-well = 45 000 Takas

Source: Prof. F. Ahmed, BUET, Bangladesh



develop a comprehensive water quality surveillance system and a village-specific database. Unshakable faith created over the last 50 years in the purity of tube-well water has created a crisis of confidence and lack of faith in other sources like protected ponds, dug-wells or rainwater harvesting.

Though the WHO guideline value for arsenic in drinking water is 10 micrograms per cubic meter, countries like Bangladesh, India, Indonesia and Nepal are still adhering to the standards of 50 micrograms per cubic meter. While setting standards for chemicals like arsenic in drinking water, one should also take into account the cost of implementing the same. Table 8 depicts the cost of implementing WHO GDWQ as well as the present national standard in Bangladesh.

In India, 20 out of 35 states are affected by high level of fluoride in groundwater and 66 million people are at risk of fluorosis. Six million children below the age of 14 are suffering from skeletal fluorosis. Fluoride problems have also been reported from Bangladesh and Thailand. Like arsenic, in the case of fluoride too, the most important control measure is to provide alternative safe source of water or fluoride-contaminated water must be treated.

The problem of arsenic contamination of groundwater came to light during the early eighties, but the use of arsenic-contaminated water by the people might have started much earlier, may be during the 1950s/1960s. Arsenic has a cumulative effect in the human system and depending on the level of contamination it could take 5 to 20 years for a person to show the symptoms of sickness. Over the years, the number of affected people has increased though the total number of people who have reported to hospitals for treatment has not crossed more than a few thousands and mortality less than a few hundred. Unofficial sources, however, put the number of affected people to be many times higher. According to Dr Dipankar Chakravarty of Jadavpur University, Kolkata, 6 million people in West Bengal are drinking water with arsenic concentration >50 micrograms cubic meter. And of the 86 000 persons screened by them, 9.8% did have arsenic skin manifestations. **The question is whether we have already crossed the peak or is it only the tip of the iceberg.** However, the long-term risk element of arsenic contamination of groundwater should not be judged only by the number of people affected so far.

The preceding discussions about the health burden from microbiological and chemical contamination of water would make one realize the enormity of the task of prevention and control. With a significant proportion of the population in countries like Bangladesh and India being in extreme social and economic deprivation, compelling environmental health risks exist in society. Without diluting the gravity of the situation, it must be emphasized that we need to be objective and realistic in making political and economic decisions in relation to the current problems of arsenic and fluoride contamination in groundwater in the context of the huge health burden from microbiological contamination and other environmental health hazards.

## **Link between water and environmental, sanitation and domestic/ personal hygiene: Need for an integrated action**

Given the present situation in SEAR countries in respect of water, sanitation and hygiene at home, water alone can go only part of the way in achieving the basic objective of improving the health status of the community. It would largely depend on the implementation of an integrated strategy



aimed at improving water quality and availability, and sanitation, along with improving hygiene practice at home through changes in attitudes and higher levels of health education. Almost all water-borne, water-based and water-washed diseases are spread through exposure of food and drinking water to human faeces. Hence, the rate of infection and cross-infection could be reduced by safe disposal of waste, as well as, home hygiene practices, safety and quality of food and drinking water and availability of adequate quantity of water for personal hygiene. **The most critical issue could be the promotion of hand washing with soap before eating and before feeding children, and after defecation, which might prevent 40 to 50% of faecal oral infections.** Supply of high quality water would be of little help if the same is contaminated because of unhygienic practices at home. On the other hand, improvements in hygiene behaviour of a community cannot be sustained without concurrent improvement in the quality of community water supply and environmental sanitation.

Unfortunately, however, whenever public health concerns are expressed in developing countries, they generally relate mostly to public settings and services such as municipal services, hospitals and environmental sanitation etc. There is reluctance to acknowledge the home as a setting of equal importance along with public institutions in the chain of disease transmission through the community. What is needed is that persons responsible for promoting home hygiene and the managers of community hygiene must act in unison to optimize the return from their efforts to promote public health. *It may not be out of place to mention that promotion of hygiene behaviour in the domestic setting is possibly the most cost-effective among all preventive public health measures, in the context of a developing country today.*

## **Insanitary housing and peri-domestic environment in slums and squatter settlements: A problem of poverty**

Problems of environment are always related to poverty of populations and insanitary settlements. One of the basic and fundamental reasons of the poor quality of environmental sanitation in most cities and towns in South-East Asia, particularly in the megacities in the Indian sub-continent is the failure of authorities to provide for adequate and sanitary housing for the poor even at minimum standards to keep pace with the population expansion. In most urban areas, one finds a picture of deficit and deterioration, squaller and insanitation characterized by overcrowding, congestion, inadequate water supply and inadequate facilities for human excreta and waste water disposal. Everywhere there is a great deal of illegal occupation and squatting on public and private lands. A case in point is the Kolkata Metropolitan Area. After political independence and partition of Bengal, resulting in influx of thousands of refugees from erstwhile East Pakistan, a number of refugee colonies were set up without any sanction from the authorities on the vacant lands of absentee landlords. Clusters of tattered and improvised shelters on public pavements and even on municipal refuse dumps were set up by the poor who migrated and flocked to the city from all corners of the country. As a matter of fact, inadequacy of housing for the vast majority of the urban poor with its attendant evils is the single most important factor for the fast degradation of the urban environment in India and other developing countries of the Region. Improvements in some of the basic municipal amenities like water supply, waste water and excreta disposal, solid waste management, etc. cannot be implemented effectively unless the problem of settlements and human habitations for the vast majority of urban poor is taken care of.



## Safe water, sanitation and environmental health issues related to emergency and disaster situations

The South-East Asia Region is extremely disaster-prone. It has been estimated that 30% of the persons affected and 57% of the persons killed by natural disasters globally during the last decade were from this Region. During 1991-2000, more than 50 million people were affected and almost 50 000 were killed by natural disasters in the Region. The 1999 cyclone in Orissa (India), killed 10 000 people and affected 10-15 million people. Twenty thousand to 30 000 deaths and 170 000 injuries were reported in the Gujarat earthquake (India).

Bangladesh is particularly vulnerable against natural disasters like floods and cyclones. The devastating floods of 1998 affected more than 30 million people. In the floods of 1991, the death toll was approximately 140 000. Apart from natural disasters, political strives and civil wars also result in sudden displacement of huge number of people and they have to be accommodated in make-shift refugee camps, with inadequate arrangement of water supply and human excreta disposal (Timor-Leste / Indonesia 2001/ Bangladesh 1971). Under both types of emergency situations, the major casualties are the water supply and sanitation systems. Providing minimum quantity of safe drinking water to a large number of people living in make-shift camps is a big challenge, and equally, if not more difficult, is the problem of human excreta and waste disposal. Inadequacies in sanitary arrangement often result in contamination of food and water and consequent epidemics of diarrhoeal diseases. During the Bangladesh independence war, serious cholera epidemics broke out in the refugee camps. During the independence struggle in Timor-Leste in 2001, the water supply systems in major urban settlements became thoroughly contaminated. Another aspect of floods is the spread of water-related diseases in their aftermath. Water supplies are often disrupted and emergency disinfection of water supply is often required.

In the rural areas of SEAR countries like Bangladesh, India, Myanmar and Nepal etc. many or most of the tube-wells for community water supply get faecally contaminated during floods. Unless they are thoroughly decontaminated (superchlorination) during the post-flood situation, epidemics of water-borne infections are likely. During the flood, supply of safe and potable water to the trapped population could be a serious problem. Point-of-use disinfection with hypochlorite solution could be an appropriate option. In developing a comprehensive disaster preparedness action plan, governments and disaster management agencies must take appropriate action to address the difficulties of the displaced persons adequately. The environmental problems faced by them are frequently worse than those of poor urban and rural dwellers because of their limited access to alternative sources of livelihood and income.

WHO is helping the countries of the Region in developing disaster preparedness and in building capacity in the health sector. It is desired that an integrated and intersectoral approach the water supply and sanitation sectors should be developed.

## Epilogue: Cost of inaction

Access to safe water has been accepted as a basic human right by the 29<sup>th</sup> session of the UN Committee on "Social, Cultural and Economic Rights". At the Johannesburg Summit on Sustainable



Development (September 2002), both developed and developing countries of the world committed themselves to reduce the number of people without water and sanitation to half the present number, of which the major portion live in the SEA Region. The magnitude of the task is daunting and the critical mass needed to implement it must be created at the national and local level – the government, local bodies, private sector, NGOs and above all the people.

Support and contributions from the international community and developed nations are important but most critical is the political commitment of the national governments. In the past, the economic planners and policy-makers of many developing SEAR countries did not adequately appreciate the magnitude of the impact of environmental pollution and lack of safe water and sanitation on the economy and productivity of the country. Water supply, sanitation and environmental health sectors did not receive the priority that they deserved in many SEAR countries. The costs of such inaction have been enormous. In India, according to a World Bank report, the total costs in terms of health and productivity impact of lack of safe water and sanitation and environmental degradation, add up to a total of US\$ 9.7 billion per year i.e. 4.5% of the GDP of the country at 1992 values. The health impact of water pollution and lack of sanitation alone was 60% of the total damage. Unfortunately, the health sector, which bears the burden of activities of sectors like urban development, rural development, environment, agriculture and industries, has little institutional infrastructure for monitoring the environmental health impact of the same. As such, it can do little advocacy for protecting and promoting environmental health.

Many such issues need resolution, in the light of our experience during the 1980s and 1990s. We must learn from our success stories as well as from our failures and see that during the next decade, the national governments of the Region ensure an enduring commitment to the cause of the tasks agreed upon in Johannesburg.



## Introduction

I remember the day I initiated “The Bangkok Healthy City Project” in 1994; the first initiative of its kind in Thailand, while I was Deputy Governor of the Bangkok Metropolitan Administration (BMA). This was a full two years before WHO’s Healthy Cities Project had developed into a major public health movement at local levels in South-East Asia countries, following the theme of “Healthy Cities for better life” as part of World Health Day 1996. The rationale behind this initiative was that the quality of life for Bangkok residents had deteriorated as a result of a sudden population explosion, which primarily came about from the increasing number of immigrants leaving the provinces in search of better and more regular employment opportunities in the nation’s capital. This large influx of people soon led to crowded living conditions and the creation of a generally unhealthy environment in many sections of the Bangkok Metropolitan Area. This was visually and vividly reflected through ineffective garbage disposal, heavy traffic congestion, and many other socio-economic problems that directly affected the health of everybody living in Bangkok. As the situation continued to deteriorate, year-by-year, it became apparent that a major urban crisis had already developed and that these problems needed to be addressed and solved by a collaborative effort between the BMA and the various communities and stakeholders in Bangkok. As Deputy Governor, I felt that the “Bangkok Healthy City Initiative” in principle offered the city administration and its citizens a means of combating and resolving the serious urban crisis which we were facing.

WHO’s technical support, under the direction of WHO’s Regional Director for the South-East Asia Region, proved to be successful in Bangkok. Accordingly, I strongly believe that many other cities in South-East Asia will gradually recognize the importance of WHO’s “Healthy City Initiative” as part of their overall urban health development plans. The main purpose of this paper is to illustrate the lessons learned from the Healthy City’s sustainable development approach in improving urban health and the quality of life, as well as to highlight some possible future directions based upon the experiences in Thailand. These are currently supported by WHO/SEARO, under the guidance and leadership of Dr Uton Muchtar Rafei, WHO Regional Director for the South-East Asia Region.

## New approaches

Demographic trends in most countries in South East Asia show that populations are in transition from being predominantly rural to becoming urban. By 2020 about half of the Region’s population

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will reside in urban settings. This trend is already a major factor influencing social and economic changes, and coupled with increasing life expectancy, will have a significant bearing on the health of urban populations.

Urbanization has benefited health and the quality of life of people, as well as economic growth and prosperity. The concentration of human skills, resources and expertise in a single area offers opportunities for the promotion of technological interchange, investment, productivity and commerce; as well as employment, training and a better standard of living. Governments, at the same time, must maximize these factors as they strive to minimize the negative impact of rapid population growth, overcrowding, inadequate services, the creation of slums, and consequent health problems.

Although urban areas usually contain a mix of different types of providers offering various health services, a substantial proportion of the Region's population still lacks access to health care; even for inexpensive but highly effective preventive and curative interventions. Health care providers, located in urban areas, include a wide array of professionals both in the public and private sectors. The coordination and management of the provision of health services in urban areas poses enormous problems for government and municipal authorities. These arise as a result of the low priority given to health promotion within annual health budgets, the difficulties experienced by many programmes when seeking to expand coverage, and the general trend of reduced funds available for health care.

The WHO European Regional Office started the Healthy City Project in 1985-1986. Its goal was to develop "Health for All" strategies through local action in cities. The "Bangkok Healthy City Project" was launched jointly under the responsibility of the Bangkok Metropolitan Administration (BMA) and the Department of Health, Ministry of Public Health. The project has been implemented with technical guidance and support from the World Health Organization (WHO), with collaborative support from the Faculty of Public Health, Mahidol University. In 1996 the project started in 3 pilot areas consisting of Yanawa District, Sathorn District and Bangkholaem District. The project was scheduled to coincide with the campaign to commemorate the 50th Anniversary Celebration (Golden Jubilee) of His Majesty's accession to the throne. One year later the project had expanded to eleven districts. By 1998, the entire Bangkok Metropolitan Area, comprising 50 districts (and covering a geographic area of 1 568 square kilometers), had been incorporated into the national Healthy Cities activity.

In 1998 the Department of Health, Ministry of Public Health, in coordination with the Department of Local Administration, Ministry of Interior, developed "model" Healthy City Projects in 4 new provinces [i.e. Nakorn Ratchasima, Yala, Payao, and Chonburi]; as part of a replication process for the Bangkok Healthy Cities Project. The concept of "Healthy Cities" and "Healthy Communities" has become "deep rooted" in Thailand ever since.

As the Deputy Governor of Bangkok, and a public health professional, I realized that history has demonstrated that the greatest contributions to the health of people throughout the world, over the past 150 years, has been made by local governments through improvements in water and sanitation systems. This development led to a safe potable water supply, as well as the removal of disease-causing pathogens from homes, industry, and the environment. The Healthy City Initiative recognizes that community members and local governments must play an important role in creating a healthier



future for everybody. The city administration, after all, is the closest level of government for people living in urban areas, and the city is where creative solutions to local problems can best occur.

The Healthy City approach incorporates a holistic definition of health; one that emphasizes prevention of community problems and developing the capacity of local people. Health encompasses all aspects of people's lives including housing, education, religion, employment, nutrition, leisure and recreation, health and medical care, good transportation, a clean and green environment, friendly people, and safe streets and parks that all help to promote a "healthy city". The Bangkok Healthy City Project has been following WHO guidelines by focusing on the process, not just the outcomes. This means that one does not simply try to achieve a particular health status, but rather to instil a conscious perception of health as a common issue of concern to which all partners have to commit and collectively strive to improve.

WHO/SEARO, in August 2001, introduced the concept of the Healthy District and its potential in promoting the health of both the population and the environment through coordinating a wide range of Healthy Settings Projects. This concept also outlines, in detail, the strategies required to initiate, implement, evaluate and sustain Healthy District Programmes. The Healthy District concept hopes to increase political commitment to health issues at the local level, and enable health systems to work more effectively with local governments and community-based organizations in the district. The Healthy District approach also assists in moving local health systems towards a point where health services place more emphasis on health promotion. Some key features of a Healthy District Initiative include, (1) high political commitment, (2) intersectoral collaboration, (3) community participation, (4) integration of activities in elemental settings, (5) development of a district health profile and a local development plan, (6) periodic monitoring and evaluation, (7) participatory research and analyses, information sharing, involvement of the media, (8) incorporation of views from all groups within the community, (9) mechanisms for sustainability, and (10) national networking.

## Key strategies in achieving healthy cities project objectives

Key strategies to achieve Healthy Cities in Thailand conform to Primary Health Care approaches. This brings together both the public and private sectors, NGOs, and local authorities to focus on healthy settings as an integral part of sustainable development. Sustainable development refers to a process in which the use and/or exploitation of resources, the direction of investment, the orientation of technological development, and institutional changes are all in harmony and enhance both current and future potentials to meet human needs and aspirations. Experiences in Thailand, and in many other countries in the Region, have revealed the key action-oriented strategies as follows.

**Intersectoral coordination:** This refers to the efforts of different parties or multiple-stakeholders within and outside the health sector, and the coordination of their activities towards achieving similar end goals. Agencies that focus on energy, food, agriculture, macroeconomic planning, housing, land use, transportation and other areas are asked to examine the health implications of their policies and programmes. Intersectoral action has increasingly been recognized as a necessary and effective approach to improve the health of the communities. The support for intersectoral action is usually outlined in the national health policies in this Region.



**Community participation:** This refers to the early involvement of communities in the decision making, implementation, and evaluation process of a programme. Under the Healthy Cities Project, community participation promotes an active role for communities in project decisions and in the planning and management of urban development for better health and improved quality of life. The regional experience of this strategy has not been particularly successful, and thus needs to be enhanced in order to achieve success.

**Capacity-building:** This term refers to empowering local authorities and their personnel, the community, and other stakeholders to actualize and implement activities of a programme. Capacity-building includes improving managerial capabilities in programme development, coordination, partnerships, monitoring, supervision and evaluation. An essential element is the training of key personnel and implementers. It also includes technical support, arrangements for financial support, networking, awareness-raising, and advocacy activities.

**Decentralization and good governance:** Decentralization and good governance focus on power concentrated in local authorities such as municipalities. In this process there is an emphasis on decentralization of power from the national government, thereby giving more autonomy to the municipality. The devolution of power enhances the municipality's role in capacity-building among its community members; to establish and implement policies and to assume ownership of the project. Good governance implies a high degree of transparency and accountability, which are conveyed to the citizens of the municipality. Through the process of creating and demonstrating transparency and accountability, trust is built. As such, citizens feel confident that local leaders are acting in the best interests of all individuals and the community as a whole.

**Leadership development:** This implies focusing attention on the development of leaders by training and exposing them to topics such as communication, conflict resolution, and ways to approach problem-solving. Effective leaders are an important feature of a successful and sustainable Healthy Cities Project. Leadership development is essential to create leaders who are consistent, willing to take risks, and have a vision for the future.

## Challenges for future

The three principal strategies, namely *equity, a holistic approach to health, and sustainability* have already been applied in many forms, and with various levels of success, in all SEAR countries. Nevertheless, much remains to be done. How do we highlight the interest of policy-makers, at all levels, in public health? How do we strengthen inter-sectoral coordination as well as interdisciplinary collaboration? How do we strengthen community participation? How do we mobilize social forces to accelerate the progress in health development?

All SEAR countries are committed to Healthy Cities/Settings concepts and initiatives. This commitment calls for comprehensive strategies that involve all sectors of society in health development. Healthy Settings is a long-term development process, and therefore future strategies must strengthen existing initiatives and involve intersectoral collaboration among public, private and nongovernmental organizations in health development planning and implementation.



I would like to address some of the following crucial challenges to make Healthy Cities/Settings a reality in the South-East Asia Region:

- (1) **Advocacy** should be carried out to transform ideas into action; to translate Healthy Cities/Setting principles into reality, and to mobilize resources for health. National and local government policies should be seen as supportive of Healthy Cities/Settings, and should emphasize social equity in health. This concern needs to be supported with the provision of adequate resources. Health is an economic investment and this must be clear to decision-makers and those who manage and oversee the allocation of technical and financial resources. Sound technical data are needed to emphasize the value of Healthy Settings in urban development. This should be presented in a persuasive manner to policy-makers.
- (2) **Intersectoral coordination and interdisciplinary collaboration** should be strengthened and partnerships built to influence all the sectors involved in Healthy Cities. Social, political and professional groups capable of influencing national and local policies must be enlisted to support the Healthy Cities approach. It is important to be proactive in establishing active partnerships among these influential groups. The importance of intersectoral coordination and interdisciplinary collaboration has been well accepted, but in practice there has been reluctance to form productive partnerships to attain goals. Collaboration with the media can be crucial for efforts to influence both policy-makers and the public.
- (3) Efforts to **empower people** as part of the Healthy Cities/Settings movement must be improved. Many activities concerned with strengthening the capacity of relevant officials have been implemented, but little attention has been devoted to empower communities for action. Efforts to mobilize community-based organizations and local leaders should be further strengthened.
- (4) Ways of **strengthening and developing national capabilities** to implement Healthy Cities/Settings must be identified. Healthy Cities/Settings Initiatives cannot be successful without national commitment, capacity-building (infrastructure, personnel, resources), inclusive of the planning process, management and evaluation.
- (5) A prerequisite for implementing Healthy Cities/Settings Initiatives is the **commitment from central and local governments** to place health issues high on the national agenda and to keep them there. The training of personnel must emphasize social skills. These include partnership-building, empowering communities for action, and to encourage participation at all levels.
- (6) **Networking** among cities, municipalities and districts, and exchanging the lessons learned from various sources must be encouraged and supported with adequate funding.
- (7) **Marketing** the Healthy District Approach to all stakeholders is very important in creating a critical mass to implement Healthy Cities/Settings Initiatives.
- (8) Establishing **WHO collaborating centres** in the Region utilizing higher education institutions to focus on capacity-building; including training, resources support, and continuing education.



These are the many issues and actions to consider when developing strategies and activities for Healthy Cities/Settings. The approach must be pragmatic, while the implementation plan must be specific enough to be able to have the greatest chance of success.

There is no single approach that is universally applicable. Each community and nation working towards the goal of “Health for All” should prepare its own plan of action. This plan should be based on priority needs and resources available. One of the most important challenges is that the plan of action must have an innovative approach that actively involves intersectoral collaboration and community participation at all levels; utilizing local self-governments as focal points from the very early stages of the process.



## Contributors

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