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THIRD REPORT ON REGIONAL EVALUATION OF HEALTH FOR ALL STRATEGIES

CONTENTS

INTRODUCTION

In 1977, in resolution WHA30.43, the Thirtieth World Health Assembly decided that "the main social target of governments and WHO in the coming decades should be the attainment by all the 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", otherwise known as "Health for All by the Year 2000" (HFA/2000). In 1978, the Declaration made at the International Conference on Primary Health Care held in Alma-Ata endorsed the goal of health for all by the year 2000 and clearly stated that primary health care is the key to attaining it. All Member States were then invited individually to formulate their own national policies, strategies and plans of action and collectively to formulate regional and global strategies to this end.

The Global Strategy was adopted by the World Health Assembly (resolution WHA34.36) in 1981 and by the United Nations General Assembly. In 1982, the Health Assembly approved the Plan of Action for implementing the Global Strategy (resolution WHA35.23) which included also a time table for monitoring and evaluation of the strategy. Progress in implementing regional strategies and the Global Strategy was to be monitored every two years by the Regional Committee and the Executive Board, and effectiveness of the regional strategies and Global Strategy evaluated by these same bodies every six years.

The Plan of Action for Global Strategy implementation called on the Director-General to support and assist countries to strengthen national capacity-building in monitoring and evaluating the health-for-all strategy. The first common framework and format (CFF/M) was then developed by WHO for use by countries in order to assist them in collecting and analysing relevant information for the first monitoring of progress. The latter was carried out in 1982 at country level and reported to the Regional Committee, the Executive Board and the World Health Assembly during 1983.

In 1983, the Regional Committee for the Eastern Mediterranean (resolution EM/RC30A/R.5) approved the adoption of a list of indicators to be used by countries of the Region, in addition to the twelve global indicators for monitoring and evaluating progress of health for all.

Two years later came the first evaluation of the effectiveness of the implementation of their strategies. The outcome of this first evaluation was presented to the governing bodies of WHO during 1985–86 as *The seventh report on the world health situation* (volume 6 of which concerned the Eastern Mediterranean Region). On this occasion the Plan of Action was modified by "instituting reporting on monitoring of the strategy every three years instead of every two, to allow more time to strengthen the national monitoring and evaluation process and the related information support". The regional reports on the second monitoring of health-for-all strategy were prepared in 1988 and sent to WHO headquarters, in preparation for the global report which was adopted by the World Health Assembly in 1989.

In 1989, the Eastern Mediterranean Regional Committee established regional targets for HFA strategy (EM/RC36/R.10). Since then established regional targets have served as the reference basis in the monitoring and evaluation process. This has enabled assessment of where we are, at country as well as at regional levels, in terms of progress and effectiveness of implementation of HFA strategy.

The second evaluation (1991) findings, at national, regional and global levels, allowed the preparation and the issue of the *Eighth report on the world health situation* (volume 6 of which concerned the Eastern Mediterranean Region), then the regional report on the third monitoring came out in 1994. The common framework for the third evaluation (CFE/3) was forwarded to the regional offices in July–August 1996. The preparation process of the third evaluation exercise started with the organizing (Manama, Bahrain 24–28 November 1996) of an intercountry meeting on the preparation of the third report on evaluation of HFA strategy implementation. The intercountry meeting was followed immediately by forwarding in December 1996 sets of CFE3 as well as specific information documentation.

This Third Report on Regional Evaluation of HFA Strategy Implementation is a synthesis of national reports which Member States were requested to submit to the Regional Office by the end of March 1997. Most countries were unable to submit the reports on time and following extension of the deadline, a cut-off point was set in order to enable the Regional Task Force in charge of preparing the regional report to meet the deadline for preparation of documents for the 1997 session of the Regional Committee. Three countries (Afghanistan, Libyan Arab Jamahiriya and Qatar) had not submitted reports at the time (June–July) of preparation of this third report on regional evaluation. The latest available data were used instead for these countries.

The report comprises eight sections corresponding respectively to the following eight sections of the CFE3:

1. Trends in policy development
2. Trends in socioeconomic development (general environment)
3. Health and environment (physical environment)
4. Health resources (inputs)
5. Development of the health system (process)
6. Health services (outputs)
7. Trends in health status (impact)
8. Outlook for the future.

The first seven sections follow a systematic approach to assess the progress and effectiveness of HFA strategy implementation in the Region by focusing on analysis of the health system general environment (sections 1, 2 and 3), its inputs (section 4), its process (section 5), its outputs (section 6) and its impact (section 7). Section 8, based on the overall assessment findings and trend analysis, gives an overview of future action in terms of renewing health-for-all strategy for the 21st century.

In reviewing this report, please note the following:

a) "1996 data" means latest data available as of writing this report, irrespective of the actual reference year. This should underline the problem of timeliness of indicator values reported, and the negative effect of different reference years in giving a meaningful regional average value.

b) The presence of contradictory figures in different official sources, or data with apparent internal inconsistencies, is a common problem.

c) In interpreting longitudinal trends, the number and identity of countries reporting an indicator value affect, to a varying degree, the value of the regional average.

d) Names of countries are given merely as examples to substantiate the statements, favourable or otherwise, without being exclusive.

1. TRENDS IN POLICY DEVELOPMENT

A number of changes in the political situation in the Region have taken place since the previous evaluation; some favourable others not. The internal troubles in the Republic of Yemen came to a end, elections took place and a new government was elected. Accords were reached in Djibouti and in Lebanon, bringing stability and much needed support for reconstruction and rehabilitation. An Israeli–Palestinian accord has been reached, but is more superficial than real. The conflict continues as before. Recently, new negotiations were initiated for settlement of the problem in Cyprus.

The picture is rather gloomy in other cases. Internal conflict continues to flare up in Afghanistan and Somalia, and there is some turmoil in certain areas in the Sudan. The actual Gulf War is over, but its

aftermath is still felt. The international sanctions against Iraq and the Libyan Arab Jamahiriya continue. Turkish incursion into northern Iraq recurred.

Such political vicissitudes have their impact on health services and the health situation. Massive destruction of infrastructure, including health facilities, large-scale population movements, falls in crude oil prices, deviation of funds to military expenditure at the expense of the social sector, emigration of health personnel, marked reduction in international support, and insufficient supplies and equipment, particularly essential drugs, and even essential food items for children, are just some examples of the consequences of conflict.

In addition to the dramatic global political, social and economic changes which occurred during the last decade, three international events should be mentioned with regards to their impact on health policy thinking: the International Conference on Population and Development, Cairo 1994, the World Summit for Social Development, Copenhagen 1995, and the Fourth World Conference on Women, Beijing 1995. All of these events called for sustainable development centred on people and based on community involvement, for intersectoral collaboration and for recognition and enhancement of the vital role played by women in health and development. Health-for-all strategies were promoted through the basic social services package adopted after the World Summit for Social Development. The regions, which actively participated in preparing and attending these international meetings, have prepared plans to implement the agreed upon resolutions, including the 20/20 initiative which recommended that 20% of official development assistance should go to social sectors and that at least 20% of government expenditure should go to the social sector.

2. TRENDS IN SOCIOECONOMIC DEVELOPMENT

2.1 Economic trends

After a relatively short period of economic crisis sparked by the consequences of the 1990 Gulf War, the Eastern Mediterranean Region (EMR) has begun, since 1994, to show signs of recovery.

Two expressions most commonly used in describing the economic situation in a country are the gross domestic product (GDP) and the gross national product (GNP). The GDP of a country refers to the total output produced locally, from various economic activities (e.g. agriculture, mining and industry, construction, trade). The GNP, on the other hand, measures what is available for use in the country. It includes the GDP, plus whatever is received from abroad (e.g. transfers from nationals working abroad, foreign aid, credit interest, etc.), minus payments sent abroad (e.g. debts and debit interest, foreign aid). Thus, whether the GNP is more, or less, than the GDP depends upon whether the receipts from abroad are more, or less, than payments going abroad.

In terms of per capita GNP, the Eastern Mediterranean Region experienced growth during the period 1990–1996. The regional average, shown in Figure 2.1, increased from US$ 1093 in 1990 to US$ 1476 in 1996, an increase of some 35%. This regional increase does not reflect the important gaps existing within and among Eastern Mediterranean countries. For 1996, the per capita GNP ranged from US$ 150 in Somalia to US$ 18 430 in Kuwait.

The differences in levels of economy in the EMR are shown in Table 2.1, which indicates that five countries in the EMR, representing 44% of the population of the Region, had a per capita GNP of less than US$ 500, while four countries accounting for just 1.3% of the regional population, had a per capita GNP of more than US$ 10 000.

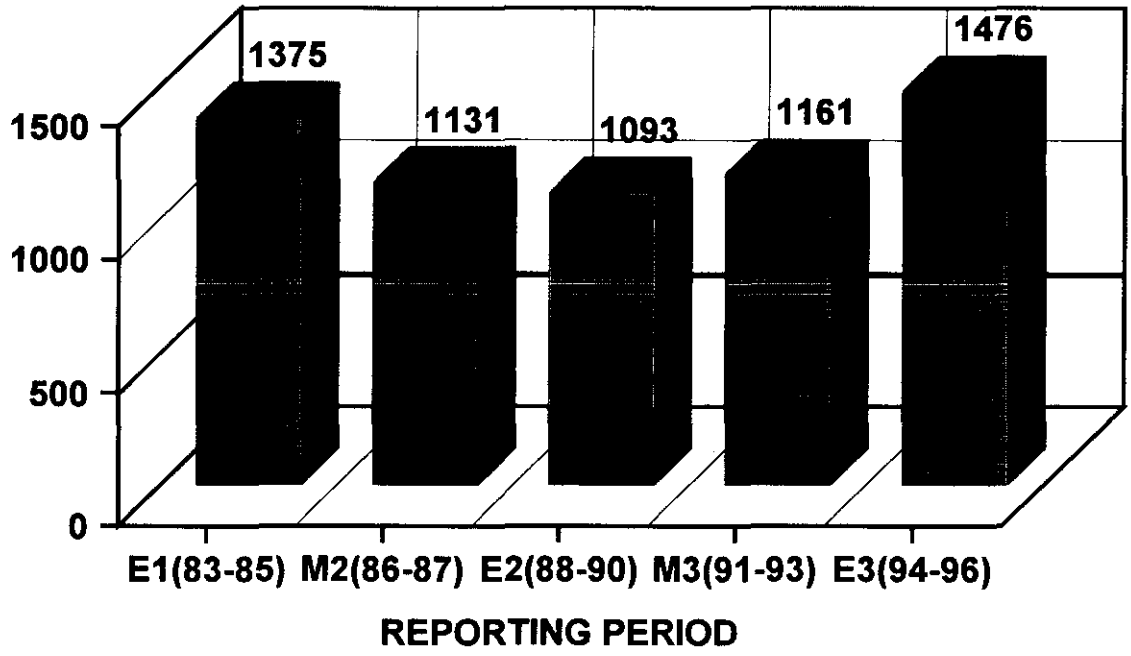


Figure 2.1 Trends in GNP per capita in the EMR, 1985–1996

The relatively slow growth during 1991–1995 in the Middle East and North Africa (including the majority of countries in the Eastern Mediterranean Region) is confirmed by World Bank data as reported in Table 2.2 (reproduced from *The world health report 1997*). The real growth in GDP, the export growth per capita and the foreign direct investment flows as a share of GDP are economic indicators which indicate, in comparison with other regions, the positive improvement in the economic situation of the Eastern Mediterranean Region.

Table 2.1 Distribution of EMR countries by per capita GNP and population, 1996[1]

GNP per capita (US $)	Countries		% of EMR population
	No.	%	
Less than 500	5	22.7	44.0
500–1999	9	40.9	45.0
2000–4999	1	4.6	4.8
5000–9999	3	13.6	4.9
10 000 and more	4	18.2	1.3
Total	22	100.0	100.0

[1]Excluding the Libyan Arab Jamahiriya which did not provide GNP data

Table 2.2 Growth and integration, 1991–1995[1]

Region	Real GDP growth per capita 1991–1994 (%)	Real GDP growth 1991–1994 (%)	Speed of integration index	Export growth per capita 1991–1995 (%)	Foreign direct investment flows as a share of GDP 1993–1995 (%)
East Asia	8	9.4	0.77	14.1	3.1
South Asia	1.8	3.9	0.87	8.4	0.3
Latin America and the Caribbean	1.6	3.6	–0.23	7.2	1.1
Middle East and North Africa	–0.3	2.4	–0.19	0.4	0.4
Sub-Saharan Africa	–2.2	0.7	–0.46	–1.6	0.9
Europe and Central Asia	–9.3	–9	0.46	1	1.4

[1]Ranked by real GDP growth per capita
Source: World Bank, *Global economic prospects and the developing countries 1996*

The main obstacle to economic growth in the majority of countries continues to be the unprecedented level of external debt faced by governments, amounting to thousands of millions of US dollars. The cost of servicing such debt constitutes a continuing burden weighing upon the economic development of these countries. Some have already adopted structural adjustment programmes (Egypt, Morocco, Tunisia) or are in the process of modifying their economy (Lebanon, Republic of Yemen) to introduce flexibility into management of the economy. The cancelling of part of the external debt in favour of some EMR countries (Egypt, Jordan, Morocco) will undoubtedly have a positive impact on economic development. This practice of debt cancelling, if applied to all developing countries, would constitute without doubt a solid basis for effectively starting a real new order in the world. For this to succeed, national strategies that translate economic growth into greater well-being should be effectively reformulated to focus on the poorer segments of society for the sake of justice, equity and solidarity.

The consequence of the favourable economic trends in the Region is the relative decrease of inflation in most countries of the Region. This has enabled an improvement in the current standard of living of most people, particularly those on low incomes.

Unfortunately, despite economic growth, unemployment, a universal problem and challenge, remains the main and critical concern of governments in the majority of the countries of the Region. Owing to the high growth of the population in the Region, particularly among the vulnerable LDCs, unemployment will continue to be uncontrolled and the situation to worsen until the full implementation of the General Agreement on Tariffs and Trade (GATT) which will allow increasing integration of national economies into the world economy through the globalization process.

Underemployment, which constitutes an important element of the economic activities in the sociocultural context of the Region, has increased even more than unemployment; however, its extent remains difficult to assess due to lack of standard and recognized definitions of the concept. There is difficulty in creating sufficient industrial jobs in the current privatization process to absorb the growing surplus in the workforce. Therefore, alternative solutions are required, such as the restructuring of the industrial sector (by developing more small production units) and reforming and modernizing the agricultural sector to absorb most of the new entrants into the labour market, bearing in mind the GATT requirements.

Table 2.3 Selected demographic and socioeconomic indicators for the Eastern Mediterranean Region for first (1985) evaluation (E1) and third (1997) evaluation (E3)

Indicator		1985 (E1)	Regional average 1997[a] (E3)	% change (1985/1996)	Range in 1996
1. Surface area (thousand km^2)		13 000	13 770	5.9	0.707–2.506
2. Total population (million)		320.5	435.7	35.9	0.599–133.5
3. Population density (per km^2)		24.7	31.6	28.0	2.5–848
4. Population composition (% out of total pop.)					
Under 5 years		16.0	13.0	–18.8	8.2–21.2
5–14 years		28.0	28.0	0	11.9–34.2
15–64 years		52.0	55.0	5.8	44.7–72.6
65 years and over		4.0	4.0	0	1.0–11.1
Males, total		51.0	51.0	0	46–67
Males, 15 years and over		52.0	51.0	–1.9	45–73
Females, child-bearing age		...	23.0	...	17.6–29.7
Urban population		39.0	46.0	17.9	19–100
Rural and nomadic population		61.0	54.0	–11.5	0–81
Dependency ratio		86.6[b]	84.2	2.8	38–112
5. Population growth (%)					
Natural increase		2.6	2.3	–11.5	0.8–3.9
Net increase		3.0	2.6	–13.3	0.9–8.1
6. Vital statistics (rate)					
Crude births[c]		42.3	32.5	–23.2	15.4–52.6
Crude deaths[c]		12.5	9.2	–26.4	1.6–28.0
Infant mortality[d]		97.5	75.0	–23.1	9.0–182.0
Under 5 mortality[d]		132.0	115.0	–12.9	10.2–295
Maternal mortality[e]		37.0[f]	36.0	–2.7	0.0–170
7. Life expectancy (years)					
	M	56.0	62.3	11.3	43–75.3
	F	57.0	65.6	15.1	44–79.8
8. Socioeconomic data					
Adult literacy (%)					
	Total	38	53	39.5	18–94
	M	49	63	28.6	24–98
	F	26	41	57.7	12–90
Per capita (US$)					
	GNP	1645	1476	–10.3	150–18 430
	GDP	1375	1547	12.5	160–16 500
Unemployment (%)		3.9	9.2	136	0.0–59

[a] Data for 1996
[b] Dependency ratio of 1990
[c] per 1000 population
[d] per 1000 live births
[e] per 10 000 live births
[f] 1991 (second evaluation)
... Data not available

2.2 Demographic trends

2.2.1 *General*

Undoubtedly demographic data are key elements in any health situation analysis. The population size, its growth rate and its distributions by age, sex, and urban and rural residence are in close relation with the health status and health needs and demands of the population. As the relevance of the use of such data depends on their quality, it is worth noting that no important discrepancies have been found between the demographic data reported by countries and the United Nations (UN) estimates. Where significant differences exist, as well as in cases that were not accurate, the UN estimates were systematically used.

Table 2.3, which gives data on some selected regional demographic indicators, based on reported country data, and Table 2.4, which gives UN estimates, are among the basic information sources used in the following demographic analysis.

Table 2.4 Population characteristics and percentage distribution of population by age in the Eastern Mediterranean Region and the world (1990, 1995 and 2000)

Item	EMR			World		
	1990	1995	2000	1990	1995	2000
Population characteristic						
Proportion urban (%)	43.5	45.6	48.0	3.0	45.1	47.4
Dependency ratio (%)	86.6	84.2	79.8	62.5	61.4	59.6
Sex ratio (%)	105.7	105.2	104.9	101.5	101.5	101.5
Total (000s)	394 815	453 518	519 172	5 274 186	5 705 002	6 146 011
Population distribution by age (both sexes combined unless noted otherwise)						
Standard major age groups						
0–14	43.2	42.4	40.9	32.3	31.5	30.6
15–64	53.6	54.3	55.6	61.5	61.9	62.6
65+	3.2	3.3	3.5	6.2	6.5	6.8
Women of reproductive age (15–49)	22.3	22.8	23.5	25.0	25.3	25.4
Infants < 1 yr (0)	3.6	3.4	...	2.4	2.3	...
Pre-school toddlers (1–4)	13.3	12.5	15.1	9.4	8.8	10.6
Kindergarten age (5)	3.1	3.0	2.8	2.2	2.2	2.0
School age children (6–11)	16.3	16.4	15.8	12.4	12.5	12.0
School age children/young adolescents (12–14)	6.9	7.1	7.2	5.8	5.7	5.8
School age children/early working age/ reproductive age/older adolescents (15–17)	6.3	6.4	6.6	5.9	5.4	5.5
School age adults (higher education)/ working age/reproductive age/young adults (18–24)	13.0	12.7	13.0	13.2	12.6	11.8
Mature adults/working age/reproductive age (25–49)	27.2	28.3	29.1	31.8	33.6	34.6
Mature adults/working age (50–64)	7.1	6.9	7.0	10.6	10.4	10.8
Post retirement old age (65–79)	2.8	2.9	3.1	5.1	5.4	5.7
Later old age (80+)	0.4	0.4	0.4	1.0	1.1	1.1

Source: UN estimates

Table 2.5 EMR population trends, 1985–2025

Size and growth	Year				
	1985	1990	1996	2000	2025
Population (per million)	336[a]	395	466	519	882
Population growth index 1985 = 100 Base	100	118	139	154	263

[a] Calculated by interpolation
Source: UN estimates

2.2.2 *Population size trends*

The population of the Region for 1996, adjusted on the basis of reported data, is about 436 million inhabitants, compared with the UN estimates of 466 million. The quality of reporting can be considered satisfactory seeing that discrepancies represent only 6% of the total population as reported by countries. According to the United Nations estimates (medium variant), the Eastern Mediterranean Region has, during the last decade, experienced tremendous population increase. It will continue to face the same trend until 2025, as shown in Table 2.5.

On the basis of the growth indices given in Table 2.5, the Region's population of 336 million in 1985 increased by 18% in 1990 and by 39% in 1996 and is expected to continue, reaching 54% by 2000 and 163% by 2025, which means that the EMR population in 40 years will be more than two-and-half times its size in 1985.

Comparison of EMR population trends with those of other WHO regions emphasizes the relatively high speed of its demographic growth. This is illustrated by the estimates of distribution of world population by WHO region for 1990, 1996, 2000 and 2025 (Table 2.6).

The reported land area of Eastern Mediterranean countries is about 13.8 million square kilometres in 1996, representing 10% of the world's surface area, and hosting 8% of the world's population. Within the Eastern Mediterranean Region countries, the land area varies widely, ranging from 707 km^2 in Bahrain to 2 506 000 km^2 in Sudan.

The average population density per square kilometre for the Region in 1996 was 31.6 per square kilometre compared to a world density of 40. This makes the population density in the Region among the lowest in the world. The great variation in range reported for 1996 (2.5 for the Libyan Arab Jamahiriya to 848 for Bahrain) emphasizes the differences between the countries. However, such differences are not meaningful as arable and inhabitable areas constitute only a small fraction of the total land area of EMR countries in both North Africa and the Arabian Peninsula.

Table 2.6 World population distribution estimates by WHO region for 1990, 1996, 2000 and 2025

Region	World population distribution (%)			
	1990	1996	2000	2025
Africa	9.6	10.4	10.9	15.1
Americas	13.6	13.6	13.5	13.0
South-east Asia	24.6	25.1	25.4	25.6
Europe	16.0	15.0	14.3	11.1
Eastern Mediterranean	7.5	8.0	8.4	10.7
Western Pacific	28.7	28.0	27.5	24.5
World	100.0	100.0	100.0	100.0

2.2.3 *Population structure*

The population structure by sex and age, and by urban and rural residence together with the changes that affect this structure have significant implications for health services, particularly in a situation of limited resources for health services when health needs and demands consistently exceed supply. The optimum allocation of these resources is closely related to the population structure and its changes over time. Table 2.4 (UN estimates) is the basic information source for the following population structure analysis.

a) Sex and age structure

As indicated in Table 2.4, the sex ratio in the EMR from 1990 to 2000 appears not to be affected by mortality and migration differentials since its value is around the normal value of 105 at birth compared to about 102 for the world population. There is, however, impact on population structure within the Region, particularly in the countries of the Arab Gulf due to significant migration. As example, the United Arab Emirates and Saudi Arabia had sex ratios in 1995 of respectively 177% and 126%.

The age composition of the population is of much greater significance for health policy and strategy, given the marked age-dependent demand for health care. As shown by reported data in Table 2.3 and confirmed by the UN estimates in Table 2.4, the EMR population in 1996 is still young despite some signs of change; children under 15 years of age continue to account for about 41% of the population. Adults aged 15–64 years and the elderly 65 years and over constitute, respectively, 54% and 4% of the population. This structure by age is characterized by a wide range among countries, particularly in the adult age groups owing largely to the magnitude of the expatriate labour force (mostly adult males not accompanied by their families) from some countries in the Arabian Peninsula and countries of the European Union.

These three age groups experienced, in only one decade since 1985, a 7% decrease in children under 15 years (about 19% decrease for under 5 years and no change for 1–14 years), a 6% increase in adults (15–64 years) and a limited increase in the elderly population.

This evolution of population structure is better emphasized by considering the long-term trend. Figure 2.2 represents the percentage change in different age groups by sex between 1975 and 1996.

The salient features highlighted by these figures are summarized as follows:

- The higher increase in the population of working age (25–49 years) as well as the relatively low increase in child population groups, reflect the beginnings of a change in the EMR population structure. The cumulative impact of the continuing decreases in both fertility and mortality is in generating the aging phenomenon among the populations in the Region.
- The increase noted in the population group of working age (25–49 years) is likely to have been influenced to a certain extent by Asian immigration into the Arab countries of the Gulf.

The dependency ratio, here defined as the population aged < 15 years and 65 years and over per 100 population aged 15–64 years, constitutes an alternative view of change in the age structure of the population. This indicator measures the size of the population that is dependent on the population of working age. As shown in Table 2.4, the dependency ratio average in the Region was about 84% in 1995 compared to 87% in 1990 and is estimated to be about 80% in 2000. This means that there is almost one dependent person per adult of working age and this will continue for a long time in the EMR.

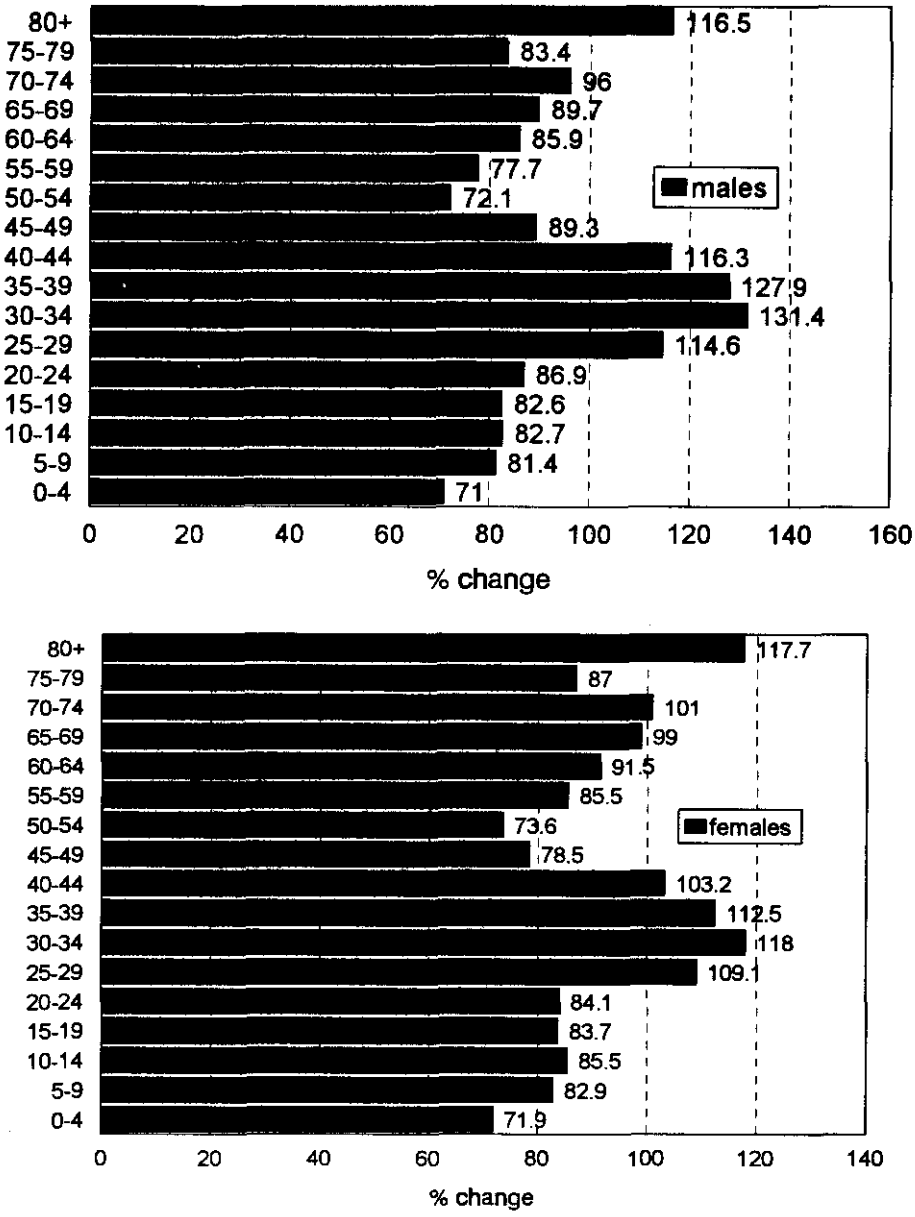


Figure 2.2 Percentage change (%) in population structure by age and sex, 1975–1996

b) Population structure by residence

The population structure by residence (urban and rural) enables the analysis of urbanization in the Region. As indicated in Table 2.3 and Table 2.4, the Region is experiencing rapid urbanization.

The percentage of the population living in urban areas increased from 39% in 1985 to about 46% in 1996. It is estimated to be around 48% in the year 2000. There is important variation between countries with regard to the urbanization level, ranging in 1996 from 19% and 24%, respectively, in Afghanistan and the Republic of Yemen to 100% in Kuwait and Qatar. It is worth noting that in the populous countries of Pakistan and Egypt 32% and 47% of the population, respectively, are urban.

The continued rapid growth in urbanization in many countries of the Region, as well as the pervasive spread of poverty, particularly among the least developed countries, are straining their capacity to provide environmental health facilities and services. This provokes a crisis of degradation in living conditions and generates a large burden of disease and premature death due to deficiencies in housing, piped water, sanitation and basic health and environmental services. The situation is aggravated by poverty and its associated low education, insufficient diet, overcrowding and deficiency of health care services.

The biggest urban agglomerations in the Region, such as megacities like Cairo and Karachi, and cities with populations of more than 3 million (Teheran, Alexandria, Baghdad, Lahore and Casablanca) are facing this very pattern of degradation and disease, particularly in their peripheral zones.

2.2.4 *Population dynamics*

The term "population dynamics" refers to the analysis of the determinants that produce change in population status, discussed in 2.2.1 and 2.2.2 in terms of population size and structure. Such change is measured by the population growth indicator, which is generated by the result of the combined effect of three determinants, namely fertility, mortality and migration.

The analysis of trends population size and age composition in 2.2.1 and 2.2.2 highlighted the significant demographic increase in the Region during the last decade and its perspective in the future. In terms of population growth rate the regional average is still one of the highest among WHO regions. Despite its gradual decrease, from 3.0% in 1985 to 2.6% in 1996, population growth will continue to be around the same level until the end of this century. There is substantial variation between countries of the Region. It ranged from 0.9% in Cyprus to 8.1% in Qatar as reported by countries for 1995–96 (UN estimates give a regional average of 2.7% for the period 1995–2000 and a range from 0.9 per 100 in Cyprus to 5.6 in Afghanistan). This regional population growth is the result of fertility, mortality and migration features which are reviewed below.

a) Fertility

The fertility level in the EMR is still among the highest in the world despite significant progress made during the last two decades in education and in economic development as well as in the implementation of family planning programmes in many countries.

The crude birth rate, a basic fertility indicator, was 41.4 per 1000 population in 1985, declining to 32.5 in 1996 (range: 15.4 in Cyprus to 52.6 in the Republic of Yemen) on the basis of reported country data. This resulted in a percentage decrease from 1985 of 21%. The UN estimates for this indicator did not differ much from the above reported data. The regional average for 1995–2000 was 35 per 1000 while the reported country values ranged from 16.3 in Cyprus to 50.5 in Afghanistan.

The total fertility rate measures the average number of births by women of reproductive age (15–49 years). Reported country data showed a decrease from 6.4 births in 1985 to 4.7 in 1996 (range from 2.1 in Cyprus to 7.0 in the Republic of Yemen). Figure 2.3 highlights this trend, which in terms of percentage decrease from 1985, showed a decrease of 10% in 1990 and 27% in 1996. The UN estimates for the period 1995–2000 differ very little from the reported data, giving a range varying from 2.4 in Cyprus to 7.1 in the Republic of Yemen.

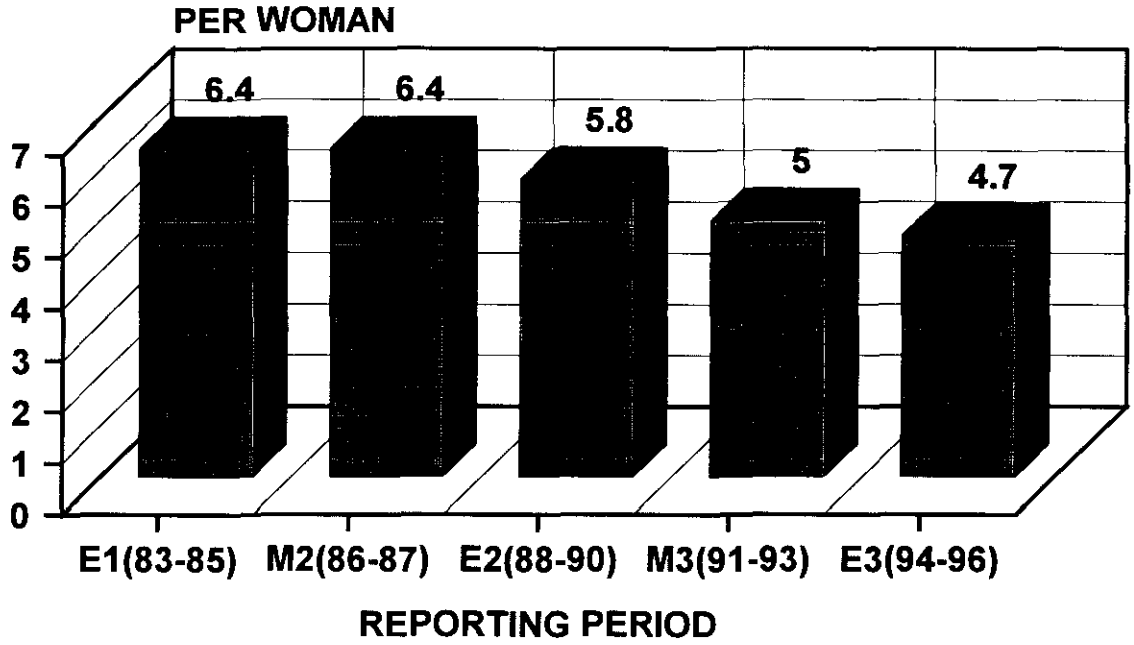


Figure 2.3 Trends in total fertility rate in EMR from 1985 to 1996

b) Mortality

Mortality constitutes the second main factor determining changes in population status. The general mortality, reflected in the trend in crude death rate, will be the focus in this section. The specific mortality trends will be reviewed in more detail in the assessment of health status trends in section 7.

The crude death rate dropped significantly during the past decade, from 12.5 per 1000 in 1985 to 9.2 in 1996 (range 1.6 per 1000 in Qatar to 28 in Afghanistan; UN estimates give, respectively, 3.7 and 20.3 for the period 1995–2000) resulting in a percentage decrease of 26.4%.

c) International migration

Most EMR countries continue to be either suppliers or users of the migration workforce. The Arab countries of the Gulf are still, despite the commutative effect of the Gulf War, the most important employers of workers both from within the EMR (particularly Egypt, Jordan, Morocco, Pakistan, Palestine, Sudan, Tunisia and Republic of Yemen) and from outside the Region (particularly Bangladesh, India, Korea, the Philippines and Sri Lanka). Egypt provides the Libyan Arab Jamahiriya with tens of thousands of workers each year, although with fewer than in the 1980s, while Morocco and Tunisia supply the European countries, particularly Belgium, France, Germany, Italy, the Netherlands and Spain. This Maghrebian migration is facing constraints and reduction as a result of changing European Union policy as well as the fierce competition from the newly independent Eastern European countries.

In addition to this workforce migration, internal conflicts in the Region continue to exacerbate the refugee problem in some countries, mainly Afghanistan, Djibouti, Somalia and Sudan. Neighbouring countries with limited resources continued, as a direct consequence, to experience problems relating to housing, food and safe water, health care and security. International aid in these cases needs to be reinforced and strengthened and coordination improved. It needs also to be better managed during field implementation within the concerned countries in order to be more efficient and useful to the affected population.

2.3 Social trends

Education is a priority social issue with impact on health. The gross school enrolment ratio (first level), i.e. the ratio between the actual number of pupils in the first level of education (often referred to as compulsory education) and the population size in the corresponding age group, has reached 90% or more in 13 countries, but is less than 50% in four countries. Evidently, those who do not attend school will become illiterate adults. More favourably, the gap by gender appears to be narrowing.

Looking at the indicator adult literacy rate, i.e. the proportion of adults (15 years or above) that are literate, the regional average for the period 1985–1996 as shown in Figure 2.4, experienced substantial progress. It increased from 38% in 1985 to 52% in 1996, an increase of about 37% in 10 years.

There are important differences among EMR countries. For 1996, the rate ranged from 18% in Afghanistan to 94% in Cyprus. As expected, it is higher for males (63%, range 24%–98%), up from 45%, than for females (41%, range 12%–90%), up from 26%. This indicates the greater attention now given to female education. With reference to the global target of 70% literacy for both sexes, 14 countries have reached that target for males, but only eight for females (in addition to Palestine). It is noteworthy here that some countries use a different, lower, age limit (10 years, and even 6 years, or above), and may differ on what constitutes "literacy". Due to the economic pressure on Iraq, the numbers leaving school early to look for minor jobs as a source of income has increased.

As expected, increasing female education results in higher participation of women in the workforce and in development. For the few countries that provided data, women constitute 10%–28% of the workforce, and they are mostly in the government sector. Working women usually practise child spacing, resulting in a lower birth rate. Many countries are improving the social status of women, including equitable access to education and employment. The Syrian Arab Republic has recently decided to give 75 days paid maternity leave, and Egypt has raised it from 45 to 90 days.

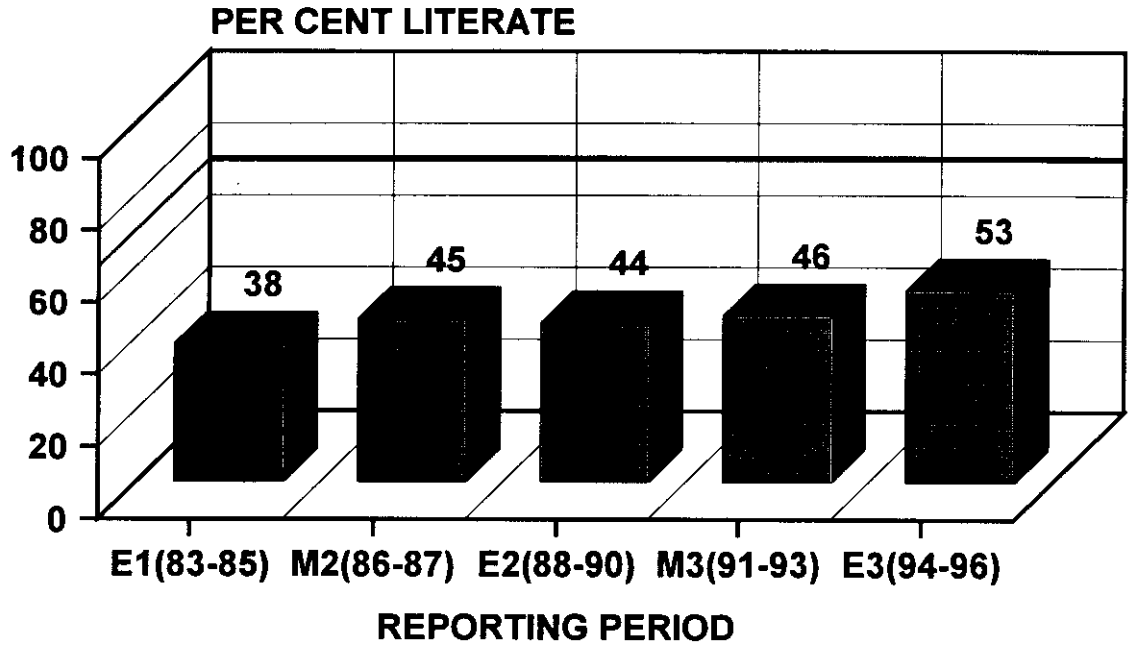


Figure 2.4 Adult literacy trends in EMR, 1985–1996

With the prevailing global economic situation, and the deteriorating internal situation with massive population movement in some countries, it is natural to find some unemployment. Data were available for 14 countries; the unemployment rate exceeded 10% in six of them (reaching a high of 59% in Djibouti). Because of their specific situation, unemployment is very high among the Palestinian people. Underemployment is even more prominent than unemployment in some countries.

The tight economic situation also has an effect on family life. On one hand there is an increased tendency in urban areas to maintain the extended family pattern owing to shortage of housing facilities for the newly married. On the other hand, many of the second generation leave for better job opportunities in other countries, leaving behind their elderly parents.

2.4 Food supply and nutritional status

The EMR is a very diverse region in many aspects, not least in the area of nutritional status. While in some countries protein–energy malnutrition is still highly prevalent, even in its acute forms, other countries face the problem of childhood obesity. Even in socioeconomically affluent countries, children with growth retardation (or chronic malnutrition) are often found, largely as a result of unsatisfactory infant feeding practices prevailing in many countries of the Region.

Recent years have seen the emergence of a whole set of new nutritional problems, due to unbalanced and excessive food intake. One of the factors contributing to this is rapid urbanization, leading to the emergence of a large proportion of people who have no access to healthy diets but who rely on the purchase of high-fat, high-energy foods. In addition, urbanization has led to a change in lifestyles, whereby lack of physical exercise has become a major feature. The resulting obesity is a high-risk factor for the development of diabetes, and high fat intake has been associated with increased cardiovascular risk and risk of cancer. The proportion of obese individuals, especially obese women, has reached two-thirds to three-quarters in several countries of the Region. Multisectoral approaches to combating this epidemic are being developed, and need to include lifestyle changes from an early age, through integrated school-health programmes.

The global indicator "percentage of newborn babies weighing at least 2500 g at birth" and its negative counterpart "percentage of low-birth-weight (LBW) babies" measure the health and nutritional status of mothers and, in turn, are a prediction of infant health and nutrition. The regional average for newborn babies weighing at least 2500 g was 82%, down from 86% in the first evaluation. The range was 53%–98%, and 14 countries (in addition to Palestine) have reached the target of 90%. For the other eight countries, three of them are among the LDCs, three have witnessed civil or open war, and the other two LDCs (Somalia and Sudan) did not provide data. The lowering trend in indicator value is disquieting. It may reflect changes in lifestyle, with pregnant mothers, like others, resorting to hasty meals of low value, and working mothers paying less attention that is necessary to their proper nutrition.

With the regard to the indicator "percentage of children whose weight for age and/or height for age is acceptable by international standards", the regional average is 78% (range 28%–97%), a reversion from the lowering trend that has been going on since the first evaluation. Notably, only five countries (in addition to Palestine) achieved the target of 90%. The four countries with the lowest figures are among the LDCs.

Satisfactory weight for age is achieved by about three-quarters of the Region's children showing, if anything, a slight deterioration compared to a decade ago. Weight for age is a composite indicator, which does not allow for the differentiation between stunting or chronic malnutrition and the acute form which is mainly found in countries facing emergencies, such as wars and famines. In recent years several national surveys of nutritional status have been carried out in countries of the Region, showing the prevalence of growth retardation to be marked in the under-5 age group. Action is urgently needed to improve infant

feeding, through the already ongoing promotion of breast-feeding, but also through the improvement of complementary feeding practices.

Micronutrient deficiencies are common to all countries of the Region. Due to its geophysical properties, most of the EMR is at risk of iodine deficiency disorders (IDD), and surveys done in many countries showed severe IDD in school-age children. This has led to strong commitment to eliminate IDD as a public health problem, and IDD is now under control or coming under control in several of the countries of the EMR. While data on the impact of the control programme are only available from one country so far, progress monitoring shows that adequately iodized salt is now widely available.

Iron deficiency is a major problem in the Region, particularly among children and pregnant women, and so far improvement has been slow. Recent approaches such as flour fortification will hopefully result in an improvement of iron nutrition of the vulnerable groups.

Vitamin A deficiency is a clinical problem in only the socioeconomically least affluent countries and in those suffering from civil strife or its aftermath. Sub-clinical vitamin A deficiency is, however, a problem in most countries of the Region, especially in infants and young children. So far, the control strategy has been large dose supplementation of vitamin A, while some countries are exploring the possibility of food fortification.

Although data on school-age children are not readily available, this group is vulnerable to a multitude of nutritional problems, including protein–energy malnutrition, as well as, at the other end of the scale, childhood obesity due to unbalanced and excessive intake. Schoolchildren also suffer from IDD, anaemia and, in some countries, zinc deficiency.

2.5 Lifestyle

Lifestyle is defined as "an individual's way of life". It is influenced by many factors, including culture, heritage, society, level of education, religion and the overall socioeconomic and natural environment. Positive changes in human behaviour and lifestyle are achieved, *inter alia*, through health education, developing new ways of living, and motivating individuals and groups through the rewards of better health and prevention of disease. Changing one's lifestyle is not easy. It depends on effective education, resulting in the motivation to change. The challenge is to maintain the new behaviour and prevent a relapse.

Lifestyle trends have changed significantly in the EMR. Several countries in the Region have incorporated, within their existing development and health programmes, policies and strategies to promote healthy lifestyles, involving different sectors, voluntary organizations and nongovernmental organizations in the implementation of these strategies.

Reduced *physical activity* is a product of modern life, and the result of sitting at desks or watching television for long hours, particularly in affluent countries. A study in the Islamic Republic of Iran indicated that 61% of the population showed reduction in physical activities. A number of countries have introduced programmes of physical exercise and fitness as part of public health (e.g. Jordan) or together with social activities for youth (e.g. Saudi Arabia). WHO has continued to support EMR Member States in the promotion of physical activities through sports, particularly participatory sports. The Regional Office has often arranged a marathon in Alexandria in celebration of World Health Day (7 April), and has organized football tournaments in Pakistan to promote physical activity among young people.

Reproductive health deserves attention. Some countries promote family life through women's education (in general, or in family health in particular) and discourage teenage marriage (e.g. Jordan).

Marriages at ages below 15 years have been much reduced in the Islamic Republic of Iran and now constitute less than 1% of all marriages.

Nutritional habits have somewhat deteriorated in modern lifestyle. While breast-feeding is being replaced by bottle-feeding, high-fat low-value fast foods (e.g. pizzas, hamburgers) are on the increase. Food is ample in quantity but poor in quality (e.g. Cyprus). A study in Jordan showed that, as a result of poor nutritional habits, 9% of adults have high cholesterol levels and 7% have diabetes (and 25% are physically inactive).

Violence in all its forms has increased dramatically. Apart from civil conflict, war and racial and ethnic violence, there is interpersonal, self-directed, physical, sexual and mental violence, and its burden is disproportionately borne by young people and women. During 1993, at least 4 million deaths (8% of the world total) resulted from unintentional and intentional injuries including 300 000 murders the world over. Serious family problems, shortcomings in education, academic failure, illness, alcohol and drug abuse predispose people to commit violence. Poverty, insecure living conditions, weakness and physical and mental handicap create victims. Women, children, old people, the homeless, refugees, immigrants, the chronically ill and people belonging to certain ethnic groups in certain countries are among the victims as well. A study in Jordan, for example, showed that physical assault against women was the main cause of their hospitalization, and estimated an overall rate of violence of 9.4 per 1000 population. Programmes for prevention of violence and care of victims should have priority. Preventive measures for self-inflicted violence and suicide are available, and for other causes should be developed through awareness campaigns and a multisectoral approach.

Country data on *tobacco* use are not common, and where they are available, comparability is difficult due to the different populations and criteria studied (see also 6.1). For example, Cyprus gives an average per capita cigarette consumption of 6.2 per day. In Egypt, 35% of students in one university were regular smokers. In the Islamic Republic of Iran, use of tobacco among those aged 15 years or more was 33% among men and 9% among women. In Saudi Arabia, 58% of the adults smoke more than 20 cigarettes daily (and 10%–11% stop smoking later). Data from Jordan showed that men started smoking at age 10–15 years and females at age 15–20 years; cigarettes were used by 56% of smokers, and the average was 16 cigarettes daily, usually of high tar and nicotine contents and with poor filters. At the same time tobacco cultivation is encouraged in Jordan. The Smoking Control Society in Saudi Arabia runs 33 clinics, which have attracted so far some 41 000 clients (of whom 49% were aged 25–44 years; 12% actually stopped smoking). Some countries prohibit all forms of tobacco advertising (e.g. Syrian Arab Republic) and smoking in public places. The problem often is not the absence of regulations but their enforcement.

Substance abuse is another major emerging health problem in this Region. Preventive, diagnostic, therapeutic and rehabilitative activities need to be planned in truly intersectoral committees and coordinated through the general and mental health programmes of each country. In a study in Jordan, young adults were found to be involved in 97% of crimes related to narcotics and psychoactive drugs. The Syrian Arab Republic has passed a new law considering the drug addict to be a patient not a criminal. Egypt is contemplating the same, but provided the addict asks for treatment.

Alcohol consumption presents little problem in some countries and may even be prohibited (e.g. Islamic Republic of Iran, Kuwait and Saudi Arabia). However, it is becoming a problem in areas with rapid socioeconomic development, especially among teenagers starting to drink as a social activity.

Healthy lifestyle promotion programmes are multisectoral by nature, linked with several programmes with a unique focus on health promotion. Many Member States (e.g. Bahrain, Libyan Arab Jamahiriya, Qatar, Sudan, and United Arab Emirates) have established information and education for health directorates,

and have assigned trained staff to run these programmes, which focus on how to change human behaviour (i.e. lifestyle) and promote individual health.

Despite some limited success achieved during the last few years, much remains to be done in implementing "healthy lifestyle" programmes and projects in EMR Member States,

- Promoting a healthy lifestyle programme/project needs not only government support, but community commitment. It requires active citizens, with experience in all kinds of community activities, including community associations and movements to promote or protect social and environmental issues, etc. Unfortunately, such associations or concerned community groups are either lacking or are very few in number. This has led to an almost total dependency on government efforts, which can never be enough.
- Medical schools and universities in the health sciences, with their usual conservatism, are not promoting the concept of healthy lifestyles with the necessary holistic approach or including it in medical curricula. At the same time, for new concepts to replace older (outdated) ones, they must be promoted with unusual enthusiasm, at least initially, in order to exchange old habits for new, healthier ones.
- Cultural traditions in some countries of the Region make certain health promotional policies difficult to implement comprehensively. One good example is that of the role of women in society. In some countries, there is strong pressure confining women to the home, to attend solely to domestic and family responsibilities. Here, a health policy that, for example, promotes involvement of all citizens in active exercise programmes would hardly cover half of the targeted population.

To give impetus to the programme, a consultation on policies and strategies to promote healthy behaviour and lifestyles is planned to be held in Bahrain in November 1997. The aim is to assess the situation concerning healthy lifestyles in countries in the Region, identify the needs, and establish a process to select strategies and policies.

3. HEALTH AND ENVIRONMENT

3.1 General protection of the environment

3.1.1 *General environmental health planning*

Based on the experience of the countries in the Region, the Regional Strategy for Health and Environment describes 19 specific environmental health problems:

First priority:

- Drinking-water quality
- Water supply, sanitation and disposal of excreta
- Wastewater reuse
- Solid waste management
- Food safety
- Health aspects of water resources management.

Second priority:

- Coastal-water quality
- Hazardous waste management
- Environmental emergency preparedness and response
- Municipal and industrial wastes
- Environmental health in refugee camps
- Occupational health and safety
- Domestic combustion of biomass and coal
- Safe use of chemicals
- Housing and urbanization.

Third priority:

- Localized hazardous environmental pollution sources
- Noise pollution
- Radiation pollution
- Urban air quality.

After the adoption in 1993 of the Regional Strategy by the Regional Committee, which urged countries to implement it, WHO provided its support in a number of ways to governments seeking to incorporate health and environment into their planning process. Member States were also asked to prepare accordingly their national strategies and plans of action. Bahrain, Egypt, Jordan, Pakistan, Syrian Arab Republic and Tunisia have finalized a national strategy and/or plan of action for health and environment. Afghanistan, Cyprus, Islamic Republic of Iran, Iraq, Oman, Sudan and Republic of Yemen have prepared a draft.

3.1.2 *Air*

Urban air pollution is only a major problem in the larger cities in the Region, where urgent efforts are needed to safeguard public health. Accurate data on the air quality situation in the EMR are quite scarce. The Earthwatch publication on urban air pollution in 20 megacities of the world shows serious problems of pollution by suspended particulate matter (SPM) and lead for both Cairo and Karachi. In Cairo, moderate to heavy pollution by carbon monoxide is equally evident. In many other cities the situation is also quite serious (e.g. Amman for SPM, and Teheran for sulfur dioxide, SPM, and lead). Cyprus reports no area with air quality exceeding limits. Episodic natural elevated levels of dust in the air are common almost all over the Region. Most countries still use leaded gasoline to a varying extent.

A direct relationship between the exposure to air pollution and concentration of lead in blood has been found in Cairo traffic policemen (38–63 µg lead/100 ml) and people living in urban residential areas (30 µg lead/100 ml). The levels are about three times the maximum safe levels and are known to cause neural problems and mental retardation, especially in children. Also, estimates show that the health costs (medical expenses, lost working days and premature mortality) associated with air pollution in the two major industrial areas in Cairo (Helwan and Shoubra El-Kheima) total about US$ 40 million annually. The World Bank estimates that about 40% of the urban dwellers in the Region breathe dangerously polluted air from highly polluting industries, inefficient vehicles, leaded gasoline and high-sulfur fuel oils. It is also estimated that a gain of 2 million years of life from better health could be made yearly if a 10-year programme of abatement of industrial pollution and substitution from high-sulfur to low-sulfur fuels or natural gas was implemented.

EMRO conducted a survey of air quality standards in Member countries in March 1993. Of the 20 countries for which a national evaluation report was available, only Djibouti, Lebanon and Sudan reported total absence of national air quality standards. The Republic of Yemen has national air quality standards to differentiate between protective, warning and action levels. Existence of emission air quality standards has not been reported by any country.

Many countries report the existence of regular air quality monitoring (Bahrain, Kuwait, Pakistan, Syrian Arab Republic and Republic of Yemen), while Jordan and Morocco have limited geographical extension of their air quality monitoring network. Djibouti, Lebanon, Palestine and Sudan have no air quality monitoring. An index for air pollution will be used in Iran and Pakistan for informing the public in case of deterioration of urban air quality as well as for triggering corrective measures. Mitigation measures taken or envisaged include running of public buses on natural gas (e.g. Egypt, Islamic Republic of Iran and Pakistan), encouraging the use of unleaded gasoline (e.g. Jordan, Morocco, Oman), modification of exhaust pipes (e.g. Tunisia) and free repair and engine adjustment (Islamic Republic of Iran). Lebanon is considering preparing a national plan for control of industrial pollution to curb deterioration of air quality in the country. Pakistan has adopted as the third priority in its action to ensure clean air in cities (after increasing tree cover and waste management), reduction of vehicle emissions, including phasing out of regular leaded gasoline by 2005.

The extremely high air pollutant concentration in enclosed and poorly ventilated places puts a heavy toll on the health of people, primarily women and children, in the form of acute and chronic respiratory illnesses. The solution lies in raising awareness, making improvements in housing, stove design and ventilation and bringing about behavioural change. The problem is mentioned in many national reports (Egypt, Islamic Republic of Iran, Jordan, Oman, Pakistan and Syrian Arab Republic). Some countries reported a ban on smoking in public places.

3.1.3 *Water quality*

Except for a few countries (notably Islamic Republic of Iran, Iraq, Pakistan and Sudan), scarcity of water resources is a general rule. Eleven countries are already consuming more than 100% of their renewable water resources. In addition, a large portion of the water resources of some countries (e.g. Egypt, Iraq and Syrian Arab Republic), come from outside their territory. It is well known that one of the most sensitive issues in the regional conflict is access to water resources.

In some countries, over-pumping has resulted in severe marine intrusion (Cyprus, Lebanon, Morocco and United Arab Emirates) or in other forms of degradation of groundwater (Jordan). Salinization of soil is another major problem linked to water quality (e.g. Egypt). Groundwater pollution is a major problem in Cyprus (mainly enrichment in nitrates), Oman and Republic of Yemen. Source protection is faced with numerous problems, from lack of financial resources to poor law enforcement. In all provinces in the Islamic Republic of Iran there is a committee composed of high level officials responsible for protection of drinking water sources.

Surface water pollution is a widespread problem, most serious in Egypt, Lebanon and Morocco. The problem, however, is poorly defined and addressed lightly. Mitigation measures are rarely defined in an integrated manner, and conjunctive use of ground and surface resources is practised on a rational basis in few countries. Protection of surface water, including lakes, is a complex task. In Pakistan, an action plan has been developed for the cleaning of Lake Rawal, Islamabad. It includes the erection of boundary pillars for fencing the catchment area to prevent intrusion of unwarranted activities. Some countries (e.g. Cyprus, Djibouti and Morocco) have identified the need for a better association of people to protect their water supplies.

Despite the increase in access to water supply services, the quality of drinking water available needs major improvements, particularly in rural areas. A few countries report absence or quasi-absence of waterborne diseases (Bahrain, Cyprus, Kuwait and Saudi Arabia). In Djibouti and Pakistan waterborne disease is the second leading group of killers. A recent outbreak of hepatitis, attributed to drinking-water, was also reported in Pakistan. The problems identified include weak drinking-water quality surveillance and control systems, and the absence of national legislation and standards for enforcing water quality improvements. The quality of water supplies is of strategic importance due to its role in protecting health and reducing morbidity. EMRO and the Centre for Environmental Health Activities (CEHA) have supported the

development of national standards based on the WHO guidelines for drinking-water quality. Such standards have been adopted in 13 countries. Every country has some kind of microbiological and chemical surveillance and control. Yet significant work remains to be done, e.g. enforcement of standards and their role for the amelioration of drinking water quality. Also, data handling and reporting systems are inadequate.

In many countries, particularly in the Arab countries of the Gulf, drinking-water is mainly a blend of desalinated water with groundwater. There is a need to assess technical problems associated with water quality at the different stages of the desalination process, as well as the distribution and consumption of water with very low mineralization.

Land-based pollution from industrial sources, human settlements and agricultural run-off is a source of concern, notably in relation to the contamination of seafood and fouling of recreational waters, particularly in countries where tourism is a major source of income. Coastal-water quality is also of major concern where desalination plants for potable water supplies are located. A mass media education campaign was carried out in Pakistan to alert the public about marine pollution. Several collective and concerted actions, such as the Mediterranean Action Plan (MED-POL), the Regional Organization for the Protection of the Marine Environment (ROPME), and the Red Sea and Gulf of Aden Programme (PERSGA) have been taken among groups of countries.

3.1.4 *Soil*

Solid waste management is a pressing problem, particularly in the secondary cities where there are serious shortcomings for collection, transportation and disposal of garbage. An area which has been neglected is hospital and health care facilities waste management. Disposal of medical waste with municipal solid waste is reported (e.g. Egypt, Islamic Republic of Iran, Jordan, Lebanon, Sudan and Syrian Arab Republic). However, the problem is beginning to receive the necessary attention.

Many countries with large populations, usually with high population density in their cities, have serious problems with solid wastes. Uncollected garbage and dumping of solid wastes near the main roads close to towns are common features; in Egypt, solid waste collection efficiencies of 18%–68% were reported. Disposal is also a major health hazard and public nuisance. In some countries, dumping sites exist among houses. Indiscriminate burning of solid waste is a major problem in certain countries (e.g. Egypt, Islamic Republic of Iran and Oman). In Lebanon, the quality of service has been radically improved since the privatization of garbage collection and disposal.

Scavengers at dumping sites are at high health risk, particularly where medical wastes are included in the municipal wastes and untreated sharps are dumped. Also, in some municipalities, the separation of compostable and non-compostable material at composting plants takes place manually. Labourers who separate the wastes rarely wear heavy duty gloves and protective clothing and hence are at risk.

Abundance of rodents is observed in cities with poor collection and disposal systems. Vector control measures at landfill sites were reported not taken in some countries, but taken regularly in others. The Islamic Republic of Iran reported interference of solid wastes with groundwater quality. Uncollected wastes block the drains when it rains and cause public chaos in many countries.

Import of hazardous wastes into the country has been reported in Lebanon, and there are some concerns in the same sense in Somalia. Solving this problem of illegal transfrontier shipment of hazardous wastes requires regional collaboration, in accordance with the Basel Convention, to prevent the export of hazardous wastes to countries that do not have the capacity to deal with them in an environmentally sound way, or altogether ban the import of such wastes.

EMRO is helping countries and municipalities to promote and assist in formulation of action plans for solid waste management, particularly through the healthy cities and healthy villages programmes. For urban slums, urban fringes and rural areas, community-based solid waste management programmes are promoted, e.g. the "Healthy City and Women's Development Project" in Alexandria, Egypt. EMRO has also initiated an extensive hospital and health care facilities waste management initiative (e.g. Islamic Republic of Iran, Morocco, Pakistan and Tunisia).

It must be stated that many countries have, by global standards, excellent garbage collection, disposal and management systems (e.g. Bahrain, Cyprus, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates). Many of these countries have regulations for solid waste disposal sites, and some are engaged in solid waste separation and recycling.

3.1.5 *Food safety*

Contaminated food is thought to be a leading cause of sickness in the EMR. Pakistan, for instance, reported a contamination rate of food samples tested at the federal level as high as 40%–50% and the ratio between real and notified cases may be as high as 100 to 1. It is estimated that 6%–8% of children born each year die before the age of 5 years due to diarrhoeal diseases. However, due to lack of information and reliable reporting systems, the exact size of the problem cannot be identified. Existence of national food safety programmes is still not generalized in the Region; only 20% of the countries have developed adequate legislation, standards and other basic food acts. In the Islamic Republic of Iran, sale of food through street food vendors is prohibited; Morocco and Tunisia reported creating an Interministerial Commission to supervise food safety. Also worth noticing is the promotion of the use of the ISO 9000 series of standards for the certification of food industries in the Syrian Arab Republic, and the mention of the lack of standards and composition tables for most food commodities as a constraint on the improvement of the quality and safety of food in Cyprus.

3.1.6 *Chemical safety*

Use of chemicals has increased significantly in several countries. Large quantities of unwanted and obsolete pesticides are accumulating, and the trend of importation, manufacture and use of other chemicals is increasing. Consequently, the deleterious impact of chemicals on human health and the environment has increased. In Egypt, the reduction of subsidies on pesticides has resulted in marked decrease in their use, and it is a national policy in the Islamic Republic of Iran to reduce the usage of pesticides and insecticides and to eliminate chemical contamination of agricultural products. Saudi Arabia reported the preparation of a national global programme on chemical safety. The Islamic Republic of Iran initiated a research programme on chemical emergencies. The Libyan Arab Jamahiriya initiated preparation of national action plan for environmental health emergencies, and Kuwait recommended special safety measures to the public during the period when oil fields were burning.

In support of HFA strategy, the Regional Chemical Safety Strategy was implemented to support Member States on key chemical safety issues. Top priority was given to strengthening national capabilities and capacities for the safe management of chemicals, and the establishment of risk reduction and emergency preparedness programmes. However, countries were supported in other fields, e.g. information exchange on toxic chemicals and chemical risk, harmonization of classification and labelling of chemicals, and risk assessment of chemicals.

The regional initiative on safe and judicious use of pesticides and the disposal of unwanted and obsolete pesticides is ongoing. Master trainers have been trained in at least six countries, to carry out further training in the safe and judicious use of pesticides. National staff were trained on safe disposal of unwanted pesticides, and awareness was created at country level on issues of chemical safety. An information centre on

chemical safety was created within the Ministry of Health in Jordan; there are plans to develop it as WHO collaborating centre.

Safety from toxic and hazardous chemicals, due to the increase in kind and number of chemicals, has assumed top priority. This is a serious undertaking, especially when the mechanisms for safe management of chemicals are, in most countries, still rudimentary. It is essential first to establish an inventory and a national registry of hazardous chemicals. Many countries have started the process of preparation.

A national coordination mechanism has been established in at least 80% of the countries to monitor safe management of chemicals throughout their life cycle. Less than half have some sort of chemical accident or disaster emergency preparedness plans, and a good number have established poison information and control centres which still need strengthening.

3.1.7 *Housing*

Housing shortage is a serious social problem in many countries. With rapid population increase, especially in urban areas, and acceleration of urban land prices, housing costs are out of the reach of many people. More than 25% of the urban population and the majority of the rural population in Pakistan live in sub-standard housing conditions; the current supply of housing only covers 40% of the additional population annually. In Egypt, about 55% of the total population live in rural and urban fringe areas; dwellers of city slums and squatter settlements live under environmentally fragile conditions. Oman reported that application of the healthy villages concept resulted in a significant decline in cases of water-associated diseases. As the Region is prone to natural disasters, especially earthquakes, poor housing conditions have caused huge loss of life and properties.

There is building legislation and sometimes elaborate housing codes. However, the forces of land speculation and the housing market have made a mockery of such legislation. Some high rise buildings have collapsed when the building owner has added more floors to the building, resulting in a large number of deaths. Such additions are illegal, but are common in some countries.

Generally speaking, the focus of housing and housing improvement is mainly on urban areas. In terms of social impact, shortage of housing has increased the average age at marriage. Lastly, provision of housing is not achieved satisfactorily and through a systematic and environmentally sound system. It is worth mentioning, however, that in Tunisia financial incentives are granted to improve housing, and Oman encourages the private sector to take a major part in the construction of homes.

3.1.8 *Workplace*

WHO has emphasized the need to protect and promote health and safety at work by preventing and controlling hazards in the work environment, and by promoting health and the work capacity of the working people.

Available statistical data on occupational health and work safety in countries of the Region, with particular reference to morbidity and mortality from diseases and accidents attributed to working conditions, remain scanty and grossly underestimate the magnitude of the problem. Information on specialized health personnel providing services to workers in manufacturing, agriculture, construction, mines and small-scale factories continues to be incomplete.

National health services in many countries need to exert greater effort to alleviate occupational health problems and enhance work safety conditions. Most on-site health services are confined to workers in large industries; even then, these services are entirely curative in nature. Protection and promotion of workers'

health and prevention of accidents in all economic activities are almost non-existent; where they exist, the activities are ad hoc and have marginal effect only. On the other hand, some countries have started to provide workers' health services within the national health care system (e.g. Islamic Republic of Iran), and Saudi Arabia reported the existence of good national workplace standards.

3.1.9 *Environmental health in refugee camps*

The problem of caring for refugees is faced by many countries of the Region. It is estimated that there are more than 8 million refugees distributed in several of its countries. In some of them, camps for refugees and displaced people started as temporary settlements, but continue to exist as semi-permanent communities with a lot of pressure on the host government in trying to keep up with the ever increasing demands of keeping the environment as healthy as possible.

In collaboration with UNEP and UNRWA, CEHA succeeded in developing the capacity of agencies responsible for improving environmental health conditions in the Palestinian Refugee Camps in Jordan, Lebanon, the Syrian Arab Republic, the West Bank and Gaza, and in documenting this experience for use in similar situations in the Region.

3.2 Water supply and sanitation

Apart from any other difficulty, water shortage is the single dominant obstacle for speedy coverage of people with water supply. It affects the style, cost and pace of water supply development activities. Also, rapid urbanization has escalated the cost of providing new water supply services and has caused difficulties for the maintenance of existing systems. The sewerage systems in urban areas of the Region are usually inadequate. Excreta and wastewater disposal, especially in urban slums and poor rural areas, poses the hardest challenge to health development. Wastewater treatment facilities are often overloaded, dysfunctional or out of order.

In view of the large diversity between countries and for a more detailed analysis of the situation, the countries are divided into three groups, based on the level of income, health status and the rate of water supply and sanitation coverage.

Group 1: Afghanistan, Djibouti, Pakistan, Somalia, Sudan, Republic of Yemen
Group 2: Egypt, Islamic Republic of Iran, Iraq, Jordan, Lebanon, Morocco, Oman, Palestine, Syrian Arab Republic, Tunisia
Group 3: Bahrain, Cyprus, Kuwait, Libyan Arab Jamahiriya, Qatar, Saudi Arabia, United Arab Emirates.

War and civil strife have affected most group 1 countries. This has had a deleterious effect on all aspects of life and hindered development. Water supply and sanitation services and programmes are no exception. A large number of people, being displaced by civil disturbances and wars, have rushed to other cities and have largely settled in the poor sections of urban areas. The precarious conditions of these poor and slum areas have further deteriorated because of the influx of newcomers. The water supply and sanitation services in urban and rural poor areas as well as camps for refugees and displaced people are deficient.

In the absence of good data, it is difficult to state with certainty what has been the impact on increase or decrease of diarrhoeal diseases. Certainly the situation in two or three countries of this group may have deteriorated. As the population grows rapidly, the authorities cannot provide new services to match the population increase. In the meantime, because of lack of funds, deficiency in management, minimal capabilities and the drastic reduction in external assistance, existing systems have fallen into a state of disrepair and breakdown.

In Pakistan, contaminated water, unhygienic handling of food, poor solid waste management and inadequate sanitation are the main reasons for diarrhoeal diseases, hepatitis, typhoid and worm infestation. Diarrhoeal diseases are the cause of large numbers of deaths every year for children under 5 years. The situation is very similar in all other countries of this group. Cholera in many of these countries is endemic and from time to time it flares up. On the positive side, dracunculiasis was eradicated in Pakistan, showing the value and effectiveness of community awareness raising.

However, recently there have been some causes for optimism. WHO collaboration with local authorities in Afghanistan has been successful in rehabilitation of water supply systems in a number of towns. But in Djibouti, in spite of major investment in water supply, there has not been a major impact on reduction of diarrhoeal diseases, showing that for the impact to be meaningful, proper disposal of solid wastes, food safety, hygienic behaviour and proper excreta disposal must also accompany the provision of water supply.

Lack of information and proper definitions sometimes creates a false impression. A reported figure of 80% water coverage does not necessarily mean that 80% of people have safe and continuous running water within easy reach; the water may be contaminated and the water supply intermittent. Also, in many instances, the excreta disposal facilities are unhygienic, dirty and the human wastes from them quickly end up in canals, or pour into alleys and public streets. The provision of basic sanitary measures: safe water, appropriate sanitation, food hygiene, proper solid waste collection and disposal and hygiene education should be put at the top of the health agenda in these countries.

To respond to the urgent needs of these countries, EMRO has provided substantial amounts of funds. Through mobilization of external support from AGFUND and other sources, projects on hygiene education and training have been mobilized. Also, to specifically help these countries in greatest need, a Regional Initiative for Technical Cooperation has been proposed. As part of this initiative, other countries in the Region that are better off will provide funds and staff to help the least developed countries.

In the second group, there has been good progress in the water supply and sanitation sector. In the case of Egypt for example, population coverage rose from 50% in 1990 to 70% in 1997. Similar figures for the Islamic Republic of Iran were 71% in 1990 and currently 81%. Considering both countries have a large population, these are tremendous achievements. Water supply coverage, particularly for rural areas, has also increased at an impressive rate.

In many countries of this group, people build their septic tanks too close to their drinking water wells and contaminate the water. Also, the informal use of untreated wastewater in agriculture is common. This poses a serious health threat. Furthermore, the water distribution systems in older parts of many cities leak and are faulty. The water supply is intermittent. There have been reports of typhoid and hepatitis because of contamination of water from the wastewater in such systems.

Given the scarcity of water in most of the countries, wastewater reuse has become an important, viable option for conserving fresh water and releasing it for domestic supplies. Conservation of water quality requires safe disposal of human waste. Several countries have developed strict water quality systems as a result of indiscriminate disposal of waste. EMRO and CEHA promoted the WHO Guidelines for the Safe Use of Wastewater in Agriculture, as well as application and use of appropriate wastewater treatment technologies. Eight countries received assistance towards establishing reuse schemes to increase agricultural production and reduced reliance on depleted freshwater resources. Since industries are growing rapidly and in almost all countries, there is very rapid urban growth. As a result, a heavy water pollution load is placed on receiving water bodies. Hence, the chemical quality of water has become an important health concern.

In countries of the third group, it is fair to say that good water supply and sanitation facilities are provided to almost all the population. However, all lack sufficient water resources. This has resulted in the

use of sophisticated desalination plants in many of them. In these countries chemical quality of drinking water, proper reuse of wastewater and construction of more sewage systems are the priorities for some years to come.

Evaluation of water supply and sanitation in connection with HFA strategy results in some important conclusions:

In spite of water shortage and operational difficulties, there has been real progress (with the exception of the LDCs) in improvement of water supply and sanitation, shown in the reduction in diarrhoeal diseases and infant mortality and increase in life expectancy.

The water supply and sanitation coverage rate is falling in some countries. Wars and civil disturbances have disrupted the ability of already weak institutions to provide adequate coverage. They need major external support. Most of the LDCs cannot even provide water supply and sanitation facilities at the rate of population increase.

The experience in the Region, particularly in the LDCs, has shown that even with heavy investment in water supply, the expected health outcome may not be achieved. Water supply and sanitation, solid waste management, food safety and hygiene education should be provided in an integrated fashion. Approaches such as healthy villages and healthy cities are the appropriate venues to provide the basic environmental health action.

The LDCs require heavy investment to make a radical improvement in their rate of water supply and sanitation coverage. The involvement and contribution of communities gives a strong push to the programme, and may reduce the financial burden of the government. Approaches and programmes that facilitate community and local level action, (e.g. basic development needs, healthy villages and healthy cities) should be encouraged.

Construction of sewerage for congested urban areas is a priority. However, low-cost options that do not contaminate the scarce water resources should be encouraged. Water conservation, with the help of technical designs and behavioural changes, will dominate the agenda of water authorities. Interest in reuse of treated wastewater and other low-quality water will become more important. Contamination of surface and groundwater sources are an increasing concern. Attention to chemical quality of water from a health viewpoint will assume greater importance.

The enormity of the environmental health deficit in the Region is well illustrated by the fact that at least 29% of the population (range 0%–80%) do not have access to safe drinking-water (down from 39% in 1985), and not less than 44% (range 0%–99%) are without adequate sanitation facilities (down from 59% in 1985). So far, seven countries only have achieved the regional target coverage of 95% as regards water supply and sanitation.

4. HEALTH RESOURCES

4.1 Human resources for health

Investment in human resources for health has been one of the main areas focused upon by all Member States. The recent demographic and epidemiological changes in the Region have resulted in the overall ratios of human resources for health, such as physicians, dentists and nurses, per 10 000 population showing a general trend of increase. For example, the overall ratio of physicians per 10 000 population in 1996 was 8.2 (range 0.3–28.0) against 5.4 in the first evaluation in 1985. More substantial leaps have been witnessed in three ratios for dentists, from 0.7 to 1.2 (range 0.03–11.70) and for nursing and midwifery personnel, from 9.2 in 1985 to 14.4 (range 0.7–50.0). This can be attributed to the increased number of nursing institutes and increased demand and is the outcome of health policies started several years ago which are now yielding quantitative improvements in human resources for health.

However, these rates do not imply even distribution of human resources. Concentration in the capital or other cities, where university hospitals and other secondary and tertiary care institutions exist, is a known fact. This is why disaggregated rates of physicians and nurses who work in primary health care show less impressive improvements. Primary health care nurses show a slight increase from 2.4 to 2.7, while primary health care physicians show a continuous decline from 1.8 to 1.5 (see Figure 4.1). This disparity of fewer physicians assigned to primary health care in comparison to more physicians joining the services raises several issues. In addition to the factors mentioned above, primary health care may not be an attractive field for physicians when it is remote and without incentives.

An inference from this can be made to explain (in part) why the infant mortality rate has shown an increase recently. The regional rate was 72 in 1990 and 75 in 1996. The same pattern is also seen in the under-5 mortality rate which rose from 105 in 1993 to 115 in 1996, and in the maternal mortality ratio which rose from 31 in 1987 to 36 in 1996). These are alarming findings which need to be further qualified and studied in relation to health and socioeconomic changes.

Although a quantitative increase has been witnessed in the production and deployment of human resources for health, their distribution is not balanced among the different levels of care, nor is it always equitable within the country, or balanced between various categories. There are more physicians than nursing/midwifery personnel in some countries (e.g. Lebanon, Pakistan) because of cultural or employment factors, or shortage in education and training facilities. There are the problems of absorbing graduates (e.g. Islamic Republic of Iran), and of low intake of nationals in nursing institutes for cultural reasons (e.g. Kuwait). The recruitment and deployment of health personnel may be carried out by a central government body irrespective of real needs (e.g. Cyprus), and the rapid progress in technology and increased public awareness of these needs may also be causing pressure.

Member States are making efforts to meet their needs. New faculties of dentistry and of pharmacy have been established in Kuwait. Incentives may be given to work in remote and rural areas (e.g. Iraq). Nongovernmental organizations in the Islamic Republic of Iran are active in training health personnel. The intake of medical students (e.g. Egypt) may be controlled according to need, or of nurses and health inspectors (e.g. Cyprus). The Arab countries of the Gulf are working at increasing the percentage of nationals, but trained nationals often prefer clinical fields. Cyprus has made an arrangement with a British university to train its general practitioners. Various postgraduate programmes have been introduced (e.g. Saudi Arabia, Syrian Arab Republic, Republic of Yemen), and continuing education may be formalized (e.g. Islamic Republic of Iran).

To renew the strategy of health for all, several actions are being considered. One action is the movement of community-oriented and community-based education as witnessed in Egypt, Bahrain, Oman

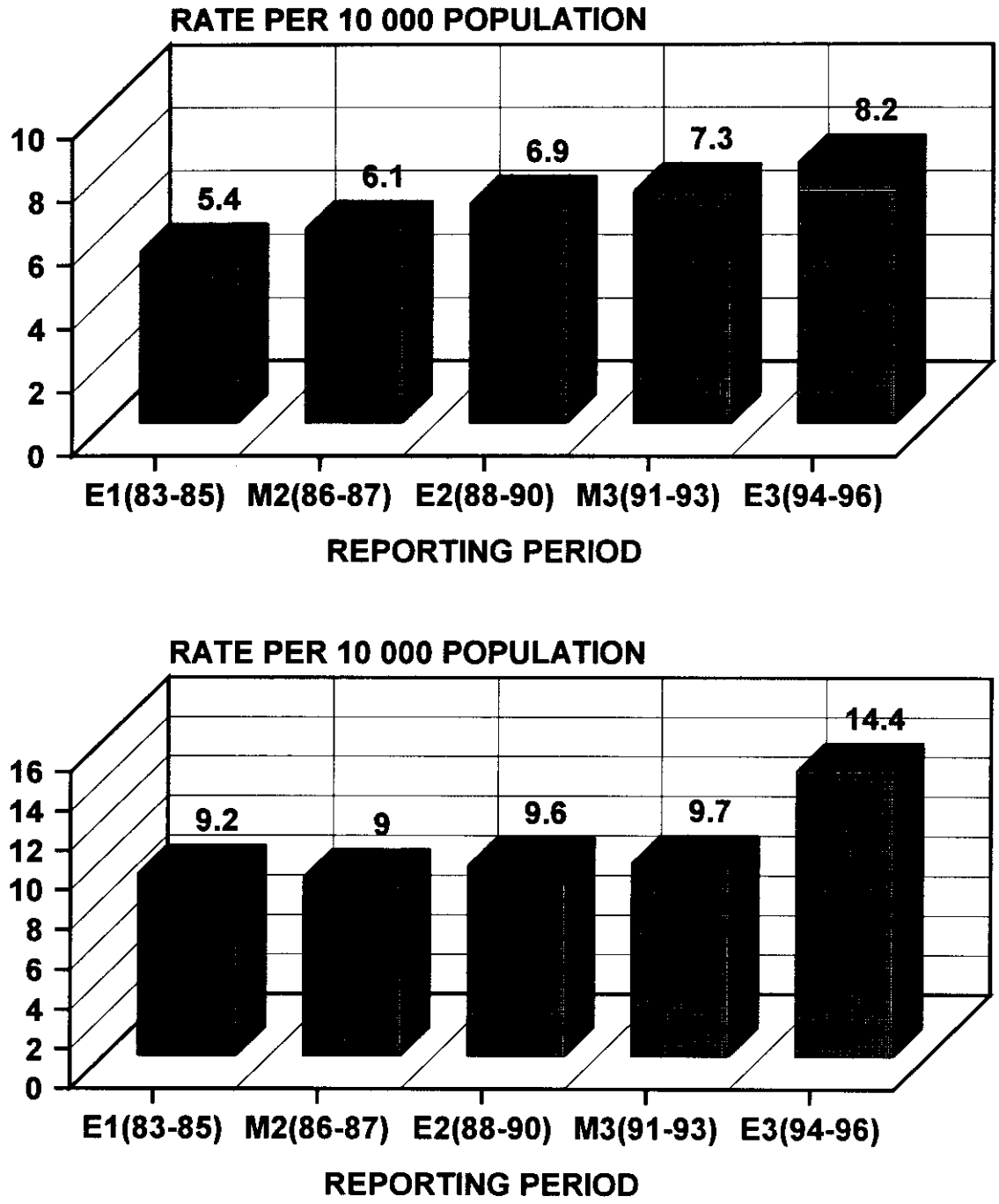


Figure 4.1 Physicians and nursing/midwifery personnel in primary health care per 10 000 population, 1985–1996

and Sudan. Another action is the tailoring of courses to meet the needs of the Ministry of Health (Sudan, Syrian Arab Republic, Republic of Yemen). Specialization in certain priority areas is usually initiated by the Ministry of Health in collaboration with training institutions and medical faculties. Some of the priority areas are public health, health administration, health economics, medical engineering, anaesthesia and paediatrics.

Ad hoc rehabilitation of human resources for health has been initiated in the Region in several countries, such as the periodic reorientation of directors of provincial health services in Tunisia, the Iraqi Board in Iraq to cope with sanctions affecting development of human resources for health, and the twinning of medical faculties in the Region with faculties in Europe and the United States. In the Islamic Republic of Iran the strategic thinking is to tailor medical education to cope with the demographic and epidemiological changes. This initiative was based on findings from research and development on health services. In Pakistan, a national initiative to create and train a new category of national community health workers has started and will go on to cover the whole country with thousands in such a category.

The regional initiative of leadership development has been decentralized to Pakistan (in English), Egypt (in Arabic) and Morocco (in French). The decentralization and use of three different teaching approaches will also be of benefit to WHO in enhancing reorientation of human resources for health towards health for all, and in promoting commitment and action of countries in support of health for all.

4.2 Financial resources for health

Reliable and valid data on health care financing are relatively rare in several countries. Only a few countries have accurate and updated figures on total health expenditure, through household expenditure and utilization surveys and other means. In addition, data on expenditures in the private sector are often difficult to obtain. Aware of this weakness, EMRO has prepared a regional initiative to strengthen data collection and data analysis in the course of implementation of its programme. This initiative aims at developing economic and financial profiles of national health systems through promotion of household expenditure surveys and development of national health accounts in the Region.

Total health expenditure as a percentage of GNP is relatively low as compared with other developing regions. From data on 15 countries, the Region on average spent 5.8% of its GNP on health in 1996. This percentage varied widely between countries of the Region, and ranged between 1.0% in Sudan to 9.0% in the United Arab Emirates. There is a positive correlation between health expenditure and level of income in low and middle income countries. For high income countries, this positive trend is less evident as data on health expenditure by households were not well reported and are definitely underestimated. For middle and low income countries of the Region, data shows that, in general, health systems are underfunded, and efforts need to be made to generate additional resources to meet the health needs of populations.

Growth of health expenditure since the second evaluation has been rather slow. This is partly explained by the difficult economic environment prevailing since the mid-1980s, and the consequences of the structural adjustment programmes in several developing economies of the Region. Efforts have been made by several countries to mobilize the necessary funds through alternative financing schemes based on cost-sharing and development of health insurance schemes.

In order to support Member States in their endeavours, EMRO has established a resource mobilization unit and initiated partnership with regional and international funding agencies including the African Development Bank, the Islamic Development Bank and the World Bank.

As for resources allocated to health, some 54% of total spending on health comes from public sources. The public share of total expenditure ranges from 39% in Lebanon to 80% in the United Arab Emirates. Allocations to the Ministry of Health represent between 2.2% and 9.6% of the government budget, or an average of 2.4% (range 0.8%–7.5%) of GNP; thus these allocations represent only about 40% of national health expenditure. Other health providers include some governmental bodies (universities, army/police, Ministry of Education, health insurance schemes), in addition to the private sector.

The wide variations reflect differences in government commitments to health financing, as well as differences in the size of the public sector relative to national income. In some countries such as Lebanon, the private sector plays a predominant role in financing and providing health care. In most Arab countries of the Gulf, the government has a predominant role and the contribution of the private sector is not important. The share of social health insurance in public resources is limited and does not exceed 10%–20% in countries implementing social health insurance, such as Egypt, Islamic Republic of Iran, Lebanon, Morocco and Tunisia.

In analysing the trends in health care financing, the following conclusions may be drawn:

- There is a clear tendency to shift the burden of health care financing form the government to households. Even high income countries, e.g. the Arab countries of the Gulf, are considering the options of relieving government budgets through adoption of user charges and risk sharing schemes, e.g. health insurance.
- The contribution of social health insurance to public spending is relatively limited. The expansion of its coverage is hampered by the large numbers of workers in the informal or self-employed sectors, and by the limited capacity for collecting and administering payroll tax-based funds.
- Direct out-of-pocket spending by households appears to account for a major portion of private spending in most countries, and private insurance premiums account for a limited fraction of private spending with the possible exceptions of Lebanon, Jordan and some Gulf Arab countries. This reliance on out-of-pocket spending means that households bear a substantial proportion of health care costs while having little or no financial protection (i.e. insurance) in the event of major illness or injury.

In middle and low income countries, additional resources to the health sector are provided by nongovernmental organizations and bilateral and international donors. The role played by nongovernmental organizations in both the provision and financing of health services is growing in many countries as a consequence of diminishing resources in public sectors. As the prospects of financial assistance from many donor countries are not optimistic, owing to economic recession and cuts in development assistance programmes, efforts are being directed towards financial institutions for loans aimed at supporting health development programmes. The portfolio of the World Bank for health projects is growing substantially at global and regional levels, including in the EMR.

As for the provision of health care, the private sector plays an important and growing role in most countries, as a consequence of economic and policy reforms and the adoption of incentives to support private providers. In several countries, 40%–50% of outpatient services are provided privately, but the contribution to hospital care is relatively modest, except in Cyprus and Lebanon. The development of the private sector, both in financing and in providing health care, has also been possible through the implementation of regulatory mechanisms by the Ministry of Health in terms of licensing, standard setting, fee schedules and quality assurance. The growing role of the private sector in health services delivery has raised concerns over quality and also over equity in access to heath care. It is perceived that efforts need to be made to strengthen the role of the public sector to reduce the impact of these changes on the patterns of health care provision and the overarching role played by the private sector.

The available data on the allocation of resources within the health sector show some technical and administrative inefficiencies. In most countries, the resources allocated for personnel consume 60%–70% of total Ministry of Health budgets. An important share of the Ministry of Health recurrent budget is allocated for tertiary care, therefore limiting resources for first line facilities and for primary health care services and preventive and promotive programmes. On average, 43% (range 9%–73%) of national health expenditure is devoted to local health care, down from 50% in the first evaluation. Resources allocated for repair and maintenance of biomedical equipment are limited in many countries in the Region.

Drug consumption accounts for about one-third of total health spending, and in many countries a relatively high percentage of private spending goes towards the purchase of drugs. This pattern is especially pronounced in Egypt, Morocco and the Republic of Yemen, where nearly 50%–70% of total health spending is for pharmaceuticals, most of it through private financing. This highlights the need for promotion of the essential drugs list and rationalization of drug use in the Region.

Data from some countries showed that public resources are not equally distributed between geographical regions and between social classes. They tend to favour urban and well-off populations and to generate polarization with regard to accessibility to health care. This aspect is further worsened by privatization policies.

Despite the political commitment to strengthening health-for-all strategies, there is a need to develop investment plans aimed at improving public health services and to mobilize additional resources in this respect. The reforms planned in several countries aim at improving the use of available resources while developing alternative health care financing based on cost-sharing and risk sharing.

4.3 Physical infrastructure

This is one area which has received considerable attention and investment from Member States, often benefiting from bilateral and multilateral assistance projects. Construction and renovation of secondary and tertiary hospitals has also developed but at a slower rate.

Accessibility to health services has reached 82% and this same figure has been reported since 1990. One reason for such a fixed percentage is the civil strife in certain countries of the Region, which has resulted in the demolishing of available facilities and prevention of expansion. Another reason may be the high cost, especially in remote areas in economically strained countries. Outreach and mobile teams are also used as alternatives to static units to serve scattered and remote populations (e.g. Douars in Morocco).

Linked to accessibility are two other parameters, coverage and utilization. It is important to have a clear vision of the expected norm with regard to utilization of the health services. In Egypt, the Ministry of Health and Population has made 2.3 visits per capita per year a standard. The reported pattern of utilization varies among and within countries. Overutilization has been reported in some countries (Gulf Arab countries in particular) and low use in others, particularly for hospitals with a limited number of beds (Pakistan, Sudan, Syrian Arab Republic, Republic of Yemen). Underutilization is sometimes due to a lack of availability of budgetary resources for drugs, physicians, health staff, equipment, etc., or to the availability of alternative acceptable services, whether traditional, private or nongovernmental organizations. Facilities constructed by donations from nongovernmental organizations or communities or through loans were often not included in proposals for recurrent budgets due to poor coordination between planning and financial departments.

There may be standard designs for categories of facilities, and/or standard lists of supplies and equipment according to size (e.g. Islamic Republic of Iran, Saudi Arabia). Purchase may be through a central government department, which may result in contracts being given to the cheapest provider at the expense of quality, and in long delays (e.g. Cyprus). Purchase may also be left to the provinces, resulting in a wide variety of brands and therefore difficulties in maintenance (e.g. Islamic Republic of Iran, Pakistan). Services are usually free, although nominal fees may be charged. Lack of coordination between construction of facilities and provision of supplies and equipment is common.

Public facilities are not usually well maintained, both as buildings or with regard to supplies and equipment because of lack of financing resources and qualified personnel. Few countries have well functioning repair and maintenance workshops, whether centralized (e.g. Kuwait) or decentralized with units to cater for local facilities. Some countries contract out for maintenance and repair of biomedical equipment

with the private sector, which may put additional pressure on already tight budgets (e.g. Kuwait), or with a national reputed body (e.g. Jordan, with the Royal Scientific Society). Underuse of equipment may result from bad maintenance, or from shortage of necessary supplies such as chemicals (e.g. Iraq), and may result in encouraging the private sector to go for high technology equipment, sometimes with no coordination (e.g. Cyprus). Ministries of Health cannot compete with private firms to attract the scarce qualified repair and maintenance technicians. EMRO is supporting Member States in training in this field, within and outside the Region; three WHO collaborating centres in the Region are used to facilitate exchange of experience and to make a better use of available technical expertise. Governments are striving to prepare appropriate plans to develop national capabilities and to secure necessary means for repair and maintenance. Some resources through bilateral and multilateral cooperation will have to be directed towards this programme in the future.

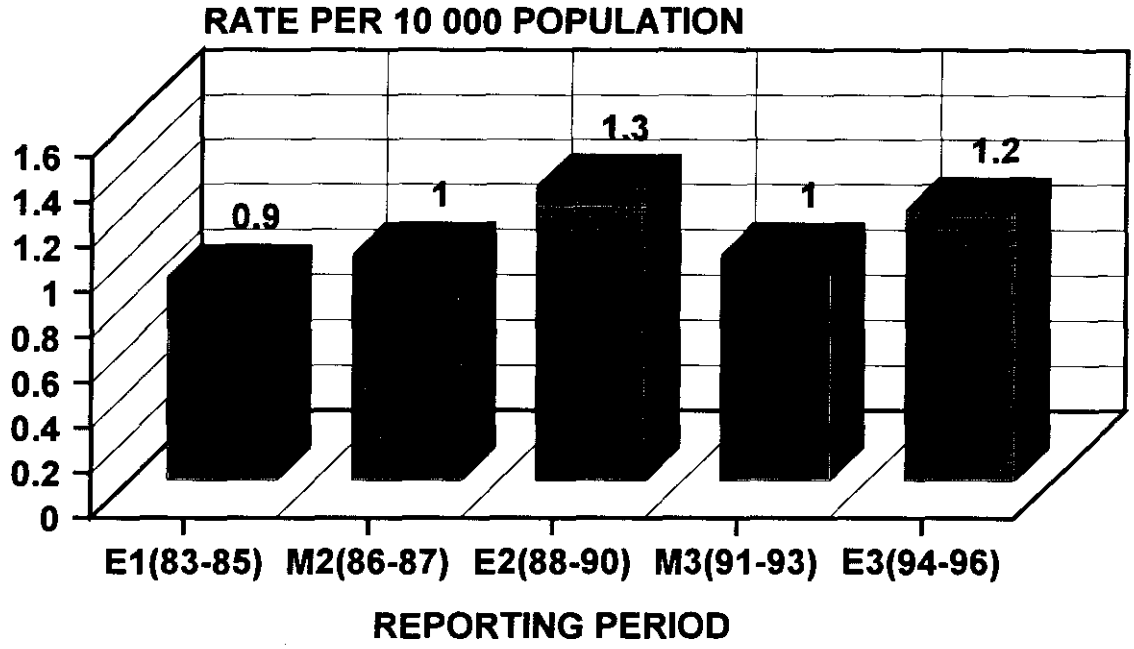
The overall rate of coverage with primary health care facilities (centres and units) is 1.2 per 10 000 population (range 0.1–3.2), an increase from 0.9 in the first evaluation, and a bed rate of 12.2 per 10 000 (range 3.3–51.4), a decrease from 13.3 in the first evaluation in 1985. The trend of these indicators is shown by Figure 4.2.

It should be noted here that countries differ as to what they include under primary health care facilities. Moreover, Member States in general cannot match the population increase in the construction of hospitals, but one favourable point may be the shift in emphasis from hospital-based health care to primary health care.

The main constraints on the efficient functioning of health facilities are:

- lack of harmony and coordination between the different levels of care;
- weak referral systems, with discontinuity and ineffectiveness;
- lack of standards of care and/or their enforcement;
- disparity between the hardware and software of the health services;
- rather moderate quality of service, and hence community dissatisfaction;
- lack of continuing training and support, leading to demoralized or frustrated health workers, especially when lack of resources, equipment and logistics prevails;
- lack of integration and coordination among the different providers of health care;
- weak managerial capabilities, especially at intermediate and district levels, allowing for waste of resources and poor performance of facilities.

Some initiatives have recently been taken to ensure equitable distribution of the infrastructure. Many countries have opted to specify catchment areas as the unit for planning health services (Bahrain, Egypt, Islamic Republic of Iran, Pakistan, Saudi Arabia). Others have undertaken assessment of health services (e.g. Kuwait, Oman, Pakistan, Syrian Arab Republic) to identify new entry points to improve performance. Some countries have initiated quality control programmes (e.g. Bahrain, Egypt, Jordan, Morocco) at selected levels of care. Organization, capacity-building and training of health personnel in techniques and methodologies of quality of care continue.



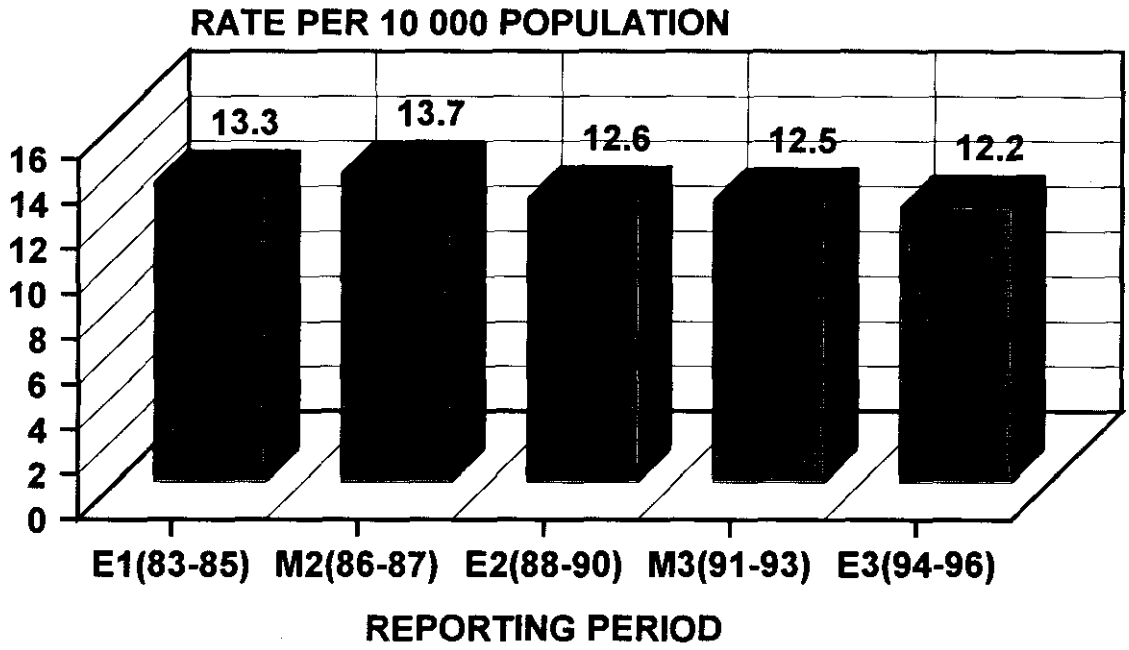


Figure 4.2 Trends in PHC centres and beds, 1985–1996

4.4 Essential drugs and other supplies

4.4.1 *Essential drugs and vaccines*

Appropriate drugs play an important role in protecting, maintaining and restoring health. Providing health facilities with regular supplies of essential drugs of good quality at low cost is critical to making primary health care work. In many countries, governments still face great difficulties in making essential drugs available and affordable, and in promoting rational drug use.

Efforts are being made in developing and translating national drug policies into master plans covering both public and private sectors, with the main objective of ensuring the availability and rational use of drugs. Increased efforts are being made to improve drug legislation and regulations, as well as quality assurance systems. Action has been taken to strengthen the drug regulatory authorities through capacity-building, technical assistance, training of staff, and provision of applied software packages for drug registration, drug quality control, and drug management and inventory control. An important component of national drug policy is ensuring quality, safety and efficacy of drugs and biologicals. Member States are becoming more committed in developing national expertise in various fields of drug stability, bioavailability, bioequivalence and expiry date validation.

There is still a need to improve equity and access to essential drugs related to national health needs. Drug selection, procurement and distribution are the main obstacles, and are especially encountered by countries in greatest need. Limited budgets for drugs have stimulated the search for alternative financing methods, such as cost-sharing or revolving funds to ensure accessibility of drugs for those in real need. Efforts have to be continued in promoting rational prescribing, dispensing and use of drugs at all levels of education, and in sensitizing the general public concerning drug use, by making available unbiased drug information and other materials, and by conducting training courses and seminars for health professionals and paramedical staff. Efforts have to be increased in stimulating operational research to identify problems in the drug sector as well as priority areas for intervention.

Promotion of regional self-sufficiency in essential drugs and vaccines represents one of the main components of national drug policies. At present, local drug production in Egypt, Islamic Republic of Iran, Jordan, Morocco and Pakistan covers more than 80% of the total drug consumption. In Saudi Arabia, Sudan, Syrian Arab Republic, Tunisia and Republic of Yemen, local drug production is rapidly growing and is strongly supported by the governments. Iraq has received support to rehabilitate its local drug production plant. However, in most countries there is no clear policy regulating drug production to ensure the availability of essential drugs and vaccines. Production of biologicals is rather limited. Significant production facilities are available only in Egypt, Islamic Republic of Iran, Pakistan and Tunisia. The Regional Office is encouraging increased production in these facilities, as well as technology transfer to produce other urgently needed vaccines and biologicals.

The regional essential drugs programme is regularly evaluated in the Regional Office.

- National drug policies have been adopted by 12 countries, and 8 countries (Afghanistan, Bahrain, Djibouti, Jordan, Lebanon, Oman, Palestine and Qatar) are in the process of developing such policies; the remaining three countries have not yet started the process.
- National lists of essential drugs have been developed by all countries. Afghanistan, Egypt, Sudan and Republic of Yemen have developed multi-level lists, and Djibouti and Tunisia have updated their existing lists.
- A coverage of 80%–100% of essential drugs supplies available at all levels of health services has been achieved in 16 countries.

- All countries continued to strengthen their national quality assurance systems. Twenty countries have developed appropriate drug legislation and regulations, but only 10 countries are enforcing them.
- The WHO model software for drug registration was installed at the national drug regulatory authorities in Bahrain, Egypt, Lebanon, Morocco, Sudan, Syrian Arab Republic, Tunisia and Republic of Yemen.
- Seven countries (Afghanistan, Egypt, Iraq, Pakistan, Saudi Arabia, Sudan and Tunisia) have organized activities on improving prescribing and dispensing practices for all levels of medical staff. Nongovernmental organizations in Afghanistan, Pakistan, Somalia and Sudan supported these activities.
- Six countries (Afghanistan, Egypt, Islamic Republic of Iran, Lebanon, Pakistan and Sudan) participated in a training course on problem-based teaching of pharmacotherapy, which is a new approach to updating the curricula of medical schools.
- Sixteen countries publish drug information documents on a regular basis.
- Operational research on drug utilization has been conducted by nine countries (Afghanistan, Egypt, Islamic Republic of Iran, Morocco, Pakistan, Somalia, Sudan, Tunisia and Republic of Yemen).
- Eighteen countries have national drug quality control facilities where physicochemical and microbiological quality control testing are performed, but only 13 countries are operating in accordance with good laboratory practices (GLP).
- Facilities for pharmacological quality control testing have been established in nine counties (Cyprus, Islamic Republic of Iran, Jordan, Kuwait, Morocco, Saudi Arabia, Syrian Arab Republic and Tunisia).
- Bioavailablity, bioequivalence or stability studies have been conducted by six countries (Egypt, Islamic Republic of Iran, Kuwait, Saudi Arabia, Sudan and Tunisia).
- Many countries are in the process of applying the guidelines of the WHO Certification Scheme on the Quality of Pharmaceutical Products moving in international commerce.
- Seven countries (Cyprus, Egypt, Islamic Republic of Iran, Jordan, Sudan, Syrian Arab Republic and Tunisia) have strengthened their drug inspection systems by adopting national good manufacturing practices (GMP) and pharmaceutical technology guidelines.
- Monitoring of adverse drug reactions has been initiated by nine countries (Cyprus, Egypt, Islamic Republic of Iran, Kuwait, Morocco, Oman, Pakistan, Saudi Arabia and Tunisia) and five countries (Islamic Republic of Iran, Morocco, Oman, Pakistan and Tunisia) are participating in the international adverse drug reaction monitoring programme.
- Independent vaccine quality control facilities have not been established. However, five countries (Egypt, Kuwait, Morocco, Saudi Arabia and Tunisia) are establishing national systems for regulation and quality assurance of biologicals.

During the ongoing exercise of evaluation of HFA strategy, data reported gave the percentage of essential drugs available in a sample of remote facilities as 90% in Oman, 64% in the Islamic Republic of Iran, and 30% in Iraq. It should be noted that the indicator on "availability of essential drugs in a sample of remote facilities" is a new indicator.

4.4.2 *Blood safety*

Efforts are continuing in order to develop blood transfusion services in order to attain self-reliance and ensure safe blood and blood products. These include the training of personnel, donor motivation, ensuring appropriate collection and screening, appropriate use of blood products, quality assurance, technology of separation of components and local production of reagents. All countries are being encouraged to speed up the organizing of a long-term national programme for blood donor recruitment, to establish community-based donor systems on a purely voluntary nonremunerated basis, and to enforce legislation concerning blood transfusion. Appropriate use of blood, blood components and blood derivatives are considered a priority in activities at country and intercountry levels. Criteria which are feasible and adapted to the local needs and capabilities of countries have been developed to ensure best practice in the use of basic blood components. Distance learning on blood safety is being established in some countries.

Countries of the Region suffer from one or more of the following problems: insufficient budget allocated for blood transfusion services; limited number of volunteers for blood donation and lack of blood donor recruitment programmes; lack of adequate infrastructure and limited expertise; insufficient refresher courses or continuing education programmes; shortage of scientific periodicals and journals; the high cost of screening blood and the erratic supply of screening kits and antisera; improper use of blood, blood components, and blood derivatives; and inadequate application of quality assurance through the whole spectrum of transfusion medicine.

Evaluation of the implementation shows that most countries continue to make significant progress towards achieving targets established in the regional plan formulated by the directors of blood transfusion services in their meeting held in Cyprus in 1991, and amended during their meetings in Jordan in 1993 and Tunisia in 1995. The types of organization of blood transfusion services are national (two countries), national/hospital-based (11 countries), hospital-based (nine counties). Eighteen countries have a national director for blood transfusion services, 13 have a national advisory committee and reported that they have a national blood transfusion policy and plan for the development of the blood transfusion services, and 10 of them have included in their plans the establishment of a national reference centre. Testing for HBsAg and HIV antibodies is carried out in all countries; screening for HCV is carried out in 14 countries; components are available in 18 countries (mostly available in some centres only); plasma is available in 19 countries (mostly available in some centres only); and cryoprecipitate is prepared by some centres in 17 countries.

4.5 International partnership for health

Countries of the Region have strengthened partnership for health with international organizations within and outside the UN system. Through the Regional Office, coordination has been undertaken with other organizations involved in health including UNICEF, UNFPA, the Economic and Social Commission for Western Asia (ESCWA) and the Economic Commission for Africa (ECA). Joint programmes with UNICEF are implemented in the Region, particularly regarding mother and child health, women's health, immunization and environmental health. UNICEF and UNFPA are involved in the regional initiative, the Pan Arab Project for Child Development (PAPCHILD), aiming, among other things, at assessing the regional situation related to mother and child status. International organizations are also supporting regional initiatives such as poliomyelitis eradication, promotion of action-oriented school health curricula, and basic development needs/quality of life.

In order to generate additional resources for health development, efforts are being made by Member States to strengthen partnership with funding agencies including the African Development Bank, the Asian Development Bank, the Islamic Development Bank and the World Bank. EMRO is supporting negotiations with the African Development Bank, was involved in consolidating the Bank's policy paper and hosted several meetings of both the African Development and the Islamic Development Banks. EMRO also participated in various African Development Bank review meetings.

Regarding the World Bank, a more structured collaboration was initiated with EMRO in 1995. EMRO was involved in the rehabilitation project in Lebanon and participated in the exercise led by the World Bank to help preparing the agenda for health sector reforms for Egypt. Collaboration is planned for World Bank-supported projects in Islamic Republic of Iran, Morocco and Republic of Yemen. It was agreed to better streamline such partnerships with the World Bank, which is expanding its portfolio for health and social sectors in the Region.

Two important components should not be forgotten in this respect. First, most countries have bilateral agreements in health development, with individual countries or groups of countries inside or outside the Region. That support is often technical, as well as in training and fellowships, supplies and equipment and, rather uncommonly, in construction of facilities. Although its volume is below that of international

support, sometimes it is crucial for some countries where, for political reasons, international partnership is restricted. Second, there is considerable technical cooperation among developing countries. No matter at what stage of development it is, a country often has something to offer to others.

The main constraints faced by the countries of the Region in strengthening international partnership for health is the lack of managerial capabilities in the health systems. Indeed, most ministries of health are not well equipped for policy analysis and formulation, or project formulation for international support, and lack the necessary expertise in strategic planning and management and in health system regulation. Often political considerations interfere in international and bilateral partnership.

5. DEVELOPMENT OF THE HEALTH SYSTEM

5.1 Health policies and strategies

All countries have renewed their commitment to health for all through primary health care. This was reflected in the updating and developing of HFA strategies through WHO collaborative programmes, and in integrating these strategies into socioeconomic development plans. National strategies were designed to reduce disparities between population groups with regards to access to health care, and to highlight the role of women in health development.

Regional initiatives aimed at reducing major health threats (tobacco, AIDS, women's illiteracy, cardiovascular diseases and other noncommunicable diseases) were endorsed and implemented by Member States. Some ministries managed to secure additional resources for primary health care programmes through reallocation of public resources.

Decentralization was further strengthened in order to build well functioning district health systems, and health professionals were trained in management and microplanning at district level. With this new development, communities were better involved in health development through revival of participative structures and mechanisms. Intersectoral collaboration was also promoted using all forums, including regional meetings on water supply and sanitation, environmental health and poverty alleviation through income generation and self-reliance. Partnership with the private section to strengthen HFA strategies was initiated in several countries, owing to its important and growing role in both financing and delivery of health care (e.g. Cyprus and Lebanon). Professional associations and nongovernmental organizations also play a great role in health and are active at various levels of the health systems.

In the EMR, efforts are being made to implement resolutions with impact on health. Indeed, the momentum gained by HFA was further triggered by the implementation of the basic development needs (BDN)/quality of life approach, based on community empowerment, self-reliance and sustainability. In addition, healthy cities and healthy communities programmes expanded. The role of women in health and development was emphasized in all developmental initiatives carried out in the Region.

Social funds have been created in several countries to support grass-root development projects, through access to microcredit and training of human resources with particular emphasis on literacy and female education.

The application of structural adjustment programmes in most developing economies led to negative impacts in terms of reduced resources devoted to social sectors, including health and education. In order to adapt to global changes, ministries of health, with technical assistance provided through WHO collaborative programmes, initiated a process of health sector reforms aimed at:

- improving health care financing;
- increasing health system performance through better management and well planned decentralization;
- addressing the population needs.

On the eve of the 21st century ministries of health have expressed their commitment to HFA goals and initiated a renewal exercise for HFA strategies. The exercise is based on situation analysis of the main changes and challenges faced by the health systems in the Region. The main constraint faced by countries to improving health policies and strategies is represented by the lack of qualified human resources in policy analysis and formulation and in strategic planning and management.

5.2 Intersectoral cooperation

Intersectoral cooperation varies among EMR countries in depth and in breadth, although all realize its importance. The recent and forthcoming social, political, demographic and epidemiological changes, together with economic concerns, make it all the more important to strengthen that cooperation.

A recent feature is the need to change the role of the ministry of health from managing health care to assuming leadership in health. The new role entails considerable preparations and initiatives on the part of ministries of health. In Jordan, the Supreme Health Council is headed by the Prime Minister with the purpose of coordinating between the government and nongovernmental sectors involved in health care including the private sector. In Bahrain, an HFA committee has been established to ensure the effectiveness of the several interministerial health committees. With the policy of decentralization, the leaders of sectors related to health are members of the consultative health councils at the district level (e.g. Pakistan, Sudan, Syrian Arab Republic). Sectors which have an impact on health, e.g. education, agriculture, environment, women's development, and social affairs, have also been associated in various development initiatives aimed at strengthening health in development and at promoting a human-centred approach to development.

National policies of merging two otherwise separate ministries dealing with health-related affairs have been witnessed in Egypt, where the Ministry of Health and Ministry of Population are now combined in one ministry, and in the Islamic Republic of Iran, where the Ministry of Health and Medical Education oversees health services and health education. This pattern of merging makes coordination a fact. Coordination with other sectors remains high on the agenda.

Some countries report other ad hoc mechanisms. For example, universities and ministries of health have joined hands in certain aspects of health care, as is the case with Sudan's health areas initiative. The private sector is becoming more sizeable in some countries, e.g. Lebanon where there is a special case of cooperation with the Ministry of Public Health. Provision at different levels of care is made by the private sector but is financed by the Ministry of Public Health. The role and magnitude of the private sector are becoming important assets which need to be studied and tapped.

The main constraints facing intersectoral cooperation are the degree of decentralization, political commitment and support, lack of experience and scarcity of models which translate into real implementation. The problem sometimes lies in rigid rules and regulations, especially financial ones. Intersectoral cooperation entails an extra load in terms of reorganizing work, financing, resources and overall administration. Some countries lack the necessary managerial capabilities.

The EMR has taken some initiatives to enhance HFA through intersectoral cooperation. A most promising initiative, and one which is proving effective, is the basic development needs approach. This approach is based on a methodology for overall and health development where intersectoral cooperation plays an essential role in supporting local programmes. Basic development needs is now practised in various areas in Afghanistan, Djibouti, Egypt, Islamic Republic of Iran, Jordan, Morocco, Pakistan, Somalia, Sudan, Syrian Arab Republic and Republic of Yemen. Healthy cities and healthy villages programmes are based on similar principles to basic development needs and provide a fertile ground for intersectoral cooperation.

5.3 Organization of the health system

Normally, a health system is organized from the periphery (community and primary health care level) through the intermediate level (secondary care level, in the district/region/province) to the central level. A proper referral system, particularly between the primary and secondary care levels, is essential for the efficient functioning of the health system. Not only does this offer the patient more advanced medical care when needed, but it also reduces the burden on costly hospital services. Communication between the two levels should be two-way: the referral hospital should write back to the health centre indicating what was done, the diagnosis reached, and what needs to be done as follow-up to the patient.

Furthermore, the quality of services in the health centres needs improvement if we want people to use them rather than bypass them. Actions taken include: increasing the number of staff or the number of working hours to reduce overcrowding (Bahrain), restructuring or renovating existing facilities (Morocco), establishing polyclinics to provide combined primary health care and specialist outpatient services (Cyprus, Oman), providing dental services (Tunisia) or ensuring the availability of essential drugs. Maintaining and proper filing of adequate records (e.g. family folders) is essential.

Many countries have adopted the district health system or are taking action to strengthen it. This includes structuring the district health team (Sudan), training it in management (Morocco), creating a "board" to assist the district health offices (Pakistan) or developing the regional (district) health information systems (Oman). In Bahrain, family physicians and their staff are assigned to a well defined catchment area.

Health insurance schemes are coming more and more into the picture, as a form of cost-sharing. These schemes may be governmental or semi-governmental (Egypt), private (Bahrain, Cyprus) or are in planning (United Arab Emirates). The role of the private sector varies between the countries, from limited (Libyan Arab Jamahiriya) to much practised (Egypt, Republic of Yemen). In some countries the private sector is on a strong footing in its relationship with the ministry of health (Cyprus, Lebanon). Because of the prevailing situation in Somalia, street vendors of drugs are the main source of drug supply.

5.4 Managerial process

Health planning is, to a great extent, still centralized, although regions or provinces are gradually playing a role here (e.g. Sudan, Tunisia). Implementation is often decentralized, to a varying extent. A "*wilayat* profile" has been developed in Oman as a management tool in the *wilayat*. In Tunisia, the "health map" is used to ensure the rational supply and development of services.

Member States, committed to HFA through primary health care, have taken several measures to strengthen their managerial processes for national health development. Resources were allocated over the past decade to train additional human resources in health management and planning, and efforts were made to strengthen information and legislation support for management.

Emphasis was particularly put on training managers at district level in order to better strengthen district health systems based on primary health care. The move towards decentralization has led to the restructuring of ministries of health at central level and the development of new managerial functions at subnational level. Mechanisms were developed to better involve communities and other sectors in planning, implementation, monitoring and evaluation of health programmes at various levels. District managers were trained in microplanning using innovative approaches, based on self-learning through problem solving, and on community participation in health planning and management.

In order to mobilize economic support for HFA strategies, efforts were made to improve resource allocation and to promote cost–effective alternatives. Where necessary, there was a restructuring of the health

care financing system. Cost analysis was promoted in health facilities through training of managers and provision of technical support.

Despite the endeavours to improve the managerial process, countries have reported some weaknesses which need to be addressed through training and other means. Ministries of health still lack personnel qualified in policy analysis and formulation and in strategic planning. National health information systems need to be well decentralized and strengthened in order to support decision-making at the sub-national level. Health legislation needs to be strengthened in the light of dramatic progress in biomedical technology with its ethical implications. The organizational structures of ministries of health should be reviewed in order to adapt to changes and new challenges facing health systems in the Region.

5.5 Health information system

5.5.1 *Situation analysis*

With the exception of a few countries, most of the EMR countries continue to use the broad term national health information system (NHIS) (including statistical systems as well as documentation/ literature systems) for what is exclusively a national health statistical information system. This is because this broad concept of NHIS is still not sufficiently understood by most of those concerned with the health system, such as politicians, planners, managers, epidemiologists, etc. On the basis of a study carried out on the subject, although countries of the Region recognize the broad concept of NHIS, they continue to use it as synonymous with a statistical information system only.

To this end, and in order to avoid confusion, overlapping and conflict of responsibilities in this area, the Eastern Mediterranean Regional Advisory Panel on Health Information Systems recommended structuring of an NHIS into two sub-systems, namely, a national health statistical information sub-system (NHSIS) and a national health and biomedical information sub-system (or a non-health statistical information sub-system).

With important progress in the use of information technology, considerable efforts have been made in the strengthening of health literature and services in most countries, especially on reorganization of documentation centres and services as well as on use of CD-ROM technology and the Medline database.

WHO support for Internet use is starting to be an important area of development. However, the strengthening of national health statistical information systems continues to be the priority area in the development of the national health information system.

Despite tangible progress made in this field, as shown through continuing improvement in the reporting data for monitoring and evaluation of HFA strategy as well as for epidemiological surveillance, increased efforts are still needed to upgrade the effective role of national health statistical information system in health system development in the Region.

In response to rapid changes in the socioeconomic context over the past decade, the calls of the health reform movement for more efficient use of limited health resources is engendering in countries a need for more action-oriented information. This has generated a need to build up a statistical information culture able to appreciate the value of information as a real resource, which can help the decision-making process with regard to the allocation and use of health resources, monitoring and evaluating of programme performances as well as assessment of quality of care.

During the past decade, WHO has supported countries of the Region in the enhancement of their health statistical information systems. Focus was placed on the following:

- using a designed approach based on the information needs of potential users from bottom level. There is no place in the designed system for data not transformed into indicators to be used for decision and action;
- strengthening of capacity-building in the selection of indicators and in the use of the indicators for action;
- strengthening capacity-building in the use of available data for enhancing decision-making in the managerial process through the district team problem-solving approach;
- introduction of new methodologies, namely, the rapid evaluation methods and quality assessment and use for enhancing the value of information in the assessment of health problems, as well as in the evaluation of health care delivery performance and satisfaction of the population needs;
- improving the use of ICD-10 for developing and enhancing the establishment of statistics of mortality and morbidity by cause;
- encouraging the use of informatics technology in an efficient way to better speed up the processing and use of health information.

The main achievements in health statistical information systems in Eastern Mediterranean countries during the last biennium were as follows:

- Health statistical information systems were reviewed and enhanced in 15 countries (Afghanistan, Bahrain, Djibouti, Egypt, Islamic Republic of Iran, Jordan, Kuwait, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syrian Arab Republic, Tunisia and Republic of Yemen);
- National capacity in statistics and informatics was strengthened. Hundreds of national staff at central and regional levels received training through national activities and fellowships;
- The use of available statistical information in the health managerial process was initiated through the district team problem-solving approach in five countries (Oman, Morocco, Sudan, Tunisia and Republic of Yemen);
- The International Classification of Diseases for collecting mortality and morbidity statistics by cause was applied in eight countries (Bahrain, Egypt, Islamic Republic of Iran, Kuwait, Morocco, Saudi Arabia, Syrian Arab Republic and Tunisia);
- Computerization of the health statistical information systems was initiated in most of countries.

A guideline manual on how to develop/revise a national health statistical information system was prepared. It will be finalized at the second meeting of the Regional Advisory Panel on Health Information Systems in September 1997, and then used in the intercountry workshops on how to use it, to be held in November 1997.

5.5.2 *Outlook for the future*

Due to the challenging and rapid development changes in information, communication and technology, the role of information will be more powerful in health systems in the future. The broad concept of a national health information system will be progressively implemented through integrated database development, including all information needs, whether statistical or health and biomedical.

With regard to the national health statistical information system, development will be focused mainly on the following two components:

- health economics information to enable the assessment of health costs as well as to measure the effectiveness of health strategies and interventions;
- health status information in terms of mortality and morbidity by cause, to allow a better assessment of health problems and risk factors, with emphasis on development and use of environmental indicators.

National capacity-building in these two areas will be a priority. The enhancement of the information culture at strategic, tactical and operational levels in health systems will be a prerequisite for better use of information in the decision-making process.

5.6 Community action

In this time of great changes, community action is probably the most outstanding and influential action in developing health systems and achieving HFA. The role of the community in sustaining and ensuring equity, adequacy and quality of the different components of the system has to be clearly spelled out as a national policy. Community action is a very important principle of the HFA through primary health care movement. It is affected by the political and socioeconomic circumstances which may support it or limit it. Irrespective of the extent and functions of community action, it is always a continuum of organizing the community in order to mobilize it for continuous and active involvement. This continuum will determine how far the health services are in harmony with the overall development scene. The scope, magnitude and form of community action vary substantially within and among EMR countries. The role of community in attaining HFA also varies from one country to another, and according to the level of development of the national health system as well as the socioeconomic system.

Some countries report action which reflect how community action is viewed as a health policy. Sometimes it is considered as a means to achieve preset health targets. Examples of such are the various health campaigns, volunteer participation in health activities, contributions in kind, etc. This can be seen as a limitation on the full potential of community action. Despite this limitation, it is advisable to build on such action to promote further organization of the community and so build its capacity to plan and prioritize.

Sometimes community action is seen as an end in itself. This is particularly evident from the experience of the basic development needs approach, which focuses on processes of development, i.e. building-up capacity, self-reliance and self-management. When seen through the experience over the course of nine years in the EMR in 12 countries with different social and economic circumstances, it becomes clear that community action through basic development needs is a robust approach which has stood the test of time. It has been shown, in a subtle way, that all the concepts and principles of primary health care, e.g. community involvement, intersectoral action, decentralization, integration and grass-roots planning, can be put into practice in a natural way. Community action through basic development needs has also accommodated newer concepts such as poverty alleviation and healthy villages (Islamic Republic of Iran and Syrian Arab Republic), and enriched them with a community methodology which drives harmony and balance into social and economic development.

The EMR can enhance community action through a variety of different approaches, such as basic development needs. Others focus on spiritual and social dimensions, or use the techniques and methods of quality health care. Health workers in the community, such as the "friends of health centres" in Saudi Arabia, community support groups in Oman, and health volunteers in the Islamic Republic of Iran, enhance community action. Schools and nongovernmental organizations are important community assets which can be used as entry points to launch community action. The feasibility of tapping existing potential in the Region, such as the *shura* system, should be studied. The spirit of *shura* is the essence of community involvement.

Some countries have already started to develop inventories of development institutions and community health workers as leaders that can be involved in mobilizing the community. It is necessary to train health staff in communicating with the community as well as encouraging research in community action.

The main constraints are:

- lack of clear policies regarding community action in support of HFA, especially its role in health and overall development; political recognition of the role and contribution of the community is a first step to encouraging involvement;
- lack of identification and study of available community resources; an inventory of nongovernmental organizations, associations, developmental structures and agencies in each country of the Region needs to be conducted, documented and used;
- insufficient tapping of the full potential, whether economic, spiritual or institutional, of for example Red Crescent and Red Cross societies, nongovernmental organizations, pensioners and active community leaders;
- insufficient training programmes for health personnel, especially executives and managers at district level, to strengthen their capabilities in communicating with the community as well as developing partnership with them;
- lack of research on the different aspects of community action.

5.7 Emergency preparedness

Only the most disaster-prone countries (natural or man-made) are considered for the purposes of this evaluation.

5.7.1 *Afghanistan*

The health sector remained the worst affected social sector with more than 70% depending on outside assistance. Many health facilities were destroyed. An estimated 40% of the population are either displaced, homeless or destitute. While some 2 million refugees have returned to Afghanistan since 1992, some 3 million people remain as refugees outside the country. WHO and the Ministry of Public Health identified three priority areas: strengthening and establishment of emergency medical and casualty units in all regional/provincial hospitals to cope with mine and war injuries and other casualties, disease prevention and control, and development of human resources who could guide WHO technical and material assistance.

Following the regionalization of health services, major steps were taken to consolidate the implementation of regionally based emergency-relief health programmes to enable the Ministry of Public Health to initiate response with the help of local authorities and communities. Rehabilitation of the health infrastructure has been another priority. Casualty departments and provincial hospitals in Herat, Jalalabad, Kabul and Mazar-i-sharif were functionally rehabilitated.

WHO, together with UNICEF, other UN agencies, nongovernmental organizations and local health authorities have embarked on a massive social mobilization and education in order to vaccinate around 3 million children under 5 years of age and 1.7 million women of childbearing age under its project Health Initiatives as Peace Initiative. It has been one of the most successful health activities carried out in Afghanistan by UN agencies and has been supported by generous donors. This immunization campaign was first implemented in 1994, then repeated in 1995 and 1996. The success achieved was beyond the imagination

of all involved including donors. In addition, these mass campaigns have contributed to the development of sustainable health care system in Afghanistan. Benefits for the health care system included the following:

- Decentralization: regional management teams were established in five out of eight regions to consolidate and continue service delivery down to district level after the campaign.
- Increased access: 238 rural districts are now equipped with at least one fixed centre, compared to 110 districts in 1994.
- Interagency cooperation has been a feature of the planning and implementation of the campaign.
- Integration: other health and nutrition interventions were included in the campaign such as administration of vitamin A and iodine supplement.
- Mobilization: there was success in reaching many areas which had been cut off from immunization for over 5 years. Special periods of tranquillity were observed by all.

To address the high incidence of waterborne diseases and advance from relief towards rehabilitation and reconstruction, there were many projects on piped water distribution systems in major cities, e.g. Jalalabad and Faizabad provinces, and very soon the rehabilitation of the piped water network in Ghazni and Lashkargah will be started.

5.7.2 *Iraq*

With the continued imposition of sanctions, the overall socioeconomic infrastructure deteriorated further. The quality of life and health conditions of people were severely affected by the lack of access to quality health care services and adequate nutrition, and by the presence of environmental hazards.

Health issues were placed high on the agenda of the humanitarian programme through the implementation of Security Council Resolution 986, which allows the sale of oil for purchase of medicines and food. WHO will assume the role of observer and implementer of drugs and medical equipment, and contracted the services of a professor of pharmacology to work with the National Drug Committee on the revision of lists of drugs at different levels of the health care system, and in implementing countrywide training seminars on rational use of drugs.

5.7.3 *Somalia*

The devastating civil war has scarred virtually every aspect of Somali society, destroying at least 60% of the country's basic infrastructure and causing an estimated 1.5 million people to flee to neighbouring countries or elsewhere within Somalia. The health status of a large segment of the Somali people remains precarious owing to the collapse of infrastructure, restricted access to food, poor access to health care services, etc. WHO in cooperation with others continued to support the delivery of health care by supporting health care programmes and facilities and training of health personnel.

Somalia is focusing on developing and strengthening national capacities through workshops and fellowships in the area of emergency preparedness and humanitarian action programme. WHO distributed 20 container loads of essential drugs to selected national and international nongovernmental organizations and area health authorities. In parallel, training on the rational use of drugs, and the control and treatment of cholera, acute respiratory infections, tuberculosis, and diarrhoeal diseases were conducted. In response to the 1996 cholera epidemic, WHO provided training of the prevention, control and treatment of cholera, and eight containers, along with some 30 000 litres of Ringer lactate, were provided to various sites. In preparation for a possible nutrition crisis, 22 health professionals were trained as trainers in nutrition assessment in emergencies and the operation of therapeutic feeding centres.

5.7.4 *Sudan*

Sudan is prone to a range of natural and man-made disasters. One recurrent disaster is heavy rainfall. Heavy rains during August 1996 covered wide areas of greater Khartoum with water and rapidly running water streams towards the Nile, affecting an estimated 400 000 population of which 40 000 were badly affected. Following the heavy rainfall, health problems increased, especially malaria, diarrhoeal diseases and eye infections.

Main priority was given to overcoming or preventing the effects of life-threatening health problems and outbreaks, through activities related to control of malaria, kala-azar, HIV/AIDS and vaccine-preventable diseases, with special reference to the war-affected population in the south of Sudan and to internally displaced persons around the big towns. WHO has also been involved in the Guinea-worm Eradication Programme campaigns in southern Sudan. During the cease-fire period arranged for the campaign, control measures and mass oral treatment with ivermectin were implemented. More than 40 000 persons were treated, 35 000 children received poliomyelitis, 39 974 measles and 21 503 BCG vaccines. In addition, 420 000 doses of vaccine were secured to avert a meningitis epidemic.

The involvement of WHO in Operation Lifeline Sudan (OLS) has been mainly through participation in preparation of humanitarian assistance appeals for donors; WHO is also executing a project to strengthening the capacity of the Federal Ministry of Health in emergency preparedness and response. Achievements include: creating a surveillance system able to produce hazard mapping and risk analysis; a radio network (over 50 sets) linking Khartoum with 17 States; an early warning system for emergencies; improving national capacity in timely response to emergencies; strengthening coordination and linkage between the ministries concerned and with other agencies; issue of a manual on emergency preparedness and response for health workers and nongovernmental organizations; and establishing emergency management committees at different levels.

5.8 Health research and technology

The role of research in health development cannot be denied, whether research that focuses on problems of the health system (health systems research), clinical research or even research in basic medical sciences. Four components need to be available for successful implementation: technology and institutions as the venue for research, trained human resources in research, adequate financing, and a system for dissemination of information.

Most countries pay attention to the development of technology and research capabilities. There may be separate divisions in the Ministry of Health to deal with this area (Iraq, Kuwait, Saudi Arabia), designated individuals/units according to the topic (Cyprus), established institutions, e.g. the National Institute of Health (Morocco), or committee(s) coordinating between the Ministry of Health and the medical schools (Jordan). Budgetary allocations are rarely sufficient, and the private sector (particularly industry) has to be motivated to contribute (Cyprus). Although there is a need for a critical mass of dedicated research workers (provided they are motivated to do so), other health personnel should be trained to participate in research. A series of workshops were held in Pakistan for selected staff from the medical schools and the health service, on research methodology, health systems research, scientific writing and on exchange of research information.

Rapid advances in science and technology have their implications. Through pressure groups, the Ministry of Health may introduce advanced and costly equipment that ends up being very underused due to the lack of staff trained in its use. Conversely, the private sector may rush, without coordination, to import high-technology equipment which, again, is underused because of the high operational cost involved (Cyprus, Lebanon).

6. HEALTH SERVICES

6.1 Health education and promotion

Health education and promotion, an essential element of primary health care, is usually integrated into national health programmes. It is often an activity at the central level, but may also be a regional activity (Bahrain, Egypt). The Ministry of Health often collaborates with other government bodies (Oman, Qatar), nongovernmental organizations (Syrian Arab Republic), or may depend on other sectors such as the Ministry of Information and Culture (Iraq) or its equivalent.

Health education covers, *inter alia*, an ever-expanding variety of areas such as school health education, public health education and tobacco or health. During the past five years, EMRO has provided technical support to Member States to improve their health education programmes and activities. National workshops for health educators, social workers, teachers, mass media personnel and family physicians have been held to increase intersectoral collaboration in the information, education and communication fields, and to train them in new approaches and techniques of health education. To strengthen focal points in the Region, EMRO provided health education materials free of charge.

EMRO decided to focus on training programmes for health educators and paramedical and teachers of primary schools. Efforts have been directed towards strengthening of capabilities in producing health education material. Member States have produced health education materials focusing on the following health topics: vaccination, diarrhoeal diseases, hazards of smoking, AIDS and sexually transmitted diseases, personal hygiene, cardiovascular diseases and obesity.

World Health Day, 7 April, and World No Tobacco Day, 31 May, are observed widely every year throughout the Region as special occasions. A large number of nongovernmental and governmental organizations participate actively in the health education and tobacco or health activities. All countries use television, radio and print and non-print media as well as traditional means and channels of communication to disseminate health education. In addition, 17 countries in the Region have implemented the "action-oriented school health curriculum", and many countries have integrated it into teaching curricula.

A number of institutions in the Region provide courses in health education, e.g. the High Institute of Public Health, Alexandria; the College of Health Sciences, Bahrain and the University of Gezira, Sudan. Many Member States conducted health education research, focusing on knowledge, attitudes and practices studies on specific health problems. Community leaders have participated in many health education campaigns.

The main constraints are the following: shortage of human resources (professional health educators), particularly in the national language; lack of high quality education materials; lack of research and surveys; weak integration of activities by the various bodies; and insufficient audiovisual aids and transport facilities.

Tobacco is known to be grown in Afghanistan, Cyprus, Islamic Republic of Iran, Iraq, Jordan, Lebanon, Libyan Arab Jamahiriya, Morocco, Oman, Pakistan, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates and Republic of Yemen. Data on cigarette consumption are given in Table 6.1.

It may be recalled here that variations in cigarette consumption may be partly due to preferential differences between various forms of tobacco consumption. The high cigarette consumption in some countries, and the downward trend in most, attracts attention.

Table 6.1 Consumption of manufactured cigarettes: annual average per adult (age 15+)

Member State	1980–1982	1990–1992
Afghanistan	160	140
Bahrain	2810	1000
Cyprus	2580	3050
Egypt	1180	1210
Iran, Islamic Republic of	1160	930
Iraq	1090	1280
Jordan	1840	1680
Kuwait	3250	2280
Lebanon	3230	2930
Libyan Arab Jamahiriya	...	2500–3500
Morocco	1120	920
Oman	2000	1500
Pakistan	720	640
Qatar	1500	1590
Saudi Arabia	1940	2130
Somalia	150	150
Sudan	150	150
Syrian Arab Republic	1730	2000
Tunisia	1590	1750
Yemen, Republic of	570	810

With regard to achievements in the past five years, there are 22 "Tobacco or Health" focal points in the Region, and 60% of Member States have issued relevant nonsmoking legislation. Member States which have national aviation companies have banned smoking on all flights and all Member States adopted the resolution of the International Civil Aviation Organization (ICAO) banning smoking on all local and international flights. All Member States celebrate the World No Tobacco Day every year and 70% of Member States have national comprehensive tobacco control policies. EMRO published *Islamic rulings on smoking* in the Health Education through Religion Series in both Arabic and English. Anything that poses a hazard to health is considered *haram* by all religions and by Islam in particular. Smoking comes under this category.

6.2 Maternal and child health/family planning (family and reproductive health)

Family and reproductive health is not only a reflection of health during adolescence and adulthood, but it also sets the stage for health beyond the reproductive years for individuals, women, men and families. It means that men and women have the right to be informed of and to have access to safe, effective, affordable and acceptable methods of family planning or other acceptable methods of their choice for fertility regulation. Women have the right to safe pregnancy and childbirth and to have a healthy infant. It affects, and is affected

by, the broader concept of standard of living, including socioeconomic circumstances, and the traditional and legal structures within which people live.

National family and reproductive health strategies and programmes aim to protect and promote family and reproductive health, prevent related health problems, provide care, treatment and rehabilitation to all needing them, and to address the needs of specific target groups, e.g. women, adolescents and families, as well as neglected groups living in difficult circumstances, e.g. refugees and other displaced people. The sexual and reproductive health needs of young people must be met, e.g. by providing easy access to the information they need and to appropriate services, so as to help them establish healthy lifestyles, avoid illegal sexual relationships and prepare for their future reproductive roles through responsible parenthood.

The empowerment of women is a prerequisite for their reproductive health. This entails promoting increased access to resources, education and employment, and promoting their rights to be able to make their own free choices for their own health and to facilitate active involvement in programme development so that they become participants in, rather then objects of, interventions. At the same time, family and reproductive health programmes and services should pay attention to the roles and responsibilities of men in programme development and service provision. Men have equal responsibility for their reproductive behaviour and their social and family roles.

The development and implementation of family and reproductive health policies and programmes will require an incremental as well as a participatory approach, adapting what is currently in place as appropriate and feasible, building on previous stages, and encouraging and promoting an ongoing process of self-evaluation within the health system.

According to an analysis by the World Bank and WHO, reproductive ill-health accounts for over 30% of the overall burden of disease and disability among women, compared with only 12% for men. Problems related to pregnancy and childbearing represent the major portion of healthy years of life lost in women of reproductive age, followed by sexually transmitted diseases which account for 8.9% of the burden of disease in women compared to 1.5% in men of the same age group.

Reduction of maternal mortality is regarded as a high priority goal in family and reproductive health. It was estimated that of the approximately 585 000 worldwide annual maternal deaths, 68 000 cases occur in the Eastern Mediterranean Region. More data are given in section 7.2 of this report. A significant reduction in infant mortality rate has been achieved due to effective post-natal programmes including immunization, control of diarrhoeal diseases and of acute respiratory infections (see also section 7.2). However, further reduction in infant mortality will require increased attention to neonatal health, as neonatal mortality currently comprises about 60% of infant mortality in the Region. A significant proportion of neonatal mortality and morbidity occurs in newborns with low birth weight (see section 2.4). The level of under-5 mortality rate is discussed in section 7.2. Further attention should be focused on safeguarding children against violations such as illiteracy, the flagrant use of child labour in industrial and informal sectors and the exploitation of street children.

Data on many other family and reproductive health problems, such as reproductive tract infections and cancers, unsafe abortion, infertility, pelvic inflammatory diseases and ectopic pregnancy, are not routinely available. However, existing data indicate they are important areas of public health concern.

Family and reproductive health programmes must include, as a minimum, maternal and child health/family planning, early detection and management of infertility, reproductive tract infections and cancers (including HIV/AIDS), harmful traditional practices such as female genital mutilation, gender and sexual violence and malnutrition including iron deficiency anaemia. Appropriate services must be accessible and include information, education and counselling, prevention, detection and management of health problems, and care and rehabilitation.

The regional average percentage of pregnant women attended by trained personal increased from 39% for 1983–1985 to 57% for 1988–1990, but dropped to 44% (range 9%–100%) in 1994–1996. As for attended deliveries, the regional average increased from 27% for 1983–1985 to 56% in 1994–1996 (range 12%–100%). The regional average percentage of infants attended by trained personnel significantly increased from 41% to 61% (range 20%–100%). As regards reaching the target of 90% coverage, eight countries reached it for care during pregnancy, nine for care at childbirth, and 13 for infant care. Fifteen countries provided data on the percentage of married women of childbearing age using contraceptives, with an overall average of 34% (range 5%–61%).

The importance of family and reproductive health is being increasingly established in most countries, integrating all existing components of maternal and child health with family and reproductive health. The mother–baby package has been adopted by most Member States as an essential tool to reduce maternal and neonatal mortality and morbidity, two areas of family and reproductive health which have highest priority. The safe motherhood initiative has been adopted in most countries, in many of which intersectoral bodies at the highest political level, in the form of councils or commissions, have been established to develop appropriate policies.

Protection and promotion of adolescent health, especially of adolescent girls, often a neglected area as neither conventional maternal and child health programmes nor school health services adequately respond to these special needs, is currently receiving increased attention. In most countries, several undesirable behaviour patterns in adolescents, including smoking, drug abuse, alcohol consumption, unhealthy dietary habits, risky sexual practices, violence and suicide, are becoming issues of special concern.

Considerable constraints have yet to be overcome to provide integrated quality services for all, through the primary health care system. These include:

- lack of trained personnel, particularly in rural and remote areas;
- inadequate community participation and poor understanding of family and reproductive health in the context of community, cultural, social and traditional values and norms;
- weak management information systems;
- inadequate allocation of budgetary resources;
- logistical difficulties, mainly due to inadequacy of necessary supplies, drugs and equipment, and poor logistical managerial skills.

6.3 Immunization

High regional immunization coverage rates for different antigens have been achieved (Table 6.2). In 1996, the estimated average coverage rates were 93% for a single dose of BCG, 85% for at least three doses of OPV/DPT and for a single dose for measles, and 77% for at least three doses of HBV among children under one year of age. These figures indicate an increasing trend in the immunization coverage. For example, the corresponding figures at the time of the first evaluation (1983–1985) were, respectively: 51%, 45% and 30% (no early data for HBV). Some Member States faced problems in maintaining the achieved immunization coverage during the early 1990s due to phasing out of external support. This mostly affected Pakistan, Sudan and the Republic of Yemen. But Pakistan and Sudan were able to overcome these problems and achieved reasonably high coverage by 1996. The reason for poor coverage in some Member States (Afghanistan, Djibouti, Somalia and Sudan) was the civil unrest which prevailed; in different degrees, and, as a result of the Gulf War, the programme in Iraq suffered a set-back that was corrected in the following two years. Seventeen countries were able to achieve immunization coverage with DPT3/OPV3 of 90% or more, and of these the coverage was 95% or more in 11 countries. However, only 14 countries achieved measles coverage rate of 90% or more with eight having coverage of 95% or more .

Hepatitis B immunization is currently fully integrated into the national expanded programme on immunization for children under one year of age in 15 Member States, which account for only some 40% of

the total regional infant population; very high coverage rates (over 90%) were reported from eight of these 15 countries for 1996.

The average regional TT2+ coverage among pregnant women with at least two doses of tetanus toxoid (53%) during 1996 is still lagging behind the immunization of infants (Table 6.3). However, it shows a sharp rise from the level of 9% in the first evaluation. Countries which are adopting tetanus toxoid immunization as routine are targeting women of childbearing age with emphasis on pregnant women. However, the relevant coverage rate reported during 1996 is very low (19%), as health workers continue to concentrate on immunization of pregnant women with a lot of missed opportunities to immunize women of childbearing age. However, with several years of administration of multiple doses of tetanus toxoid vaccine, the proportion of women of childbearing age who are immune would be higher than that calculated only from the number of immunizations carried out. The high-risk approach was adopted in countries where neonatal tetanus is still a common disease. Campaigns for immunization of women of childbearing age living in high-risk areas with two doses of tetanus toxoid were conducted during the past four years. Finance is the main constraint, and nine Member States have not yet reached the neonatal tetanus elimination goal.

Organization of poliomyelitis national immunization days (NIDs) is a key strategy for achievement of the global target of eradication of the disease. During 1996, all Member States except Somalia and Cyprus have conducted NIDs, compared to only two in 1993. Most Member States achieved coverage rates among the target age group (under five years of age) of more than 95%. To maximize the impact of NIDs, neighbouring countries coordinated activities so that NIDs were implemented simultaneously. For example, 23 countries in the WHO European Region and in the EMR participated, and more than 60 million children were immunized during coordinated NIDs in 1996. Continued high-level national commitment, advanced micro-planning, and generous support from partner agencies have resulted in successful campaigns in most countries.

6.4 Prevention and control of locally endemic diseases

Since the second evaluation, a number of efforts have been made to develop or strengthen national plans of action for the prevention and control of locally endemic diseases. These plans, in general, have concentrated on improvements in surveillance, laboratory diagnosis, vector control, case management and integration into primary health care. Efforts have also been directed towards mobilization of resources, training of human resources and improving the procurement and distribution of materials.

The results of these efforts varied according to countries' programmes of specific diseases and the nature of the activities in the plans. In some countries the plans could not be implemented, either partially or fully, because of the unstable civil situation, disruption of health services, lack of resources or sanctions. This was reflected in the deterioration of the situation of diseases such as malaria and schistosomiasis. Malaria flared up in Afghanistan, Iraq and Sudan, while schistosomiasis is on the increase in Iraq, Somalia and Sudan. In other countries the plans of action produced good results.

Leprosy elimination was achieved in most countries. Dracunculiasis was eradicated from Pakistan, and active surveillance has shown its obvious decline in the Republic of Yemen. Schistosomiasis is on the decrease in Egypt, Morocco, Saudi Arabia and Syrian Arab Republic. Malaria transmission has been interrupted in 11 countries, and 5 others have successfully controlled and limited it to small areas (Islamic Republic of Iran, Oman, Pakistan, Saudi Arabia and Syrian Arab Republic). However, some diseases are still not properly under control. Leishmaniasis and HIV/AIDS continue to spread and show an increasing trend.

Table 6.2 Percentage of EMR infants reaching their first birthday who have been fully immunized against each of the EPI target diseases

		BCG		DPT3/OPV3		Measles		HBV3	
Coverage		C*	L**	C	L	C	L	C	L
Not included in EPI		5	3	0	0	0	0	8	58
No data		2	9	2	9	2	9	1	1
Less than 40%		0	0	0	0	0	0	1	5
40%–79%		2	4	3	38	4	44	2	11
80% or more		14	84	18	53	17	47	11	25
Total	Range	50–100		49–100		46–99		11–100	
EMR (%)	Average	93		85		85		77	
Trends	RER2	86		81		75		...	
in	RMR2	67		65		61		...	
regional	RER1	51		45		39		...	
average (%)	RMR1	22		26		22		...	

*C = Number of countries
**L = Live births in these countries as % of total live births in the Region
RMR1 = First Regional Monitoring Report 1983
RER1 = First Regional Evaluation Report 1985
RMR2 = Second Regional Monitoring Report 1988
RER2 = Second Regional Evaluation Report 1991

Table 6.3 Percentage of pregnant women and women of childbearing age who have been immunized with tetanus toxoid

		Pregnant women		Women of childbearing age	
Coverage		C*	L**	C*	L**
Not included in EPI		4	2	4	2
No data		3	10	3	10
Less than 40%		3	5	15	84
40%–79%		13	83	1	4
80% or more		0	0	0	0
Total	Range	19%–78%		3%–41%	
EMR (%)	Average	53		19	
Trends	RER2	48		20	
in	RMR2	20		...	
regional	RER1	9		...	
average (%)	RMR1	4		...	

*C = Number of countries
**L = Live births in these countries as % of total live births in the Region
RMR1 = First Regional Monitoring Report 1983
RER1 = First Regional Evaluation Report 1985
RMR2 = Second Regional Monitoring Report 1988
RER2 = Second Regional Evaluation Report 1991

In general more success could have been achieved in the prevention and control of this group of diseases. The main constraints faced, apart from those mentioned above for specific countries, are: lack of community-based active surveillance; weak laboratory capacities especially in the periphery; inadequate intersectoral collaboration, particularly in vector control activities; and inequitable distribution of resources. Community involvement in activities related to the control of endemic diseases is still limited and, until this is accomplished, there will be no certainty of maintained success.

6.5 Treatment of common diseases and injuries

The regional average percentage of the population for whom treatment facilities are available for common diseases and injuries, including a regular supply of essential drugs, has reached 82%, up from 73% in the first evaluation. The target of 95% coverage has been reached in 14 countries. While noting that the lowest coverage rates were in LDCs (20% Somalia, 39% Afghanistan and 45% Republic of Yemen, no data for Sudan), and that the next highest was Morocco 63%, the coverage rate was at least 80% in all other countries.

7. TRENDS IN HEALTH STATUS

This section aims to asses the impact of health system development as reviewed in sections 3 to 6 (the inputs) and health services production (the outputs) on health status in the EMR. The impact evaluation review which follows, shows considerable progress in the achievement of fixed HFA regional targets on health status. It should be mentioned that discrepancies between figures in this report may be due to the availability of revised figures and, subsequently, recalculations.

7.1 Life expectancy at birth

Life expectancy at birth is the average number of years that a person born in a certain year is expected to live under the mortality pattern prevalent in the community or country during the same year. It is a composite expression of age-specific mortality, summarizing the current pattern of mortality by age in a single indicator, independent of the age structure of the population.

Overall health status is well reflected by life expectancy at birth; the national reported data on this indicator for both sexes in the Region show a significant increase (Figure 7.1). Over the period from the first evaluation in 1985 to 1996, the regional life expectancy rose from 57 years to 64 years, a gain of 7 years. By sex, the gain over this period was 6 years for males and 9 years for females, as their life expectancies increased, respectively, from 56 to 62 years and from 57 to 66 years. The difference by sex is in favour of females and was 4 years in 1996. The global (world total) estimate stands at 66.9 years (65.0 years for males and 68.9 years for females). The widening survival gap between the sexes as mortality drops is mainly due to the higher risk factors in men for chronic diseases, cigarette smoking and traffic accidents.

In terms of progress in achievement of the targets of 60 years for both sexes by the year 2000, the Region as a whole is 4 years over the target for both sexes, 2 years for males and 6 years for females. The UN estimates for the period 1995–2000 (Table 2.4) confirm to a large extent the same results, the gain being respectively 4.0 years above the targets for both sexes, 2.9 years for males and 5.2 years for females.

Referring to the life expectancy target of 60 years to be attained by the year 2000, the reported country data for 1996 indicated that, with the exception of Iraq and four LDCs (Afghanistan, Somalia, Sudan and Republic of Yemen; no data were available for Djibouti), all other EMR countries have reached the target. Of these, eight countries (Bahrain, Cyprus, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia and United Arab Emirates, in addition to Palestine) reached a life expectancy for both sexes of more than 70 years which is comparable to the situation in the industrialized countries. Figure 7.2 highlights the health status position of the EMR compared to other WHO Regions.

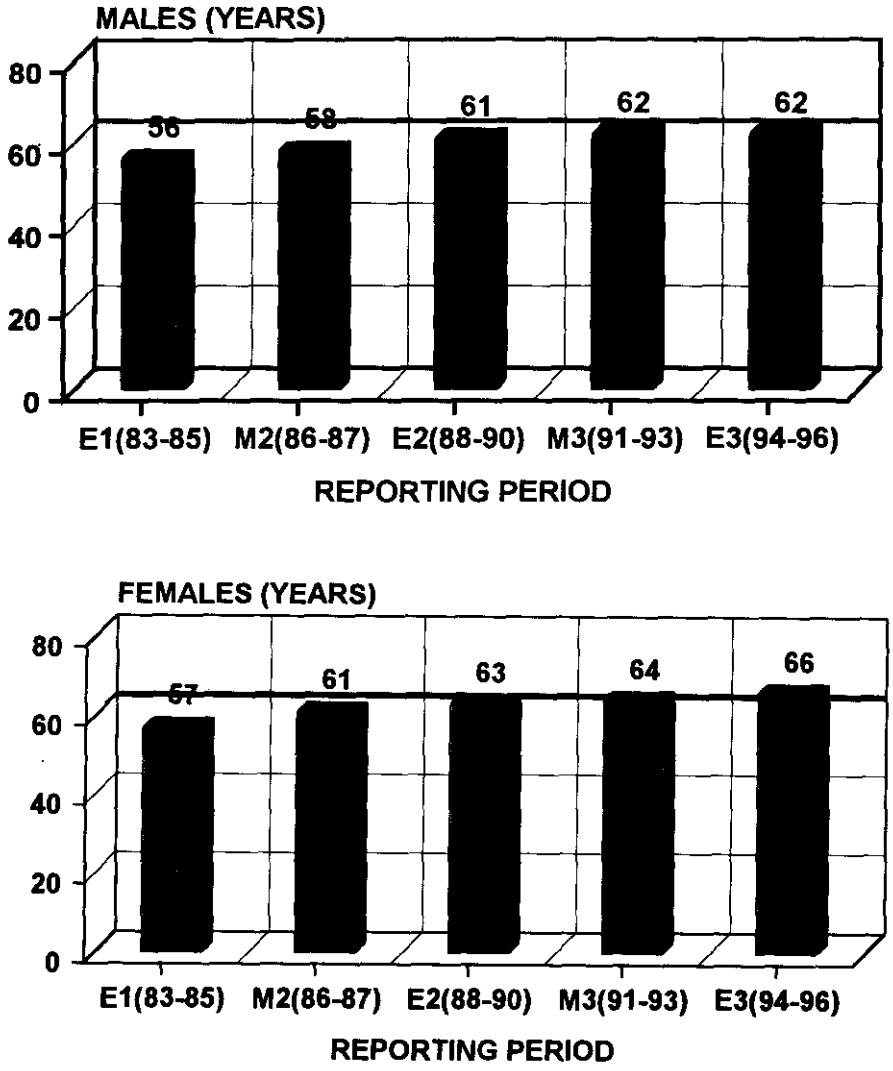


Figure 7.1 Trends in life expectancy by sex in the EMR, 1985–1996

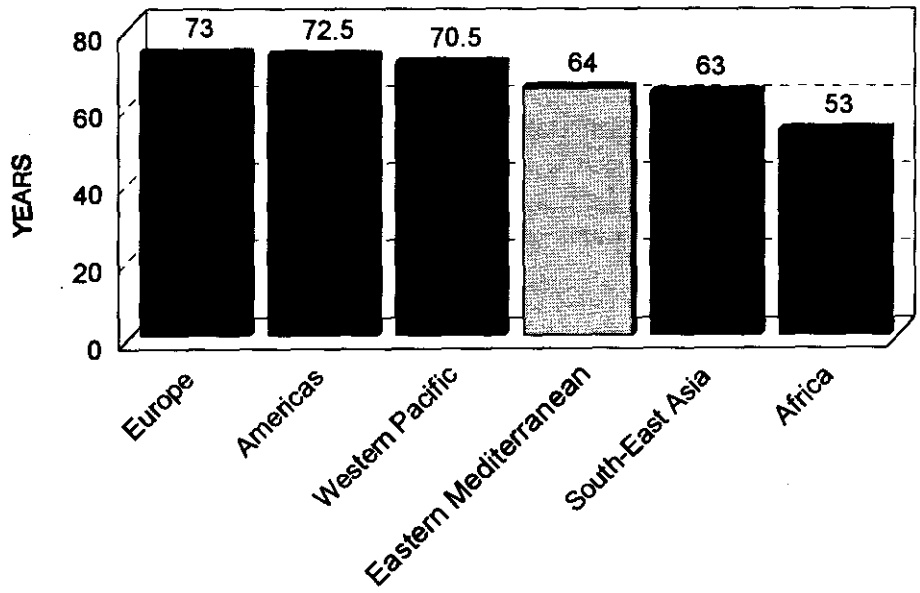


Figure 7.2 Average life expectancy at birth in the WHO Regions, 1995–2000

7.2 Mortality

7.2.1 *General mortality*

General mortality, measured through the crude death rate as the main determinant of population natural growth rate, has been reviewed in section 2.2. Its continuing fall during the past two decades is due not only to health systems development but also to progress in socioeconomic development. Focus will be made in this section on some specific aspects of mortality: infant mortality, probability of dying before the fifth birthday, maternal mortality and mortality by cause in the Region. The review of such specific mortality aspects, mostly addressed by primary health care services and activities, will better enable assessment of the impact of progress achieved by the latter on health status in the Region.

Before going into this review it is worth noting that since the mid-1980s some progress has been made in the assessment, by survey, of the infant mortality rate, probability of dying before 5 years and maternal mortality ratio, particularly in Arab countries, through the Pan Arab Project for Child Development (PAPCHILD) and the Demographic and Health Surveys (DHS). The quality of data on the subject has improved in comparison to direct estimates generated from national civil registration, which continue to be generally incomplete and inadequate for vital statistics. Despite progress made in some countries, the quality of data on specific mortality by cause has to be used with caution.

7.2.2 *Infant mortality*

The infant mortality rate constitutes the most sensitive indicator of the impact on health status of availability, utilization and quality of health care, particularly maternal and infant care. When correlated with socioeconomic indicators, it is also considered among the best indicators of the overall development in a country or community.

During the past 15 years, as illustrated in Figure 7.3, infant mortality in the Region experienced:

- a considerable decrease of 24% from 1985 to 1990 as it dropped, respectively, from 95 to 72 per 1000 live births;
- a slight increase from 72 to 75 per 1000 live births (an increase of 4.2%) from 1990 to 1996, due mainly to the important increase in Iraq (from 26 ‰ to 112 ‰), in Sudan (from 89 ‰ to 108 ‰), and in Afghanistan (from 169 ‰ to 182 ‰), noting that the global (world total) level as estimated by the UN stands at 59 per 1000 for 1996.

However, despite this situation, the progress made in reducing the magnitude of infant mortality is an achievement when compared with the UN estimated levels in WHO regions for the period 1995–2000 (Figure 7.4).

On the basis of the reported data for 1996, 14 EMR countries in addition to Palestine have already reached the HFA regional target of 50 per 1000, ranging from 9 per 1000 in Cyprus to 36 per 1000 in Egypt. However, eight countries have not yet reached that target, ranging from 66 per 1000 in Morocco to 182 per 1000 in Afghanistan.

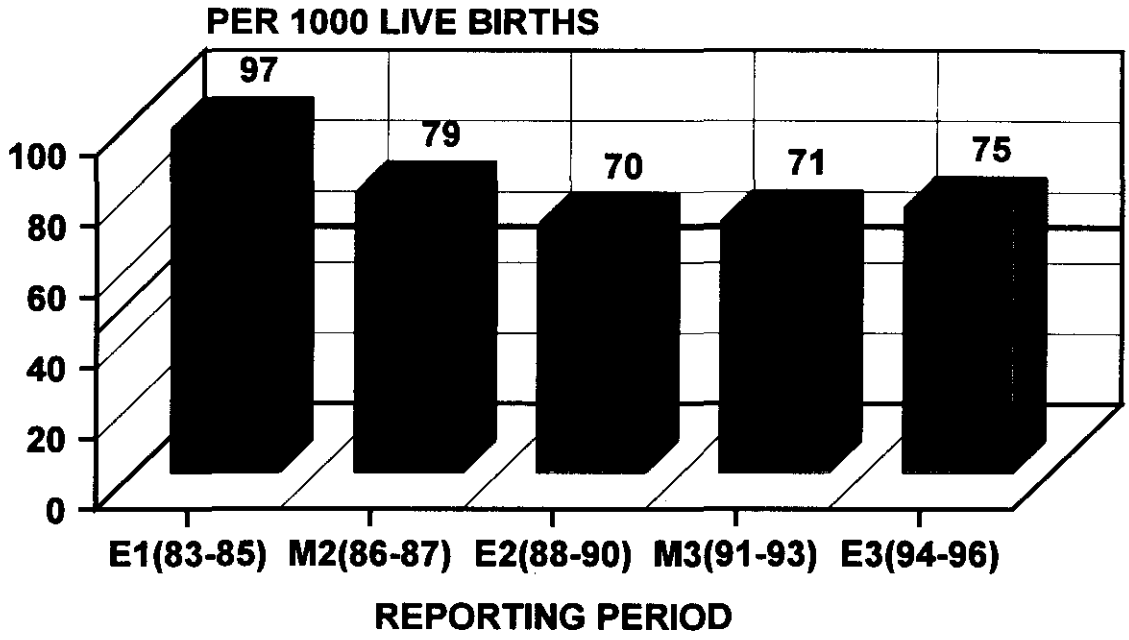
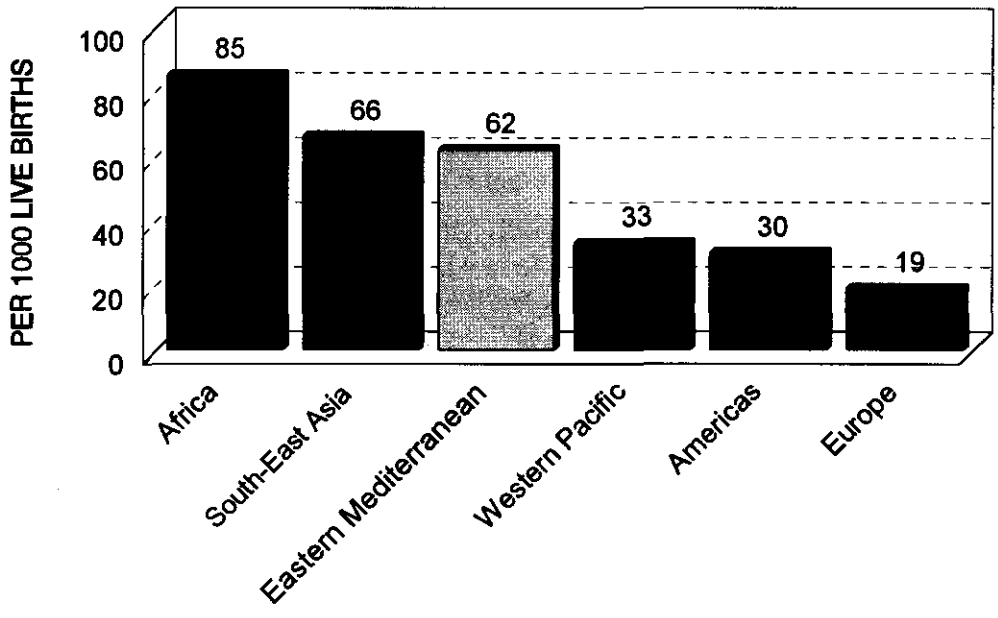


Figure 7.3 Trends in reported infant mortality rates in the EMR, 1985–1996



Source: UN estimates

Figure 7.4 Infant mortality in WHO Regions, 1995–2000

7.2.3 *Probability of dying before the fifth birthday*

The probability of dying before the fifth birthday (often incorrectly referred to as the under-5 mortality rate, or U5MR) includes, as a working definition, the probability of dying before the first birthday (infant mortality) and the probability of dying between the first birthday and the fifth birthday. This probability is now considered a comprehensive indicator of child survival. Its regional level decreased from 132 per 1000 live births in 1990 to 105 in 1993, and then increased to 115 (range 10–265) in 1996, following the same pattern as that of infant mortality, influenced by the deteriorating health situation of children in Afghanistan, Iraq, Sudan and Somalia. The global (world total) average rate for 1996 is estimated at 78 per 1000 live births.

Because of the strong effect of infant mortality on the probability of dying before the age of 5 years, 13 countries in addition to Palestine reached, in 1996, the HFA target of 70 per 1000 live births. Important variation exists between these countries. Amongst them, the target values reached ranged from 10 per 1000 in Cyprus to 55 per 1000 in Egypt. It is worth highlighting that among these countries five achieved a better score than the overall level of 26 per 1000 given as UN estimates for the WHO European Region. These countries are Cyprus (10), United Arab Emirates (13), Qatar (13), Kuwait (14) and Bahrain (22), all per 1000 live births.

It is worth pointing out that where significant improvements in child survival (infant mortality and under-5 mortality) have been achieved, they undoubtedly reflect the progress made in women's education and in accessibility and delivery of health care including immunization, in oral rehydration and in the success of family planning programmes, which have reduced the number of births and increased the interval between births.

7.2.4 *Maternal mortality*

Maternal mortality is measured by the maternal mortality ratio (often incorrectly referred to as a rate). It refers to deaths from causes related to pregnancy, delivery or the puerperium per 10 000 live births. Only since the mid-1980s has the magnitude and dimension of the maternal mortality problem drawn attention. As maternal mortality was included only as an HFA indicator in the second evaluation process in 1990, data available on the trends are of limited value. The first reported country data were guess-estimates or collected from fragmented and partial hospital medical records. Consequently, they were often underestimated. The various PAPCHILD and DHS surveys carried out during the last decade have enabled better estimation of the maternal mortality. Thus, the reported data since 1990 constitute the only relevant baseline data.

The trend relating to the period 1990–1996, as given in Figure 7.5, shows the estimate of the value of the regional average maternal mortality ratio to be within 30–35 deaths per 10 000 live births. The reported increasing trend from 34 per 10 000 in 1993 to 36 per 10 000 in 1996 is considered to reflect an increase in the quality of data rather than the a real increase in the value of the ratio. The level of maternal mortality of 36 deaths per 10 000 live births is high, bearing in mind the important country variations in the Region. The range is from 170 deaths per 10 000 in Afghanistan to 0.0 in Cyprus and Qatar. In addition to Afghanistan, Somalia and the Republic of Yemen have a maternal mortality ratio of 100 deaths or more per 10 000 live births.

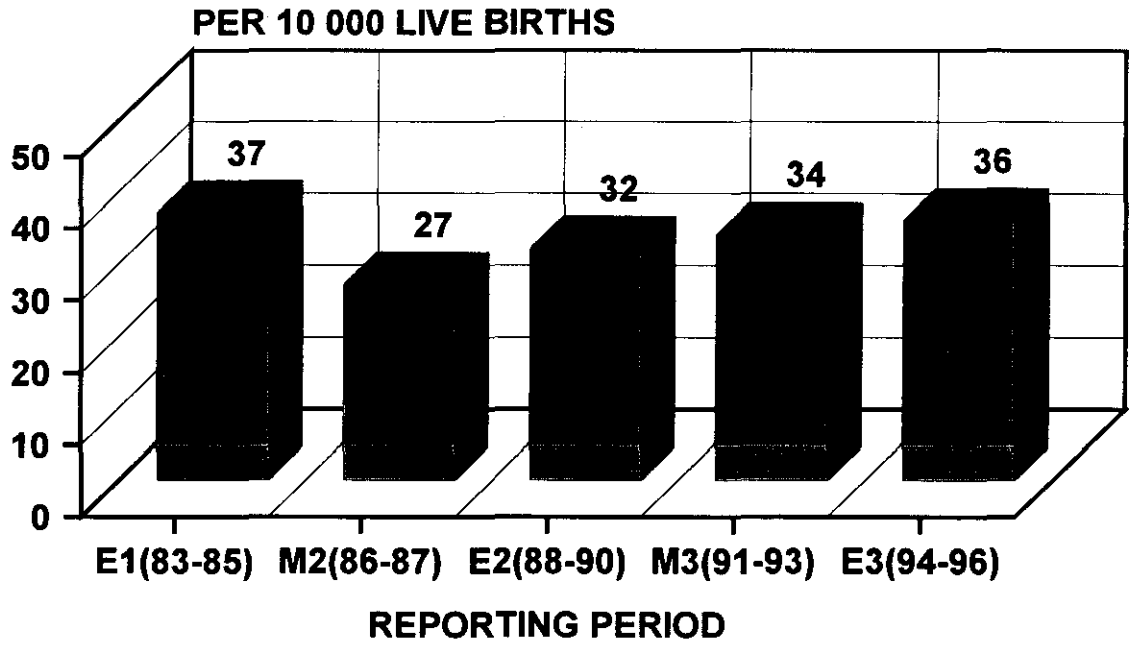


Figure 7.5 Trends in maternal mortality ratio in EMR, 1990–1996

7.2.5 *Mortality by cause*

Mortality due to *acute respiratory infections* and *acute diarrhoeal diseases* in children under 5 years of age showed substantial reduction in the past six years as proven through many household and health facility surveys. This reduction was brought about by the efficient implementation of the relevant control programmes and the strategy of correct case management. Reduction in mortality from these two major diseases of early childhood has led to the lowering of both the infant mortality rate and the under-5 mortality rate.

Malaria is still an important cause of mortality in children under 5 years in areas with high prevalence of *Plasmodium falciparum* infections (Djibouti, Somalia, Sudan and Republic of Yemen). Resistance of *P. falciparum* to chloroquine is widespread. Chloroquine still prevents fatal development of malaria, and the main factor in mortality from malaria at present is poor accessibility to drugs. Promotion of local production of chloroquine and improvement of its distribution are expected to lower mortality. Regarding *vaccine-preventable diseases*, with the obvious decline in the incidence of EPI-target diseases, mortality from these diseases has declined markedly, and this is also reflected in infant mortality and under-5 mortality.

Tuberculosis mortality has not shown an obvious decline in the past period; implementation of the WHO DOTS (directly observed therapy, short-course) strategy began on a wide scale only recently. Decline in mortality is expected in the coming 5–10 years.

Mortality due to *other communicable diseases* cannot be calculated correctly because of a general inadequacy in classifying deaths according to cause. However, it is estimated that better health services, improved case management and in certain areas effective control programmes are behind the general decline in mortality due to communicable diseases.

Few countries publish general cause-of-death statistics. Furthermore, comparability in the accuracy of the certification of cause of death and of the coding (using ICD-10) has to be taken with caution. However, on the basis of the limited data available, cardiovascular diseases ranked first as the cause of death in the four countries reporting (Egypt, Islamic Republic of Iran, Kuwait and Syrian Arab Republic) where it accounted for 15%–16% of deaths. Injuries and poisoning ranked second in two of the countries (3%–16%) and respiratory conditions in the other two (3%–5%). The death rate form cardiovascular diseases in Egypt increased from 195 for 1975–1980 to 300 for 1990–1995, both per 100 000 population; the mortality rate from neoplasms increased from 19 to 22 per 100 000 during the same period.

7.3 Morbidity

7.3.1 *Acute respiratory infections and acute diarrhoeal diseases*

These two groups still constitute the two most frequent causes of morbidity and mortality among children below 5 years of age. They are responsible as well for considerable mortality in other age groups. Estimates indicate that each child in the Region experiences, on the average, between 2.1 and 4.5 episodes of diarrhoea per year. Practically all countries are implementing active diarrhoeal diseases control programmes and, where mortality rate from acute respiratory infections was estimated to be above 40 per 1000 under 5 years of age, relevant control programmes were established. Correct case management remained the main strategy, and there are indications that a substantial reduction in mortality as well as in the frequency of severe cases was achieved in the past six years. The mid-decade goal to ensure 80% use rate of oral rehydration therapy for treatment of diarrhoeal diseases has been achieved in most countries. However, no substantial reduction of morbidity from these diseases occurred. The control programme for neither group was primarily aimed at that goal, and a different strategic approach, particularly environmental and intersectoral, is needed for reduction of morbidity.

7.3.2 *Malaria*

Malaria is still a major health problem. At present, about 45% of the population of the Region live at risk of both *P. falciparum* and *P. vivax* malaria and an additional 15% are at risk of *P. vivax* alone. EMRO estimates the annual number of cases in the Region to be around 13 million, although the number of cases reported officially is much lower (around 800 000 parasitologically confirmed cases in 1996). In six countries (Afghanistan, Djibouti, Iraq, Somalia, Sudan and Republic of Yemen) large segments of the population remain unprotected by organized antimalaria measures. These countries are responsible for about 95% of the estimated cases in the Region, where the poor malaria situation is due to the unstable general situation, leading to disruption of health infrastructure and lack of financial and human resources. Efforts are being made to bring these countries into line with the global strategy for control which promotes judicious use of insecticides, strengthening of manpower capabilities and achieving self-sufficiency in the supply of drugs, insecticides and impregnated materials through promotion of local production. Malaria control activities in other countries succeeded in interrupting transmission or limiting it to defined areas.

7.3.3 *EPI target diseases*

The following data represent the incidence of EPI target diseases as reported by the national programmes. It should be noted that, in most countries, the disease surveillance system is still weak, and almost non-existent in a few countries.

A key strategy for the goal of *poliomyelitis* eradication by the year 2000 is to establish and maintain a sensitive surveillance system for cases of acute flaccid paralysis (AFP). Such a system should be able to discover at least one non-poliomyelitis AFP case per 100 000 aged under 15 years. Member States, with the exception of Afghanistan, Somalia and Republic of Yemen, have established AFP surveillance systems.

Hence, the latter three countries did not report AFP/poliomyelitis cases during 1996. However, the quality of the systems in the Region remains highly variable. Eight Member States (Bahrain, Islamic Republic of Iran, Jordan, Kuwait, Oman, Saudi Arabia, Syrian Arab Republic and Tunisia) have achieved or exceeded the minimum required sensitivity; Egypt and Morocco are close to achieving the required level of sensitivity. The overall regional average rate for non-poliomyelitis AFP in 1996 was 0.71 case per 100 000 children aged under 15 years, with a wide range (0–1.5). From 1988 to 1996, the number of reported confirmed cases of poliomyelitis in the EMR decreased by 77%, from 2342 to 528, respectively. In 1996, the overall incidence rate of confirmed poliomyelitis was 0.12 per 100 000 population. In addition, 15 Member States reported zero cases, with some of these countries reporting zero for more than 10 years. Pakistan continues to report most of the cases (341). The second largest number of cases in 1996 were reported from Egypt where wild poliovirus was isolated from 100 AFP cases.

The *neonatal tetanus* elimination goal, with *less than 1 case per 1000 live births in every district*, was achieved in 14 Member States of the EMR, and no cases were reported during 1996 from 9 Member States (Bahrain, Cyprus, Djibouti, Kuwait, Libyan Arab Jamahiriya, Oman, Qatar, United Arab Emirates and Palestine). Four of these countries have had no cases since 1988. The elimination goal has not yet been achieved in Afghanistan, Djibouti, Egypt, Iraq, Pakistan, Somalia, Sudan, Syrian Arab Republic and Republic of Yemen. Djibouti, Egypt, Iraq and Syrian Arab Republic currently have only a few districts with a higher rate of neonatal tetanus cases than the target and are expected to reach the elimination state soon, provided that the planned high-risk area activities are properly conducted. The total reported cases from the EMR showed great reduction, with 3006 neonatal tetanus cases reported for 1996. However, there is some evidence that surveillance is still incomplete, with a very large number of cases not being detected or reported.

Measles surveillance is still weak, mainly due to the fact that, in most countries, almost all mild cases do not present themselves at health facilities (being considered and accepted as a natural event). Also, the reported cases are often only those admitted to hospitals; cases seen in health units and centres are not reported and reports are rarely obtained from the private sector. Nevertheless, the number of measles cases reported in 1996 (20 361) is significantly less than in the previous years. This represents an incidence of 4.7 per 100 000 population.

The incidence of both *pertussis* and *diphtheria* is currently low in the EMR. During 1996 a total of 2937 cases of pertussis were reported, giving an incidence rate of 0.68 per 100 000 population. A similar pattern is also observed for diphtheria incidence, although the incidence in 1996 (522 regional cases) was higher than that for the previous two years due to the outbreak reported from Iraq.

7.3.4 *Other communicable diseases*

Cholera continues to show increasing incidence and evolving endemicity in many parts of the Region. Several large outbreaks occurred in Afghanistan, Djibouti, Islamic Republic of Iran, Iraq, Somalia and Republic of Yemen. It is estimated that around 50 000 cases with over 1000 deaths occurred in 1995. However, it was noticed during the period under evaluation that the case fatality rate was on the average much less than 3% in most places, due to improvement in surveillance, epidemic preparedness and case management.

Dracunculiasis was eradicated from Pakistan; no cases have been reported since October 1993. During 1995, about 80 cases were reported from the Republic of Yemen through active case-finding. Of these 22% were fully contained. The programme in the Republic of Yemen is running well and eradication of the disease can be achieved by the set time. Sudan remains the only country with a large number of cases (more than 60 000 cases registered in 1995) and efforts to eradicate the disease are being hampered by the unstable situation in the south of the country. Surveillance activities and control measures are being promoted in close collaboration with all concerned agencies.

The extent of *sexually transmitted diseases* (STD) in the Region is not exactly known. However, about 10 million curable cases of STD are estimated to occur every year. Efforts are being made to develop the reporting system. *AIDS* (acquired immunodeficiency syndrome) is spreading in the Region. While most of the earlier cases were due to infected blood or blood products, most cases now being detected are due to heterosexual transmission. Up to end 1996, a cumulative total of more than 5000 cases of AIDS and AIDS-related complex have been reported. However, the actual number is estimated to be more than 15 000. The number of new cases being reported is increasing every year, e.g. a 30% increase in the number reported in 1996 compared to 1995. More than 200 000 persons are estimated to have already been infected with HIV by end 1996. The prevalence of HIV is increasing among people at high risk, such as STD patients.

The main constraints faced in improving the morbidity pattern of AIDS are: the low priority given to STD/AIDS, lack of allotted resources, limited participation of non-health sectors and inadequate involvement of the private sector. Actions being considered to vitalize the control programme are advocacy for allocation of adequate resources and sensitization for active involvement of more sectors and nongovernmental organizations.

Tuberculosis cases reported in 1995 were around 400 000, giving a regional incidence rate of 91.3 per 100 000 population, but the estimated number was around 750 000 cases (168 per 100 000 population). The increasing trend since the last evaluation is partly fictitious and due to better reporting, and partly true due to the several factors which were behind the global rise in tuberculosis cases: neglect, natural and man-made disasters and the HIV (human immunodeficiency virus) epidemic. The epidemiological picture is not similar in all countries; they can be classified according to the estimated incidence rate into three groups of high, intermediate and low incidence, whereby 57% of the population live in areas with high incidence rate and 95% live in areas with high or intermediate incidence.

However, a strong drive started in early 1995 to adopt and implement the provenly effective WHO DOTS strategy, with more and more countries implementing this strategy in demonstration sites or nationwide. Early results are very encouraging, and tuberculosis control programmes are now receiving more attention and support. Remarkable decrease in incidence is not expected, however, until after some years of full implementation of DOTS. It is planned that all countries with stable social situations will implement the EMRO strategy of DOTS ALL OVER by the year 2000.

The obvious decrease in the total number of *leprosy* cases as a result of widespread implementation of multidrug therapy and improved surveillance is shown by the current total prevalence rate in the Region which is 0.4 per 10 000 population. Leprosy is no longer a public health problem in most countries. The special programme for elimination of leprosy (SAPEL) in areas difficult to access is being successfully implemented in Sudan and the Republic of Yemen.

The incidence of *bacterial meningitis* showed the same endemic pattern with no outbreaks reported in the past five years. Improved surveillance, better epidemic preparedness, and the use of preventive vaccination against meningococcal meningitis were the main features of the control programmes. However, there was an obvious increase in the reported number of aseptic meningitis cases, mainly due to outbreaks of *viral meningitis* which occurred recently in Bahrain, Cyprus, Jordan and the Palestinian territories.

More accurate information is now available about the incidence of the different types of acute *viral hepatitis* and the prevalence of chronic carriers of hepatitis B and C than in the second evaluation report. This is mainly due to improved surveillance and availability of better diagnostic techniques. It is estimated that the overall annual incidence rate of acute viral hepatitis is 50–150 cases per 100 000 population. Hepatitis A is highly endemic and so is hepatitis E in several countries with low environmental status. Hepatitis E was responsible for several epidemics of hepatitis in the Region, particularly in Pakistan. The carrier rate of hepatitis B in the general population places the Region in the category of intermediate-to-high endemicity.

Hepatitis C is highly prevalent in some countries, particularly Egypt, and is causing much concern because of its long-term sequelae. Control measures are not yet universally implemented, the main constraints being weak laboratory capacity and inadequate allotted resources. Another hindering factor is the slow improvement in environmental sanitation.

There is a clear downward trend in *schistosomiasis* in the majority of endemic countries with functioning control programmes (Egypt, Morocco, Saudi Arabia, Syrian Arab Republic). However, the burden of the disease in some countries is increasing, particularly where the health infrastructure has been destroyed by war (Somalia, Sudan) or affected by sanctions (Iraq). Additionally, the Libyan Arab Jamahiriya and the Republic of Yemen face the danger of increased incidence of the disease in areas where there are new irrigation schemes. *Leishmaniasis* shows an increasing trend in the majority of endemic countries due to migration of nonimmune populations, and increases in the animal reservoirs and vector densities. Effectiveness of control measures directed at the animal reservoirs and vectors may be good in some situations, especially against visceral leishmaniasis of Mediterranean type. However, in the majority of the forms the only practical solution is a timely detection and treatment of cases. *Intestinal parasitic infections* are widespread, especially in areas with low sanitation. No specific control programmes have been initiated against these infections.

Brucellosis is still the most widespread zoonotic disease in the Region. Although efforts were extensively made in the development of surveillance and laboratory diagnosis and plans of action for its control, no decline in incidence is expected in the near future. This is explained by the detection of more cases due to better diagnosis and reporting, and by the fact that control measures depend to a large extent on intersectoral collaboration which is still weak. *Rabies* is a major problem among animals and a continuous threat to humans (Republic of Yemen). Several epizootics have occurred in the Region lately. More effective strategies are needed.

7.4 Disability

Despite the importance of disabilities, in view of their socioeconomic and quality of life implications, paucity of reliable information is a serious constraint on prevention, control and rehabilitation. This is partly due to the multiplicity of agencies having to deal with disabilities, e.g. ministries of health and of social welfare and, to a much greater extent, nongovernmental organizations, and partly, as a consequence, to the variety of sources of data.

Occasionally data may be collected during a population census (as in Egypt). But such data often refer only to advanced stages, depend on how far the respondent is willing to give proper data (there is both a tendency to hide the fact of disability due to the attached stigma, and at the same time a tendency to over-report in the hope of social welfare payments), and are commonly prone to varying definitions by the respondents. Some data may be obtained through health surveys, but have somewhat the same limitations as population censuses. Nine countries provided figures on the prevalence of blindness. The rate varied between 0.15 % in Bahrain and 2.7% in Iraq. Nongovernmental organizations are potential sources of information, but these often deal with only one type of disability, and are often limited to the individuals who receive aid from the nongovernmental organizations (e.g. hearing aids, spectacles or prosthetics).

It is estimated that around 10% of the population in most developing countries suffer from one form or another of disability. Trends point to an increase in disability, due to aging of the population (particularly as regards visual and hearing impairments which are strongly correlated with age), and to rises in violence and in the number of road accidents and occupational injuries.

With respect to *mental health* conditions, regional figures are not based on sufficient epidemiological research. However, according to global statistics and comparison with sporadic regional epidemiological

data, mental health problems constitute one of the major health and development issues in the Region. They afflict all age groups, both sexes and all socioeconomic classes, and the burden caused by them is high. One difficulty here is that they cause more morbidity and disability than death. Since most health systems are mortality-oriented, in many instances the importance and burden of mental illness go unnoticed by the planners. Therefore, mental health deserves a high priority in health planning. The strategy adopted to address this priority has been and remains integration of mental health into primary health care. This strategy has been used in many countries of this Region with good results.

8. OUTLOOK FOR THE FUTURE

The aim of this concluding section is to draw from the preceding sections the major lessons illustrated by the present third evaluation on the progress and problems of health-for-all strategy implementation. This will enable, through an overall assessment, identification of strategic issues and challenges to be addressed in the future. Such analysis of health system strengths and weaknesses will allow us to reflect on the vision for future health in terms of a renewed health-for-all strategy for the 21st century in the Eastern Mediterranean Region.

8.1 Overall assessment and strategic issues

The preceding seven sections enabled evaluation of the situation and progress made in each of the areas concerned. This covered in detail on the one hand the trends in political, socioeconomic and demographic issues in a general environmental context which will be challenging future action in health systems development in the Region, and on the other hand the trends of the main components of health systems in terms of trends in health resources (inputs), health development (processes), health activity (outputs) and health status impact. The present subsection is intended to assess health-for-all achievements overall and to identify strategic issues that need to be addressed in the future.

8.1.1 *Overall assessment*

The overall assessment will focus mainly on the areas where health-for-all targets have been fixed, and secondly on the progress made in some other health-for-all areas where targets have not been established.

a) Target achievement

Based on a review comparing the average trends for the regional indicators which have fixed health-for-all targets for the period 1985–1996 with their 1996 reported country data for the present third evaluation, Table 8.1 summarizes the main findings in the form of an overall assessment of progress achieved so far towards health for all in the Eastern Mediterranean Region.

At first glance, the results indicate that, on balance, the health situation improved during the decade since the start of implementation of the health-for-all strategy. Despite the burden of rapid regional population growth and the worsening of its impact by various social and military conflicts on the socioeconomic situation experienced by some Eastern Mediterranean countries, good progress has been made towards achievement of health-for-all targets. This concerns the already achieved or attainable targets relating to gross national product, percentage of the latter devoted to national health expenditure, immunization coverage by BCG, DPT3 and OPV3 and life expectancy.

Table 8.1 Overall assessment of achievement towards health-for-all targets in the Eastern Mediterranean Region, 1996

Global (G) and regional (R) targets	Value of target by the year 2000	Achievement[e]		
		Good	Moderate	Little or none
1. Gross national product (GNP) per capita (G)	US$ 500	×		
2. Adult literacy (G)				
• male	≥ 70%		×	
• female	≥ 70%		×	
3. Nutritional status (G)				
• newborn weight	≥ 90%		×	
• child weight-for-age	≥ 90%			×
4. Water and sanitation accessibility (R)				
• safe drinking water	≥ 95%			×
• adequate excreta disposal	≥ 85%			×
5. National health expenditure as % of GNP (G)	≥ 5%	×		
6. Maternal and child care by trained personnel (R)[a]				
• pregnant women	≥ 95%			×
• infants	≥ 95%		×	
7. Immunization (R)[b]				
• BCG	≥ 95%	×		
• DPT3	≥ 95%	×		
• OPV3	≥ 95%	×		
• measles	≥ 95%		×	
• TT2	≥ 95%		×	
8. Coverage by local health services (R)	≥ 95%		×	
9. Health status				
• life expectancy (male) (G)	≥ 60 years	×		
• life expectancy (female) (G)	≥ 60 years	×		
• infant mortality (G)	< 50 ‰		×	
• maternal mortality (R)[c]	(–50%)			×
• poliomyelitis eradication (R)[d]	0		×	

[a] 85% for 1995

[b] 95% for 1995

[c] (–50%) means reduction by 50% of maternal mortality ratio level of 1990

[d] 0 cases means eradication by the year 2000

[e] Achievement:
good: target attainable or already achieved;
moderate: situation improved but much more progress is required;
little or none: target unlikely to be achieved without major effort.

There has also been moderate progress towards achieving targets concerning adult literacy, local health service coverage, child care by trained personnel, immunization coverage for measles and TT2, infant mortality and eradication of poliomyelitis.

It is worth pointing out that the Eastern Mediterranean Region target achievements relating to nutritional status of neonates and infant mortality would have been better without the worsening of such indicators in Afghanistan, Djibouti, Somalia and Sudan for reasons of military conflict, and in Iraq because of the economic embargo, which affects children's health status in particular.

Little progress has been made towards the targets on children's nutritional status and accessibility of safe drinking water and adequate sanitation.

No progress has been made towards the nutritional status target. This is mainly because the nutritional status of infants and children has not changed during the past decade in the countries not yet reaching the health-for-all target on that subject as well as the aggravation of the situation in Iraq.

As regards maternal mortality, the reported data have not been sufficient in many countries. The existing short time series did not enable valid conclusions to be drawn on progress.

To avoid the overall impression that the Region as whole was progressing towards the attainment of the most important targets of the health-for-all strategy implementation, Table 8.2, which was also used for preparing Table 8.1, gives a complete listing of countries that have not yet reached health-for-all targets. This table, which focuses on each of the health-for-all targets, consists of a comparative evolution between the second evaluation (1990) and the current third evaluation (1996) for both the number of countries not yet reaching the target and the corresponding number of reporting countries, and the list of countries which have not yet achieved the target in 1996 as well as their total population in terms of percentage of population of reporting countries not yet reaching the health-for-all targets.

While confirming, to a large extent, the overall assessment made above, the salient findings from a general analysis of the table are as follows.

1. Except for the Republic of Yemen for GNP and Sudan for immunization coverage for measles, the LDCs in the Region have not yet reached any of the 20 global and regional health-for-all targets analysed above.
2. Egypt, the Islamic Republic of Iran and Pakistan, accounting for about 58% of the Region's population have not yet reached respectively 55%, 50% and 70% of the health-for-all targets.
3. Bearing in mind that Bahrain and Kuwait did not have an immunization programme for BCG, the GCC countries have reached the majority of health-for-all targets except those of immunization coverage; relating to all vaccines for Saudi Arabia; DPT3, OPV3 and TT2 for Qatar and the United Arab Emirates; and only TT2 for Oman.
4. Except for the LDCs, Iraq and Pakistan, all Eastern Mediterranean countries have already reached the targets relating to life expectancy, infant mortality and eradication of poliomyelitis.
5. Provision of care for pregnant women and the related reduction in maternal mortality constitute the most challenging targets for the majority of Eastern Mediterranean countries.

Table 8.2 Distribution of countries not yet reaching health-for-all targets by type of indicator, 1996

Global (G) and regional (R) targets	Countries not yet reaching health-for-all targets			
	1990 (E2)	1996 (E3)		
	No.[b]	No.[b]	Country	(%)[c]
1. Gross national product (GNP) per capita (G)	5/22	5/23	AFG-DJI-PAK-SOM-SUD	43
2. Adult literacy (G)				
2.1 male	11/22	8/22	AFG-EGY-IRQ-M0R-PAK-SOM-SUD-YEM	71
2.2 female	18/22	14/22	AFG-DJI-EGY-IRA-IRQ-LIY-MOR-PAK-SAA-SOM-SUD-SYR-TUN-YEM	96
3. Nutritional status (G)				
3.1 newborn weight	6/21	6/21	AFG-DJI-IRQ-LEB-PAK-YEM	44
3.2 child weight-for-age	11/15	12/19	AFG-DJI-EGY-IRA-IRQ-LIY-OMA-PAK-SOM-SUD-SYR-YEM	85
4. Water and sanitation accessibility (R)				
4.1 safe drinking water	13/22	16/23	AFG-DJI-EGY-IRA-IRQ-LEB-MOR-OMA-PAK-PAL-SAA-SOM-SUD-SYR-TUN-YEM	97
4.2 adequate excreta disposal	14/22	13/23	AFG-DJI-EGY-IRA-IRQ-MOR-PAK-PAL-SOM-SUD-SYR-TUN-YEM	91
5. National health expenditure as % of GNP (G)	10/14	8/15	AFG-BAA-CYP-IRA-MOR-OMA-SUD-YEM	40
6. Maternal and child care by trained personnel (R)				
6.1 pregnant women	14/20	15/23	AFG-DJI-EGY-IRA-IRQ-JOR-LEB-LIY-MOR-PAK-SAA-SOM-SUD-TUN-YEM	94
6.2 infants	9/17	7/20	AFG-DJI-EGY-IRA-MOR-PAL-SUD	70
7. Immunization (R)				
7.1 BCG[a]	7/17	7/18	AFG-DJI-IRA-SAA-SOM-TUN-YEM	30
7.2 DPT3	20/22	13/23	AFG-DJI-EGY-IRQ-LEB-PAK-QAT-SAA-SOM-SUD-TUN-UAE-YEM	73
7.3 OPV3	20/22	12/23	AFG-DJI-EGY-LEB-PAK-QAT-SAA-SOM-SUD-TUN-UAE-YEM	68
7.4 measles	21/22	15/23	AFG-CYP-DJI-EGY-LEB-LIY-MOR-PAK-QAT-SAA-SOM-SUD-TUN-UAE-YEM	76
7.5 TT2	16/17	19/19	AFG-BAA-DJI-EGY-IRA-IRQ-JOR-KUW-LIY-MOR-OMA-PAK-PAL-SAA-SOM-SUD-SYR-TUN-YEM	100
8. Coverage by local health services (R)	12/22	8/22	AFG-DJI-IRA-MOR-PAK-SOM-TUN-YEM	66
9. Health status				
9.1 life expectancy (male) (G)	6/22	5/22	AFG-IRQ-SOM-SUD-YEM	21
9.2 life expectancy (female) (G)	5/22	5/22	AFG-IRQ-SOM-SUD-YEM	21
9.3 infant mortality (G)	9/22	8/23	AFG-DJI-IRQ-MOR-PAK-SOM-SUD-YEM	58
9.4 poliomyelitis eradication (R)	14/22	7/23	EGY-IRQ-PAK-SOM-SUD-YEM	61

[a] Excluding five countries where BCG is not included in the national programme of immunization (BAA-CYP-JOR-KUW-LEB)

[b] The figure presented in form of a fraction means as follows: numerator = number of countries not yet reaching health-for-all target, denominator = number of countries which reported data on the indicator.

[c] % of population in countries reporting not yet reaching health-for-all target.

b) Other achievements (areas not targeted by HFA)

The present review will focus on achievements made in health areas where health-for-all targets have not been established.

Politically, some countries became more stable while trouble is still broiling in others; both situations have their implications for health services and for health.

Similarly, demographic and socioeconomic trends varied. Some are favourable. The crude death rate and the crude birth rate are both going down, indicating the passage through demographic transition, resulting in a lower dependency ratio. The tendency to urbanization is rising, and there is some improvement in the economic set-up. Yet, there is high population growth (though, in fact, it is slowing down). There are instances of massive displacement of refugees within and outside their homelands, while internal rural-to-urban migration continues bringing with it harmful effects, not least the mushrooming and unplanned urban slums in many cities, accompanied by rising unemployment and underemployment. Food supply is improving in quantity but not in quality. Modern lifestyle harmful features (high-fat low-value fast foods, lack of physical activity, increasing violence, smoking, drug abuse, etc.) have negatively affected health.

In addition, there are problems such as the wide field of environmental pollution (of air, water, soil and coastal waters and noise pollution) and marginal food safety, as well as problems with chemical safety and industrial waste, housing, workplace, refugee camps and road traffic accidents.

The availability of human resources for health has definitely improved. Yet many problems persist: imbalance between various categories (causing wastage of resources), their concentration in capital cities and urban areas, brain drain in some countries, and in others influx of expatriate staff bringing language barriers and varying education and background. Unsuitable training and lack of motivation to serve in primary health care, lack of career structure and low remuneration are common problems.

The ministry of health represents only 40% of national health expenditure, while 54% comes from various public sources. Resources allocated to personnel represent 60%–70% of ministry of health budget. However, some 45% of national health expenditure is devoted to local health care. There is a clear tendency to shift part of the burden of health care financing from governments to households. The contribution of social health insurance to public spending is relatively small, and direct out-of-pocket spending by households accounts for a major portion of private spending. The role of the private sector is expanding, while the role of nongovernmental organizations in financing health care has not been adequately explored.

Accessibility to health services has exceeded 80%. Overutilization has been reported in some countries and underutilization (particularly in small hospitals with limited beds) in others. Lack of coordination between construction of health facilities and provision of supplies and equipment, limited provision for the maintenance of the building and of equipment and inequitable distribution of the facilities are all common limitations. The referral system is weak, the quality of care moderate, and managerial capabilities are limited.

Master plans towards translating national drug policies and covering both public and private sectors have been prepared by several countries, with the objective of ensuring the availability and rational use of drugs. A coverage of 80%–100% of essential drug supplies available at all levels of health services was achieved in more than two-thirds of Member countries. But there is need to further improve equity and access to essential drugs in some countries. Self-sufficiency in essential drugs and vaccines is being promoted.

Increased efforts continue to develop blood transfusion services to attain self-reliance and to ensure safe blood and blood products. But there are problems in this area: lack of blood donor recruitment

programmes, the high cost of screening blood and unsustained supply of screening kits and antisera, improper use of blood, blood components and derivatives, and inadequate application of quality assurance.

Countries have strengthened partnership for health with international organizations within and outside the UN system. They are also making efforts to strengthen partnership with funding agencies including the African and the Asian Development Banks, the Islamic Development Bank and the World Bank. Most countries have bilateral agreements in health development, though this has been strained in some countries for political reasons; and the slowing down of the world economy has reduced that cooperation.

Commitment to health for all through primary health care continues as ever, and decentralization as a policy has been further strengthened. Healthy cities and healthy villages programmes, as well as the basic development needs programme, are all expanding. A process of health sector reforms has been initiated, aiming at improving health care financing, better management and increased performance, and addressing population needs.

The importance of intersectoral collaboration is increasingly recognized, and the role of the Ministry of Health is changing to a leadership role in health rather than the actual management of health care. A variety of mechanisms are being followed by countries to improve intersectoral collaboration.

A health system is organized from the periphery, through the district level and secondary care, to the centre. Proper functioning of such a system needs a proper referral system and improved quality of services in the health centres. Many countries have adopted the district health system to achieve better management. Health insurance schemes are becoming more prominent. However, although the districts may have a role, health planning is to a great extent still centralized. In order to mobilize economic support, efforts are being made to improve resource allocation and to promote cost-effective alternatives.

National health information systems need to be well decentralized and strengthened in order to support decision-making at the sub-national level, and by the national heath information system is meant both components: the statistical component which should continue to be the priority area, and health literature and information services. The focus should be mainly on health economics information and on health status information in terms of mortality and morbidity by cause.

The Eastern Mediterranean Region suffers a multitude of natural and man-made disasters; therefore countries should thoroughly consider emergency preparedness, with clear steps for actions before, during and after a disaster. Interagency cooperation and community action are important.

Health education and promotion, as an essential element of primary health care, cover an ever-expanding variety of areas, such as school health education, public health education, and tobacco or heath. Member States are encouraged to focus health education on priority health problems; cigarette consumption is reaching alarming levels.

Women and children constitute a big sector, more than one-half of the total population. Women have the right to go safely through pregnancy, delivery and rearing of healthy children. Activities go beyond traditional maternal and child health programmes to cover adolescents, families and neglected population groups such as refugees and other displaced persons. Noting that reproductive ill-health accounts for over 30% of the burden of disease and disability among women, the problem represents the major portion of healthy years of life lost in women of reproductive age.

National plans for prevention and control of locally endemic diseases are being developed and strengthened, concentrating on improved surveillance, laboratory diagnosis, vector control, case management and integration into primary health care. It is true that malaria transmission has been interrupted or limited to

small areas in some countries, that schistosomiasis is generally on the decrease, that leprosy has been eliminated in many countries and that dracunculiasis was eradicated in some. Yet malaria and schistosomiasis prevalence has increased in some countries due to known reasons.

Treatment facilities for common diseases and injuries, including regular supply of essential drugs, cover more than 80% of the Region's population; the target of 95% coverage has been reached in 14 countries.

Acute respiratory infections and acute diarrhoeal infections are the two most frequent causes of diseases and of death among children under 5, and malaria is still a major health problem. Yet the Eastern Mediterranean Region is witnessing the stage of epidemiological transition. Many communicable diseases are lowering in magnitude although combating HIV and AIDS and other STD, in addition to tuberculosis, is becoming a priority. Cardiovascular and chronic respiratory diseases, obesity and diabetes, neoplasms and road traffic accidents are rapidly increasing. Disability problems are not clearly defined, but physical, visual and mental disabilities are prominent.

8.1.2 *Strategic issues*

The main strategic issues resulting from overall assessment of Member States can be summarized as follows.

1. Health demand, in terms of quantity and quality, is increasing critically due to:
    - Continuing rapid growth of the population in almost all countries, as well as change in age structure in some countries generated by a demographic transition process, which itself generates an epidemiological transition with a double disease burden of communicable and noncommunicable diseases.
    - Progressive democratization of the political system in many countries, and growing awareness of human rights, one of which is the right to health for all citizens.
    - Improvement in educational level which makes health more valuable individually.
    - New health needs generated by rapid dissemination of medical, pharmaceutical and technical knowledge through increasing community development and the mass media.
2. The national health system, both public and private sectors, does not meet the health demands in the majority of countries. The impact of the existing and increasing gap between demand and supply in national health system delivery will be at the expense of the poorest and most vulnerable groups, which need most health care in the majority of Eastern Mediterranean countries, particularly in LDCs.

    This situation is due especially to the following:

    - A static and passive public sector health system which suffers from a chronic lack of resources and efficiency.
    - A dynamic and aggressive private health system, which is becoming more attractive to investment, thus increasing the privatization process. Those who can afford it are mainly the rich and the holders of health insurance.