



Building human capabilities: the basics—life, health, habitat

Chapters 1 and 2 set the scene for the chapters that follow, which successively discuss key aspects of building (chapters 3 and 4), using (chapters 5 and 6) and liberating human capabilities (chapter 7). This chapter discusses the basic conditions for human development in Arab countries: population size and characteristics, together with issues relating to the population's health, and the physical environment in which people live. These factors are interrelated, and their status and evolution directly affect human welfare. Taken together, they have an important impact on issues discussed in later chapters, for example, developing a knowledge society, enhancing economic performance and reducing poverty. Key demographic features of the region include historically high but gradually declining fertility and population growth rates and an expected decline in the dependency ratio over the coming 20 years, reflecting a small rise in the percentage of the population over 65 but a very large reduction in the proportion of children (from around two fifths of the total to about one quarter). With respect to health, conditions vary widely from country to country, but a number of important areas for improvement stand out: reduction in infant, child and maternal mortality; better management of health care, including more attention to primary care, preventive care and behavioural factors that damage health; and ensuring access to care for the poor. With respect to habitat, while Arab countries vary very widely in topography and climatic conditions, a number of region-wide issues and concerns have emerged in recent years, most importantly, severe water and

arable land scarcity coupled with environmental degradation, urbanization and air pollution, and coastal area pollution. The section on environment closes with a series of principles for meeting the environmental challenges the region faces and strategic guidelines for protecting the region's habitat endorsed by the Council of Arab Ministers Responsible for the Environment.

LIFE: DEMOGRAPHIC PROFILE¹

POPULATION SIZE AND MAIN CHARACTERISTICS

The combined population of the region covered by this Report was about 280 million in 2000, approximately equal to that of the United States but only around one fourth of India's population and one fifth that of China. Population size varies very substantially by country, with just six countries with populations of over 20 million accounting for 200 million of the total. Egypt has the largest population (68 million), followed by Sudan (31 million) and Algeria (30 million). At the other end of the scale, Qatar has a population of 565,000, and Bahrain, Comoros, and Djibouti have a population of less than one million each. In global terms, the Arab countries account for about 5 per cent of world population; this share has approximately doubled over the past 50 years. Over this period, population increases have also varied sharply by country: at one extreme, the population of the United Arab Emirates has multiplied 36 times; at the

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¹ Source of data and limitations: The data used in this section are derived mainly from "The World Population Prospects: The 2000 Revision Highlights" (United Nations, Department of Economic and Social Affairs, Population Division, 2001). United Nations data were used to ensure uniformity. However, data for the occupied Palestinian territory were not available in the United Nations sources. Therefore, data for the occupied Palestinian territory were derived from "Arab World Population, Selected Demographic and Reproductive Health Indicators" (Population Reference Bureau, Arab World Region, International Planned Parenthood Federation (IPPF), 1996). These data represent only the Arab population of the West Bank and Gaza. It is worth mentioning that United Nations data still include estimates of the population of the West Bank and Gaza with those of Jordan, which implies a slight inflation of the population of the Arab region presented here.

Fertility rates have declined significantly in many Arab countries but are still high by international standards.

other, Lebanon's has grown only 2.4 times.

Some Arab countries, especially in the Gulf, have also become home to substantial expatriate populations, reflecting a combination of the oil boom and domestic labour shortages. The number of foreign workers in the six Gulf countries increased fivefold from 1.1 million in 1970 to 5.2 million in 1990. By 1990, foreign nationals constituted over two thirds of the population in the Gulf States. In Saudi Arabia, non-Saudis accounted for approximately 25 per cent of the 1999 population. Some observers have expressed concern about substantial reliance on non-Arab labour, particularly in the areas of domestic service and child-rearing.

SEX AND AGE STRUCTURE

The sex ratio (the number of males per 100 females) is around 104 in the Arab world, close to the global ratio of 102. Again, however, there are marked differences among countries, with the ratio ranging from 89 in Djibouti to 195 in the United Arab Emirates. The sex ratio is higher in the Gulf Cooperation Council (GCC) States (figure 3.1), reflecting the presence of large numbers of male foreign workers.

The age structure of the population is significantly younger than the global average (figure 3.2), reflecting the large proportion (38 per cent) of children ages 0 to 14 and the relatively small proportion of those age 60 and older (six per cent). The population's young age structure means that the dependency ratio (the ratio of the economically inactive to the

working age population, defined as those 15 to 64 years of age) is around 0.8, above the world average.

As with the sex ratio, country age structures vary widely, with the proportion of those under 15 ranging from 26 per cent in the United Arab Emirates to 50 per cent in Yemen. With respect to the elderly, the percentage of national populations age 60 and over varies from around eight per cent in Lebanon and Tunisia to three per cent in Qatar. Differences in age structure reflect international migration and differing fertility rates and in turn yield different dependency ratios, which are lower in the GCC countries than elsewhere in the Arab world, owing to the presence of large numbers of foreign workers.

FERTILITY

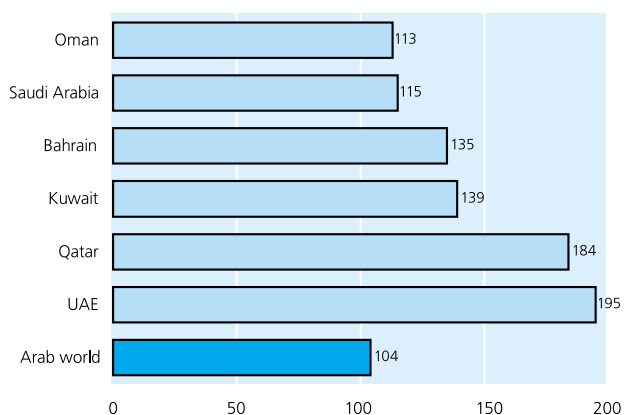
Fertility rates have declined significantly in many Arab countries but are still high by international standards. The countries covered by the World Bank's Middle East and North Africa (MENA) classification had an average fertility rate of 6.2 in 1980, which had fallen to 3.5 by 1998—still well above the world average of 2.7. Arab countries can be classified into three groups with respect to fertility rates: one at an advanced stage of demographic transition with low rates, a second in the middle of the transition process, and a third group still at early stages of transition with very high fertility rates.

The first group consists of only four countries with a total fertility rate (TFR) of less than three births per woman: Bahrain, Kuwait, Lebanon, and Tunisia. Lebanon and Tunisia share the lowest rate, 2.2 births per woman (HDR 2001). Of these four countries, three—Bahrain, Lebanon and Tunisia—have fertility rates below the global average.

The second group of countries includes nine with a TFR of between three and five births per woman: Algeria, Egypt, Jordan, Libyan Arab Jamahiriya, Morocco, Qatar, Sudan, Syrian Arab Republic and United Arab Emirates. Of these countries, the United Arab Emirates is closest to moving to the advanced stage of transition.

The remaining nine Arab countries are in

Figure 3-1
Sex ratio (males/females), GCC states and the Arab world



the early stage of transition, with total fertility rates of more than five births per woman. Yemen has the highest rate, 7.6 births in an average woman's reproductive life. Somalia is the only other Arab country with a TFR of over seven births per woman (7.25).

POPULATION GROWTH

High fertility rates are associated with rapid population growth. Among the Arab countries, population growth rates ranged from a low of 1.1 per cent in Tunisia to a high of 4.1 per cent in Yemen; of the 22 Arab countries, only Tunisia had a growth rate below the global average of 1.4 per cent.

POPULATION PROJECTIONS

Population projections for the period 2000–2020 were prepared under two scenarios.

- Scenario one: assuming that the total fertility rate and life expectancy at birth are constant at the estimated level for 2000;
- Scenario two: using the total fertility rate and life expectancy at birth as estimated by the United Nations for single years during the period 2000–2020.

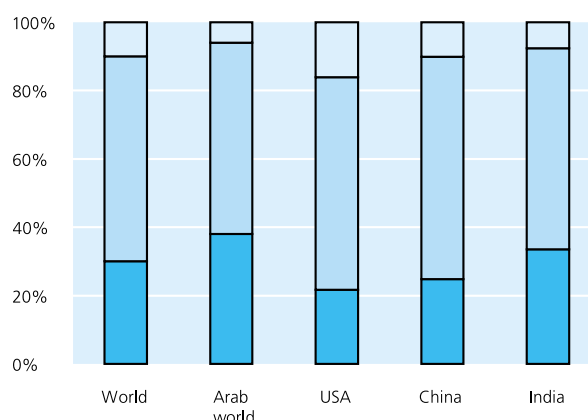
In both scenarios, the impact of migration is assumed to be limited to the impact of past migration on the age structure of the population.

POPULATION PROJECTIONS: NUMBERS

The two scenarios yield slightly different numbers for future population size. By 2020, the Arab population is expected to be 459 million under scenario one (stable fertility at the current level), and 410 million under scenario two (figure 3.3).

Differences under the two scenarios would be the smallest for the countries identified earlier as being at an advanced stage of demographic transition, more significant for the middle group, and greatest for the group whose members still have very high fertility rates. Under the first scenario, only the population of Egypt is expected to exceed 100 million by 2020, and no other country would have

Figure 3-2
Age structure of Arab population and other selected countries



a population of 50 million. Under the second scenario, Egypt's population would not reach the 100 million mark.

POPULATION PROJECTIONS: AGE STRUCTURE

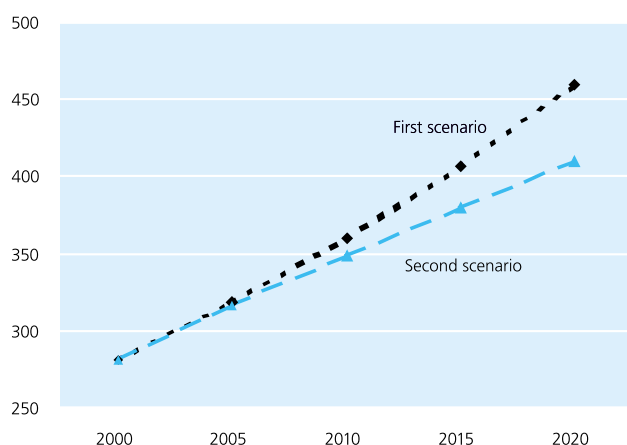
Declining fertility combined with rising life expectancy at birth will affect the age structure of the population in Arab countries. Under the second scenario, for example, while the number of children in all Arab countries is expected to grow by around 4.5 million in the period 2000–2020 (with increases in some countries such as Saudi Arabia, Somalia and Yemen and decreases in others such as Algeria and Egypt), the percentage of children in the population will fall by 10–20 percentage points in the majority of Arab countries. Taking all the Arab countries together, the proportion of children in the population is projected to fall from around two fifths to slightly over one quarter. This would represent a dramatic shift, with important socio-economic implications. For example, even taking account of a rise in the proportion of elderly (see below), the net

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TABLE 3.1
Population growth in Arab countries

Population growth (less than 2%)	Population growth (2%–3%)	Population growth (3% or more)
Algeria	Bahrain	Mauritania
Egypt	Comoros	Occupied
Lebanon	Djibouti	Palestinian
Morocco	Iraq	territory
Qatar	Jordan	Oman
Tunisia	Kuwait	Saudi Arabia
	Libyan Arab	Somalia
	Jamahiriya	Yemen
	Sudan	
	Syrian Arab Republic	
	United Arab Emirates	

Figure 3-3
**Arab population according to two projection scenarios,
 2000- 2020**



effect would be to lower the dependency ratio in all Arab countries—a potential gift to these countries because more people of working age would be able to support the non-working population with better services for all.

With respect to the elderly, the second scenario suggests an increase in the proportion of the population age 65 or older from 3 per cent in 2000 to 5 per cent in 2020. The percentage of elderly is expected to be highest in the United Arab Emirates (9 per cent) and lowest in Yemen (3 per cent).

The demographic profile described above presents both challenges and opportunities for Arab countries. Population size, growth and age distribution can be either a demographic gift or a demographic curse, depending on whether countries can use the human potential represented by their populations well enough to satisfy people's aspirations for a fulfilling life. For example, a large, rapidly growing population can be an engine of material development and human welfare when other factors conducive to economic growth—such as high levels of investment and appropriate types of technological know-how—are present. Absent such factors, however, it can be a force for immiseration as more and more people pursue limited resources and jobs. In addition, any population is only as capable of achieving its human development goals as it is blessed with good health—the topic of the next section.

HEALTH

Building a useful picture of health in the Arab region is governed by the availability of good comparative data. Unfortunately, the data suffer from two systemic limitations: they relate mainly to the purely physical aspects of health (leaving out broader aspects of well-being), and within the physical dimension, they focus mainly on mortality indicators. The discussion that follows will attempt to look at some aspects of health where only limited data exist in order to (a) draw attention to neglected health concerns and (b) highlight the need for a more holistic social- health approach to health assessment that includes consideration of a larger set of health conditions than that covered by a pathology-oriented medical model for a few conditions. Nevertheless, it is right to begin with the aspects of health for which fairly good data exist.

MEASURES OF HEALTH STATUS

Survival

Life expectancy at birth varies very widely among Arab countries, from a low of around 45 years (Djibouti and Somalia) to a level approaching 75 years (United Arab Emirates), close to that of the high-income countries (78 years in 1998). The World Bank's World Development Indicators give an average for countries in its Middle East and North Africa classification of 68 years in 1998, one year higher than the world average.

In all Arab countries, life expectancy for women either equals or exceeds that for males, but the difference between the two sexes is 2.5 years or less in around two thirds of the countries; for the remainder, the difference is between 3 and 3.5 years. The global average difference is around 4 years, and in countries with high human development, it can be as much as 11 years. This suggests that there is room for improvement in women's chances for survival in Arab countries. One area for action is reduction of high maternal mortality rates, as discussed later in this section.

Population size, growth and age distribution can be either a demographic gift or a demographic curse.

Disability-adjusted expectation of life at birth

The World Health Organization (WHO) estimates the disability-adjusted expectation of life at birth (DALE).² Given the nature of information in the Arab region, the range of uncertainty in these estimates is likely to be quite broad. Nevertheless, the use of the DALE is helpful in highlighting the toll on healthy lives that disease and disability take. It also suggests the importance of improving the existing information base on different types of disability.

The estimates show that the burden of disease and disability reduces life expectancy by between 5 and 11 years. Close to a third of Arab countries lose more than nine years of life expectancy to disability. It should be noted that the expectation of disability at birth tends to be higher for females than males. The excess is more than two years in about half of the countries considered. Thus females lose most of their initial survival advantage by spending more life-years in disability—again pointing up women's health as a priority for policy.

Countries with the highest survival rates are not necessarily those with lower disability. Kuwait, Oman and Qatar, for example, lose more than nine years in disability (figure 3.4). Internationally, most countries with low mortality rates tend to lose only between six and seven years in disability.

Burden of ill health

The high burden of ill health in countries with the highest survival rates is further confirmed by the recently conducted Gulf Family Health Surveys. Close to one in five adults (age 15+) in each of these countries experiences a long-standing illness or disability³, and females tend to have a much higher burden than males. The proportion of females reporting long-standing illness exceeds that of males by more than 6 per cent and can be up to 8.5 per cent higher.

Available estimates of disability are in the neighbourhood of eight to 24 per thousand. However, it is believed that these are generally underestimates.⁴

GROUPS WITH SPECIAL NEEDS: CHILDREN, MOTHERS AND THE AGED

Infant and child mortality

Both infant and under-five mortality vary greatly among Arab countries. The infant mortality rate (IMR) ranges from a low of 10.2 per thousand in Qatar to a high of 75.3 for Yemen. The under-five rate varies from less than 20 to over 100 per thousand. Bahrain, Kuwait, Qatar and the United Arab Emirates have very low child mortality (below 20 per thousand), while Djibouti, Iraq, Mauritania, Somalia, Sudan and Yemen experience extremely high levels (despite the fact that Iraq had achieved a rate in the neighbourhood of 20 before the Gulf War).

Current levels of infant and child mortality in Arab countries need to be assessed against very high past levels and the generally rapid pace of improvement. One commentator has noted that "mortality rates for children under five were reduced by nearly two thirds. The Arab region was the first region in the developing world where most countries reduced mortality rates of under-five children to the target of 70 per thousand by 1990, well ahead of the global goal" (Doraid, 2000:4). "In general, oil-rich countries made rapid progress. Nevertheless, rapid progress was not limited to the oil-rich Arab countries; Tunisia and Yemen were among the 10 countries that experienced the fastest improvements in the world in, respectively, raising life expectancy and reducing under-five mortality" (ibid.:5).

Differences also exist within countries. With the exception of the Syrian Arab Republic, the disparities between rural and urban areas are very evident. The ratio of rural to urban under-five mortality is from 1.21-fold to as high as twofold. Even countries that have been quite successful in reducing overall under-five mortality are suffering from this difference, which poses a serious challenge in terms of equity.

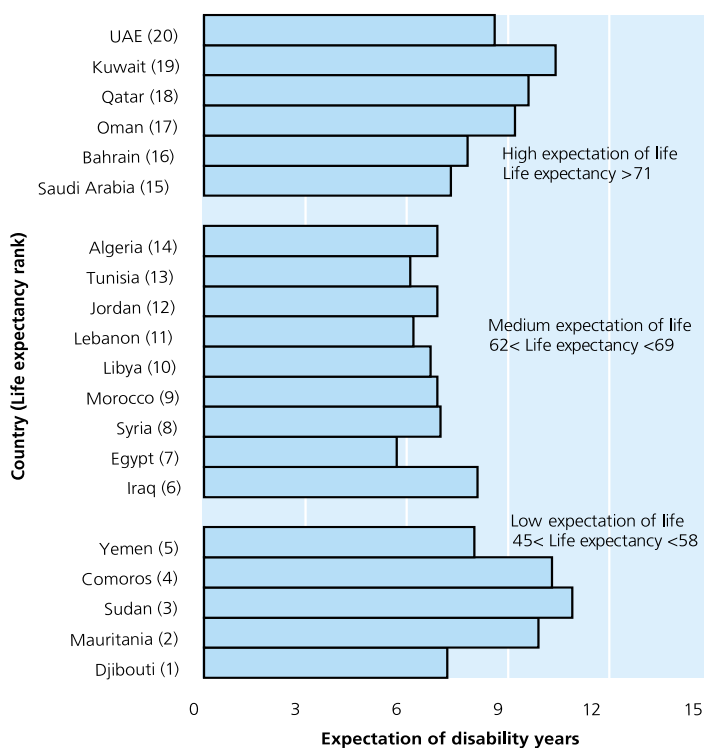
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² The DALE index requires information on prevalence of different types of disease and disability at each age as well as assumptions about the relative weights of the different types of disability.

³ A person is considered to have a long-standing illness or disability if he/she is reported to have had any of the following doctor-diagnosed conditions: high blood pressure, heart disease, diabetes, stroke, asthma, joint disease, peptic disease, renal disease, liver disease, nervous disease, cancer or any long-standing condition that prevents or limits his/her participation in activities normal for a person of his/her age.

⁴ They are based on general questions that are open to misinterpretation (definition problems) and that are not supported by the necessary probing to avoid the under-reporting that is characteristic of disability measures. For example, the percentage of disabled children (less than five years of age) was estimated at about 9.65 per thousand using the general-questions approach (Abdel Azeem et al., 1993), while more detailed probing produced a prevalence estimate as high as 30 per thousand (El Tawila, 1997).

Figure 3-4
Expectation of disability years by life expectancy, Arab countries



Only two Arab countries have managed to reduce maternal mortality to a level that is low by international standards.

Stunting

Anthropometry measures point to a serious health challenge in Arab countries. Not surprisingly, poor and war-torn countries are reflecting high levels of moderate and severe stunting (Yemen, as high as 52 per cent; Mauritania, 44 per cent; and Comoros, Iraq and Sudan, above 30 per cent). However, many other Arab countries are also showing serious nutritional problems that are incompatible with their economic capabilities—an example of the condition of being "richer than developed" in human terms identified in chapter 2. Arab countries such as Egypt, Kuwait, Libyan Arab Jamahiriya, Morocco, Oman, Saudi Arabia, Syrian Arab Republic and United Arab Emirates, with levels of stunting of between 15 per cent and 25 per cent, need to identify and address the underlying problems of nutritional status (whether caused by dietary patterns, environmental conditions or disparities in food distribution).

Maternal mortality

High maternal mortality is a key health challenge facing most Arab countries. More than half of the Arab countries considered in this

Report have a maternal mortality ratio (MMR) exceeding 75 per 100,000 live births, and as many as a third have an MMR exceeding 200 per 100,000 live births. Only two Arab countries (Kuwait and the United Arab Emirates) have managed to reduce maternal mortality to a level that is low by international standards (not more than five per 100,000 live births). The other Gulf countries of Oman, Qatar and Saudi Arabia have moderately low levels (between 10 and 20 per 100,000 live births), but these levels remain higher than those for countries with comparable command over economic resources.

Old age

Few data exist on the health of the older population in Arab countries. The findings of a four-country study covering Bahrain, Egypt, Jordan, and Tunisia indicate a substantial degree of ill health. Around a third of the elderly perceive themselves as unhealthy and at least 50 per cent are suffering from sight problems and having difficulty walking. Only a very small proportion (between 5 per cent and 43 per cent) scored favourably on scales of high morale or low depression.

CONTEXTUAL FORCES

Health achievements are strongly affected by a country's level of income but not shaped solely by it. The priority assigned to health investment compared to other investments plays an important role, as do the effectiveness and fairness of delivery systems. Disparities in public services and command over resources translate into unequal health attainments among and within countries. Social, cultural and other forces also play a role. Gender gaps and dynamics, for example, are key determinants of the reproductive health of women. Low educational levels, discussed in chapter 4, translate into poor management of health and lack of awareness of behavioural risks to health. Wars, displacement and political sanctions have also adversely affected health conditions in Iraq, Mauritania, the occupied Palestinian territory, Somalia, Sudan and, to some extent, the Libyan Arab Jamahiriya.

Level of health expenditure relative to GDP

With the exception of Lebanon and Qatar (with a higher percentage of expenditure) and Somalia (with the lowest), health spending ranges from 2.5 per cent to 5.6 per cent of GDP. The majority of Arab countries spend between 3 per cent and 4.5 per cent of their GDP on health. This compares with a middle-income-country average of 5.7 per cent. In Arab countries, the level of GDP helps to explain differences in per capita health expenditure (which is perhaps more closely associated with health status) and the contribution of public expenditure to total health spending.

Per capita health expenditure in (PPP) dollars ranges from as low as \$11 to as high as \$1,105. Gulf countries with similar life-expectancy levels spend between \$334 and \$1,105. The public share of total health expenditure ranges from as low as 21 per cent to as high as 87 per cent. The countries with the lowest public share include Egypt, Lebanon and Sudan. The countries with the highest public share are Kuwait and Saudi Arabia. Countries with a high proportion of public expenditure are not confined to those that are better off. The governments of some low-income countries—Comoros, Djibouti and Somalia—account for close to 70 per cent of total health expenditure (but their total health expenditure is quite small).

Figure 3.5 provides a partial illustration of the effectiveness of expenditures on health by comparing two measures of health performance with per capita health expenditure. For the countries with very low per capita health expenditure, there is no link between the level of spending and the level of mortality. Also, for high-expenditure countries, there is no simple direct relationship between survival and expenditure. Only at the middle level of expenditure (between \$100 and \$334) do mortality measures appear to be responsive to the level of spending. Clearly, there is a threshold that is needed to effect changes in the level of mortality. Also, above a certain level of expenditure, other factors than levels of spending help to shape performance.

Responsiveness and fairness of health systems

The World Health Report 2000 (WHO,

2000a) has evaluated national health systems in terms that emphasize two elements in system performance: goodness and fairness. The report explains that "The objective of good health itself is really twofold: the best attainable average level--goodness--and the smallest feasible differences among individuals and groups — fairness. Goodness means a health system responding well to what people expect of it; fairness means it responds equally well to everyone, without discrimination" (WHO, xi).

The report provides constructed indices measuring the responsiveness of the health system to the expectations of the population and fairness of financial contributions. Available data show that Kuwait, Qatar and the United Arab Emirates fare best in terms of responsiveness, ranking between 26 and 30 among the 191 countries investigated. The countries that fare worst on fairness in financial contributions are Mauritania, Sudan and the Syrian Arab Republic. From the point of view of fairness, Djibouti, Libyan Arab Jamahiriya and the United Arab Emirates scored the best among Arab countries, ranking between 3 and 22 in the world. The only Arab country in the sample that scored well on both responsiveness and fairness is the United Arab Emirates.

Any discussion of the responsiveness and fairness of health systems needs to be fully sensitive to the complexity of measuring these concepts and the pitfalls of comparative analysis across countries. There is a real need, however, to introduce and refine these concepts. This need arises from the recognition that the challenge to health systems in many Arab countries includes not only raising overall standards but also ensuring greater fairness and fewer disparities.

Gender and rural residence are areas on which countries need to focus in order to improve both responsiveness and fairness. Poverty is another major determinant of exclusion. Meanwhile, health-sector reform programmes are being introduced in many Arab countries. It will be critical to develop better comparative data in order to monitor closely the impact of these reforms on vulnerable and inadequately served segments of society.

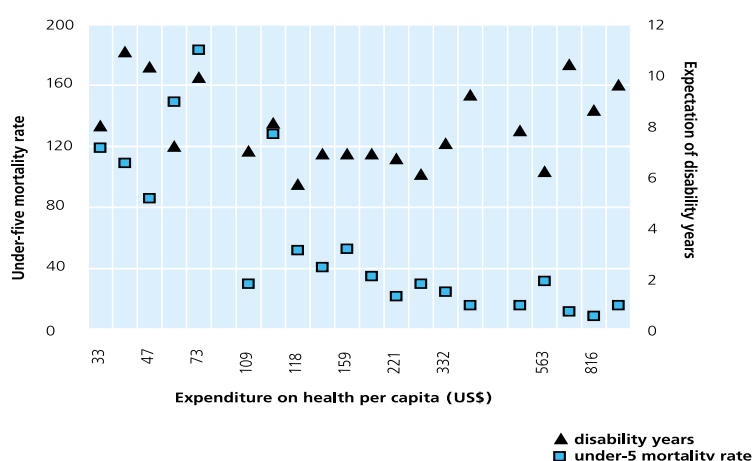
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Health-sector reform programmes

Health-sector reform programmes share a common objective in Arab countries as elsewhere: to contain costs and increase efficiency. The occupied Palestinian territory and several countries, including Egypt, Jordan, Lebanon, Morocco and Yemen, are currently at various stages of progress in their programmes. Whereas there is little disagreement

Figure 3-5
Health measures and expenditure on health per capita, Arab countries



with health-sector reform's goal of increasing efficiency, especially in light of increasingly limited available resources, several issues remain to be resolved in terms of implementation. In particular, the makers of health policy need to scrutinize plans for health-sector reform carefully and choose those policies and strategies best suited to their own country-specific context and needs. In the quest for total well-being, of which good health forms a critical element, the financial dimension should not be the only guiding principle; ensuring equity and accessibility for the most vulnerable groups must continue to be regarded as priority issues by policy-makers. It is only by satisfying these criteria that Arab countries can begin to realize their potential for achieving positive health for all, especially the poor. This having been said, there are certain common elements of a good health-care system that could usefully be considered by policy-makers in all Arab countries. Some of these are briefly discussed below.

Preventive vs. curative care

Most Arab health-care systems tend to play down preventive health care and investment in preventive and primary-care programmes and actions, instead focusing mainly on curative services, generally at the secondary and tertiary levels. This is usually reflected in public-sector budget allocations and in patterns of health-sector expenditures. Focusing on curative care and hospitalization tends to increase rather than contain costs, especially when it is heavily reliant on expensive high technology.

A significant proportion of the health problems facing Arab populations is responsive to forms of prevention involving raising awareness and changing behaviours. This is a fruitful alternative to the current imbalance in typical health-care systems, under which curative and hospital care take up increasing proportions of budgetary allocations for national health, and large segments of the population are left with poorer health and overall well-being than they might otherwise achieve. If conditions amenable to education and behaviour modification are left behind or ignored, improving health status becomes harder to achieve. In the coming few years, makers of Arab health policy must by necessity begin to focus more on introducing and investing in preventive programmes and activities of all kinds while improving the efficiency of curative services and facilities.

Behavioural change for better health

As noted above, awareness and prevention programmes designed to change behaviours inimical to health can address a range of existing and potential health problems in Arab countries. These include promoting exercise and good dietary habits and cessation of smoking. The region has high rates of tobacco use, and smoking is increasing among women and younger age groups. WHO has estimated that 182,000 people in the region died from tobacco-related conditions in 1998. Other societies have shown that active anti-smoking campaigns can have a real impact on the percentage of the population that smokes. Alcohol and drug use is thought to be on the rise, especially among the young. The Arab countries have thus far been substantially spared from the scourge of HIV/AIDS, but

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experience elsewhere suggests that inattention can allow the virus to spread until it reaches epidemic proportions and that active prevention campaigns can have a positive impact. Meanwhile, road accidents, another behaviourally based source of death and disability, are a significant cause of death in the region; road safety campaigns can help to reduce them.

Other, more cultural behaviours common in the Arab world can also have an adverse health impact. These include intermarriage between close relatives, promotion of early marriage, and female circumcision.

Better awareness of the health consequences of risky behaviours and practices can play an important part in containing and reducing them. However, awareness campaigns and the behavioural change they are designed to promote will work best in an enabling overall environment that needs to include reasonable levels of general education, acceptable economic conditions, and positive social pressure. The growth and spread of information technology and media penetration can also be helpful in spreading the message about healthy (and unhealthy) behaviours.

AVAILABILITY AND DELIVERY OF HEALTH CARE

This is a very large topic and several aspects of it have already been touched on (for example, levels of health spending, questions of fairness, programmes for health-sector reform, and the need for more emphasis on primary care). Only a few other aspects will be touched on here.

Health manpower.

A health-care system ultimately depends on the people who deliver it: doctors, nurses and paramedical personnel. On the whole, Arab countries do not appear to suffer from a shortage of physicians, but they do appear to face severe shortages of nurses and paramedical personnel, particularly at the level of primary care. Yet while there may be no overall shortages of physicians, there appear to be serious disparities in the distribution of doctors between urban and rural and rich and poor areas. Policy-makers will need to grapple with

issues of health manpower as part of the drive towards both efficiency and equity in health systems.

Poverty and access to health care.

Poverty both contributes to ill health and can be a barrier to access to care. Unless the special problems facing the poor are explicitly included in system design, they can be left out and effectively denied access. Since the poor are typically politically weak and without a voice, their needs may be ignored in favour of those of the better-off. A major challenge for Arab countries in the coming years will be balancing the requirements of different social groups while maintaining a commitment to efficiency and equity.

Community involvement for health-care delivery.

A trend currently gaining support worldwide is the drive towards having communities actively involved in all aspects of their own health care—from needs identification through resource identification, planning, resource allocation, implementation and monitoring. Ownership of health programmes has proven to be an important determining factor in their success, allowing people control over a sector vital to their own well-being. This drive towards community ownership is usually

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BOX 3.1

The silent threat: HIV/AIDS

By most conservative estimates, more than 400,000 people are thought to be living with HIV in the Eastern Mediterranean Region. This is almost double the estimates of previous years, and is due to revised calculations for Djibouti and Sudan in light of new evidence of increased spread in these countries.

All countries of the Region reported new HIV and AIDS cases during the year 2000. The cumulative number of AIDS cases in the Region since 1987 has reached 10,479, of which 1,263 were notified in 2000.

Information on HIV/AIDS in the Region remains insufficient. In many countries, the epidemiological surveillance system is still weak and the reporting is often delayed and incomplete. Drug transmission accounts for only 4 per cent of cases although there is grow-

ing concern with this route of transmission. The high geographical mobility among populations within the Region exposes migrants to the disease and calls for better-targeted prevention and care efforts.

In general, the HIV epidemic in the Region appears to be advancing slowly; however, applying global figures to the Region masks the wide diversity in the level and patterns of the HIV epidemic in different countries. Countries suffering from complex emergencies are the hardest hit.

In all countries, success in fighting AIDS rests on the political will to deal with it as a real threat that requires addressing vulnerability wherever it exists and creating open environments that enhance the well-being of the people and communities living with the disease.

Source: Excerpted from the WHO Progress Report on AIDS in the Eastern Mediterranean Region, 48th Session of the WHO Regional Committee for the Eastern Mediterranean, July 2001.

linked with a strong commitment to the importance of primary health care and is based on the assumptions that communities are best placed to know and identify their own needs and that they are the best monitors and evaluators of programmes intended to serve them. To be effective, however, community involvement requires the presence of established grass-roots and community structures capable of undertaking the relevant tasks.

This section has been able to touch on only a few of the issues with respect to health status and policy in the Arab countries. Much has been done to improve conditions, but much remains to be done. In this regard, it is critical to remember that health-care systems do not exist in a vacuum; their efficiency and effectiveness are determined by a range of external factors. One of the most important is habitat—the physical environment in which people live. This is the topic of the next section.

HABITAT

KEY CHARACTERISTICS AND ISSUES

The Arab region covers a vast territory, from the Gulf in the east to the Atlantic Ocean in the west, from the mountain ranges of Lebanon and the Syrian Arab Republic in the north to the equatorial plateau and the plains of Somalia in the south. This massive expanse encompasses a diverse range of ecological systems. At the risk of over-simplification, some distinction can be made between the northern regions of the Arabian Peninsula (Iraq, Jordan, Lebanon, occupied Palestinian territory and Syrian Arab Republic) and the Gulf countries (Gulf Cooperation Council members plus Yemen), and also between the Nile basin countries and the North African States that have no major rivers. The Arab world has coastal areas abutting three semi-closed bodies of water (the Mediterranean, the Red Sea, and the Gulf) that suffer from varying degrees of pollution.

Despite this diversity, countries of the Arab region face a number of common problems, in varying degrees of severity, with respect to habitat. These problems fall into two categories: resource scarcity and habitat pollu-

tion. Taken as a whole, the Arab world is extremely water-scarce; it suffers from a shortage of arable land and land scarcity is being exacerbated by degradation and desertification; rapid urbanization is creating major problems of air pollution; and major cities are located on coastal areas and are creating coastal-area pollution. All these problems contribute in their own ways to reductions in the quality of life (especially for the poor), to hampering aspects of human capability, and to heavy economic costs that countries can ill afford. Each is briefly discussed below.

Water scarcity

The Arab world suffers from an increasing scarcity of usable water resources and is considered one of the most water-stressed regions in the world. The World Bank has identified 22 countries that are below the water poverty line, defined as those that have less than 1,000m³ per person per year. Of the 22, 15 are Arab countries. The Bank has estimated that, for the countries in its Middle East and North Africa classification, their average renewable water resources will fall from just above the 1,000m³/year-level in 1997 to 740m³/year by 2015. Several countries are already mining non-renewable sources. Physical shortages are compounded by problems in water quality caused by the dumping of pollutants into rivers and streams and by run-offs of agricultural chemicals.

A number of factors exacerbate the water difficulties of the region, including the following:

- About 85 per cent of countries in the region share their total available water with at least one other country either as riparians or by sharing a common aquifer. More powerful upstream and downstream countries have been able to determine the water shares of the other riparian or aquifer-sharing countries. Equitable water-sharing is often compromised by politics.
- The rapid increase in population in the region is putting increasing pressure on water availability per capita. Meanwhile, the persistently high share of water used in agriculture (including ambitious, intensive irrigation programmes) is starving other users, industrial and domestic—in the case of the latter, also

The Arab world suffers from an increasing scarcity of usable water resources and is considered one of the most water-stressed regions in the world.

helping to worsen health problems. Current shortages can only worsen, even without factoring in any impact of climate change.

- Conservation and reuse programmes are weak, and no country in the region has effective water-demand management systems and economic instruments to rationalize the use of water.

Land scarcity and degradation

Land suitable for agriculture, grazing and forestation is also scarce. Cultivated land per capita in Arab countries averaged only 0.24 ha. in 1998, compared to 0.4 ha. per capita in 1970. Unsustainable agricultural practices, natural factors (such as wind and floods) and pillaging of firewood have led to the loss of productive land and desertification.

Urbanization and air pollution

Although there are marked differences in degree of urbanization between countries (table 3.2), the pace of urbanization was rapid during the second half of the twentieth century. In 1950, only about a quarter of the Arab population was living in urban areas; the figure had risen to 50 per cent by the end of the century. During the period 1990-1995, all countries had urban growth rates at or above the global average of 2.5 per cent.

Fueled by heavy rural-urban migration as well as natural increase, late twentieth-century urbanization created major air-pollution problems in Arab cities. The transport, industrial and energy sectors have had substantial adverse effects on human health through the use of leaded gasoline, in a fleet of aging vehicles, inefficient use of fossil fuels in power generation, and industrial emissions of particulates and sulphur oxides.

Coastal area pollution

As noted earlier, some large cities in Arab countries are located in coastal areas. Land based-pollution, including discharge of wastewater into the sea, is creating coastal-zone degradation, which in turn is costing countries \$1 billion to \$2 billion a year in lost tourism

revenues.

MEETING THE ENVIRONMENTAL CHALLENGE

Countries are attempting to grapple with these and other aspects of natural-resource scarcity and habitat degradation, but the problems that many of them face remain acute. Awareness has grown that it is as critical to focus on conserving resources as on attacking pollution and that sustainable development needs to observe three environmental principles:

1. Non-renewable natural resources should be used efficiently, not wastefully, since they cannot be replaced;⁵ investment is necessary in securing alternative resources.
2. Renewable resources should be used at a pace that permits them to reconstitute themselves in order to avert the risk that they will become scarce or unavailable.
3. Pollutants and waste matter need to be disposed of at rates that the environment can safely accommodate.

The ways in which these principles are observed will vary according to country circumstances and ecosystems, but in all cases, they will require effectively managed environmental programmes. Environmental management is a relatively new concept for all countries, and all are grappling with some of the special problems that it poses. These include:

- the expanding scope of the environmental systems to be managed. Over the years, this scope has grown to encompass the province, the city, the State, communities of neighbouring States and the entire planet. Each of these domains has overlapping problems as well as solutions;
- the changing quality standards that any environmental management system seeks to maintain. As knowledge deepens about the causes of undesirable environmental phenomena, previously acceptable standards may seem inadequate;⁶
- the fact that formal tools for the achievement of societal goals, such as legislation, can be ineffectual in the environmental sphere,

No country in the region has effective water-demand management systems and economic instruments to rationalize the use of water.

⁵ Man has, throughout the ages, tried to increase his share of non-renewable resources. As his scientific and technological knowledge grew, he turned the material existing in nature to resources (iron ore was not used until the late dynasties in ancient Egypt; oil was not used as a fuel until the second half of the nineteenth century; aluminum was used only at the beginning of the last century, and this applies to uranium and silicone as well).

⁶ A recent example is the ongoing debate in the United States over the permissible level of arsenic in potable water and the cost involved in maintaining this ratio in various areas.

Figure 3-6
Available water resources (billion cubic meter),
Arab region, 1996

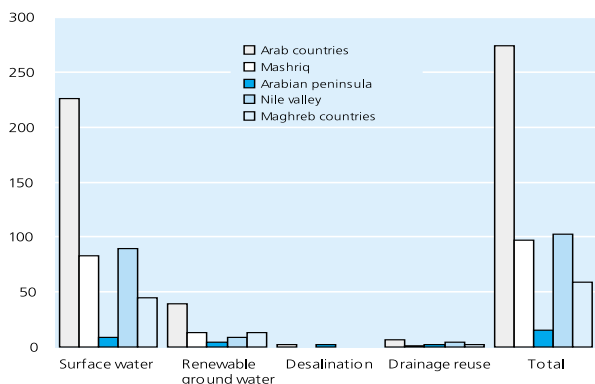


Figure 3-7
Projected total water demand (billion cubic meter),
Arab countries of west Asia

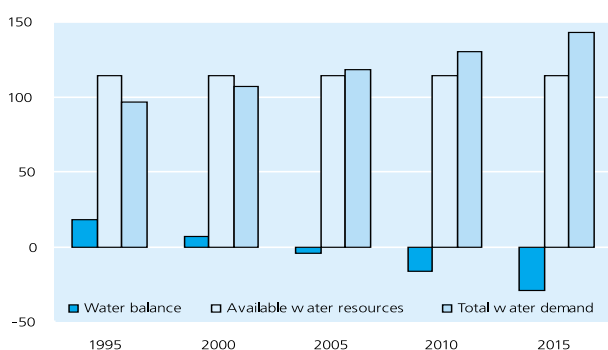
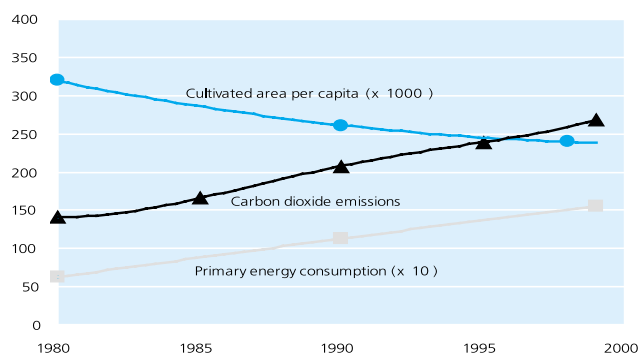


Figure 3-8
Cultivated area per capita (ha), primary energy consumption
(quadrillion BTU) and carbon dioxide emissions (million metric
tonnes of carbon equivalent), Arab region, 1980-1999



* The quadrillion equals million billion (10¹⁵)

TABLE 3.2
Urbanization, by Arab country

Urban population (less than 50%)	Urban population (50–80%)	Urban population (more than 80%)
Comoros	Algeria	Bahrain
Egypt	Djibouti	Kuwait
Morocco	Iraq	Lebanon
Somalia	Jordan	Libyan Arab Jamahiriya
Sudan	Mauritania	Oman
Yemen	Syrian Arab Republic	Qatar
	Tunisia	Saudi Arabia
		United Arab Emirates

⁷ A quadrillion equals a million billion (10¹⁵).

⁸ This section is based mainly on the report entitled "Future of Environmental Work in the Arab World", prepared by Osama El-Kholy in collaboration with Mostafa Kamal Tolba and Kamal Thabit (El-Kholy, O., 2001). The Council of Arab Ministers Responsible for the Environment, at their extraordinary meeting in Abu Dhabi in February 2001, approved this report, considering it a reference for future programmes of Arab environmental protection.

particularly in developing societies. Laws can be difficult, and sometimes impossible, to enforce. Environmental goals may more helpfully be met by other means, such as public-awareness campaigns, societal pressure, economic incentives and technical assistance.

- other constraints on environmental management and action, such as prevailing social values, the power of vested interests, the problem of externality, or limited expertise in environmental matters in many countries.
- the emergence of new global environmental issues. Arab countries are both affected by, and have a role in, influencing emerging problems such as ozone-layer depletion and changing global weather patterns. At the same time, global changes affect different areas differently. Changing rain patterns affect countries on the Nile River differently from countries in North Africa. Rising sea levels affect Egypt differently from Bahrain or countries on the eastern coast of the Mediterranean. Arab countries will need to keep abreast of research in these areas in order to minimize future risks.

Meanwhile, a revival of Arab interest in the environment has taken place at the government and public levels as well as in academic and research institutes. The strategy for environmental protection outlined in the next section reflects recent thinking on how the Arab countries might move forward in this area of special importance for human development.

A STRATEGY FOR ENVIRONMENTAL PROTECTION⁸

The strategy proposed here embodies a number of broad guidelines that can be drawn on to design programmes of action. These guidelines are in turn based on two pillars: (a) areas of strength and weakness in current Arab environmental conditions; and (b) a broad understanding of recent developments in various fields of environmental work. The ecological diversity of the Arab world calls for different methods and treatment of environmental problems in different countries, but the guidelines are broad enough for general application.

Features of the strategy

In light of the analysis offered above and the ongoing changes in the world, the proposed strategy for Arab environmental action would have the following six dimensions:

1. *Working within two timeframes.* Tackling all the many and varied environmental problems facing Arab countries at once is impossible. Therefore, plans of action aiming to protect and mend the environment must take place on two levels:

- first, the formulation of short-term plans, covering up to, say, five years;
- second, the formulation of longer-term plans, taking into account short-term plans but tackling problems requiring sustained effort over a longer timeframe.

2. *Prioritizing work on a rigorous scientific basis.*⁹

3. *Halting the causes of environmental degradation.* Much effort is often spent on treating the effects of environmental degradation before giving proper consideration to halting its causes. Such effort is self-defeating. Of course, there are cases, especially when the effects are severe, where efforts should be divided between treatment of the effects and elimination of the underlying causes of the problem. In such cases, substantial effort will be needed. Displacing environmental problems from one area to another or postponing dealing with them will always be costly. The best approach is to address problems at an early stage.

4. *Bolstering Arab ability to use the tools of modern environmental economics.* Mastering modern tools of analysis can provide the policy-maker with an accurate estimate of the damage incurred by inaction and delay and could help to ensure that environmental problems are treated speedily and effectively. Such tools include the calculation of externalities and the amendment of GNP statistics to show resources lost, environmental damage and the discounted value of investment over time.

These tools are available and are becoming better and easier to apply. They can be of considerable help to the Arab decision-maker, helping her/him in making rational and confident decisions on environmental matters.

5. *Adopting a strategy for cleaner production.* A strategy for cleaner production covers a wide range of topics, including radically and tangibly reducing the consumption of natural resources, avoiding the use of highly toxic or environmentally harmful substances, and improving product design and manufacturing so as to reduce emissions, refuse and waste and encourage recycling. It also considers the system of social values and the conditions under which social demand for products or services has been generated. It then tries to adjust this system to reduce unnecessary luxury consumption that wastes resources and harms the environment.¹⁰ Industrial countries are seeking to achieve, in the short run, what is known as coefficient 4, and in the long run, coefficient 10. The former involves producing twice the output with half the input of natural resources and energy. The latter refers to producing the same output with one tenth of the relevant input. The cleaner-production strategy involves a dynamic understanding of the concept "cleaner", the point being that the target is constantly changing: with improvements in technical know-how and the understanding of environmental problems, better modes of production and consumption become possible.

6. *Increasing popular participation in environmental-protection action plans.* The basic question in dealing with environmental issues has been, and still is, how to achieve an appropriate balance between the requirements of development and its pressure on the environment on the one hand and the need to protect the environment on the other. To achieve this balance, substantial changes may need to be made in development plans. These changes may in turn conflict with the interests of one social group or another. Therefore, every ef-

Displacing environmental problems from one area to another or postponing dealing with them will always be costly.

⁹The Abu Dhabi Declaration, issued by Arab environment ministers in February 2001, stated that the following environmental problems are of high priority: the acute shortage of water resources and the deterioration of their quality; the shortage of land and the deterioration of its quality; inefficient use of natural resources; the increase in urban areas and the attendant problems; and the deterioration of marine, littoral and wet zones.

¹⁰When the United Nations Environment Programme came up with the concept of "cleaner production", the latter was defined as "the constant application of a preventive environmental strategy on operations and products with the aim of minimizing risks for humans and the environment". In production operations, cleaner production involves conserving raw material and energy, non-use of toxic raw materials, and reducing the quantity and toxicity of all emissions and refuse during the production operations. As for the products, the strategy focuses on reducing their environmental effects throughout their lifecycle, from the extraction of raw materials to their final disposal. The primary goal of cleaner production is the non-generation of waste. Cleaner production can be achieved by the application of knowledge and technological development and/or a change in social conditions and values.

Public opinion on suggested options should be probed and taken seriously because it is the public that is affected by both problems and their solutions.

fort should be made to gain public backing for these changes. Such backing will need to be based on public awareness of the dimensions of environmental problems, and of why a given approach is needed to deal with them. Public opinion on suggested options should be probed and taken seriously because it is the public that is affected by both problems and their solutions. Without public support, efforts at environmental protection cannot succeed in the long run.

Three factors are critical in mobilizing public opinion with respect to environmental issues. One is to integrate environmental awareness into education and training at all levels and in all fields, starting with the earliest stages of education and continuing through graduate studies (engineering, management, economics and law) and research institutes. The second is to mobilize the mass media—written, audio and visual—together with artists and writers to draw the public's attention to environmental issues and to enlist their backing. The third is to promote public participation in legislation and in compliance with it once it is passed.

This is no easy task in societies where public participation is limited in both law and practice with respect to making and implementing decisions, but it is of critical importance if environmental legislation and action plans are to bear fruit.

Suggested programmes for protecting the environment in the Arab world

The proposals below take into account the above strategic guidelines and are consistent with the priorities for Arab environmental work that received unanimous approval by Arab environment ministers and that were summarized in the Abu Dhabi Declaration issued in February 2001.

Scarcity and degradation of the quality of water resources.

The proposed programme in this area would aim to boost the socio-economic return on a unit of usable water. This would involve the establishment of a central institutional entity charged with managing the use of water in various sectors of society, thus eliminating the existing fragmentation of water-affairs management. Currently, management is divided

among numerous executive agencies that may lack an overall water policy or the ability to implement it.

The proposed programme would have three main elements:

- rationalizing the use of available water resources;
- preserving the quality of these resources;
- providing additional resources from unconventional sources.

Strong, sustained programmes should also be designed to raise public awareness of the importance of water, the gravity of the current situation and the need to implement the measures needed to deal with it. With respect to specific measures, emphasis should be placed on the feasibility and ease of implementation.

Scarcity and degradation of the quality of land.

Since most of the land mass of Arab countries is desert, with arable land not exceeding one seventh of the total land area, the focus of discussions of land availability and quality is often exclusively on agricultural or grazing land. Agriculture and animal husbandry are of considerable importance in providing food domestically, and the majority of land use is dedicated to these two functions. However, the critical need is to develop a comprehensive, logical planning system for all forms of land use, including the use of different types of land (including land whose quality has deteriorated) for different purposes. At the same time, the reasons for such quality deterioration should be carefully studied, and plans for adopting coordinated programmes to arrest degradation in both the short and long term in Arab countries should be drawn up. A comprehensive national plan for various types of land use should take into account the type of land, priorities for land use, the relevant socio-economic returns, and the expected increase in the need for different uses in the future. Special emphasis should be given to the participation of concerned parties in preparing and implementing land-use plans.

Urbanization.

As noted earlier, urbanization presents many environmental problems. In addition to air pollution and attendant health problems, urban development has encroached on some of the best and scarcest agricultural and grazing land in the Arab world. Programmes

aimed to confront the negative impact of urbanization, which has been accelerated by the high rates of population growth, will need to be implemented differently in accordance with individual conditions, but there should also be a place for the exchange of available expertise in this area.

Coastal areas.

Arab countries have coasts on seven bodies of water, three of which are semi-closed. Coastal areas are inhabited by over half the Arab population and are thus of considerable importance as habitat. They are also important as sources of tourism revenue, which helps to create employment that is generally labour-intensive. However, unregulated tourism and the consequences of other forms of human activity (pollution from land sources, the destructive landfill of marine habitats, oil and industrial activities) also contribute substantially to the degradation of coastal areas. To resolve these problems, much higher levels of marine conservation efforts are needed. They will need to involve collaborative action by national and local governments and the private sector.

INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL PROTECTION

Most Arab countries have followed a command-and-control approach to environmental affairs. This approach, which had been unsuccessfully tried in industrial countries, has also failed in Arab countries. An alternative, more effective approach is needed.

Experience in many developing and industrial countries suggests that it is wise to begin with indirect tools (for example, self-surveillance) and postpone the use of direct intervention until it becomes clear that indirect tools have proved ineffective and other measures are needed.

Direct action should be taken to help those who are called upon to comply and to change their behaviour. Such help (for example, technical assistance and expertise) should be provided before enforcement action is taken. Other features of an effective institutional framework include:

- maximizing the willingness of the community to comply and the resources required for

compliance;

- persuading people of the value of their extra effort and helping them to make that effort;
- using market mechanisms (for example, eco-labelling) to raise community awareness of the environmental effects of products and services;
- involving groups affected by pollution or the waste of resources in implementing and checking compliance (self-surveillance) with environmental specifications;
- maintaining government responsibility for enforcing compliance (even with self-surveillance in place);
- addressing and vigorously punishing deceit and fraud;
- establishing a rigorous, comprehensive and credible surveillance system.

ARAB COOPERATION IN ENVIRONMENTAL AFFAIRS

The interdependence of environmental systems and their two main aspects (resources and pollutants) makes it necessary for nations to cooperate in taking care of these systems. Some Arab countries have experience going back decades in conducting such cooperation (e.g., through agreement, or disagreement, on the way to use joint water resources). Despite mixed experience in this area, countries could consider three levels of regional collaboration on wider environmental matters.

Inter-governmental efforts

Enhancing the performance of the Council of Arab Ministers Responsible for the Environment is a matter of urgency. The Council needs to be able to examine relevant environmental matters in a rigorous, efficient way and to provide decision-makers with optimum but realistic options for addressing regional and international environmental issues. It needs to function efficiently, tend to joint environmental resources, settle potential disputes among Arab countries over the shared use of these resources, enhance Arab cooperation and defend Arab interests at international forums. One question it needs to address is any possible disparity or conflict of Arab interests (over energy policies and climate change,

Most Arab countries have followed a command-and-control approach to environmental affairs. This approach, which had been unsuccessfully tried in industrial countries, has also failed in Arab countries.

for example). The Council needs to define these differences, assess their scope, narrow them and, if necessary, keep them from surfacing at international forums.

Scientific efforts

Environmental research and study are still scattered among a number of Arab States. This has weakened research in important areas linked to protecting the environment in Arab countries, such as use of solar energy, particularly in water desalination.

Establishing new agencies is not necessarily the best way to boost joint Arab scientific efforts, but it is advisable to divide tasks and exchange expertise and information. Centralized Arab entities could be of help in those instances where the cost of installations exceeds the ability or needs of any single Arab country.

Stimulating Arab scientific work is the responsibility of Arab governments. What Arab business can do, with a reasonable amount of spending and effort, is to develop and market viable environmental technology. This could boost the efficiency of the use of environmental resources and curb or reverse pollution. Arab governments should provide the necessary incentives to enable business to carry out this task.

Non-governmental efforts

In some rare and laudable cases, NGOs have exhibited expertise and knowledge of environmental issues, adopted environmental issues of interest to the public, and defended them with conviction and determination.

However, without a larger number of civil associations working to protect the environment in Arab countries, the effectiveness of the federation of these associations set up in the late twentieth century will remain limited unless efforts are made to strengthen such associations as a popular force in support of governments and professional organizations in their efforts to overcome environmental problems.

As with the preceding sections on people and health, this brief discussion of some of the issues associated with habitat, the physical environment in which people live, has identified problems with which Arab countries must

contend in the coming years. However, countries are far better equipped to tackle these problems than they were ten or even five years ago. Above all, knowledge about both problems and possible solutions has greatly improved. It is worth re-emphasizing, however, that success in preserving precious resources and dealing with unacceptable pollution will depend on an aware, committed and, above all, educated population—the topic of the next chapter.

Establishing new agencies is not necessarily the best way to boost joint Arab scientific efforts.