

# Human Development and Patterns of Production and Consumption

IBRAHIM ABDEL GELIL



## I. INTRODUCTION

The Arab region is politically and economically heterogeneous, and within it are shared common religious, cultural and ethnic profiles. Though the Arab countries vary in size, natural resources and energy endowments, income levels, social and political structures, and institutions, they have a range of shared economic and environmental challenges.

Where relevant, one can also distinguish between three geographic sub-regions that tend to share closer relations: the Mashreq region groups Egypt, Iraq, Jordan, Lebanon, Palestine and Syria together; the Maghreb region is composed of Algeria, Libya, Morocco and Tunisia; while the Gulf region includes the six members of the Gulf Cooperation Council (GCC: Bahrain, Kuwait, Oman, Qatar, United Arab Emirates, and Saudi Arabia) as they share common identities, interests and resources. While Yemen may be considered part of the larger Gulf sub-region in certain cases, it also belongs to a fourth cluster of countries that includes the Comoros Islands, Djibouti, Mauritania, Somalia and Sudan since these along with Yemen are all listed by the United Nations and the World Trade Organization (WTO) as least developed countries (LDCs) and are characterized by a high degree of poverty.

Though the region is richly endowed with hydro-carbon resources, the scarcity of fresh water and



the region's growing demand for it are increasingly seen as barriers to development. Water scarcity is linked to other environmental problems including deforestation, desertification, difficulties in preserving and protecting coastal area, and the relative scarcity of arable land.

Demographic development in the region has been a determinant development factor affecting demand on natural resources, rates of waste generation, and increasing environmental pressures on ecosystems leading in some instances to negative impacts on human well-being.

In 2002, the Arab Human Development Report of the UNDP revealed many alarming signals concerning population and human development in the region: 65 million Arab adults are illiterate, two thirds of whom are women, and 10 million children are out of school. Only 0.6% of Arabs use the internet, and spending on research and development (R&D) is one seventh of the world average. Arab unemployment, at 15%, is the highest in the developing world. While the Arab region has harboured some of the most ancient civilizations in the world, it currently has the largest number of young people of any region. The age structure of the population is significantly younger than the global average, with almost 38% under the age of 14 (UNDP, 2002). In many of the Arab countries, mainly because of the decline in fertility and in infant mortality, the proportion of young people in the population may have peaked. While this presents a number of challenges, it could also bring many rewards, if development strategies and policies place the right focus on issues affecting younger age groups and the working-age population.

FIGURE 1 ARAB POPULATION BY COUNTRY (2005)

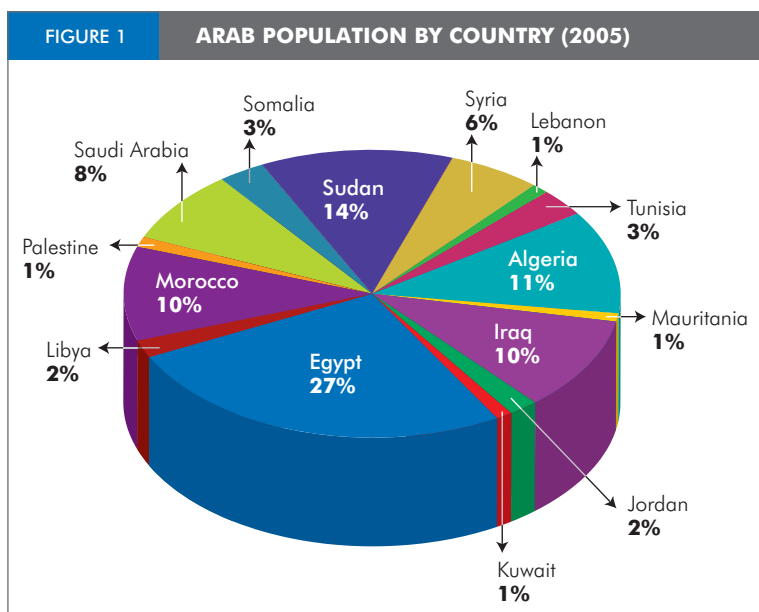
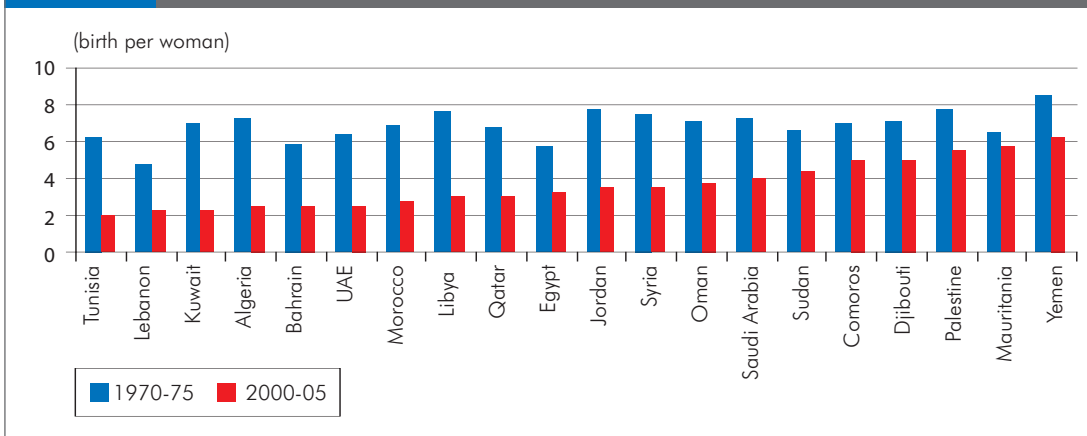


FIGURE 2 TOTAL FERTILITY RATE



This chapter highlights the relationships between population, consumption and human development.

## II. POPULATION

During the last 55 years, the Arab population has increased from around 72 million in 1950 to about 300 million in the year 2005, or about 5% of the total world population. Egypt is by far the most populous (74 million) accounting for nearly one in every four Arabs (Figure 1). Sudan and Algeria have the next largest population sizes (36 and 33 million respectively); while countries such as Bahrain, Qatar and Djibouti all have population sizes less than 1 million.

Population growth rates differ widely across the region, reflecting divergent economic, social and cultural factors. Population has grown fastest in the past three decades in the oil-producing Gulf countries, due partly to a massive influx of foreign workers and increased spending on the provision of health services, which boosted fertility rates and cut infant mortality rates sharply. Although inflows of foreign workers have slowed markedly since 1990, today nationals still make up less than half the population in Kuwait, Qatar and the UAE. The average fertility rate (births per woman) has decreased from about 7 between 1970 and 1975 to 3.7 between 2000 and 2005 (Figure 2). Currently it varies among the Arab countries from as low as 2 in Tunisia to as high as 6.2 in Yemen.

FIGURE 3 ARAB POPULATION GROWTH

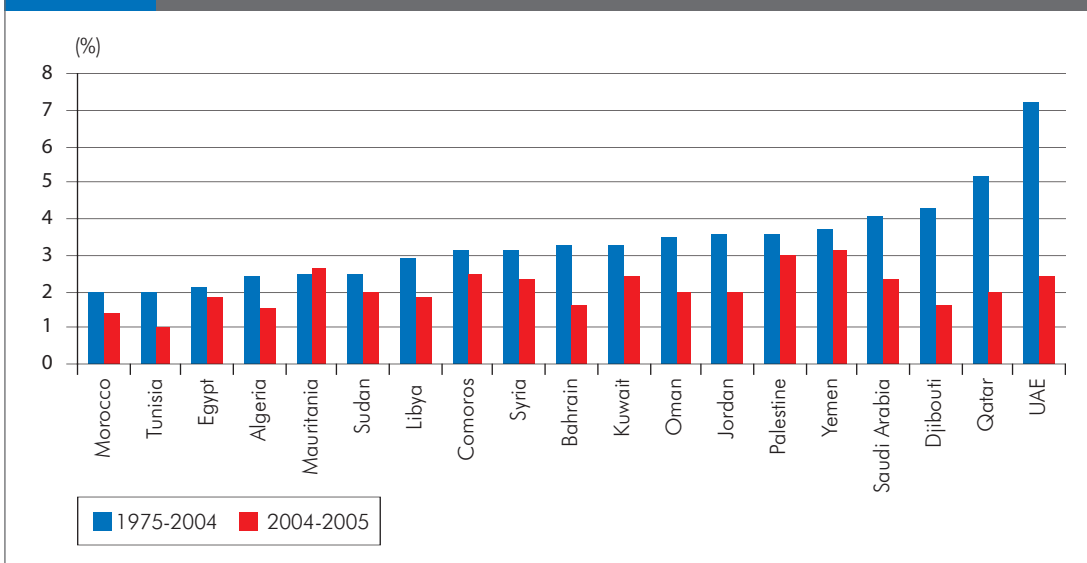


FIGURE 4 URBAN POPULATION

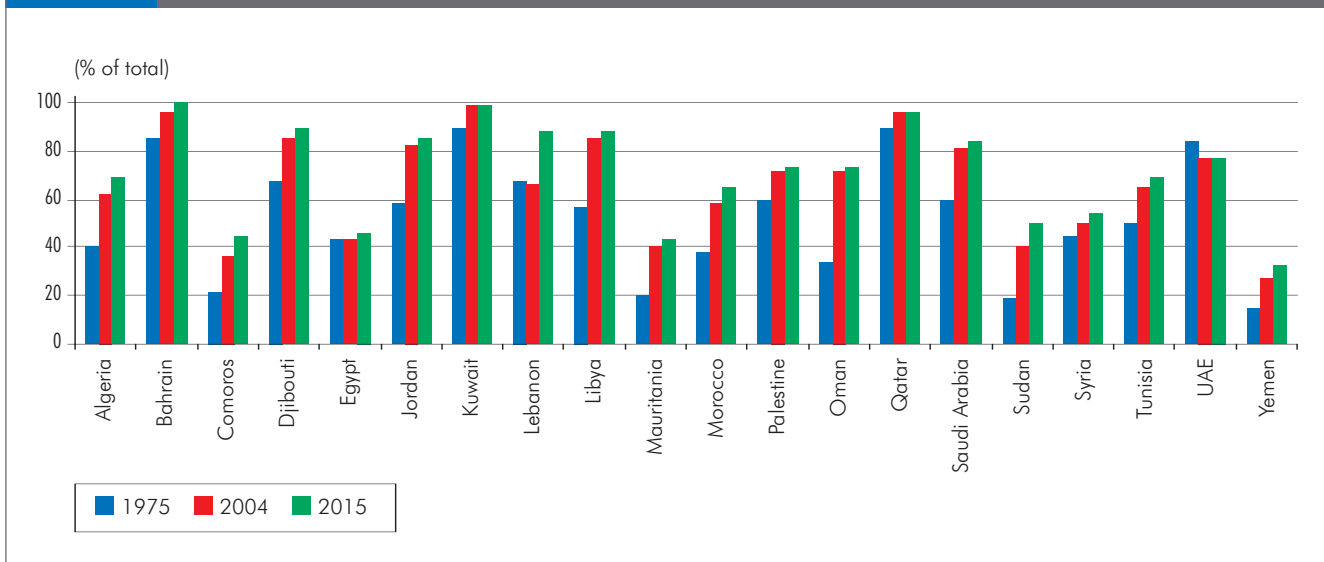
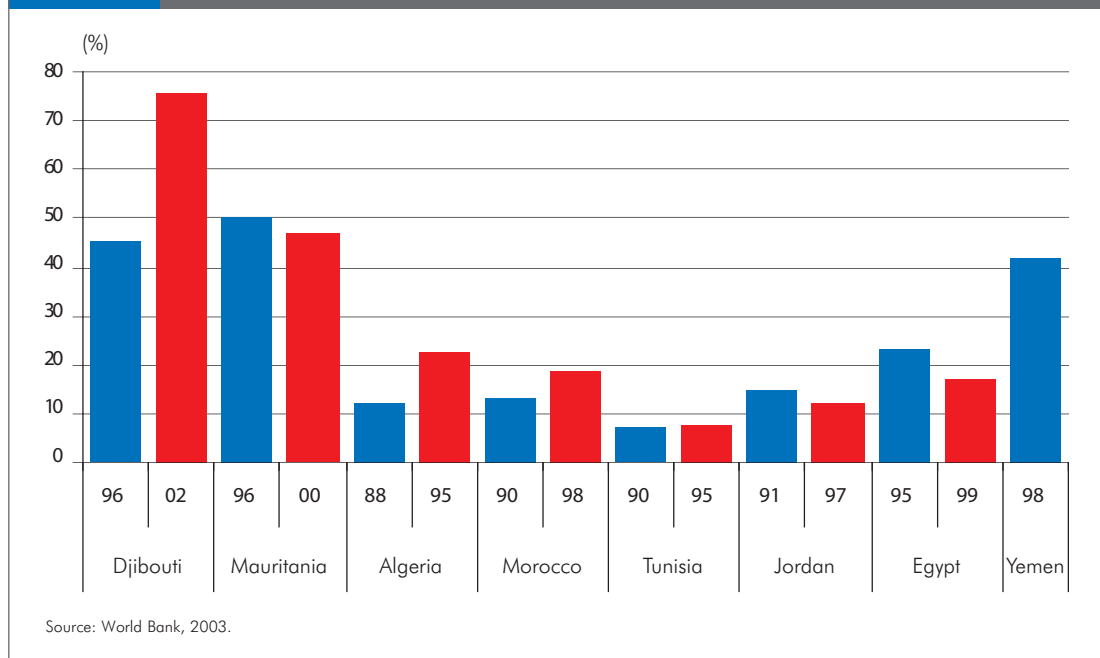


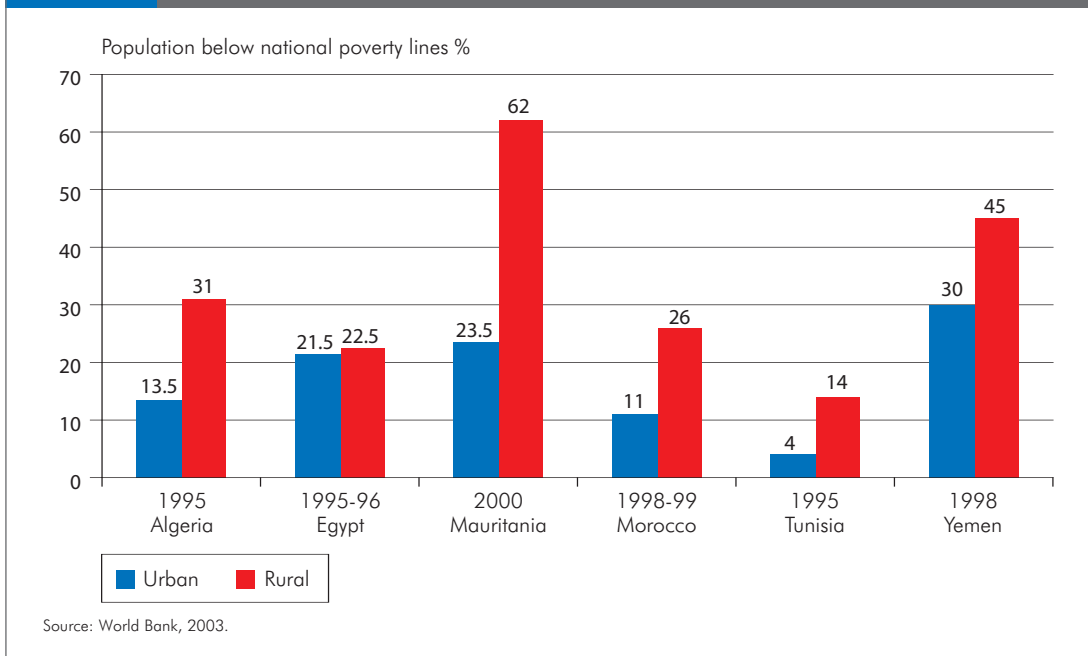
FIGURE 5 NATIONAL POVERTY LINE IN SELECTED ARAB COUNTRIES



In terms of population growth, the Arab region has the highest figures in the world. Between 1975 and 2004, the average growth rate was 3.3%, with only Lebanon (at 1%) below the global average of 1.4%. UAE with 7.2% growth in the same period has the highest growth rate among the Arab countries (Figure 3). It is expected that this high growth rate will drop on average to 2% between 2004 and 2015 with the highest rate above the average to remain only in Yemen (at 3.1%).

In 2005, urbanization levels varied from as low as 27% in Yemen to as high as 98% in Kuwait. Generally, the GCC countries have higher urbanization levels than the rest of the Arab countries. Percentages of urban population are exhibited in Figure 4. The average percentage of Arab urban population increased from about 52% of total population in 1975 to 66.5% in 2004, and is projected to increase to 71% by 2015.

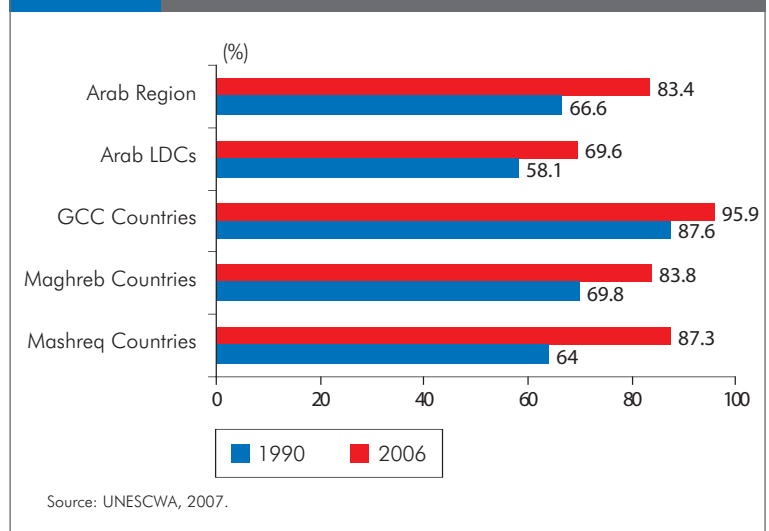
FIGURE 6 DISPARITIES IN POVERTY LEVELS



It should be noted that urban growth has a number of positive impacts on the environment and human well-being; for example, higher population densities mean lower per capita costs of providing energy, health care, infrastructure and services. Also, urbanization has historically been associated with declining birth rates, which reduces population pressure on land and natural resources. Despite these positive impacts, almost all major cities of the region are increasingly plagued by environmental problems. Some major aspects are as follows:

- As a direct result of urbanization, great threats to health and safety have arisen in cities due to water and air pollution, especially at the household and community levels. Waterborne diseases are found most commonly in low-income neighbourhoods as a result of inadequate sanitation, drainage and solid waste collection services. Health risks, especially to the poor, are also posed by pesticides and industrial effluents. These kinds of hazardous situations can often be easily found in the slum areas of many Arab cities such as Cairo, Damascus, Rabat, Sana'a, and others.
- The productivity of many cities is adversely affected by traffic congestion, air quality deterioration and water pollution. The loss in pro-

FIGURE 7 LITERACY RATES IN THE ARAB COUNTRIES



ductivity includes the total productive time wasted in traffic and the associated increase in the costs of operating and maintaining vehicles, increasing health care costs, and loss of working hours. Furthermore, the rising costs of treating water for industrial and domestic purposes are damaging the productivity of urban economies.

- Uncollected and improperly handled solid waste can have serious health consequences by

FIGURE 8 ACCESS TO SAFE WATER

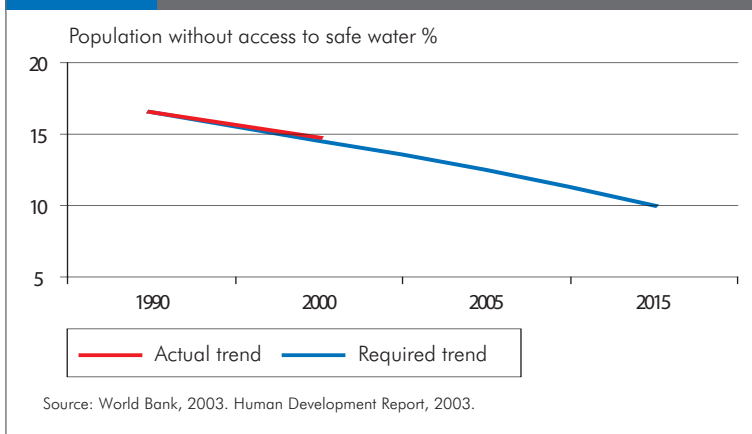
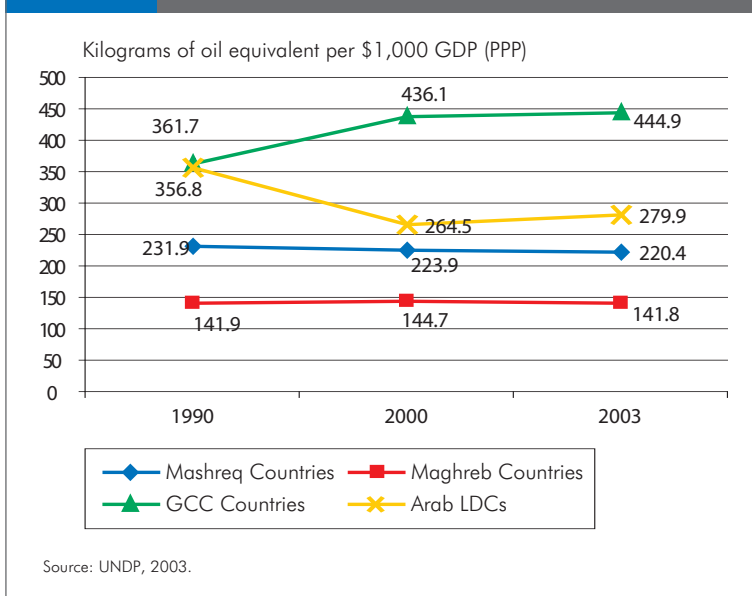


FIGURE 9 ENERGY INTENSITY IN THE ARAB COUNTRIES



blocking drainage systems and contaminating groundwater at landfill sites. In many cities, it is difficult to secure land for waste disposal facilities, especially onshore landfill sites. Most cities in the region are also unable to manage the increasing amounts of hazardous wastes generated by rapid industrialization. Properly engineered landfill sites such as those in Alexandria, Jubail, and Bahrain are unfortunately a rarity in Arab countries.

- Conversion of agricultural land and forest, as well as the reclamation of wetlands for urban uses and infrastructure, are associated with widespread removal of vegetation to support urban ecosystems, putting additional pressure

TABLE 1 ARAB HUMAN DEVELOPMENT INDICATORS

Country	HDI Value	Rank
<b>Kuwait</b>	0.871	33
<b>Bahrain</b>	0.859	39
<b>Qatar</b>	0.844	46
<b>UAE</b>	0.839	49
<b>Oman</b>	0.810	56
<b>Libya</b>	0.798	64
<b>Saudi Arabia</b>	0.777	76
<b>Lebanon</b>	0.774	78
<b>Jordan</b>	0.760	86
<b>Tunisia</b>	0.760	87
<b>Algeria</b>	0.728	102
<b>Syria</b>	0.716	107
<b>Egypt</b>	0.702	111
<b>Morocco</b>	0.640	123
<b>Comoros</b>	0.556	132
<b>Sudan</b>	0.516	141
<b>Djibouti</b>	0.494	148
<b>Yemen</b>	0.492	150
<b>Mauritania</b>	0.486	153

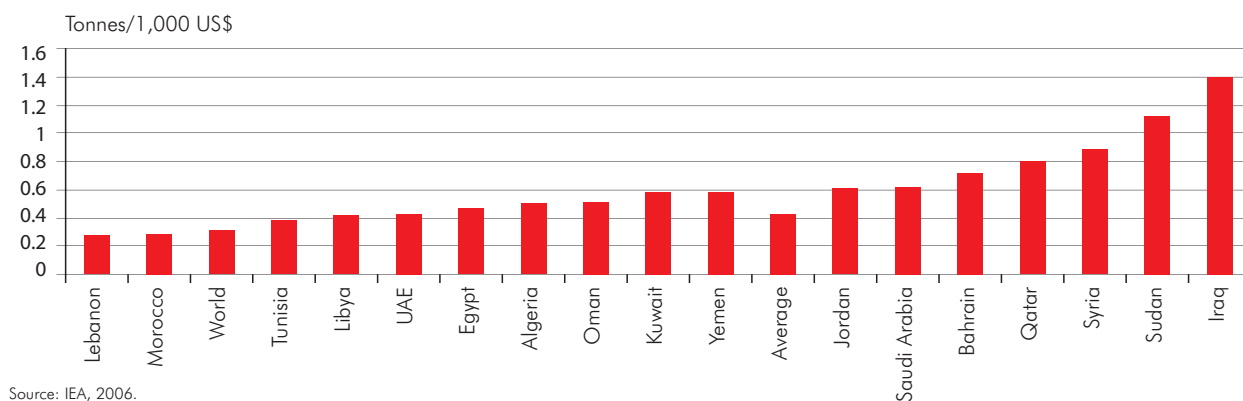
Source: World Human Development Report, 2006.

on nearby areas that may be even more ecologically sensitive. This is the case in most of the urban centres in the Arab countries.

- Urbanization in coastal areas often leads to the destruction of sensitive ecosystems and can also alter the hydrology of coasts and their natural features such as mangrove swamps, reefs and beaches that serve as barriers to erosion and form important habitats for species. This is the case in tourism development in the Red Sea and Gulf of Aquaba, and in many coastal areas of the GCC.

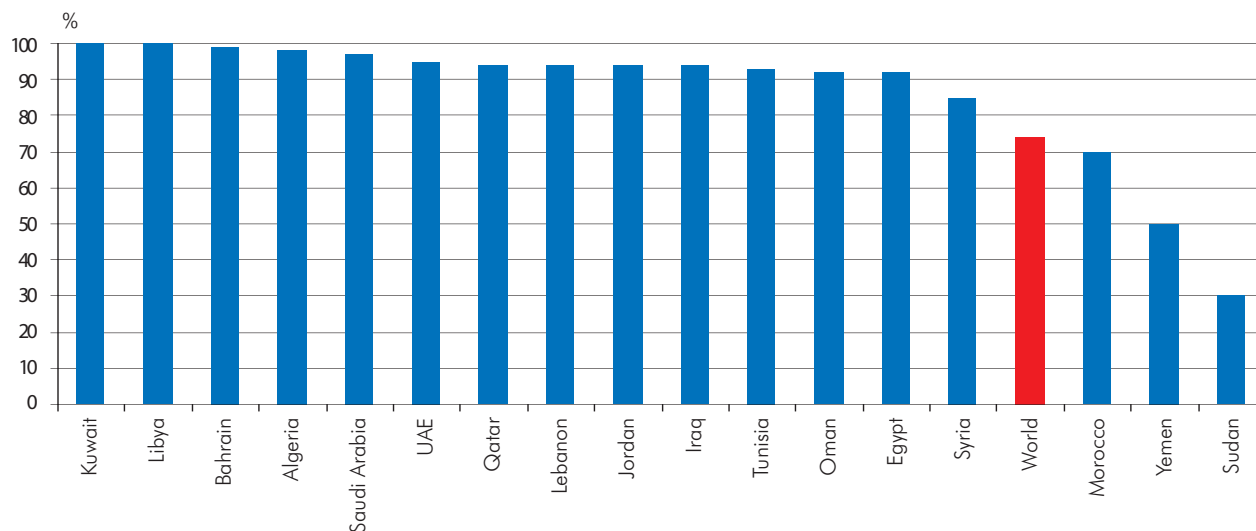
Urbanization has been a key characteristic of the region, though in different degrees between the Mashreq, Maghreb and the Arabian Peninsula. In addition to political and socioeconomic conditions, continued military conflicts and political instability have led to massive population displacements in many countries. This has led to greater population densities, increased water and energy demand, deterioration of air quality, waste management problems and a generally deteriorated urban environment. These factors combined have caused an expansion of slum areas and refugee camps especially around the

FIGURE 10 ENERGY INTENSITY IN THE ARAB COUNTRIES



Source: IEA, 2006.

FIGURE 11 ELECTRIFICATION RATE IN THE ARAB COUNTRIES



Source: IEA, 2006.

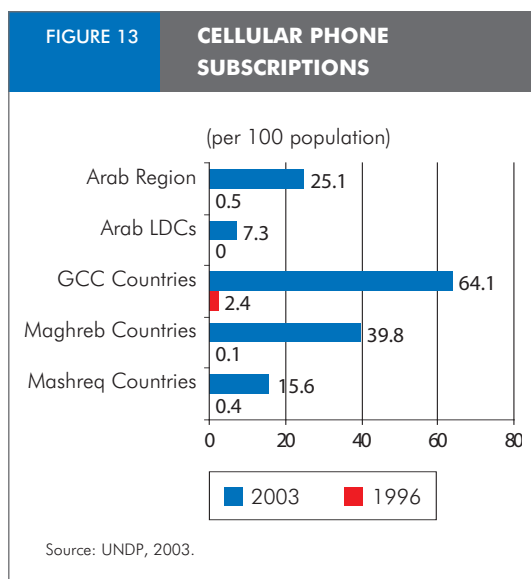
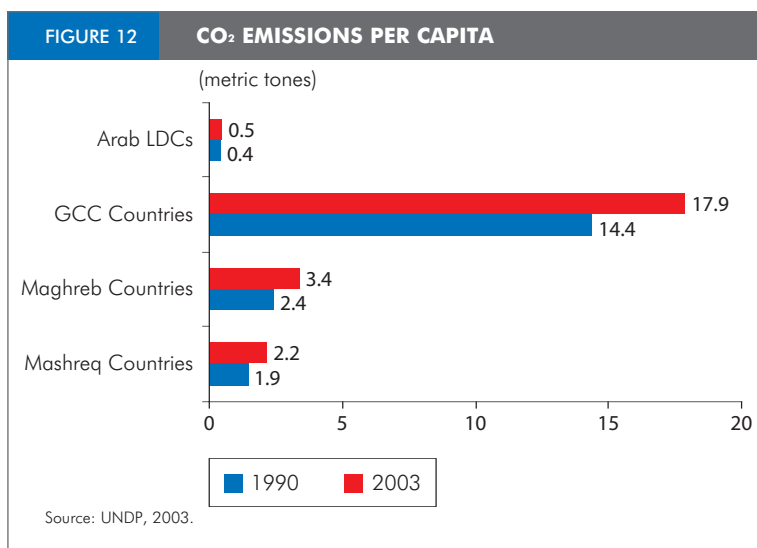
major cities of some Mashreq countries and in Yemen. In the last decade, the number of people living in slum conditions has almost doubled in Yemen, and has increased by about 30, 15, 20, and 25 percent in Lebanon, Jordan, Iraq and Syria, respectively (UN-HABITAT, 2003).

The conflicts in Palestine and in Iraq have also augmented slum areas. Today there are 400,582 Palestinian refugees in Lebanon, 426,650 in Syria and 1,780,701 in Jordan. In Occupied Palestinian Territories, there are 1,649,187 registered refugees, or almost one third of the total population (UNRWA, 2005). In Iraq, stringent economic sanctions in the past and the continued conflicts have led to substantive increases in

urban poverty; 32 percent of people in Iraqi cities are living under or near the poverty line while a large number live in refugee camps on the borders with Syria and Iran.

### III. HUMAN DEVELOPMENT

In terms of the Human Development Index (HDI), there is considerable variation within the region (Table 1). In terms of the sub-regions, it is clear that, except for Saudi Arabia, the Gulf region, which is characterized by a relatively small population and a high concentration of natural resource wealth, retains a significantly higher HDI rating than the Mashreq and



Maghreb regions. Kuwait is the highest-ranking Arab country on the Global HDI, and Mauritania has the lowest HDI value in the Arab region (UNDP, 2006).

#### IV. MILLENNIUM DEVELOPMENT GOALS (MDGs)

The prospects of the Arab region as a whole for achieving the MDGs are encouraging; however, wide gaps and significant disparities in progress, both among and within Arab sub-regions, remain. Although the region will probably continue to make progress in reducing income poverty, Iraq, Palestine, and the Least Developed

Countries (LDCs) will likely fail to meet the poverty related targets by 2015 without drastic improvements in their economic and political situations (Figure 5). Disparities between rural and urban populations in terms of poverty levels are evident in Algeria, Mauritania, Morocco, Tunisia, and Yemen (Figure 6).

Today, the Arab states face significant development challenges. About ten million children still do not go to school. Even though women's access to education has tripled since 1970, gender disparities persist. Over half of women remain illiterate, and women occupy less than five per cent of the seats in Arab legislatures.

Over the last few decades, the Arab countries have made progress towards many of the MDGs. Literacy rates for the 15-24 year old range steadily increased from 35 per cent in 1970 around to 83 per cent in 2006 (Figure 7). Life expectancy soared from 51 to 68 years between 1970 and 2001. New infrastructure extended access to safe water to 83 per cent of the population, while sanitation networks spread to 87 per cent of the urban population (Figure 8).

Target 9 of the MDGs calls for integrating the principles of sustainable development into country policies and programmes as well as reversing the loss of environmental resources. The percentage of land area covered by forest in the Arab region decreased from 7.4% to 6.7% between 1990 and 2004. This implies that the Arab region as a whole is not on track to meet the set target despite reforestation efforts in many Arab countries to increase green areas. Some of the challenges facing the region include high population density, deforestation due to high demand for energy resources, especially in the Arab LDCs, lack of institutional capacity, and lack of legislation and incentives encouraging reforestation.

However, despite the deficiencies in institutional capacity, legislation, and incentives, the Arab region has witnessed a significant increase in protected areas since 1990. The proportion of protected areas in the region increased from 2.4% to 3.9% between 1990 and 2004. However, the protected area average in the Arab region remains about three times lower than the world average of 13% in 2004. The increase is mainly due to efforts in the GCC sub-region where the size of

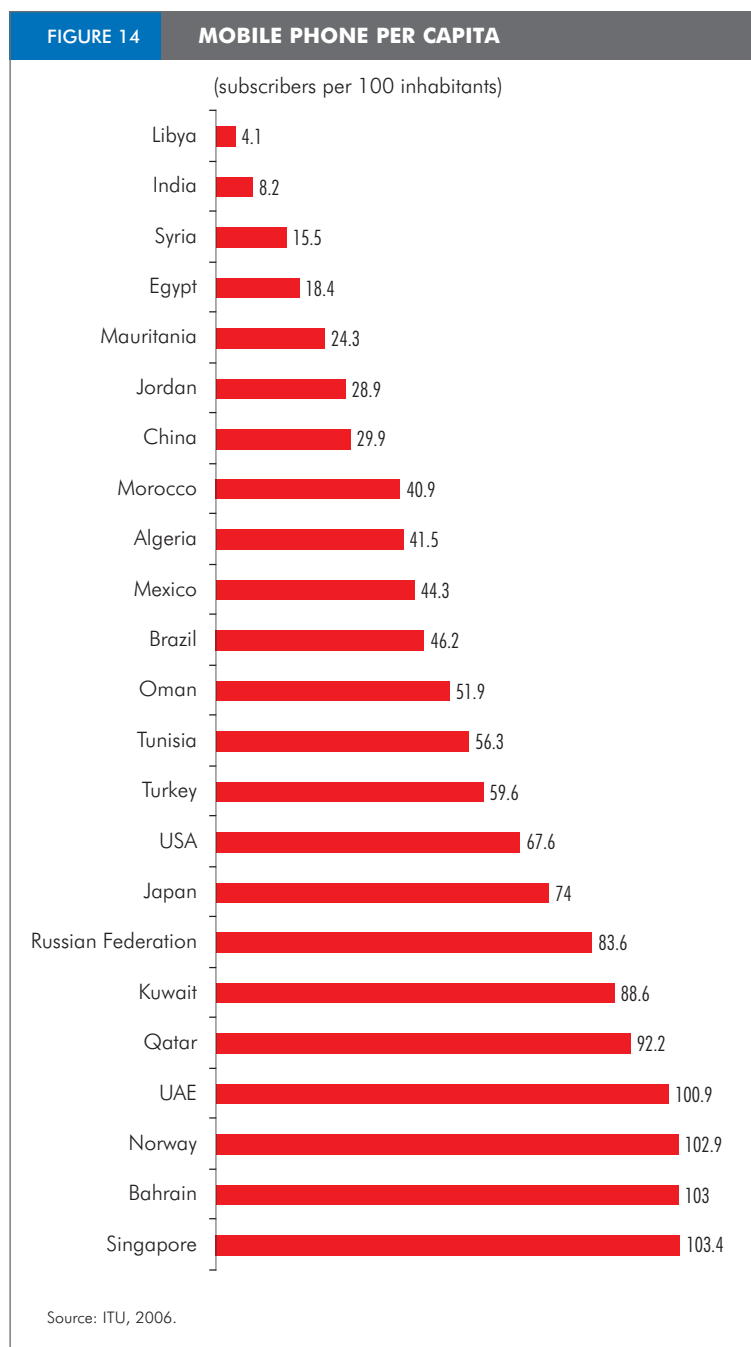
protected areas has more than quadrupled since 1990. This is partly attributed to the protection of 64 million hectares as a wildlife management area in Saudi Arabia, the largest protected area in the world, in 1994. The lowest proportion of protected areas compared to surface area is in the Arab LDCs, which have the highest levels of biological diversity in the region and which have not witnessed any successful efforts in expanding protected areas in the past 15 years.

Dry lands account for over 50% of total area in the Arab world. These are characterized by harsh environments, fragile ecosystems, limited water resources and non-arable lands. Land degradation in the Arab region is widespread, due primarily to misuse, and is proceeding at an accelerating rate. A growing population and changing patterns of consumption have resulted in increasing food demand, hastening land degradation in this arid environment. Wind erosion, salinity and water erosion constitute the major threats. Failures of resource management policies are aggravated by overgrazing, overexploitation of water and land resources, over-cultivation of marginal lands, deforestation, and the use of inappropriate technologies. Despite government efforts to prevent and reduce land degradation at the national and regional levels, only limited success has been achieved, mostly due to the severity of the problems.

## V. PRODUCTION AND CONSUMPTION PATTERNS

According to the World Bank, while only 2.4% of the Middle East and North Africa (MENA) region's population lives in absolute poverty under an income of \$1 a day, this figure jumps to a more realistic 23% for incomes of only \$2 a day. Worryingly, the reduction in the absolute numbers of poor that was achieved in the 1980s was reversed during the 1990s despite the fact that economic growth was relatively higher for the region.

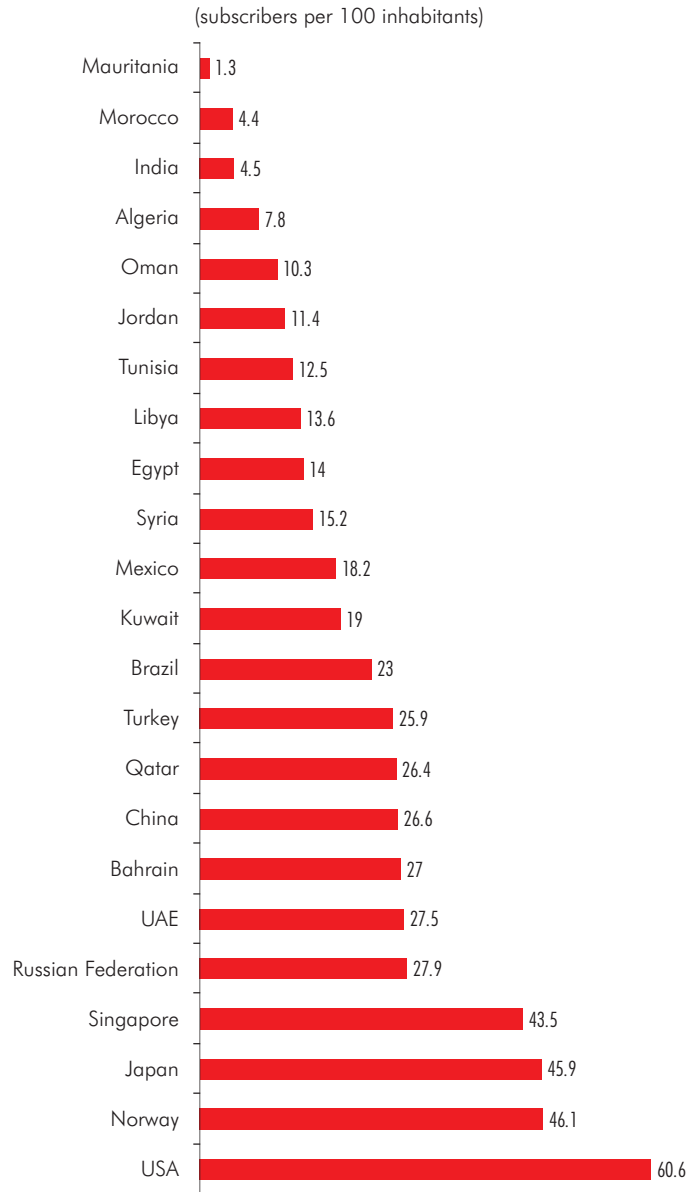
Rapidly expanding populations, rural-urban migration, and widespread subsidies have contributed to a rising demand for energy in the Arab world since 1990. On average, energy consumption per \$1,000 GDP increased by 10% between 1990 and 2003. While the Mashreq and the Arab LDCs witnessed decreases of 5% and



22%, respectively, energy consumption per \$1,000 GDP in the GCC countries rose by 23%. The Maghreb maintained a constant average level over the same period (Figure 9). Of course, there are disparities among Arab countries on levels of energy intensity; seven countries have energy intensity above the world average (Figure 10).

In per capita terms, a large discrepancy in energy use persists between the GCC countries and

FIGURE 15 MAIN TELEPHONE LINES PER CAPITA

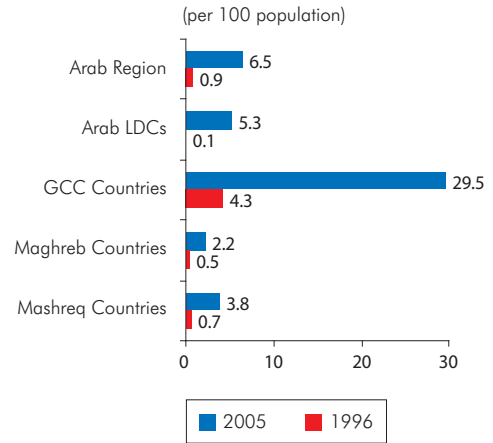


Source: ITU, 2006.

all other Arab countries. Per capita energy consumption in all the GCC is higher than the world average. Per capita electricity consumption in the GCC remains among the highest in the world as well.

Electrification rates also varied widely among Arab countries, averaging 80% in 2005. While Kuwait boasted a 100% electrification rate, some Arab LDCs have limited electricity coverage.

FIGURE 16 PERSONAL COMPUTERS BY REGION



Source: UNESCWA, LAS, 2007.

Across the region, about 63 million people, almost 20% of the Arab population, had no access to electricity in 2005, and one fifth relied on non-commercial fuels. Another 20% of people living in poor urban and rural areas had limited and unreliable access to energy (Figure 11).

The regional level of per capita CO<sub>2</sub> emissions rose by 28% between 1990 and 2003 from 3.1 to 3.9 metric tons. Mashreq and Maghreb countries and the Arab LDCs saw total emissions of CO<sub>2</sub> rise by 66%, 80% and 57%, respectively. The Mashreq and the Arab LDCs maintained relatively stable levels of per capita emissions, while those in the Maghreb rose by 42%. The GCC remains the sub-region with both the highest total and per capita emissions; the former increased by 86% between 1990 and 2003 (Figure 12; see also chapter 4).

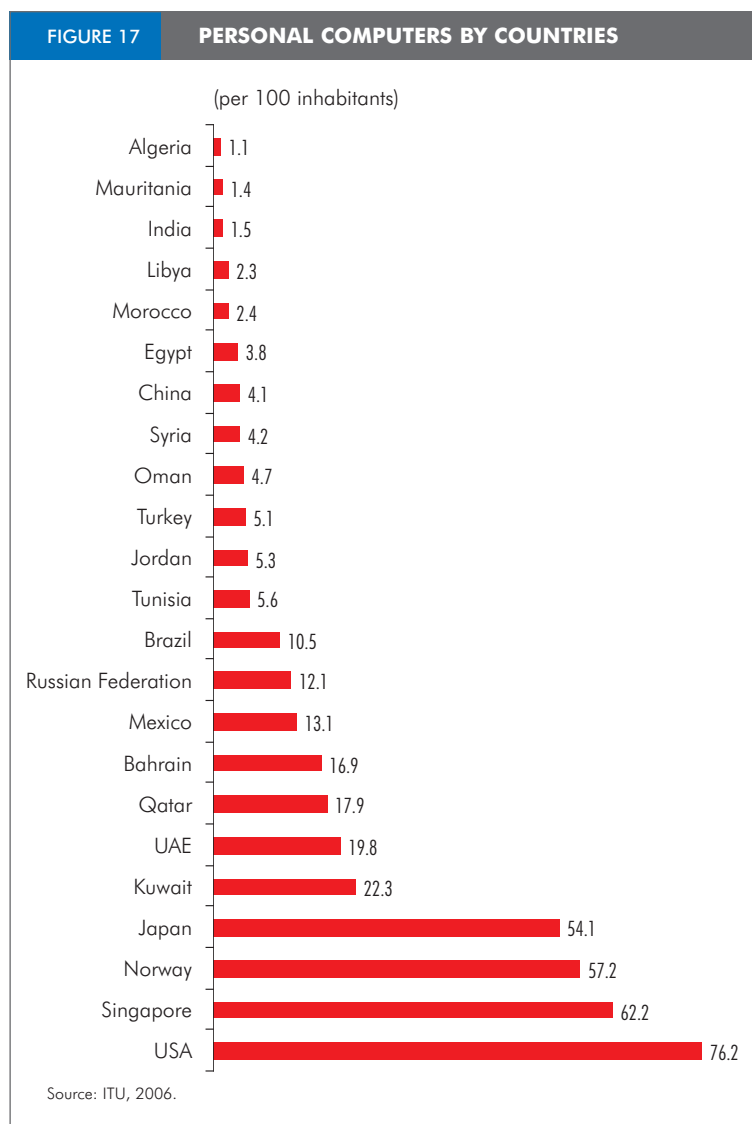
Arab countries have expended serious efforts in implementing the Montreal Protocol. Legislation and programmes have been developed to reduce, control and monitor the consumption of ozone-depleting substances (ODS), especially chlorofluorocarbons (CFCs). By 2004, the region had succeeded in decreasing the level of consumption of ODS by 31%. In fact, since 2000, all sub-regions have witnessed drops in total ODS consumption, the most significant of which being the Mashreq (40%). CFCs accounted for 64% of total ODS in the region (UNESCWA and LAS, 2007).

Target 18 of the MDGs stipulates that governments, in cooperation with the private sector, must endeavour to make available the benefits of new technologies, especially in the areas of information and communications. With very few exceptions, access to information and communication technologies (ICT) in the twenty-two Arab countries increased steadily over the last decade and a half. However, despite this progress, the region as a whole lags considerably behind the world average in terms of fixed telephone lines, personal computers, and internet users. Moreover, disparities between Arab countries remain very high. The digital divide is most noticeable when comparing the advanced countries of the GCC with many poorer Arab countries.

The mobile sector in the Arab world has grown very rapidly during the past decade. Between 1996 and 2005, the number of cellular subscribers has increased by a factor of 50 and, today, there are on average more than 25 subscriptions per 100 people. It is the only indicator of target 18 of MDG Goal 8 (regarding making widely available the benefits of new technologies in information and communications) for which the average of the Arab countries comes close to the world average. However, in Libya, there are still less than 5 cellular subscriptions per 100 people (Figure 13).

In contrast to the mobile sector, the number of fixed telephone lines in the Arab region has grown at a slow pace since the early 1990s. By 2005, the average number of fixed lines in operation per 100 people had reached only 9.5, around half of the world average. While fixed telephone markets in some of the GCC countries, namely Kuwait, Saudi Arabia, and the UAE are showing signs of saturation, the penetration rate remains below 4% in all six Arab LDC countries and Morocco (Figures 14, 15).

While still less than half the world's average (6.5% as opposed to 13.4%), the number of personal computers (PCs) in Arab countries has increased substantially since the mid 1990s. The average number of PCs in the four Arab sub-regions clearly illustrates the digital divide that separates the GCC countries from the rest of the region. Excluding Lebanon, all Mashreq and Maghreb countries and the Arab LDCs have



rates below 10%. The relatively high average number of PCs in the Arab LDCs in 2005 is primarily due to a significant increase in PC usage in Sudan (Figures 16, 17).

Access to and use of the internet in Arab countries have grown at a very fast pace over the past few years. In 2005, 7.2% of the Arab population was using the internet, compared to only 1% in 2000. However, the average number of internet connections in the Arab countries is still well below the world average of 15.2 per 100. Internet use is particularly limited in Iraq, Mauritania, and Yemen, where less than 1% of the population use the internet. This may be in part attributed to the low number of websites available in Arabic (World Economic Forum website).

As a result of the abundance of hydrocarbon resources and the heavily subsidized energy prices, energy intensive industries such as aluminium, cement, petrochemicals, and the like have been widely attracted to the region. These industries exert heavy burdens on natural resources and the environment. Within the current global climate policies, hosting of these industries could be looked at as carbon leakage from industrialized countries to developing countries where no commitments to reduce carbon emissions have been made. Additionally, and due to scarcity of water resources in the region, especially in the GCC sub-region, those countries rely heavily on sea water desalination to meet growing water demand. The widely penetrated desalination technologies in the region have been those fuelled by oil and gas, exacerbating their environmental impacts and carbon emissions. Accordingly, this has led to increasing the energy and CO<sub>2</sub> emissions per capita in the GCC countries.

Cleaner production (CP) concepts and tools have been introduced in some Arab countries within the gradual evolution of the environmental management at the national levels. One regional centre promoting pollution prevention and cleaner production in the Mediterranean Arab countries has been the Regional Activity Center for Cleaner Production (RAC/CP) established under the Mediterranean Action Plan (MAP) in Barcelona, Spain. The RAC/CP's objective is to provide technical support to its 21 member countries of the Mediterranean and the European Community, specifically through giving support to businesses wishing to promote less polluting and more eco-efficient techniques and practices in their activities. Since the mid-nineties, the Arab countries have been much more involved in CP and have progressively adopted measures fostering, directly or indirectly, CP implementation. National CP centres have been created, or are in the process of starting up, in most countries. Tunisia was the first country in the region to operate a centre entrusted to introduce Cleaner Production in industry in 1996, followed by Morocco and Egypt. At present, most of the Arab countries have considered or are in the process of setting up CP centres, in many cases with support from international development organizations such as UNIDO (UNEP/ROWA, 2007).

## REFERENCES

- UN – ESCWA and the League of Arab States. *The Millennium Development goals in the Arab region: 2007, A youth lens*. Beirut: UN-ESCWA, June 2007.
- United Nations Development Programme. *Human Development Report, 2003*.
- UN-HABITAT. Millennium Development Goals. UN-HABITAT, 2003. <http://www.unhabitat.org/mdg> (accessed 13 March 2008)
- UN-HABITAT, "Guide to Monitoring Target 11: Improving the Lives of 100 Million Slum Dwellers." UN-HABITAT, 2003. <http://www.unhabitat.org/programmes/guo/documents/mdgtarget11.pdf> (accessed 3 March 2008)
- UNRWA/United Nations Relief and Works Agency for Palestine Refugees in the Near East. *Selected Refugee Statistics - Total registered refugees per country and area (as per 2005)*. [http://www.un.org/unrwa/publications/pdf/rr\\_countryandarea.pdf](http://www.un.org/unrwa/publications/pdf/rr_countryandarea.pdf) (accessed 20 April 2008)
- United Nations Environment Programme/ROWA. "South-South Cooperation In Environmental Management: The Arab Oil And Gas Sector." Doha, Qatar: UNEP, September 2007.
- United Nations Development Programme. *Human Development Report 2007*.
- United Nations Development Programme. *The Millennium Development goals in the Arab countries*. UNDP, December 2003.
- "World Economic Forum – Website." World Economic Forum, <http://www.weforum.org/en/index.htm> (accessed 13 March 2008)