SECOND EDITION

Peoples and Cultures of the Middle East

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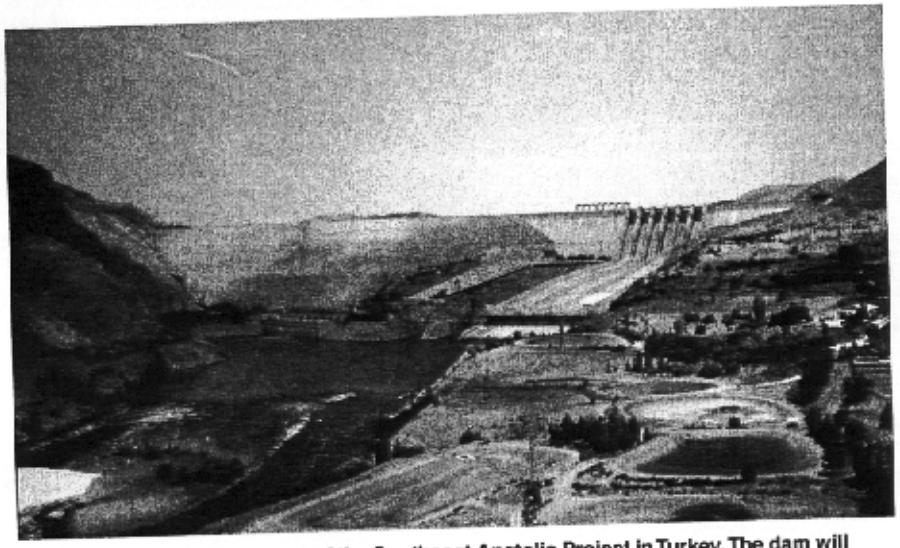


Dam on upper Tigris River, part of the Southeast Anatolia Project in Turkey. The dam will control upland flood waters of the Tigris and Euphrates Rivers.

extension of farmlands and greater hydroelectric production, but there have been costs as well. Much valuable water that is impounded in Lake Nasser is lost each year to evaporation. The nutrients carried by the river are now left as lake sediments and have to be replaced by manufactured fertilizers, and the loss of these same nutrients has also killed an important fishery industry in the delta and adjacent Mediterranean.

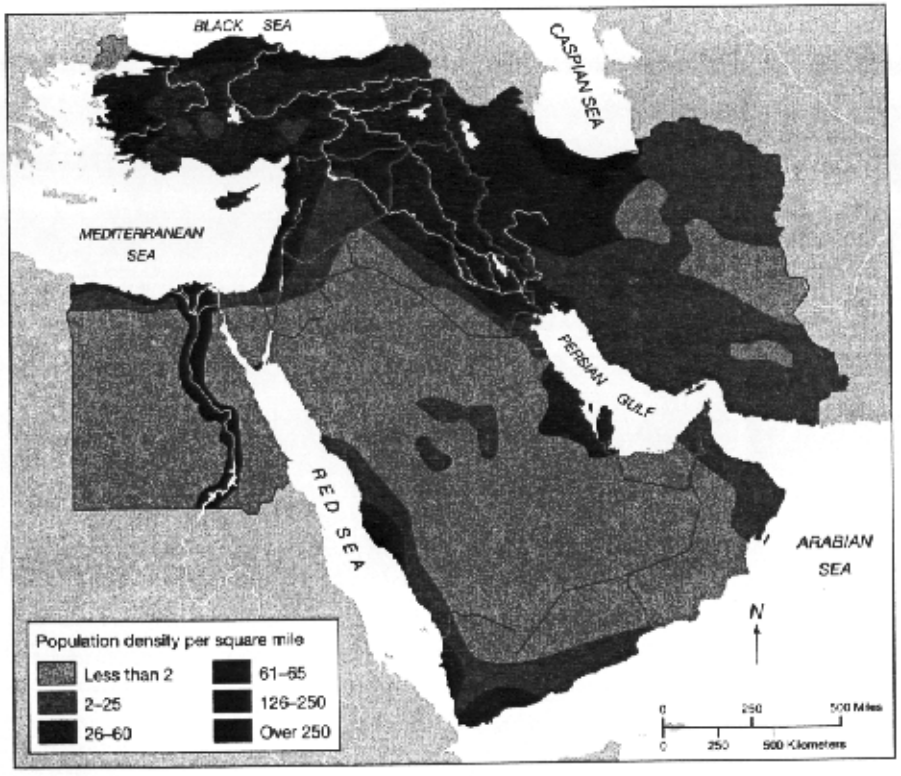
Turkey has the most ambitious water-control program in the region, and its hydroelectric output follows only those of Sweden and Norway in Europe. The main component of this program is GAP, mentioned earlier, which involves 22 dams and 19 hydroelectric installations and is designed to irrigate 4.2 million acres (1.7 million ha) of land. All or most of this water is taken from the headwaters and tributaries of the Tigris (Dicle) and Euphrates (Fırat) rivers, and by 2006, GAP will control the bulk of the flow of these rivers to Iraq and Syria. Needless to say this is a major point of political contention (see Abi-Aad & Grenon, 1997).

DISTRIBUTION OF POPULATION IN THE CENTRAL MIDDLE EAST

Although the politics of large-scale hydraulic projects attract the most attention, of far greater importance to the peoples of the arid zones of the Middle East are the highly varied local techniques for water management. The *qanats* of Iran

and the *aflajs* of south Arabia are underground tunnels that carry water from upland sources and thus create artificial oases and extend village cultivation into the desert. An entire string of communities may come to depend on one water source, and households may share use rights and responsibilities for its maintenance. Building a *qanat*, a dangerous undertaking requiring great skill, involves digging what amounts to a primary well at an upland water source, then connecting it by a gently sloping horizontal tunnel with another dry well farther down the slope, which is in turn connected to yet more down-slope wells. Thus, dozens of water points may be linked to one upland source. This technology developed in antiquity in Persia and spread westward as far as Arab-ruled Spain (and was transferred by the Spanish to the New World). These *qanats* are rapidly being phased out of use and replaced by mechanized drilled wells and pipelines.

The ancient Egyptians developed three devices for lifting water from canals and basins to their fields: the *shadduf*, or weighted pole with a bucket on the end; the Archimedean screw; and the waterwheel powered by animal traction. These techniques, few among many, were early achievements of the



DISTRIBUTION OF POPULATION IN THE MIDDLE EAST

agricultural peoples of the region. Increasingly, traditional methods of securing and lifting water are being replaced by tube wells and motor-driven pumps.

Although techniques of irrigation have improved dramatically, sometimes opening new areas for cultivation, one age-old problem remains—that of soil salinity. Wherever the water table in this area of high evapotranspiration rises to about 1.5 meters (4.6 feet) from the surface, salts occurring naturally in the soil are drawn upward. This leaching of salts ultimately contaminates the soil to the point of diminishing yields, and may even preclude planting altogether. In Iraq and elsewhere, this problem has led over the centuries to the abandonment of much otherwise tillable acreage for which reclamation would be a costly enterprise. The use of modern pumps often exacerbates the problem of salinity because it encourages over-irrigation, particularly where river water is available. Where tube wells are used, another frequently encountered problem is the depletion of stored water reserves, which are not recharged by rains in this rain-deficient region.

Another factor affecting human life in the Middle East is temperature. The Middle East generally experiences hot, dry summers and cool, wet winters, making much of it generally Mediterranean in climatic regime. For example, the average winter temperature in Tehran (elevation 4000 feet) is 37°F (2.7°C), and the daily summer average for three months is 86°F (30°C). Some cities in arid, low-lying zones experience consistently higher temperatures throughout the year. In Baghdad, the capital of Iraq, the temperature may occasionally exceed 100°F (38°C) during a seven- month period, with a July extreme of up to 121°F (49°C). At one desert oil-producing center in eastern Saudi Arabia, the mean temperature in July and August is 98°F (37°C); however, the average afternoon high temperature is 113°F (45.5°C), and an absolute high has been recorded of 124°F (52°C) (Held, 1994, p. 49). In many parts of the Middle East summer temperatures are exacerbated by hot, dust-laden winds known variously as the *sirocco*, *sharqi*, or *khamsin*. These winds, blowing from the south and southeast, often reach gale force and contribute to desiccation by removing topsoil layers.

The climatic regime in the Middle East, with its extremes in temperature and precipitation everywhere, requires that urban and village inhabitants invest heavily in shelter. In traditional Iraqi homes, substantial basements offer cool, daytime summer refuges for members of the household, and the flat rooftops provide much-prized relief during the nights. In the upland regions of the Anatolian and Persian plateaus, winter blizzards of great severity are not uncommon, and mountain passes are often closed by snow. Each winter and early spring in the mountains of Iran, Turkey, and Iraq, thousands of villagers can be temporarily cut off from the world by heavy and long-lasting snowfalls and their subsequent meltwater.

Landforms, climate, and water combine to establish the distribution of natural vegetation. Even slight variations in altitude, precipitation, or range of temperature have great consequences for plant life and, by extension, for food

production and even for the availability of fuel and building materials. Wood fuel and lumber are restricted today to relatively constricted high-level areas. However, these are receding rapidly in the face of pervasive overgrazing and heavy exploitation for household use. As the forest and brush cover diminishes, ever-increasing amounts of topsoil are carried off by the winter rains or spring melting of snows, which further limits the propagation of most tree species.

Along the Black Sea coast of Turkey and the southern shores of the Caspian, we see the last remnants of formerly extensive deciduous forests among the tea and hazelnut plantations. In the Taurus range, parts of the Zagros, and sporadically elsewhere, stands of conifers are found where enough moisture is available. Like the deciduous forests, they too are in retreat in the face of great demand for firewood, charcoal, and building material. Elsewhere, low-growing shrubs are predominant. In the much more extensive nonforest areas of the highlands, open areas support alpine or sub-alpine grasses, depending on altitude and rainfall. The vast reaches of Arabia, the Syrian steppes, and the more arid portions of the Anatolian and Persian plateaus are characterized by rugged plants that take advantage of brief, irregular rains by rapid growth and bloom, followed by long periods of dormancy. In the arid areas, trees are generally found standing as a ring of green sentinels around village settlements only where tended by humans for building or fuel purposes. Desert and steppe grazing cycles were formerly determined by the availability of water for the flocks. Today, with mechanized transport of animals and water, grazing pressures are far heavier. Overgrazing is causing the rapid reduction of desert flora, including brush cover in southern Arabia, Syria, and Jordan.

POPULATION AND SETTLEMENT PATTERNS

Given the diversity of landforms and climate, population is very unevenly distributed in the Middle East. Overall, the region remains one of the least densely populated in the world; some areas are virtually uninhabited, such as the desert depressions of Iran, the Rub'al Khali of Arabia, and the Saharan deserts of Egypt, Libya, and the Sudan. In contrast, as we have noted, the well-watered alluvial river valleys are characterized by high population densities, with the Nile Valley and its delta by far the most heavily peopled area. According to one estimate, it has a density of 1775 people per square kilometer (or 4600 per square mile) of arable land. Thus, 99 percent of Egypt's population is concentrated on about 3 to 4 percent of its territory!

Because most Middle Eastern countries possess large tracts of arid, uncultivable land, the ratio of agricultural population to arable land is thought to be a better index of density. Such figures contrast markedly with standard density measures (population to total area). In the case of Saudi Arabia, the ratio of agricultural population to arable land for 1999 gives a density of 540 people per

square kilometer, whereas the overall density ratio is 4.0 per square kilometer—more than a 100-fold difference. The discrepancy would be even greater if we included the nonagricultural population per square kilometer of cultivable land, which is perhaps an even more accurate index of density. Even in the desert, oases are densely populated by cultivators and by petroleum workers as well. More than half the populations of Jordan and Iraq inhabit 14 to 16 percent of their respective land areas. Even in Turkey, which has a more evenly distributed population than the other countries, regionally calculated rural densities range from 7 to 127 people per square kilometer.

For the most part, population distribution is conditioned by the availability of water. However, economic, historical, and political factors need to be examined for an adequate explanation of why certain areas—for example, the lower Nile Valley, the hill country of northern Lebanon, northwest Jordan, the uplands of Syria to the east of the Orontes River and extending into south-central Asia Minor, and the uplands of Yemen—are all more densely populated than neighboring areas characterized by similar ecological conditions.

The sharp contrasts in local environments and ways of life that distinguish the Middle East and its human geography can be seen in terms of the diverse challenges and problems to which people have responded in different ways. Today, in places, nomadic herders still establish successions of isolated camps through the deserts and steppes in pursuit of pasture, and in the Nile delta, Egyptian peasants concentrate in large villages of as many as 6000 people each. Meanwhile, along the slopes of the Zagros, villagers eke out a living from small plots on terraces carved out at great expense in labor. These patterns, which may impress us today as timeless, have their origins in particular times and places. In other words, they have their history. And to understand the Middle East today, we must know something of this history, since human societies are shaped not simply by their responses to problems of the present but equally in terms of how they solved those of the past.

Part of this "problem solving" involves movement. While we think of farming and urban life as committing people to particular places, in fact, movement has always been very much a part of the Middle Eastern social landscape. It involves people settling in new villages, resettling previously abandoned sites, or leaving villages to take up urban residence (and the converse on occasion). Thus, every country has regions of rapid growth and others that seem to decline in comparison. In Turkey, for example, two-thirds of the villages of central Anatolia were village sites in the early period of Islamic rule, subsequently abandoned, only to be resettled in the nineteenth and twentieth centuries. Similar patterns of settlement and resettlement can be seen in Iran, the Syrian steppe, Palestine, and elsewhere. While population growth, per se, can be a factor, exogenous forces are also at work. For example, routes and modes of communications shift, markets change, and flows of investment capital vary and have implications for how people can best secure a livelihood. Personal security is another factor; approximately 5.6 million people in the Middle East (as we

define it) today are refugees, about whom we will say more later. So security has to be considered as at least equal to economic forces in determining where people live and how they pursue their livelihoods.

Turning now to some basic population parameters, we can sum up a great deal with a few factual observations: overall, Middle Eastern populations evidence a relatively high rate of growth but one that is now declining, and they are young in terms of percentages of individuals under 15 years of age, although this, too, is changing as growth slows. Further, people are extremely mobile. Whether from the countryside to the city, seasonally as migrant laborers, as part of international labor flows, or involuntarily as refugees, people are on the move. Any more detailed discussion of demography for the Middle East has to begin with the important caveat that figures are estimates, with significant variance among sources. Remember that countries not only vary greatly in the accuracy of their census procedures but also in the frankness with which they report the results.

Taken as a whole, the region we are concerned with had a population of about 43 million at the end of the nineteenth century, which surged to about 325 million at the end of the twentieth; it is expected to double by 2050 (see Table 1.1). Most of this huge growth has occurred since 1950. The overall rate of annual growth is about 3.2 percent; and the region is second only to Africa in this regard (Abi-Aad & Grenon, 1997, pp. 149–150). Iran's population, now at 66 million, is growing at the extraordinary rate of 3.7 to 4.0 percent and is expected

TABLE 1.1 Mid-year Population and Estimates (in thousands)

	Year		
Country	*1998*	*2025*	*2050*
Bahrain	595	858	992
Egypt	65,978	95,615	114,844
Iran	65,758	94,463	114,947
Iraq	21,800	41,014	54,916
Israel	5,984	8,277	9,440
Jordan	6,304	12,063	16,547
Kuwait	1,811	2,974	3,527
Lebanon	3,191	4,400	5,169
Oman	2,382	5,352	8,310
Qatar	579	779	844
Saudi Arabia	20,181	39,965	54,461
Sudan	28,292	46,264	59,176
Syria	15,333	26,292	34,490
Turkey	64,479	87,869	100,664
United Arab Emirates	2,353	3,284	3,615
Yemen	16,887	38,985	58,801
Total	321,907	508,454	640,743

Source: Adapted from United Nations sources, 1998, 1999.

to reach 94 million by 2025. Egypt, Iran, and Turkey are the most populous countries, with almost two-thirds of the population of the entire region. Although population alone does not make for political influence, these three countries also dominate the regional international scene. Birth rates are generally high but variable and are now in decline, as reflected in the age structure of the populations. Iran, for example, since 1980 and until very recently, pursued a pro-natalist policy by providing incentives, as do Iraq and Israel, whereas Egypt and Turkey for many years have encouraged family planning. Every national population is well above North American and European countries in terms of those under age 15, but this clearly is changing as well. Any middle-aged visitor from Europe or North America to most Middle Eastern countries will be immediately struck by the number of young people on the streets. Even though the rate of growth is declining, absolute growth will continue to put enormous pressures on the infrastructure of all countries apart from the oil-rich ones. We will return to the political implications of the demography of the region in Chapter 11. For the time being, we move to the deep past.

PREHISTORIC PATTERNS OF ADAPTATION

Although humans have lived in the Middle East for tens of thousands of years, history in one sense begins with the period known as the Neolithic, or New Stone Age. The Neolithic, which roughly dates from about 10,000 years ago and extends until the rise of states and cities at approximately 3000 B.C., is often regarded as a watershed in the development of human culture. It was during this era that domestication of plants and animals took place, thus setting in motion profound changes in human society. In fact, some archaeologists have characterized this development as a revolution, analogous to the Industrial Revolution that so dramatically transformed the world in the last two centuries.[3] Other archaeologists, in view of the fact that the events of the Neolithic unfolded over a period of several thousand years, avoid the term *revolution*, while still acknowledging that the advent of food production, as opposed to hunting and gathering, established the preconditions for what we usually term *civilization*.

Domesticated grains, such as wheat and barley, and animals, such as sheep and goats, ultimately gave humans access to increased sources of food energy per unit of land. Perhaps of greater importance, as food production became more reliable, it allowed large numbers of people to live in areas hitherto unsuited for year-round habitation. No longer dependent on often widely

[3] For a very readable classic, see V. Gordon Childe (1951); for a contemporary discussion, see Joy McCorriston and Frank Hole (1991), who nicely summarize the issues and offer a specific hypothesis as to when and where the first efforts at planting occurred .

scattered wild plants and game, the human population in the Central Middle East increased. Village life rapidly emerged as a more regular pattern, a prelude for the soon-to-follow cities and states. In this sense, the Neolithic marks the point at which the Middle East culture as we know it began to take shape. Let us briefly examine these developments, which laid the basis for adaptations persisting today.

Anthropologists recognize that people do not usually "discover" something as complex as agriculture; instead, it has to be regarded as the culmination of a long series of interrelated events, even accidents. People slowly, and often without realizing it, react to specific problems in ways that only later will be seen as significant. The question we have to ask is why people in the Middle East changed their mode of subsistence to emphasize agriculture and domesticated animals. As prehistorians put it: "There had to be *opportunity* (that is, sufficient populations of the prerequisite plants), *technology* to use the plants effectively, a *social organization* that could cope with 'delayed return' economies, and *need* before people would alter their habits of acquiring food" (McCorriston & Hole, 1991, p. 46). Joy McCorriston and Frank Hole, in fact, go so far as to assert exactly when and where these conditions came together to produce agriculture—in the Jordan Valley around lakes that were receding due to increased aridity around 10,000 years ago, give or take only a few hundred years (ibid.).

The natural habitat for the wild ancestors of wheat and barley is not in the lowlands but seems to lie in the higher areas of the Levant and in the Taurus and Zagros, which might suggest that early experimentation with domestication took place far from the centers of early civilization in the riverine lowlands. In fact, wild barley and wheat can still be found in the Zagros uplands. Jack Harlan, a botanist, demonstrated in 1967 the great abundance and productivity of wild wheat in southeastern Turkey. Using a primitive stone sickle, he hand-harvested 6 pounds of wild wheat in an hour and estimated that a family of four could gather a year's supply of food in approximately three weeks.

Early foragers in the area must have found such wild grains a good source of food, and it is likely that a number of pre-Neolithic foraging populations came to depend on them as their staple. Recent archaeological evidence indicates a long preagricultural tradition of village life based on wild grain and animals. Archaeologists refer to this cultural period as the *Natufian*, and it was then that people began making and using pottery, living in fixed dwellings, at least for significant portions of the year, and using stone mortars to make flour from wild grains.

At the same time, it is likely that not all populations had equal access to these naturally abundant grain areas. Some must have been living in areas with limited or erratic food supply. McCorriston and Hole suggest that, in fact, it was among these marginally located populations which had settled in the Jordan Valley that early experimentation in domestication is more likely to have occurred. Because domesticated grain represents a genetic change from the original form, it is possible that the pressures that precipitated this change were