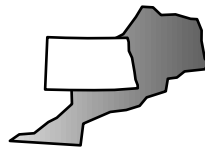


# US in the WORLD

CONNECTING PEOPLE AND COMMUNITIES TO ENSURE A HEALTHY PLANET



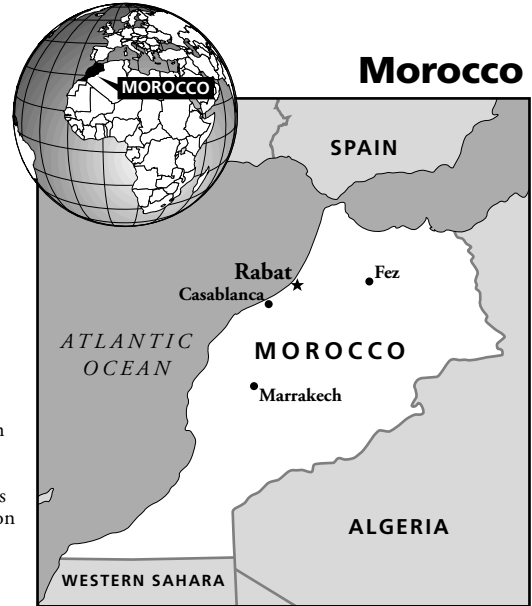
## North Dakota



Comparison at same scale

**North Dakota**  
Area: 70,704 sq. miles  
Population: 0.6 million

**Morocco**  
Area: 275,117 sq. miles  
Population: 28.8 million



## Morocco

**Largest urban areas by population (2000):** Casablanca (3,541,000), Rabat (1,496,000)

**Largest metropolitan areas by population (1998):** Fargo-Moorhead (N.D., Minn.) (168,431), Grand Forks (97,823), Bismarck (91,442)

For hundreds of years, natural resources have lured successive settlers to North Dakota and Morocco. Several American Indian groups settled in North Dakota prior to the arrival of French explorers in the 1700s, and Berbers and Arabs fought over Morocco until Spain and France started colonizing it in the 19th and 20th centuries. Waterways have played a prominent role in these settlement patterns, providing means of transportation and irrigation. Today, however, access to safe and plentiful water is threatened, as the disappearance of wetlands contributes to severe flooding in North Dakota and as water becomes increasingly scarce and polluted in Morocco.

The fertility of the Red River Valley and of the Missouri Plateau has enabled North Dakota to devote most of its land to agriculture. The state leads

the United States in production of barley and oats, exports the most sunflower seeds and oil, and produces 80 percent of the durum wheat grown in the United States.

Morocco's agricultural sector is also thriving. Even though mountain ranges cover a third of the country, fertile plateaus and plains in the south and west support extensive farming. Like North Dakota, Morocco is a large producer of barley and wheat, but it also grows citrus, vegetables, and olives.

In North Dakota, agriculture generates almost 40 percent of the state's income, but employs only 11 percent of the population. In Morocco, agriculture employs half the labor force, but accounts for only one-seventh of gross domestic product.

With an educated labor force, fertile land, and coal and oil reserves, North Dakota seems poised for sustained eco-

nomical growth. Positive social trends, such as a low unemployment rate and a life expectancy at birth that is one of the highest in the country (74 years for men and 81 years for women), further support this potential. Yet a dwindling population, recent economic decline, and a mixed environmental record present several challenges.

Due to the fragmentation of large natural areas into smaller patches and to the disappearance of wetlands, one plant and eight animal species are endangered. Even though only 1 percent of North Dakota is protected from development and agricultural projects, the creation of environmentally safe products and of wildlife refuges indicates a real concern for the environment. North Dakota produces the third highest volume of organic goods in the country, and has created 60 wildlife refuges—more than anywhere

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# NORTH DAKOTA

## Demographic and Health Trends

■ North Dakota is one of three states that have lost population since the 1990 census, having shrunk by 5,000 people between 1990 and 1999. This trend has had an aging effect on the state's population. Nearly 15 percent of North Dakotans are ages 65 and over—one of the largest percentages anywhere in the country.

■ Only six of North Dakota's 53 counties have gained people since 1990. Fargo and Bismarck likewise

have bucked the state's shrinking trend, growing by 17 percent and 10 percent, respectively, between 1990 and 1998.

■ North Dakota leads the nation in the percentage of all births to women with at least 12 years of education (91.3 percent). The national average is 77.9 percent. Research indicates that mothers who are better educated are better able to care for their offspring.

## Natural Resources and Wildlife Issues

■ Among North Dakota's eight endangered and threatened animals are the whooping crane, the Eskimo curlew, the black-footed ferret, and the least tern. The only threatened plant is the western prairie fringed orchid.

■ During the 1996-1997 reporting period, 71 percent of North Dakota's river and stream miles, and 96 per-

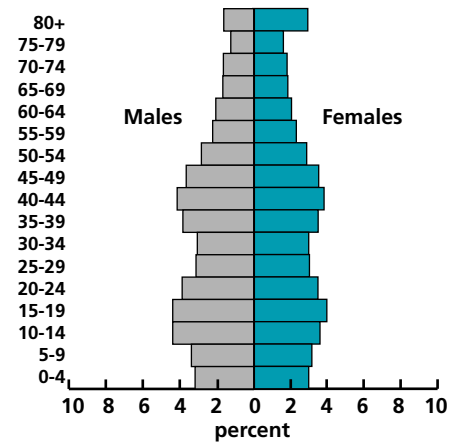
cent of the state's acres of lakes and reservoirs, were deemed to fully support aquatic life. Of those river and lake areas judged adequate for aquatic life, however, 87 percent of the river miles and 75 percent of the lake areas were considered to be threatened—or possibly unable to fully support aquatic life in the future given current trends.

## Socioeconomic Factors

■ Although North Dakota's economy has diversified in recent years, agriculture remains very important. In addition to spring and durum wheat, the state leads the country in grain crops including barley, oats, flax, and rye. It is also among the nation's top five producers of honey, sugar beets, and potatoes.

■ Median household income in North Dakota in 1996 was approximately \$30,400—one of the lowest among Midwestern states and more than \$5,000 below the national average. However, the state's poverty rate at that time—11 percent—also was below the national rate of nearly 14 percent.

## POPULATION BY AGE AND SEX



## NORTH DAKOTA FACTS

Population, 1999: 634,000

Projected population, 2025: 729,000

Annual growth rate: -0.6%

Doubling time (at current rate): n.a.

Average number of children per woman: 1.9

Infant deaths per 1,000 live births: 6.2

Life expectancy: 74 (male), 81 (female)

Persons per square mile: 9

Percent urban: 53

Endangered/threatened animals: 8 species

Endangered/threatened plants: 1 species

Percent of land protected: 1

Wetlands loss, 1780-1980: 49%

Daily water use per capita: 1,750 gallons

Water use for domestic purposes: 8%

Water use for agriculture: 13%

Water use for industry: 2%

Water use for energy production: 78%

Cropland per capita: 64.2 acres

Energy use per capita: 95.7 barrels of oil equiv.

Persons per motor vehicle: 0.9

Adults who are high school graduates: 85%

Elected officials who are women: 18%

Labor force in agriculture: 11%

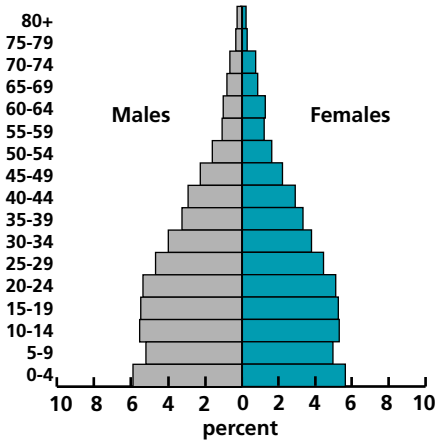
Labor force in industry: 11%

Labor force in services: 78%

Gross State Product, 1997: \$24,632 per capita

# MOROCCO

## POPULATION BY AGE AND SEX



## MOROCCO FACTS

Population, 2000:	28.8 million
Projected population, 2025:	39.3 million
Annual growth rate:	1.6%
Doubling time (at current rate):	44 years
Average number of children per woman:	3.1
Infant deaths per 1,000 live births:	37
Life expectancy:	67 (male), 71 (female)
Persons per square mile:	167
Percent urban:	54
Threatened animals:	39 species
Threatened plants:	195 species
Percent of land protected:	0.7
Wetlands loss, through 1980s:	n.a.
Percent with access to safe water:	65
Percent with adequate sanitation:	58
Daily water use per capita:	312 gallons
Water use for domestic purposes:	5%
Water use for agriculture:	92%
Water use for industry:	3%
Cropland per capita:	0.9 acres
Energy use per capita:	2.1 barrels of oil equiv.
Persons per motor vehicle:	21
Percent of girls in secondary school:	34
Percent of boys in secondary school:	44
Women as % of national legislature:	0.7
Labor force in agriculture:	45%
Labor force in industry:	25%
Labor force in services:	30%
GDP per capita, 1998:	US\$1,224

## Demographic and Health Trends

■ Morocco's population grew from 15 million in 1970 to 29 million in 2000 and is projected to reach 39 million by 2025. At its current annual growth rate of 1.6 percent, Morocco's population would double in four decades.

■ The graph at left shows Morocco's population by sex and age. The shape indicates sustained high birth rates followed by substantial declines over the last 15 years. Today, Moroccan

women have three children on average—down from the six or seven children women were averaging until the early 1970s. The government views the current birth rate as too high.

■ One in 27 Moroccan infants does not live to its first birthday. Ninety percent or more of 1-year-olds are immunized against tuberculosis, polio, measles, diphtheria, pertussis, and tetanus.

## Natural Resources and Wildlife Issues

■ Morocco has 3,600 known species of higher plants, 17 percent of them endemic. Seventeen percent of the country's 105 known species of mammals are threatened. There are 210 known breeding species of birds in Morocco; 5 percent of them are threatened.

■ Threatened species include the Barbary ape, Cuvier's gazelle, the Mediterranean monk seal, and the orange-spotted emerald dragonfly.

■ Moroccans have about 12 percent as much internally renewable water per capita as residents of the United States do, and Moroccans use about one-quarter as much water per capita.

■ On the whole, Moroccans use less than 1 percent as much commercial energy as U.S. residents do; per capita, Moroccans use about 4 percent as much as their counterparts living in the United States.

## Socioeconomic Factors

■ Only about one in three women in Morocco can read and write; still, this is double the 1980 rate. About three in five men are literate—up nearly 40 percent since 1980.

■ Official development assistance from other countries contributes 1.4 percent of Morocco's gross national product, or US\$17 per capita.

■ In Morocco and in the United States, the richest 20 percent of households receive almost half of their country's total income.

■ Morocco spends 1.2 percent of its gross domestic product on health, compared with 2.3 percent for North Africa and the Middle East, and 6.6 percent for the United States.

*continued from page 1*

else in the nation—aimed mostly at preserving waterfowl.

In recent years, large-scale livestock and feeding operations have grown in number. To mitigate their effect on water quality, North Dakota state regulations require health department approval for operations with over 200 animal units or that are close to surface water.

In Morocco, agricultural activities present other natural resource management challenges. By 2020, water demand is expected to exceed supply, particularly in urban areas. In 1970, one-third of the population resided in urban areas; today just over half of Moroccans are urban dwellers. By 2025, 70 percent of the population is expected to reside in urban areas. At the same time, water pollution from pesticide contamination and raw household sewage disposal affects agricultural production and public health.

Although the country derives wealth from phosphates and oil, almost a quarter of the population lives at or below the poverty line, and high illiteracy prevents most from benefiting from recently reduced constraints on private activity and foreign trade. Nature-based tourism, particularly bird-watching, is developing rapidly, but

deforestation, the disturbance of nesting, and the illegal harvesting of eggs for export to Europe threaten this potential source of revenue.

## Responding to Challenges

In North Dakota, the Oakes Test Area Study Program started ground monitoring in 1979 and is conducting a detailed study of the impacts of irrigation. Overall objectives include implementing and refining management practices for irrigated agriculture, testing the operation of a closed sewer system, and monitoring the effects of irrigation on wetlands and wildlife. The program involves local and national actors including North Dakota State University and the U.S. Committee on Irrigation and Drainage.

A similar program is underway in Morocco, drawing on the U.S. Agency for International Development and Moroccan experts. It is aimed at improving irrigation management, pro-

moting clean technologies that reduce surface water pollution, and installing modern sewer systems to reduce seasonal flooding and related water-borne diseases. One million people with low to moderate incomes owe access to modern sewerage and potable water to

People in North Dakota and Morocco, along with all other living creatures, need clean and healthy air, water, and land, and a stable climate. But as people strive to meet these fundamental needs and improve their lives, they make demands on Earth's resources—and leave footprints. No species demands as much and leaves as many footprints as humans do. The number of people on the planet has a direct impact on the environment and how resources are used. But the level of consumption and the ways in which natural resources are used also directly affect the health of the planet—locally, regionally, globally.

No matter where one lives, the activities of *all* humans will ultimately determine the well-being of *all* humans.

this initiative. Since 1962 the U.S. Peace Corps has sent over 3,500 volunteers to Morocco to work in education, business development, health, environment, and agriculture. ■

**DEFINITIONS:** **Doubling Time:** The number of years it will take for a population to double, assuming a *constant* rate of natural increase. **Average Number of Children Per Woman:** Known as the Total Fertility Rate (TFR) or the average number of children a woman would have in her lifetime, assuming that birth rates remained constant throughout her childbearing years. **Endangered Species:** Any species in danger of extinction throughout all, or a significant portion, of its habitat. **Threatened Species:** Any species likely to become endangered within the foreseeable future throughout all, or a significant portion, of its habitat. **Gross Domestic Product (GDP):** The value of all goods and services produced within a nation in a given year. **Gross State Product (GSP):** The value of all goods and services produced within a state. It is the state counterpart of the nation's GDP. **Commercial energy** includes energy from solid, liquid, and gaseous fuels, plus primary electricity. **Traditional energy** includes fuelwood, charcoal, bagasse, and animal and vegetal wastes.

**SOURCES:** Major sources are International Labour Organization; National Center for Health Statistics; UNICEF; U.S. Bureau of Economic Analysis; U.S. Department of Agriculture; U.S. Fish and Wildlife Service; U.S. Geological Survey; The World Conservation Union (IUCN); and World Resources Institute. For a complete list of sources, contact PRB.

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