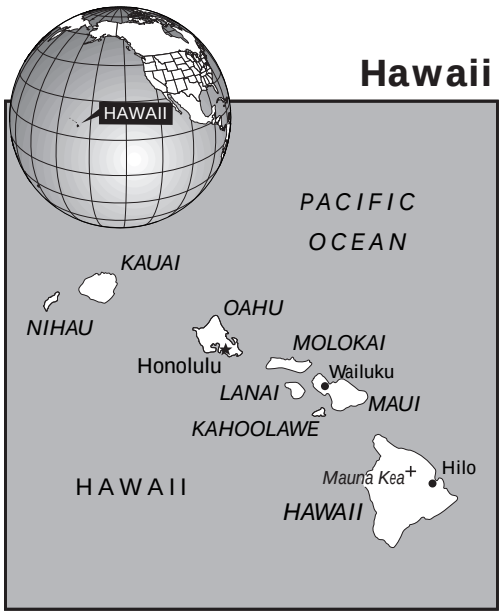
US in the WORLD

CONNECTING PEOPLE AND COMMUNITIES TO ENSURE A HEALTHY PLANET



Comparison at same scale

Hawaii
Area: 6,471 sq. miles
Population: 1.2 million

Madagascar
Area: 226,658 sq. miles
Population: 14.1 million

Largest metropolitan area by population (1996): Honolulu (871,766)

Largest urban area by population (1995): Antananarivo (876,000)

Because of centuries spent in isolation, Hawaii and Madagascar enjoy some of the richest natural biological diversity in the world. Yet human activities, dating back to the original Polynesian settlements in both regions, have destroyed many native ecosystems.

The volcanic chain making up the Hawaiian archipelago stretches across some 2,000 miles and covers a total land area of 6,471 square miles. It includes over 100 distinct ecosystem types, ranging from tropical dry forests to subalpine grasslands, alpine deserts, and windswept coastal dunes. About 90 percent of Hawaii's native plants and animals are found nowhere else in the world, but because of feral animals, agricultural development, and the introduction of non-native species, approximately 1,000 native animal species have disappeared since the first settlers arrived 1,500 years ago. Today, more animal and plant species are listed as endangered or threatened in Hawaii than in any other state. This includes 75 percent of Hawaii's native birds and 40 percent of the native plants.

Like Hawaii, Madagascar boasts distinct ecosystems in four major zones: rainforests in the east, patches of deciduous forest in the west, grasslands on the high plateau, and deserts in the south. More than 35 times the size of Hawaii, it is equally rich in native species. Eighty percent of the plants, 90 percent of the reptiles, 50 percent of the birds, and most of the mammals currently found there are endemic. In fact, Madagascar is one of the world's 17 "megadiversity countries"—countries that are home to an inordinately large share of the world's biodiversity. But, as in Hawaii, these unique species are threatened by human encroachment. It is estimated that 93 percent of the forest cover and 100,000 species have vanished since the first human settlement. About 750,000 acres of forest are lost each year to slash-and-burn agriculture, firewood gathering, free-roaming livestock, and ornamental plant collection. Ecosystem deterioration in both regions adversely affects the population's well-being, as Hawaiians and the Malagasay people rely on their ecosystems for food, water, economic activity, medicine, and cultural traditions.

Despite these parallels, Hawaii and Madagascar differ greatly in their current demographic and economic profiles. Hawaii's population is decreasing because there are less births than deaths and because of out-migration. Since 1990, just over 5 percent of its 1.2 million inhabitants have left the islands. Hawaii has had to deal with increas-

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HAWAII

Demographic and Health Trends

■ Hawaii's population grew 7 percent during the 1990s, adding about 78,000 persons.

■ Most of Hawaii's post-1990 growth occurred between 1990 and 1994. The state's 0.3 percent growth rate between 1996 and 1997 was just one-third the national average. Hawaii has lost about 65,000 people to other states since 1990, partly due to economic problems.

■ Maui and Hawaii counties have experienced the fastest growth rates since 1990, at 18 percent each. Honolulu County (which mostly consists of Oahu) grew 4 percent over this time, but because it has 73 percent of the state's residents, this relatively slow growth rate has translated into an additional 34,000 persons—the most of any of the state's five counties.

■ Hawaii is the only one of the 50 states where a national racial-ethnic "minority" group forms a majority of the state's population. Nearly two-thirds of its residents are of either Asian or Pacific Islander origin.

Natural Resource and Wildlife Issues

■ Air quality has been good for a number of years and currently meets all federal standards. It deteriorates in urban areas around Honolulu and on the island of Hawaii, where volcanic smog and acid rain threaten crops and water supplies.

■ Private landowners own over half of the remaining habitat for endangered species. Many are reluctant to participate in species management programs because they fear restrictions on future land use.

■ Hawaii has more endangered and threatened species (297) than any other state in the United States. Among the 263 endangered and threatened plants are two species of silversword, 12 species of alani, six species of 'oha wai, and the ma'o hauhele (the state flower, a yellow hibiscus). Hawaii's endangered and threatened animals include the 'alaha (Hawaiian crow), eight species of honeycreeper, the Hawaiian monk seal, and the nene (the state bird).

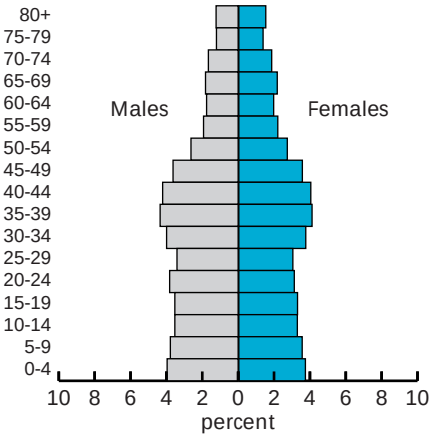
Socioeconomic Factors

■ Travel and tourism is Hawaii's largest industry, generating one-fourth of its gross state product and employing nearly one-third of the state's work force. However, the industry has slowed in the 1990s, partly because of an 18 percent decline in the number of visitor arrivals from the U.S. mainland between 1990 and 1996.

■ For Hawaii, the 1990s have been a period of economic struggle. For example, the state's per capita income growth rate in 1997 was 2.4 percent—the second slowest in the nation and one-half the national growth rate of 4.8 percent.

■ For all the state's recent economic struggles, median household income in Hawaii was among the nation's highest—about US$43,500 between 1994 and 1996. About 10.4 percent of Hawaiians lived in poverty during this time.

Population by Age and Sex

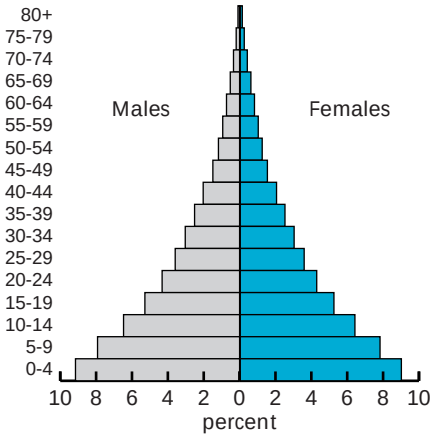


Hawaii Facts

Population, 1997: 1.2 million
Projected population, 2025: 1.8 million
Annual growth rate: 0.3 %
Doubling time (at current rate): 233 years
Average number of children per woman: 2.3
Infant deaths per 1,000 live births: 5.8
Life expectancy: 75 (male), 81 (female)
Persons per square mile: 185
Percent urban: 89
Endangered/threatened animals: 34 species
Endangered/threatened plants: 263 species
Percent of land protected: 14
Wetlands loss, 1780-1980: 12%
Daily water use per capita: 1,624 gallons
Water use for domestic purposes: 14%
Water use for agriculture: 35%
Water use for industry: 1%
Water use for energy production: 51%
Cropland per capita: 1.5 acres
Energy use per capita: 37.3 barrels of oil equiv.
Persons per motor vehicle: 1.5
Adults who are high school graduates: 84%
Elected officials who are women: 18%
Labor force in agriculture: 3%
Labor force in industry: 8%
Labor force in services: 89%
Gross State Product, 1994: $31,312 per capita

MADAGASCAR

POPULATION BY AGE AND SEX



MADAGASCAR FACTS

Population, 1997: 14.1 million
Projected population, 2025: 29.3 million
Annual growth rate: 2.8%
Doubling time (at current rate): 25 years
Average number of children per woman: 6.1
Infant deaths per 1,000 live births: 93
Life expectancy: 55 (male), 58 (female)
Persons per square mile: 63
Percent urban: 22
Threatened animals: 120 species
Threatened plants: 189 species
Percent of land protected: 1.9
Wetlands loss, through 1980s: n.a.
Percent with access to safe water: 29
Percent with adequate sanitation: 3
Daily water use per capita: 1,143 gallons
Water use for domestic purposes: 1%
Water use for agriculture: 99%
Water use for industry: 0%
Cropland per capita: 0.6 acres
Energy use per capita: 0.2 barrels of oil equiv.
Persons per motor vehicle: 166
Percent of girls in secondary school: 14
Percent of boys in secondary school: 14
Women as % of national legislature: 4
Labor force in agriculture: 78%
Labor force in industry: 7%
Labor force in services: 15%
GDP per capita, 1995: US$216

Demographic and Health Trends

- Madagascar is one of the fastest growing countries in Africa, and therefore, the world. The population is projected to increase 43 percent by 2010 and double by 2025. High fertility has produced a population with a very large proportion under the age of 15 (see pyramid). As a consequence, population will continue to grow rapidly when these youth have children.

- Sixteen percent of Madagascar's children die before the age of 5. This rate is 10 times the rate for developing countries as a whole and more than 20 times the level among children in industrialized countries.

- Only 38 percent of the population has access to health services.

- Childbearing in Madagascar is risky; one woman dies from pregnancy-related causes for every 204 children born alive. This rate of maternal mortality is equal to the average rate for developing countries and about 50 times greater than the risk to women in industrialized countries.

Natural Resources and Wildlife Issues

- The need for agricultural land and fuelwood is the biggest threat to Madagascar's forests. From 1990 to 1995, an average of 502 square miles was converted annually from forests to other uses. Without forest cover, soil is washed into the Indian Ocean in such quantities that it is visible from outer space.

- Wildlife is threatened by many activities, including poaching, cattle grazing, slash-and-burn agriculture, and the collection of ornamental plants. Ecologists are concerned that tourism could also harm the island's fragile environment.

- Threatened mammals include many species of lemur and the narrow-striped mongoose. Among the country's threatened birds are the Madagascar grebe, Madagascar heron, Madagascar teal, Madagascar serpent-eagle, and the slender-billed flufftail.

Socioeconomic Factors

- Only 28 percent of primary school children in Madagascar reach the fifth grade. This rate compares with 75 percent for developing countries and 99 percent for industrialized countries.

- Agriculture, including forestry and fishing, is the largest sector of the economy. The country's primary cash crops are coffee, vanilla, and cloves. Madagascar and Indonesia are the world's largest exporters of vanilla. The United States and France are the main purchasers.

- Wealth in Madagascar is measured by the size of one's cattle herds, so there is pressure to convert forests to grazing land. Madagascar has about 10.3 million head of cattle.

- Madagascar's tourism industry is less developed than those of neighboring countries. Seventy-five thousand tourists visit annually and the government aims to attract 230,000 tourists annually by 2000.

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ingly difficult socioeconomic conditions. Its isolation, high taxes, and generous health coverage laws make it a challenging location for businesses, while loss of natural habitats threatens the tourism and travel industry that employs one-third of the work force.

In contrast, Madagascar's population of 14.1 million is increasing at a rate of 2.8 percent annually—more than seven times Hawaii's. This is due to an excess of births over deaths. Almost one in every 10 infants, however, dies before its first birthday, while 56 percent of children suffer from malnutrition. Often described as the poorest nation in Africa, with a per capita gross domestic product (GDP) of US$216, Madagascar is struggling to improve its environmental management and expand economic opportunities for its people. Limited finances, however, constrain progress. The island, for example, boasts nearly 40 parks and natural reserves, but it lacks the personnel and financial means to manage these areas and to discourage itinerant farmers and charcoal makers.

Responding to Challenges

To protect Hawaii's essential habitat for native species, more than 1 million acres of land are now included in a network of state, federal, and private natural areas. A recently-formed consortium called the Coordinating Group on Alien Pest Species brings together representatives from government, business, agriculture, and health sectors in order to strengthen Hawaii's natural systems for prevention against further alien pest invasion, and for effectively controlling those systems already present.

In 1987, Madagascar became one of the first developing countries to initiate a National Environment Action Plan. The plan identifies the island's major environmental problems and is the basis of a comprehensive national environmental policy. Due to a lack of governmental funding, a variety of organizations have provided financial and technical assistance to the government. These include the World Wildlife Fund-U.S., the UN Development Programme, the World Bank, the African Development Bank, French, Swiss, and Norwegian donors, and the U.S. Agency for International Development (USAID). International donor and government agencies jointly run programs to address population and environmental issues in an integrated manner. Such programs have introduced improved varieties of tuber crops and rehabilitated schools, health clinics, and water systems. USAID currently funds 17 projects dealing with sustainable environmental management, and 56 U.S. Peace Corps volunteers work in Madagascar on similar issues. ■

People in Hawaii and Madagascar, 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.

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.

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.

ACKNOWLEDGEMENTS: In 1998, the Population Reference Bureau (PRB) produced the *US in the World* fact sheet series in collaboration with the Population and Habitat Campaign of the National Audubon Society and the Population Coalition of local Leagues of Women Voters. The *US in the World* project, funded by the U.S. Agency for International Development and the Geraldine R. Dodge Foundation, is designed to help Americans explore how a shared concern for the environment links us to people of the world.

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