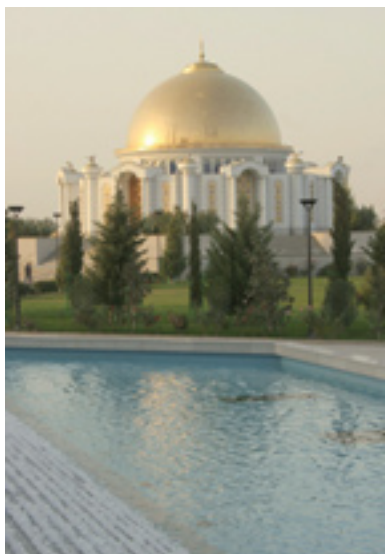


# Turkmenistan

## Making the Most of Desert Resources



■ **Upper:** The Yangkala Canyon in northwestern Turkmenistan. **Lower:** The Mausoleum of Turkmenbashi in Ahal Province.

**T**urkmen hospitality is legendary, its roots in the distant past. Beyond the traditional *Khosh geldiniz* (welcome), a host's sacred duty has always been to be hospitable to guests, even if they are strangers. The hardship of life and travel in the desert that makes up most of the country is such that finding a friendly refuge could be a matter of life or death. Inhospitability to a traveler is virtually unthinkable.

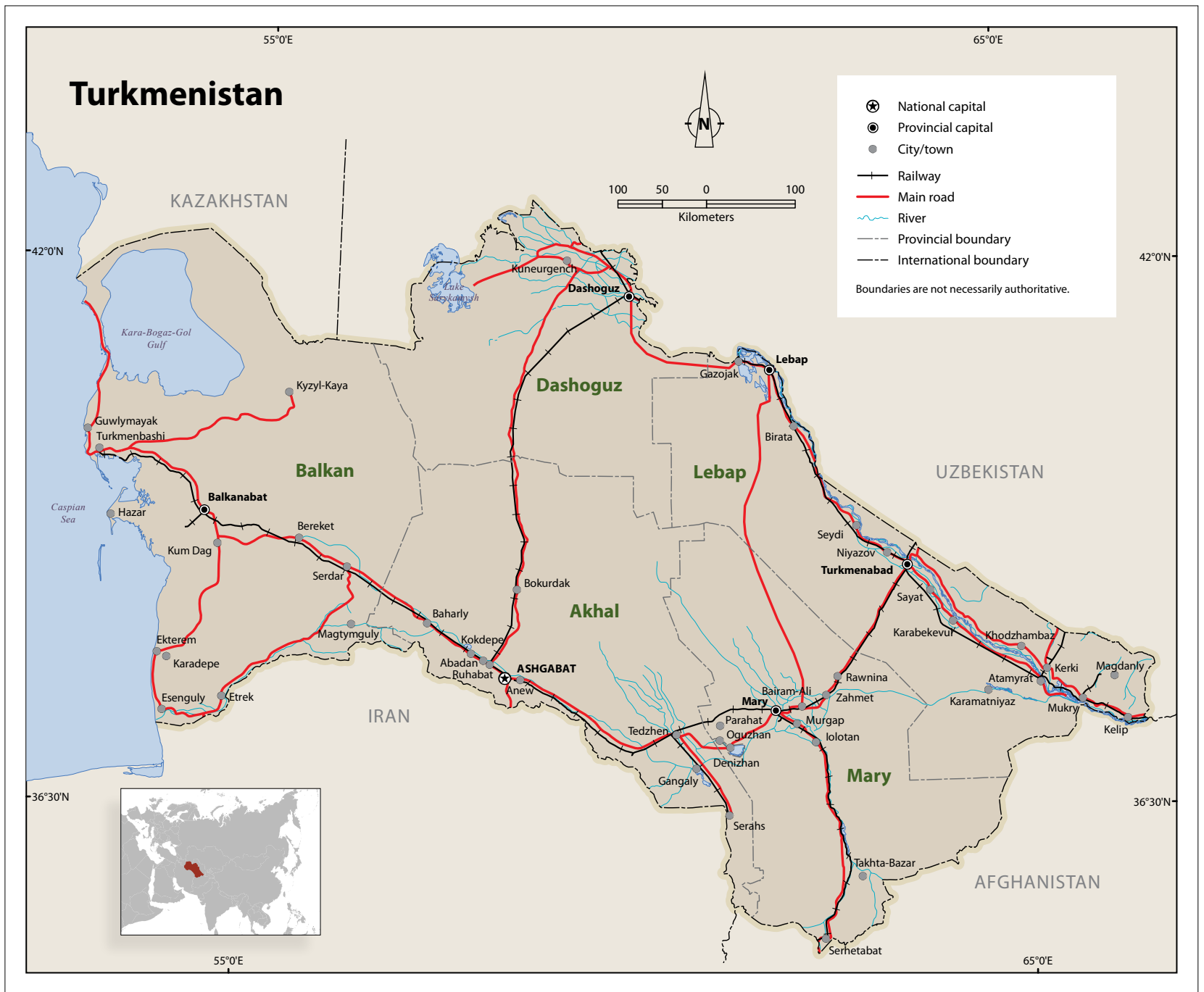
### An Uncompromising Terrain

Turkmenistan, the second largest Central Asian country, covers 488,100 square kilometers, measuring about 1,100 kilometers from east to west and 650 kilometers from north to south, between the Caspian Sea in the west and the Amu Darya River in the east. It has borders with Kazakhstan to the north, Uzbekistan in the east, and Afghanistan and Iran to the south. The Caspian Sea forms the country's western border. The western edge of the Pamir–Alay Range juts into the eastern tip of the country and creates its highest point, Mount Ayrybaba, with an altitude of 3,137 meters.

There is little forested land. In fact, four-fifths of the country's surface is desert—most of it the Karakum (Garagum in Turkmen, the official language). And most of the remaining 20% of land is occupied by steep mountains. At the southwest edge of the Karakum, the Kopet-Dag Range rises up along Turkmenistan's southern border. This range forms part of the Trans-Eurasian seismic belt, which is unstable and has caused violent earthquakes in the country.

Turkmenistan's most important river is the Amu Darya, the longest river in Central Asia, which emanates from the Pamir mountains and flows northwesterly through Turkmenistan. Much of its water is diverted to the west for irrigation via the Karakum Canal. Other major rivers are the Tejen, the Murgab, and the Atrek.

Turkmen, who have lived in the area over millennia, are pastoral nomads, a way of life that continues to some extent today. Turkmen make up the majority (72%) of the total population of about 7 million. There are also many Russians (10% of the population), Uzbeks (9%), and Kazakhs (3%). Others include Armenians, Azerbaijanis, Tatars



(or Tartars), Persians, Lezghins, Uigurs, Beludzhi, and Kurds.

### Specialized Wildlife

Most of Turkmenistan belongs to the Central Asian Southern Desert ecoregion, a rich area in terms of its highly specialized fauna—including many endemic mammals, reptiles, and insects—and flora, such as the black and white saxaul trees.

An important ecoregion in the south is the Kopet-Dag woodlands and forest steppe on the slopes of the Kopet-Dag range, which contains many endangered fauna, including leopard, wild sheep, bezoar bearded goat, hyena, Indian porcupine, and other rare species of mammals, birds, snakes, and lizards. According to the World Wildlife Fund, this area is the center of origin and genetic diversity for wild relatives of such cultivated plants as grapes, pomegranates, figs, almonds, walnuts, wheat, barley, and many others. However, these woodland habitats are being heavily logged and subject to overgrazing. They are under protection, but enforcement is inadequate.

### Energy to Share

Turkmenistan’s most abundant natural resources are hydrocarbons. Reserves of gas, estimated in 2008 at 9 trillion cubic meters, are the fifth largest in the world. Reserves of oil are estimated at 500 million barrels. Turkmenistan is a major exporter of natural gas, oil, and electricity, mostly to the Russian Federation and Ukraine.

Electricity exports are generated from natural gas. The country’s excess capacity led to a modernization program for power generation and distribution systems that began in the early 2000s, with assistance from Iran, Turkey, and the United States. By 2011, generating efficiency should have improved by 40%.

The International Monetary Fund estimates that real gross domestic product, led by the gas and oil industries, is growing at 7.5% per year. Other contributors to this growth are large-scale state investments in oil refineries, textiles, food processing, transport, and construction projects.



■ Students attending a workshop in their school in Ashgabat.



■ **Top left:** Children and adults displaying Turkmenistan traditional costumes during a parade. **Middle left:** Turkmen girls in traditional costumes. **Bottom left:** A colorful display of melons and gourds in Ashgabat. **Right:** Some of Turkmenistan's famous "red" carpets.



Other than oil and gas, the main minerals mined commercially are bentonite (a clay used in oil and gas drilling mud and a variety of other industries), salt, and gypsum.

### Dry Lands, Thirsty Crops

Nearly 70% of the land, albeit mostly desert, can be used for pasture for the nation's 14 million livestock, mainly sheep and goats. Only about 4% of the land is arable but agriculture accounts for 11% of gross domestic product and employs half the population. Most of the arable land, about 17,500 square kilometers, is irrigated. The main crop since the Soviet period has been cotton for export but harvests have been poor in recent years and exports have fallen by half. Wheat is becoming ever more important to make the country self-sufficient in its staple food. Production has almost tripled since independence. The state controls cotton and wheat production, but private farmers now grow most of Turkmenistan's fruits and vegetables, primarily tomatoes, watermelons, grapes, and onions.

Irrigation accounts for almost all (97%) of the country's water use. The 1,400-kilometer Karakum irrigation canal, one of the longest such canals in the world, takes water from the Amu Darya River in the east, and brings it to thirsty lands in the southwest of the country, turning desert into arable land, including the areas around the capital, Ashgabat. A new dam, the Dostluk, near the border with Iran was built in 2005 and has improved the water supply; another is planned



on the Atrek River. According to the National Environment Action Plan, the huge losses of water from irrigation infrastructure at present are greater than the planned supply of additional water from the new dams. If the losses are not stopped, the result will be a fundamental barrier to attaining the country's stated economic plans to 2020.

A major issue in the agriculture sector is land degradation, mainly because of irrigation problems—secondary salinization, water logging, and erosion of agricultural land—while pastureland around settlements is also degraded from overgrazing around settlements.

Turkmenistan's entire 1,768-kilometer western border faces the Caspian Sea. Yet, the only fishery of any significance is that for the small Black Sea sprat, and that has declined from a recorded catch of around 60,000 tons annually before independence to 15,000 tons in 2006. Turkmenistan launched a Caspian ecological program in 1998 for sustainable management of Caspian Sea living resources and many projects have since been launched toward addressing local and transboundary environmental issues in the Caspian basin.

Environmental conservation measures have been among the priority objectives of the government from the first days of independence. Turkmenistan has also ratified a number of United Nations environmental conventions and programs, and established a state commission to monitor the country's progress in fulfilling these international commitments.



## Ashgabat

Ashgabat, the capital city, began as a fortress in the 19th century. The Trans-Caspian Railway reached it in 1885 and the town began to grow. The location, in an oasis in a scenic valley, was convenient and the area has the highest rainfall in the country, 30 centimeters, but there was a price: Ashgabat lies in the foothills of the unstable Kopet-Dag Range. In 1948, the city was completely destroyed by a severe earthquake that killed 110,000 people. Thus, Ashgabat today is a new city, with little of its past to display. Modern white marble buildings are graced by treelined avenues and fountains.

Landmarks include the Ashgabat National Museum of History, containing glimpses of the country's past in its archeological displays, and a unique carpet museum full of the best examples of the art since the 17th century, plus the largest carpet in the world, measuring some 400 square meters.

The highest point in the city is the Arch of Neutrality, built in 1998. Some other landmarks are the Presidential Palace, the building of Medzhlis, Academy of Sciences, Academic Drama Theatre, Bairam-Khan monument, Lenin Square, Mekan Palace, Conservatory, and Ertogulgaz Mosque.

The main attraction for tourists to Ashgabat, however, is not the landmarks but the *Tolkuchka* market on the edge of the city, said to be the largest open bazaar in the world. Traditional carpets are a must, but everything from amulets to camels is on sale.

A new tourism activity is spending a night in a yurt, the felt-covered circular portable home of the nomadic pastoralists. Visitors can watch carpet making, drink fermented camel's milk (*chal*), and even take a ride on an Akhal Teke horse, one of Turkmenistan's national symbols.



■ **Upper:** The 75-meter high Arch of Neutrality is topped by a statue of the late president Niyazov that revolves to always face the sun. **Lower:** Dusk view of the city of Ashgabat.