



Morocco – Sand, Sea and Salt Country Report

Introduction

Official Name: The Kingdom of Morocco

Capital City: Rabat

Location: North Africa 32 00 N, 5 00 W

Population: 36,797,409 (March 2020)

Land: 446,300 sq. km

Water: 250 sq. km

Currency: Moroccan Dirham

GDP (per capita) \$9,235 (2019)

Dominant religion: Islam (99%)

Languages: Standard Arabic, Standard Moroccan Berber, French (unofficial)



Figure 1. Map showing Morocco in red.

Morocco is the most north-westerly country in Africa, bordering Algeria and Western Sahara. It is a member of the Arab League, the African Union and the Union for the Mediterranean.

Whilst at risk of natural disasters such as drought and earthquakes, its climate is extremely favourable for agriculture; a key industry. Other major industries include the aeronautical industry and the exportation of primary materials.

Morocco is rapidly becoming a favoured location for investment, due to its infrastructure, political stability and demography.

History

Since the 17th century Morocco has undergone many constitutional changes starting as a Sultanate, followed by a French Protectorate and after independence, a constitutional monarchy. Throughout this period, the country was ruled by the same family from the Alaouite Dynasty. Morocco became a constitutional monarchy in 1956 under Sultan Mohammed V, grandfather to the current King Mohammed VI, who has reigned for the last 21 years.



Figure 2. King Mohammed VI.

It has held its current borders since gaining independence from France in 1956.

Climate

Morocco has a Mediterranean climate which becomes more extreme further inland. This makes it ideal for agriculture, especially in the more temperate north west.



Figure 3. High Atlas Mountains, Morocco.

Demography

Morocco is a fairly young country, with over a quarter of its population under the age of 15. 16.5% of its population fall between the ages of 15 and 24, and the bulk between 25 and 54 at 41%. Only 16% of its population is aged over 55. As of 2020 the median age is 29 years old.

The vast majority of Moroccans, around 99.1%, are of Arab-Berber descent. Morocco also has an estimated 100,000 foreign residents of which the majority are French. A large percentage of the foreign residents are descendants of the colonialists whereas the remainder mainly work for European countries and businesses.

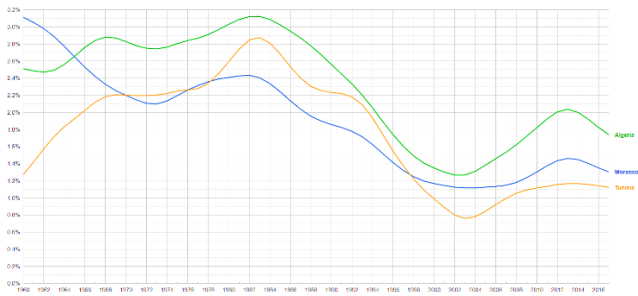


Figure 4. Morocco's rate of population growth 1960-2016 relative to Algeria and Tunisia.

Although the overall population is young, it is gradually ageing. Figures 6 and 7 highlight the contrast between Morocco's population in 1975 and 40 years later in 2015.

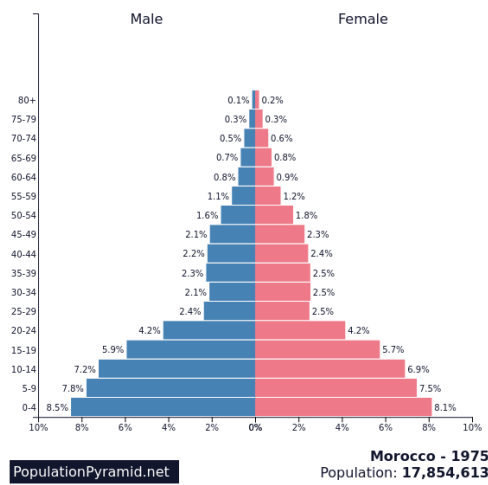


Figure 5. Age of Morocco's population as of 1975.

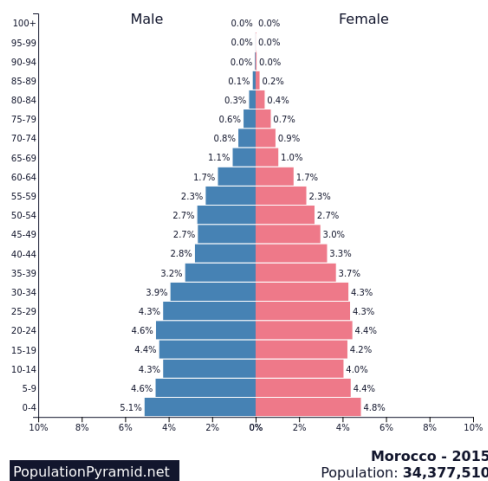


Figure 6. Age of Morocco's population as of 2015.

Health

In the past 50 years, Morocco's total population has increased by 180%, however the rate of growth is currently slowing down. One possible explanation for this is an increase in access to

healthcare and family planning. This results in better access to, and more education about contraception, and a lower infant mortality rate. This has led to a lower fertility rate of 2.4 live births per woman in 2020, down from 6.9 in 1970 and increased opportunities for women to work outside the home.

26,000 women benefit from professional training courses each year and 141,702 young girls receive additional training to complete their education.

Morocco's population is expected to age further over the coming years, with the portion of the population over 60 forecast to triple by 2050. This brings with it a number of problems:

- Age of retirement will need to be increased. Currently it is expected to rise to 63 by 2022.
- Strain on healthcare resources, particularly as many older people will still be working.
- Strain is put on an already stretched pension system, as there will not be enough young people working. Due to limited opportunities many younger people turn to informal employment, which does not involve paying tax. While this is a solution for the individual it results in reduced contributions towards pensions.

Economy

Morocco has the second-largest non-oil GDP in the Arab League, behind Egypt (2017), yet is ranked the eighth richest country (by GDP at PPP) in the Arab League. One of the reasons for this relatively low overall standing is its lack of hydrocarbon resources, which puts it at a significant disadvantage when compared to other MENA countries.



Figure 7. Hide tanning in Fez.

Some of Morocco's key exports are primary materials such as phosphates, iron ore, manganese, lead and zinc, as well as a diverse range of other products such as citrus fruits, fish, textiles and electrical wiring. One of Morocco's most exciting and lucrative developments is its rapidly expanding aeronautical sector.

Morocco's rapid aeronautical success is partly due to the development of the Midparc Integrated Industrial Zone.

- 30km from Casablanca
- Close proximity to Mohammed V airport
- Strong road and rail access
- Very appealing tax offers (tax exemption for the first five years)

Matis, a joint venture between Boeing and Safran, employed over 1,000 workers and exported approximately \$79m worth of products in 2015. Bombardier have planned to invest almost \$200m by the end of 2020, and French company Daher opened its third Moroccan facility in Casablanca in February 2018 at a cost of \$17m.

“Between 2000 and 2015, more than 110 companies operating in aerospace industry established themselves in Morocco, employing 11,000 qualified employees”. Figure X: Quote from *Integrated Space for African Society*, edited by Annette Froehlich, original source unknown.”

Tourism is another key industry in Morocco, with 11.35 million tourists visiting Morocco in 2017, generating almost \$7 billion USD.

Youth unemployment has always been relatively high in Morocco, however it peaked at 29.3% in July 2017. As of January 2020, it sits at 24.9%.

Political Stability

According to a publication by Daher, Morocco was an obvious location for investment due to its political and economic stability. Morocco has experienced a much less politically volatile period over the last 10 years than its MENA neighbours and this gives it huge appeal.

In the World Bank's “Doing Business 2019”, Morocco ranked 63rd worldwide in regard to ease of business. This places

Morocco significantly ahead of Tunisia (78th), Egypt (112th) and Algeria (157th).

This comparative political stability was demonstrated during the Arab Spring. While protests still occurred in Morocco, they were far from those observed in other countries, such as Tunisia and Egypt. Even the most violent ‘crackdown’ on protestors on March 13th in Casablanca resulted in no deaths. Rather than calling for the ousting of their monarch and consequent revolution, the Moroccan people demanded political reform, which resulted in the drafting of a more liberal constitution.



Figure 8. Moroccan demonstrators in 2011.

Geography

Morocco has one other feature which has allowed its economy to develop significantly and this is its geographical location. It is often described by some as a “Gateway to Africa”, providing businesses with an opportunity to become involved in Africa.



Figure 9. Morocco's adjoining seas and oceans.

As Morocco has access to both the Atlantic Ocean and the Mediterranean Sea, it has excellent shipping routes for its port, Tanger Med, visible in red in Figure 14. The port was built in 2007, and generated \$6.8b of revenue only 10 years after construction. In June 2019, its most recent expansion opened, Tanger Med II.

Figure 11. Rachid Houari in the Financial Times, 2016.

This expansion tripled the ports capacity for cargo as well as creating 8,600 new jobs. Tanger Med became one of the most important transshipment hubs in the Atlantic and Mediterranean, as well as a hugely important part of Morocco's economy.

Such a sophisticated port offers huge opportunities for Morocco as it provides the country with improved access to international trade routes, as well as the European market. The ports location offers greater efficiency and cost competitiveness for businesses compared to other North African ports.

“There are 100,000 ships going through the Strait of Gibraltar every year and most need to do transshipment. We are in an excellent position because sailing here requires no deviation.” – Rachid Houari, Director of Tanger Med

Infrastructure

Hard infrastructure is incredibly important in terms of economic growth, particularly regarding the exportation and importation of products.

Morocco has a somewhat varied national infrastructure. For this reason, modern infrastructure development is a government priority with more than a \$15 billion investment between 2010 and 2015.

Railways

One facet of Morocco's infrastructure is its expansive railway network, which is one of the most developed in North Africa.

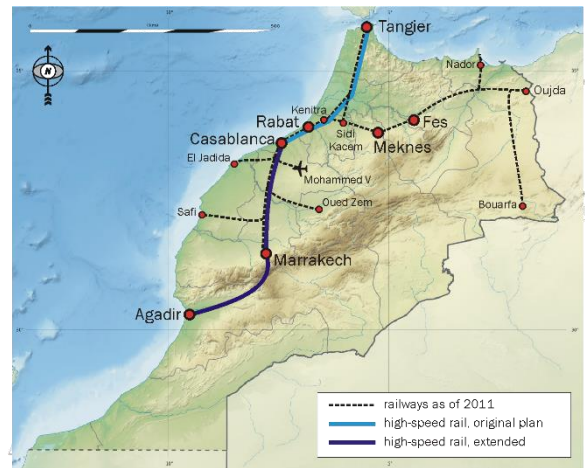


Figure 10. Railway map of Morocco.

As shown in the above map, most of Morocco is accessible via railway, which is hugely beneficial for business and tourism. This has recently been further improved with the installation of Africa's first high-speed railway, the Al-Boraq railway, which halves the time taken to travel between Casablanca and Tangiers. An extension to Marrakech is expected to open by 2030.

This extension falls under the “Plan Rail Maroc 2040” government scheme, which also includes:

- Maintenance and improvement of existing railways in order to increase their longevity
- Extensions of conventional (100mph limit) railways to cities that are not currently connected to the rail network



Figure 11. Al Boraq at Tangiers Ville station.

This would further benefit the country by alleviating its current overreliance on roads.

Road network

Morocco has a well-developed road network comprised of 57,849km of road.



Figure 12. Congested roads in Gueliz.

However, these roads are highly congested, and an estimated 6,000 deaths are attributed to road traffic accidents every year, making it the 7th biggest killer in Morocco. Commercial vehicle sales are rising, having increased to 83.2% between 2005 and 2017. In addition to this, Scania announced they sold close to 500 trucks in Morocco in 2013, compared to an average of 180 trucks in each year of the previous decade.

Improved railways are expected to absorb a significant amount of Morocco's road freight, further facilitating the movement of products along Morocco's supply chain routes. The Moroccan Ministry of Equipment, Transport, Logistics and Water aims to build 50% more roads - including highways, expressways, and rural roads - by 2035, at an expected cost of \$61.86 billion. Some of the projects included in this are the *El Jadida – Casablanca – Oujda* and the *Tangiers – Agadir* motorways.

These projects contributed to Fitch Solutions giving Morocco a score of 61.0 out of 100 for Extent of Transport Network. This places it above all of its North African neighbours and fourth in the MENA region.

Energy

The sector where Morocco underperforms is the energy sector. While it does have proven oil and natural gas reserves, located in the Essaouira Basin (oil and gas), the Gharb Basin (gas) and Meskala (gas), it does not have major hydrocarbon resources. As a result, Morocco is forced to import a large percentage of its energy.

The World Bank reported that Morocco imported 90.94% of its energy (2012) - a huge overreliance on foreign energy.

This is somewhat of an issue for Morocco's growing industry sector, as many of the businesses operating are particularly energy-intensive, and demand is continues to increase. A reliance on imports also leaves businesses exposed to price fluctuations. Unfortunately, Morocco's only oil refinery SAMIR is recently facing liquidation due to an inability to honour \$4.5 billion in borrowing.

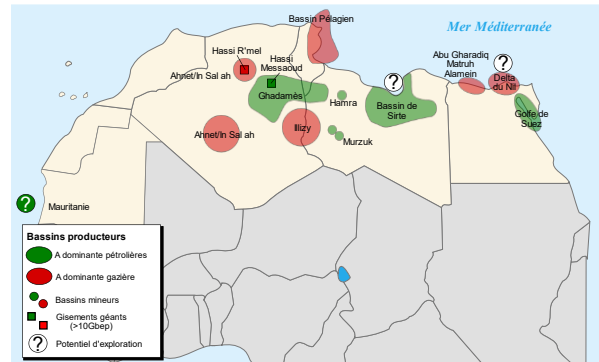


Figure 15. Major Oil and Natural Gas Reserves in North Africa. Oil in Gr3en, Gas in red.

In order to tackle this issue Morocco has developed one of the world's leading renewable energy programs. The Moroccan Agency for Sustainable Energy (MASEN) has stated the main policies as following:

- Strengthen the security of energy supply through diversification of sources.
- Provide access to modern energy at competitive prices for the entire population.
- Green energy - promote renewable energy and clean energy technology. Enhance energy efficiency and saving.

In order to meet these objectives, huge investment has been placed on solar energy. The Noor Ouarzazate Solar Power Station was "switched on" in 2016 and is the largest in the world. It is built over an area of over 3,000 hectares and produces 1470 GWh of electricity annually. This output is achieved through 3 separate solar farms.

Noor I – February 2016

- Parabolic trough system - solar thermal collector. The sun's rays are reflected off a curved or parabolic mirror towards a central heat pipe, melting the molten salt within.
- Annual net output of 370 GWh.
- Cost \$3.9 billion and uses 500,000 mirrors.
- Wet cooling system – uses 1.7 million cubic meters per year, equating to 4.6 litres per kWh.



Figure 14. Parabolic trough solar thermal collector.

Noor II – December 2018

- Produces 600 GWh per year
- Parabolic trough system.
- Dry cooling system in order to reduce water consumption.

Noor III – December 2018 (see Fig7)

- Large mirrors reflect the sun's rays towards the top of a 243m high tower, melting the salt within.
- Heat energy is stored within the molten salt, and can be converted and used when the electricity is required, usually at night.

MASEN set a goal of providing 42% of Morocco's power through renewable energy. By the end of 2018, 35% of its electricity was from renewable sources. In response to this success the government has boosted this goal to 52% (10,000 MW) by 2030.



Figure 15. Noor III Solar Tower.

This is expected to consist of:

- 13% - hydro power
- 42% - wind energy
- 45% - solar energy

To achieve this, the Moroccan government has planned to invest \$40 billion in its energy sector

over the coming 10 years. \$30 billion of this is to be assigned to renewables.

In addition to this, there are hopes for Morocco to begin exporting its renewable energy to European countries such as Portugal and Spain. A feasibility study for the construction of a subsea transmission line from Tangier to the Algarve is approaching completion and an agreement enabling this was signed by Morocco, Portugal, Spain, France and Germany in 2017.

As a result of its commitment to renewable energy sources, Morocco places 15th in the Renewable Energy Country Attractiveness Index (RECAI) as of 2018.

Natural Hazards

Droughts

Morocco is vulnerable to periodic droughts. For a country as reliant on agriculture, specifically the arable sector, these droughts can prove to be a severe threat to socio-economic stability.



Figure 16. Drought in Morocco.

Southern Europe and West Africa have been exposed to droughts since the 1950s, however as Morocco's population has grown, more pressure has been put on existing arable farms, forcing them to expand cultivation into less desirable (marginal, low rainfall) areas. On top of this, intensified farming practices mean that when a drought hits, it is much more severe than a drought of a similar calibre would have been in the past.

In 2016 Morocco experienced its worst drought in 30 years. This cut the country's cereal harvest by 70%, from 11m tonnes (2015) to 3.35m tonnes.

“The Moroccan economy is largely dependent on the rainfall. When one draws up the curve of the precipitation, that of the agricultural GDP and that of the national GDP, there is an almost perfect correlation between the three.” – El Mehdi Fakir

As agriculture accounts for over 15% of Morocco’s GDP and employs 40% of its work force, the knock-on effect was huge. Morocco’s trade deficit rose by 19.6% to \$18.4b in this year. A food stampede occurred in Sidi Boulaalam, 65 km from Essaouira, in November 2017 in which 15 people were killed and 5 wounded.



Figure 19. Moroccan truck loaded with hay.

The Moroccan government’s strategy of favouring export and industrial crops at the expense of the cereals and vegetables necessary for the Moroccan people has fallen under heavy criticism. Economist Najib Akasbi stated in an interview with TelQuel magazine that:

“Significant financial resources were concentrated on limited surfaces ensuring the development of a small production intended for specific categories or social classes”

Earthquakes

The Atlas Mountains run through the centre of the country. Due to tectonic activity occurring beneath the mountain range (African and Eurasian plates) Morocco experiences occasional minor earthquakes. However, very rarely a severe earthquake will strike, such as the 1960 Agadir earthquake, which resulted in 12- 15,000 fatalities,

and the 2004 Al Hoceima earthquake, which caused roughly 630 deaths.

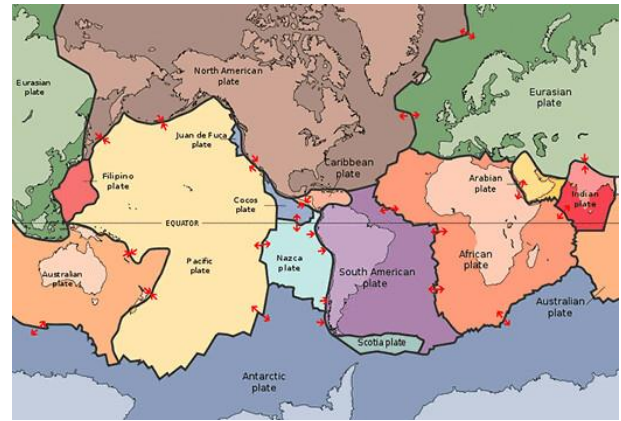


Figure 20. Tectonic plates

Conclusion

Morocco is making good progress in modernising its economy. Its rapidly expanding industries will continue to provide meaningful employment for its expanding population.

Morocco’s prestigious infrastructure program will further facilitate the transportation of products and people around the country, and indeed further afield, while its renewable energy policy will mitigate the issues the country faces regarding its energy consumption and, in future, may even become a viable form of revenue for the country.

These developments have the potential to make Morocco a very attractive country for businesses to operate from.

Vallis in Morocco

Vallis have been operating in Morocco since 2015, performing the following services:

- Marine and Cargo Surveying
- Stock Management
- Audits and Inspections
- Sampling and Analysis
- Supply Chain Assurance Services

Please feel free to contact Vallis should you have any operational requirements.

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