

Metropolises

A metropolis is a major urban centre where power and services are concentrated, and where issues abound. People in the surrounding region and even in the national territory as a whole are drawn to it. Today metropolises are increasingly powerful, which has repercussions for the entire planet.

Québec Education Program, Secondary School Education, Cycle One, p. 276

Study Territory:



Cairo

Note: This is an archived study file and is no longer updated.

Competency 1 Understands the organization of Cairo

Portrait of the territory



Located along both banks of the Nile, near the head of the river's delta where it flows into the Mediterranean Sea, the city of Cairo (or al-Qāhirah in Arabic) covers an area of over 453 km². ([Encarta](#)), with a metropolitan area of over 1492 km². ([Wikipedia](#)).



Cairo is the capital of Egypt and the most populous city in Africa, with a metropolitan area population of over **15 million inhabitants** or approximately 20% of the population of Egypt. ([Wikipedia](#)). The country's health care, educational and government services are all concentrated in Cairo. It is also where an Egyptian has the best chance of finding a job. As a result, Cairo's population is growing at an annual rate of 3.3%, mainly because of the **migration of rural populations** in search of a better life.

Note: There are available Cartograf scenarios entitled:

[Cairo: A Metropolitan Territory](#)

[Cairo: Issues in the Metropolis](#)

Population profile



The city of Cairo itself is estimated to have a population of 7.5 million people ([Wikipedia](#)). When the inhabitants of the suburbs and outlying areas are taken into account, the population of Cairo's urban agglomeration is more than twice that figure. Most Cairenes are Muslim Arabs, although many also speak English. In addition to Greeks and Armenians, the **ethnic groups** represented in the city are mostly North African in origin, such as the Bedouins, the Berbers and the Nubians from Upper Egypt (in the southern part of the country). Egypt has a **birth rate** of 22.9 per 1000 and a life expectancy of 71 years. ([CIA Factbook](#)) The country's population is relatively young: the 0-14 age group represents about a third of the population.

Cairo geography



The city of Cairo extends along both banks of the Nile in an area where numerous islands facilitate its crossing. Saladin's Citadel (sometimes referred to as the Mohamed Ali Citadel) sits on a 350-metre-high bluff that overlooks the city. Cairo has a desert **climate**, which means it almost never rains: the city has an average of fewer than 6 days of precipitation per year. The weather is warm year round, with hot and dry summers. **Arable land**, which is found along the banks of the Nile and in the river's delta, represents only 4% of Egypt's territory.

Cairo's economy

Nearly 80% of the country's tertiary-sector activities are concentrated in the metropolis of Cairo; the city is also the country's industrial and cultural centre. Cairo is also a major tourist destination; its tourist attractions include the Sphinx, the Great Pyramid of Giza (the only remaining of the Seven Wonders of the Ancient World) and Saqqara, the world's oldest standing step pyramid.

About Cairo

[Cairo \(Wikipedia\)](#)

[Cairo \(Britannica\)](#)

[Cairo: Living Past, Living Future](#) ([Students section here](#))

[Cairo](#)

[Cairo Governorate site](#)

City profile of Cairo (UN City Profiles)

UN site still down in Nov. 2014.

Check <http://www.un.org/cyberschoolbus/> again for new link

[Urban growth in Cairo](#)

Maps

[Blank outline map of the world](#) (Word format from [IUFMA](#))

[Blank outline map of Egypt](#)

[Political map of Africa](#) (from World Atlas)

[Physical and Political Maps of Africa](#)

(CIA World Factbook list)

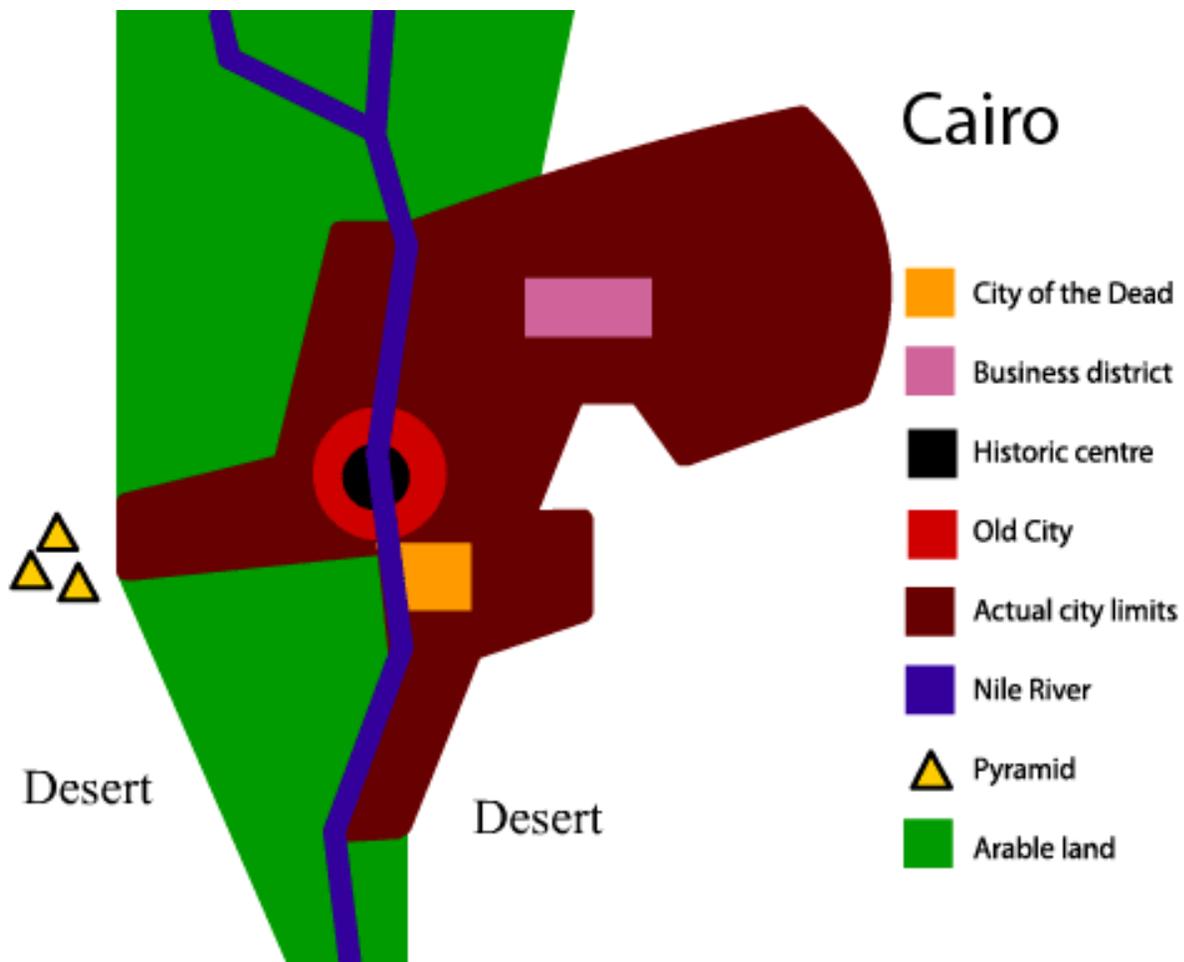
[Political Maps of Africa](#) (CIA World Factbook interactive site)

[Political map of Egypt](#) (Maps of the World)

[Districts of Cairo image](#) (Wikimedia Commons upload)

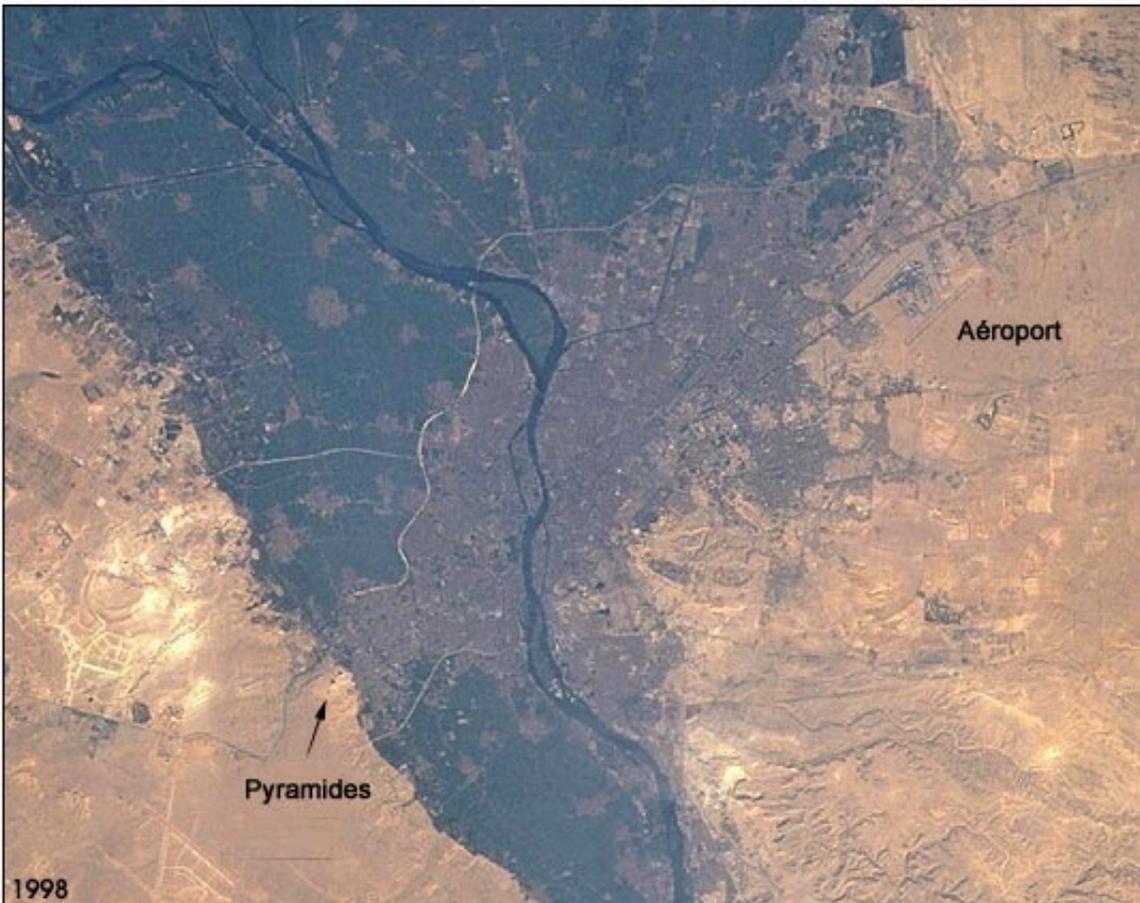
[Diagram of the city of Cairo](#)

On the NASA photos below, you can observe Egypt's narrow strip of arable land surrounded by desert, the expansion of Cairo's urban area since 1965, the proximity of the Egyptian pyramids to the city, etc.





1965



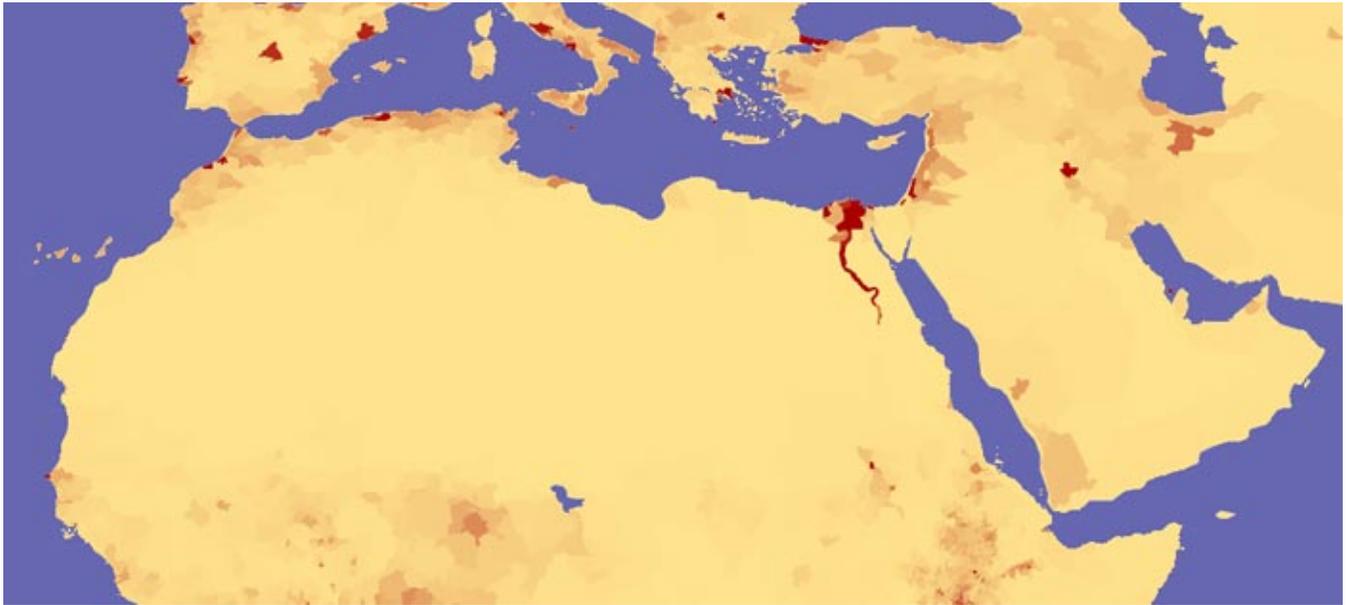
Aéroport

Pyramides

1998

Geographical sketch on previous page adapted from [BIPS](#)

Source: [NASA](#)



Population density map

Images of Cairo

Click on the images to enlarge them.



Aerial view of Cairo

● Source: [Kevin McCracken, Macquarie University](#)



Saladin's citadel and the Muqattam Hills are in the background.

● Source: [Kevin McCracken, Macquarie University](#)



The ubiquitous Golden Arches...

● Source: [Kevin McCracken, Macquarie University](#)

Source for above pictures seems to have been taken offline. Originally by [Kevin McCracken](#)

Images of Cairo and Egypt

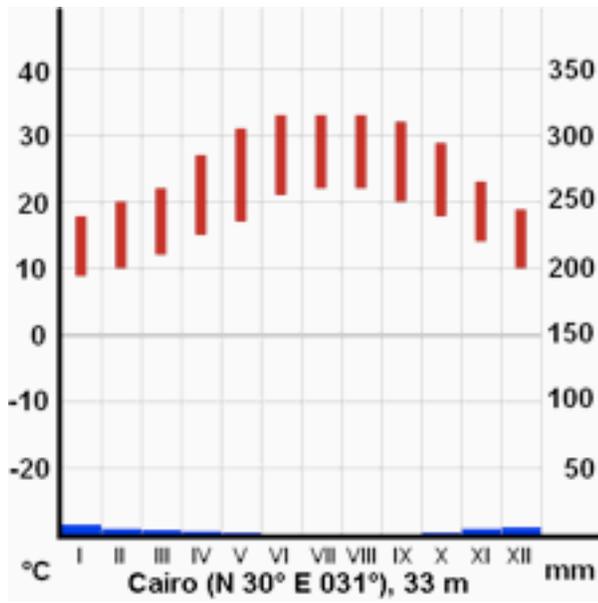
(Please verify copyright use policies for each site before reusing for educational purposes.)

Cairo travel photos <http://egypt.travel-photo.org/cairo/>

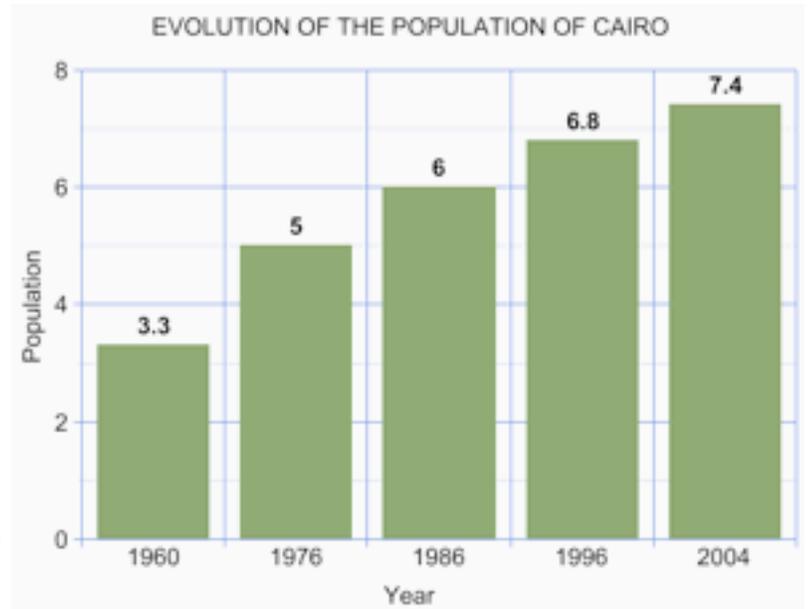
Greater Cairo Flickr group at <https://www.flickr.com/groups/greatercairo/>

Older Cairo Flickr group <https://www.flickr.com/groups/oldercairo/>

Cairo data



Source: [Climatic diagram on Wikipedia](#)



Source: [CNDP: Métropole en mutations](#) and [Wikipedia](#)
Graph produced by LEARN using [Create a Graph](#)

Competency 2 Interprets the issues of a metropolis

Getting around in a metropolis



Traffic in Cairo is particularly heavy and almost **chaotic**. The means of transportation used in the city are highly varied: cars, shared taxis, trucks, buses and carts all share narrow streets in neighbourhoods that developed without the benefit of urban planning. The construction of a highway that would bypass the centre of the city is still in the planning stages; consequently, traffic is forced to go through downtown Cairo, causing the area's streets to be **constantly gridlocked**. In addition, more bridges are needed across the Nile, which divides the city into two long north-south corridors.

Public transit

Cairo has a bus and tram system, but its efficiency is hampered by the **chaotic development** of the city as well as by dense traffic and poor road conditions. In the expanding working-class neighbourhoods, which are often far from the city centre, small **private transit systems** have developed. Cairo also has the only metro system in Africa and the Middle East, which currently consists of two operational lines, with a third in an advanced state of planning.

Air quality

Cairo is one of the most polluted cities in the world, due to emissions from factories in outlying areas and exhaust fumes that fill the air with **toxic pollutants** such as lead. Motor vehicles are also responsible for terrible **noise pollution**, which reaches decibel levels much higher than acceptable standards.

Articles on Transportation issues in Cairo

"The red bus crammed with passengers like a can of sardines is one of the most visible hallmarks of Cairo streets." Source: **Missing the bus** ([Al-Ahram Weekly](#))

Africa's only subway system soothes Cairo's traffic woes, slightly

<http://www.voanews.com/content/a-13-2006-06-29-voa25/312901.html>

Missing the bus <http://weekly.ahram.org.eg/2005/736/fe1.htm> (Al-Ahram Weekly)

In the fast lane <http://weekly.ahram.org.eg/2003/648/feature.htm> (Al-Ahram Weekly)

The big squeeze <http://weekly.ahram.org.eg/2002/613/li2.htm> (Al-Ahram Weekly)

Images of getting around in Cairo

Click on the images to enlarge them.



Chaotic intersection where pedestrians, cars, buses and even a cart vie for the road. Image links to larger image on Recitus.qc.ca. 🟡Original source: [Thierry Hatt](#)



Private transit system in a new working-class neighbourhood. Image links to larger image on Recitus.qc.ca. 🟡Source: [Métropoles en mouvement](#) Photo by A. Deboulet



Transportation to school is provided by a private service. 🟢Source: [IRDÓ](#), Michel Le Page



Crossing the Nile... Several bridges link the eastern and western sections of the city. 🟡Source: [Kevin McCracken, Macquarie University](#)



Various forms of Cairo transportation: black and white taxi, microbus, horse and cart, motorbike, bus, etc. 🟡Source: [Kevin McCracken, Macquarie University](#)



Cairo's metro. One potentially adverse effect of the metro is that it facilitates the northward spread of urbanization into agricultural lands. 🟡Source: [Kevin McCracken, Macquarie University](#)



Cairo's metro.

● Source: [Wikimedia Commons under CC BY-SA 3.0](#)



Camel traffic on a city street

● Source: [Kevin McCracken, Macquarie University](#)

Finding housing



With an average **density** of 35,000 inhabitants per km², Cairo has one of the highest population densities in the world, with certain areas reaching over 100,000 inhabitants per km². The city centre, which has traditionally welcomed poor immigrants, long ago reached **saturation**. Attempts to develop satellite cities have only been marginally successful, attracting some industries but few residents.

Urban sprawl

Nevertheless, Greater Cairo's outlying areas are starting to become organized, triggering urban sprawl. New residential sectors have been developed in the lush Nile delta, to the delight of those who can afford them but to the detriment of Egypt's limited arable land. At the same time, disadvantaged populations are settling desert land without plan or order under often inadequate sanitary conditions (without sewage or water systems).

Cairo's housing shortage

Cairo's expansion has become necessary because of the major **housing crisis** the city is currently experiencing, which hits the poorest the hardest. In spite of the saturation of the downtown area, disadvantaged families still want to live there to be able to take advantage of its benefits. The housing shortage is forcing these families to settle in **precarious and sometimes unusual dwellings**: unstable floors are added to old buildings and temporary homes are built directly on building roofs. In fact, although there are few actual slums in Cairo, this "**verticalization**" of the city's living space represents a variation on the same theme and is equally unsound.

Another consequence of the housing crisis is that the **City of the Dead**, a vast expanse of cemeteries located in Cairo's outskirts, is now inhabited by a dense population (estimates vary from 30,000 to 1 million) that live between the tombs and mausoleums.

(Source: [BC Tomb with a view](#))

Sources:

A. Buccianti, "L'excroissance de la capitale égyptienne," *Le Monde*, September 1994.
Cairo entry in Wikipedia [<http://en.wikipedia.org/wiki/Cairo>]
Institut de recherche pour le développement [<http://www.bondy.ird.fr/>](in French only)
H. Levinson, "Tomb with a view," BBC News, March 2, 2002. [http://news.bbc.co.uk/1/hi/programmes/crossing_continents/africa/1858022.stm]

Cairo's housing crisis

“The *arafa* [City of the Dead] is a necropolis turned metropolis, where the needs of the living have far outpaced the sanctity of the dead. Here, survival takes precedence over superstition and the impact of overpopulation and overcrowding wears a human face.

[...]

The cemetery is filled with refugees from Cairo's housing shortage who became homesteader in a landscape of tombs and mausoleums.

Today, some 50,000 people live in tombs while between 500,000 and a million more are cramped into tenement houses where tombs once stood.”

Source: [City of the Dead](#)

[Picket fences](#) (*The Daily Star Egypt*)

[A breath of dust](#) (*Al-Ahram Weekly*)

Images of Cairo's housing crisis

Click on the images to enlarge them.



A working-class neighbourhood

● Source: [Thierry Hatt](#)



Slums

● Source: [Thierry Hatt](#)



● An agricultural village swallowed up by the city

Source: [Métropoles en mouvement](#), Philippe Haeringer



● An almost empty luxury residential sector

Source: [IRDÓ](#), Michel Le Page



The "verticalization" of the old city

● Source: [Métropoles en mouvement](#), Philippe Haeringer



Rooftop housing

● Source: [Kevin McCracken, Macquarie University](#)



The City of the Dead, a cemetery which houses thousands of families

● Source : [BIPS](#)



A home built on a roof

● Source: [@IRD](#), Alexis Sierra



Living on the roof

● Source: [@IRD](#), Alexis Sierra

Waste management



Garbage collection in Cairo—long left to an informal-sector group—is now shared between traditional garbage collectors and private companies hired by the city. Cairenes produce an average of 330 kg of garbage per capita, a figure that hides the significant disparities between rich and poor. The latter are much more likely to reuse, transform or recycle items as much as possible before throwing anything away.

Cairo's zabbaleen



As to the other millions of tonnes of garbage produced in the great metropolis of Cairo, they are collected either by a fleet of private trucks or by the *zabbaleen* (literally “garbage people” in Arabic), a Coptic Christian community that immigrated to Cairo. The zabbaleen are at the centre of an **informal economy** based on waste collection and recycling. They collect and sort garbage, which they reuse, transform and sell. They also feed the **organic waste** portion to their pigs—in this Muslim country, they are the only community to raise and eat these animals. While Cairenes tolerate their presence, which helps maintain a certain level of cleanliness in the city, they are exasperated by the zabbaleen’s donkey-pulled **carts**, which impede traffic flow in Cairo’s already virtually gridlocked streets.

Taking advantage of the dumps Others also take advantage of the tonnes of garbage that have accumulated in the various dumps found on the outskirts of Greater Cairo. **Poor children** look for objects to recycle and resell, while shepherds let their goats forage for food in the garbage. However, the **risk** of disease, injury or collapse is real, endangering the health and safety of those who live off the dumps.

More about air quality Finally, the practice of **informal incineration** or open burning of garbage by developers who want to “clean” the land or by residents themselves also contributes to the poor quality of the air in Cairo, which is full of toxic substances and dust. The rates of **respiratory diseases** such as asthma and lung cancer are particularly high in the Egyptian capital, which has very few green spaces.

Sources:

A. Buccianti, “L’excroissance de la capitale égyptienne,” *Le Monde*, September 1994.

Al-Ahram Weekly On-line [<http://weekly.ahram.org.eg>]

Zabbaleen entry in Wikipedia [<http://en.wikipedia.org/wiki/Zabbaleen>]

Institut de recherche pour le développement [<http://www.bondy.ird.fr/>] (in French only)

Waste management issues

“Greater Cairo’s 60,000 zabbaleen, who gather one third of the city’s 10,000 tons of daily garbage, have what is considered one of the world’s most innovative and efficient models of solid waste disposal. They collect the garbage, sort it, and then recycle as much as 80% of it into raw materials and manufactured goods—plastics, rugs, pots, paper, and glass—which are then traded with thousands of businesses nationwide. The zabbaleen’s system has won awards, been applauded at international conferences, and been imitated in other cities, including Manila, [Mumbai], and Los Angeles.”

Source: [*The Christian Science Monitor*](#)

[Out with the trash](#) (Pacific News Service)

[Cairo’s devoted refuse collectors](#) (BBC News)

[From Cairo’s trash, a model of recycling](#) (*San Francisco Chronicle*)

[Egypt dumps ‘garbage people’](#) (The Christian Science Monitor)

Listen to “[The Garbage People of Cairo](#)” on [Dispatches](#) (CBC Radio)

Listen to “[Deep into the Rubbish with Cairo’s Zabbaleen](#)” on Journey of a Lifetime (BBC Radio)

Waste management images



A few people gather here daily along the railway tracks, not far from Cairo's train station. The city's population is booming, but work is increasingly hard to find. Local young idle adults gather in such seedy areas, far from prying eyes. In addition to miserable living conditions and overcrowding, slum dwellers must also deal with personal insecurity.

Source: [BIPS](#)



Garbage on the river banks

● Source: [Thierry Hatt](#)



A zabbaleen area in Cairo

● Source: [Études sur l'Orthodoxie Copte en France](#)



A zabbaleen area in Cairo

● Source: [Études sur l'Orthodoxie Copte en France](#)



A zabbaleen area in Cairo

● Source: [Études sur l'Orthodoxie Copte en France](#)



The zabbaleen and their donkeys

● Source: [Thierry Hatt](#)



Private street cleaners

● Source: [Kevin McCracken, Macquarie University](#)

[To salvage a city](#) (Al-Ahram Weekly)

[Cairo: Challenges for the future](#) (Middle East Network Information Center (MENIC) University of Texas.

Competency 3 Constructs his/her consciousness of global citizenship

The geographical phenomena discussed in Competency 3 are examined from a global perspective rather than a territorial one. However, we have made reference to the territories studied.

“Water, water every where, / Nor any drop to drink.”
Samuel Taylor Coleridge, *The Rime of the Ancient Mariner*

Heavily populated areas and the world's water supply



Two billion people on earth do not have access to drinking water. With the constant increase in **urbanization**, a significant segment of this population now lives in the largest cities of the world.

Access to drinking water

Living in a metropolis does not guarantee access to basic services: in developing regions, 43% of the population lives in slums under **extremely precarious sanitary conditions**. In Africa, for example, up to 50% of the continent's urban population does not have access to drinking water within a kilometre of their residence, and over half does not have access to water sanitation (sewers or septic tanks).

As a result, these populations must either get water from unsanitary sources, which are a source of **disease**, or buy it from **private vendors**, at up to 10 times the cost of water delivered by a pipe.

Drinking polluted water

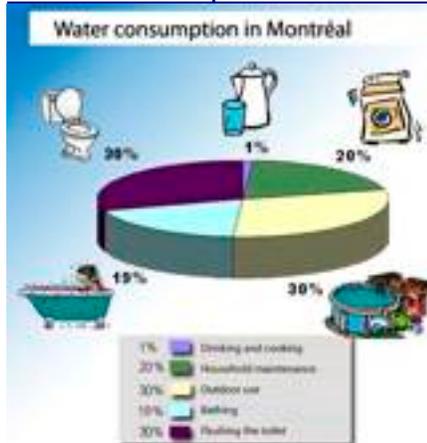


Supplying large cities with clean water is more difficult when they do not have effective

wastewater treatment systems. In such cases, untreated **wastewater** pollutes surface water and groundwater supplies as well as the oceans. In addition, runoff from **rain** carries filth and waste—including human excrement—that contaminate wells and other vulnerable sources of drinking water, leading to serious **epidemics**. Diarrheal diseases transmitted by contaminated water, such as cholera, are still a primary cause of child mortality in developing countries.

Who does water belong to?

Water consumption issues in Montréal



Lack of fresh water is a problem that plagues more than just poor countries. For example, Texas and California, two rich and highly populated states in the U.S., are facing **water shortages**. Elsewhere on the continent, such as in Montréal, water is taken for granted and often **wasted**.

With the rising global population and increasing urbanization, access to fresh water has become a fundamental issue, dependent on those who seek to control access to it. However, as a “vital patrimonial good, common to all humanity,” should water not be considered a precious common resource, which should not be privatized? Within the framework of **sustainable development**, should water not be subject to global regulations that would democratize access to it and establish guidelines for its use?

Sources: [2003 International Year of Freshwater: Facts and Figures](#) and text by [Ricardo Petrella](#) (in French only)

Water and developing countries



[2003 International Year of Freshwater](#) (in French only)

[Drinking water in developing countries](#)

Documents also prepared by the [Récit - Univers Social](#) and translated/adapted by LEARN:

[Facts and figures: Water and cities](#)

[Main water issues related to urban growth](#)

[Slum areas: The major challenge for the next decades](#)

[Trends in developing regions](#)

Find out more!

[Water Manifesto](#)

[Water quality in Canada](#) (Environment Canada)

[RésEau](#) (Government of Canada)

Heavily populated areas and world health

This theme is examined with respect to the various issues dealt with in Competency 2 as well as the water issue from Competency 3. We have therefore not added any further housing, transportation or water links in this section, as we consider that the material proposed in the previous sections was sufficient.

Humans produce waste. When millions of people live, work and travel within a metropolitan area, their activities have an impact not only on the quality of their environment but also on their own health.

Transportation The **gases** produced by vehicles, industrial activities and buildings' heating systems are released into the ambient air in metropolises. When certain atmospheric conditions are present, these gases settle over cities and are transformed into ozone through a chemical reaction triggered by sunlight. **Smog**, a mixture of smoke and fog that hangs over cities, may cause serious **respiratory problems**, especially in the most vulnerable members of the population: young children and seniors. In 2001, Montréal experienced 16 days of smog.

In the short and longer term, what are the consequences of poor air quality on human health in large cities? Do all cities in the world follow the same **regulations** with respect to the production of **greenhouse gases**? Are metropolises in developing countries more polluted? In Cairo, for example, the lead content of the air exceeds international standards by fivefold.

What measures can be taken to limit smog production?

Water The previous section on water examined how this fundamental resource is a major issue in the large cities of the world. Lack of **access to drinking water** forces a significant segment of the population—the poorest—to use polluted water, which causes disease and epidemics that are often the result of poor wastewater management.

Waste Whether we bury it, burn it or pile it up, garbage always has an impact on the environment and on people. Under **landfills**, leachate (the liquid that oozes out of a landfill, also known as “garbage juice”) contaminates the soil and groundwater. Near incinerators, **smoke emissions** poison the air. Vermin, which are disease carriers, are attracted to garbage mounds and endanger the impoverished people who live among them. In large cities, waste management is a complicated public health issue, because people do not want to live near the landfill sites. Certain nations, which must comply with strict regulations, actually ship their most hazardous waste to other countries, which are then paid to dispose of these contaminants to the detriment of **local populations**. Who is responsible for the waste produced in large cities? How can the quantity of waste produced be diminished and its impact lessened?

Housing When a population is heavily concentrated in a metropolis, finding suitable and affordable housing is often difficult. High rents often force the poorest people to live in close quarters in **unsanitary dwellings** that endanger their health. Such dwellings may be:

- poorly ventilated and infested with mould, which may make children sick;
- built on poor foundations with poor-quality materials and in danger of collapsing;
- located in the areas that are most vulnerable to natural hazards or most contaminated with industrial pollutants.

Finally, the concentration of people living under miserable conditions favours the spread of contagious diseases such as tuberculosis and typhoid.

Health issues

[Smog season](#) (Al-Ahram Weekly)

[WHAT IS AIR POLLUTION? > What is Smog](#)

[Info-Smog](#) (Environment Canada: Green the Lane)

[What Causes Smog?](#) (Larry West on About News)