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Mexico, Water and Sanitation

Water and Sanitation

Mexico has a population of 126.7 million, with an urban/rural split of 81.02% to 18.98%. Mexico's system of government is a democratic republic with a president who represents the entire country. Its administration is dictatorial and paternalistic. In 2020, there will be roughly 49.97%. Beans, tomatoes, avocados, sugar cane, coffee, and corn are Mexico's top exports and crops. Mexico has farms averaging 372 acres in size. It might be comparable to 280 football fields. The terrain of the country's center is made up of huge mountains and wide gorges, and the climate is both very and semi-arid.

The average family consists of three to five people. Due to this generational divide, many Mexicans have more than a dozen cousins, although their children only have a few. Rice, broth, and stew make comprise the average Mexican family diet. Families might get their food at a farmer's market or any other kind of market. They use dry roasting, steaming, and sweating to prepare their meals. Taxi drivers, food cart operators, mariachi performers, shoe shiners, and tortilla manufacturers are a few examples of common occupations. Employees were paid an average of 433 MXN per day, with 129 MXN being the lowest. Families have access to both medical treatment and educational opportunities. The cost of access to public health care is among the lowest in OECD countries. In Mexico, 55 million people, or 42% of the population, lack access to adequately functioning home sewage systems. Most average families have low incomes, are unemployed, or are in poverty, which are obstacles to earning living and nutritious meals. absence of reasonably priced houses. chronic health conditions or difficulty accessing healthcare. systemic racism and racial prejudice.

Of the 129 million people that live in Mexico, 73 million (57%) lack access to a dependable source of safe water, and 55 million (42%) lack access to a household sanitary facility that is safely maintained. This describes Mexico's current water and sanitation condition and level of severity. The availability of piped water sources has significantly increased in Mexico during the past two decades, and sanitary standards have improved in both urban and rural regions. Unfortunately, a lack of continued investment has hindered the progress gained in giving low-income areas access to safe water. Mexico has constructed about 579 water infrastructure projects, including absorption wells, mini-dams, and water pans, to protect water in the Oaxaca Valley, a region that is regularly affected by drought. For a full week, Mexico City's water supply was cut off, leaving citizens to rely on city wells and supplies kept in pipes, water tanks, and buckets. High rates of water stress and vulnerability exist in the lone state that lacks any local water regulation. More than a third of the state is currently dealing with severe drought, which is currently affecting the whole state. A few diseases that can spread because of contaminated water and poor sanitation are cholera, diarrhea, dysentery, hepatitis A, typhoid, and polio. When water and sanitation services are unavailable, inadequate, or poorly managed, people are subjected to health concerns that can be avoided. The repercussions on other marginalized populations that already exist are also substantial. Accessing water sources that are not appropriate for their needs may be difficult for people with disabilities. Indigenous communities frequently fall short in terms of well-being indicators including access to water sources. So because repercussions on other existing disenfranchised populations are also important, this problem has an impact on the economy. Accessing water sources that are not appropriate for their needs may be difficult for people with disabilities. Indigenous communities frequently fall short in terms of well-being indicators including access to water sources.

As Mexico progresses in the negative trends they could implement solutions to try and fix those trends by installing a water filtration system. Doing this could help Mexico decrease the number of people getting sick and catching an illness from contaminated water. Installing a water filtration system has benefits that include protecting the environment, lowering the risk of plumbing problems, preventing skin irritation, and reducing limescale and other mineral deposits. Some negative things that could come from this are

the initial cost of installation is higher than that of other filtration techniques, to talk about costs. Fluoride will also be removed if you use a whole-house water filtration system that eliminates all contaminants. Mexico could apply remedies to try and reverse the unfavorable tendencies as they advance by installing rainwater collection techniques in homes.

Another solution to these problems is to install rainfall harvesting systems in homes. Installing this rainwater is practically free when it rains on your roof and property. The only thing needed is a way to collect it and store it for later use in a tank or cistern. Harvesting rainwater can be a very effective instructional technique to help people become aware of their own or their household's water usage. They may start using less water around their home as a result. Collecting rainwater that naturally falls inside the neighborhood can lessen the requirement for imported water in communities that now rely on imported water to meet their needs. By storing treated water for more important and appropriate water uses, rainwater collection aids utilities in reducing summertime peak demand. Rainwater is an excellent primary water source. Some cons are inconsistent Rainfall, tanks for storing rainwater might occupy valuable space near your home, unable to set up a reliable and effective system. Rainwater harvesting systems can be expensive to install and system installation calls for certain technical expertise. Some additional information about this system and its pros and cons is that rainwater collection systems help lower a property's stormwater flow. Eliminating runoff can lessen pesticide, sediment, metal, and fertilizer contamination of surface water. Rainwater harvesting can lessen a storm's peak volume and velocity of flow in nearby creeks, streams, and rivers, which lowers the risk of streambank erosion. To satisfy the requirements of individual properties in a municipality's stormwater management program, rainwater harvesting devices can be used as an easy and efficient solution. Since it is free of contaminants like fluoride and chloramines, it is a great supply of water for the irrigation of gardens and other landscaping (chlorine). It is impossible to assume that your rainwater harvesting system would supply a reliable source of water because rain events are considered to be "acts of God" by definition. Certain design and sizing suggestions can assist lessen the consequences of rain's unpredictability, even though you may not be able to rely on rainwater collection as a long-term, drought-proof source of water supply. Tanks for storing rainwater tend to grow quickly. A 2500-gallon tank is roughly 8' in diameter by 8' in height, whereas a 2500-gallon tank measures roughly 3' in diameter by 5.5' tall. So, larger rainwater storage tanks may begin to take up a significant amount of space around your home. You may take this into account when constructing your rainwater collecting system, and it might not present any problems for you. This also results in a comparable drawback, namely the restriction of the storage volume. While you may have a vast roof surface to collect rainwater, if there isn't enough space to place a larger rainwater storage tank, the amount of captured rainwater will ultimately be limited. The additional rainwater will just overflow the tank and fall onto the ground when your smaller rainwater storage tank is full, wasting that opportunity. Your water cost will be lower if you collect and use rainwater instead of municipal water.

A municipality needs to treat and pump less water if it uses less municipal water for purposes like irrigation. This thus lowers a municipality's water supply cost. A city's long-term water development demands may be decreased with the widespread adoption of rainwater harvesting within its service area, allowing the city to make better use of the money already invested in its water infrastructure. Every year, the cost to the community of providing purified water increases. The price of building dams, pipes, and treatment facilities is very high, not to mention the expense of maintaining and replacing infrastructure. The community's ratepayers, who utilize water, will ultimately be responsible for paying this mounting price. Therefore, rainwater collecting is a strategy that can lessen water demand, which in turn enables towns to offer potable water supply at a lesser cost. For the economy of the future, designing and implementing rainwater collection systems can create long-lasting jobs. Key employment in the green infrastructure movement might be the rainwater harvesting sector. Rainwater collected on-site and kept in a rainwater collecting system can be used to fight wildfires and shield homes and other buildings. If you keep water on site for fire safety, insurance providers may give you a discount. Most of this info comes from <https://www.watercache.com/faqs/rainwater-harvesting-benefits>.

Although I believe it would address the majority of the issues and needs of Mexicans, not everyone's

needs would be met. Everybody could go and receive some clean water by pumping the water into a faucet if buildings focused on filtering water were constructed all around Mexico.

The Federal Government of Mexico would be in charge of project management. The government would pay for this initiative.

Much of the project would be managed and funded by the government. The remainder of the project would be funded by other groups. The Federal Government of Mexico would be in charge of project management. Each member of a family would receive a specific amount of water, and this water would only be available to those in need. Most people would require a good outlook and a regular schedule.

The businesses that work with Mexico might contribute some funding.

Mexico has a lot of water and sanitation problems that could be solved in many ways that could benefit Mexico very much. There are two main ways that they could use to help the water and sanitation problem installing a water filtration and installing rainfall harvesting systems in homes.

Bibliography

- “12 Typical Mexican Jobs (Part 1).” *Travellerspoint*,
<https://www.travellerspoint.com/community/north-america/12-typical-mexican-jobs-part-1/>.
- “Amid Drought and Climate Crisis, the Mexican State Querétaro Faces Possible Privatization of Its Water.” *Global Voices*, 17 May 2022,
<https://globalvoices.org/2022/05/18/amid-drought-and-climate-crisis-the-mexican-state-queretaro-faces-possible-privatization-of-its-water/>.
- “Drinking-Water.” *World Health Organization*, World Health Organization,
<https://www.who.int/news-room/fact-sheets/detail/drinking-water#:~:text=Water%20and%20health,individuals%20to%20preventable%20health%20risks.>
- The Economy - Gob.*
https://embamex.sre.gob.mx/reinounido/images/stories/PDF/Meet_Mexico/12_meetmexico-theeconomy.pdf.
- Editors, EA. “Mexican Eating Habits.” *Escape Artist*, 10 Dec. 2020,
<https://www.escapeartist.com/blog/mexican-eating-habits/#:~:text=Mexicans%20drink%20lots%20of%20milk,leaving%20out%20salsa%20and%20beans%E2%80%A6>.
- “Guide to Health Insurance and Healthcare System in Mexico.” *InterNations*, 10 Feb. 2023,
<https://www.internations.org/mexico-expats/guide/healthcare#:~:text=In%20Mexico%2C%20access%20to%20public,Mexico%20has%20various%20trusted%20providers.>
- “Innovation to Meet the Water Shortage: Mexico City's Water Fund.” *The Nature Conservancy*,
<https://www.nature.org/en-us/about-us/where-we-work/latin-america/stories-in-latin-america/mexico-city-water-fund/#:~:text=Mexico%20City%20is%20thirsty%20and,pipes%2C%20water%20tanks%20and%20buckets.>
- Iván Adolfo Valdovinos Evodio Kaltenecker-Retto De Queiroz Mike Szymanski, et al.
“Cross-Cultural Differences in Inclusive Leadership Perception and Application.” *EGADE*, 21 July 2021,
<https://egade.tec.mx/en/egade-ideas/research/cross-cultural-differences-inclusive-leadership-perception-and-application.>
- “Mexico - Agricultural Land (% of Land Area)2023 Data 2024 Forecast 1961-2020 Historical.” *Mexico - Agricultural Land (% Of Land Area) - 2023 Data 2024 Forecast 1961-2020 Historical*,
[https://tradingeconomics.com/mexico/agricultural-land-percent-of-land-area-wb-data.html#:~:text=Agricultural%20land%20\(%25%20of%20land%20area\)%20in%20Mexico%20was%20reported,compiled%20from%20officially%20recognized%20sources.](https://tradingeconomics.com/mexico/agricultural-land-percent-of-land-area-wb-data.html#:~:text=Agricultural%20land%20(%25%20of%20land%20area)%20in%20Mexico%20was%20reported,compiled%20from%20officially%20recognized%20sources.)

“Mexico's Water Crisis - Water in Mexico 2022.” *Water.org*,
<https://water.org/our-impact/where-we-work/mexico/#:~:text=Mexico's%20water%20and%20sanitation%20crisis,safely%20managed%20household%20sanitation%20facilities>.

“On the Frontlines of Drought, Communities in Mexico Strive to Save Every Drop of Water.” *Mongabay Environmental News*, 7 Sept. 2022,
<https://news.mongabay.com/2022/09/on-the-frontlines-of-drought-communities-in-mexico-strive-to-save-every-drop-of-water/#:~:text=Sixteen%20Indigenous%20Zapotec%20communities%20in,region%20impacted%20by%20recurrent%20droughts>.

Pier. “Mexican Culture - Family.” *Cultural Atlas*,
<https://culturalatlas.sbs.com.au/mexican-culture/mexican-culture-family>.

Rolliyo. “Introduction to Mexican Home Cooking.” *Article*,
<https://www.munchery.com/blog/introduction-to-mexican-home-cooking/>.