

Urban Development in Deserts: Does Water Matter?

Desert Metropolises and Limits to Growth

Unlikely Cities

Deserts are seen as places devoid of life. And it makes sense why. Water is essential for life, and in deserts, rainfall is minimal and surface water is intermittent if existent at all. Given this, they don't seem like places that could support cities of millions of people.

However, this is exactly the case in some developed countries. The capital of Saudi Arabia, Riyadh, is a city of 6 million people that's nearly 300 miles from the nearest body of surface water (the Persian Gulf). But despite that it seems like it *shouldn't* be there, it has been growing rapidly since the 1940's and is still growing today.



The United States also has major cities in the middle of deserts. Phoenix, the capital of Arizona, has a population of 3.2 million people and is currently one of the fastest growing cities in the country, despite the fact that it's located in an isolated area and only receives an ~7 inches of rainfall a year. It does have substantial groundwater and nearby surface water, but again, these resources alone are not nearly enough to support or explain the huge population that exists there.

Limits to Growth vs. Postenvironmental Thought

Limits to Growth is a foundation of classic environmentalism. It claims that, due to the finite nature of essential resources, there is a carrying capacity for our planet. Growth ultimately depends on the availability of resources. In deserts, the scarcity of water supposedly sets a certain population size that cities can't surpass without collapsing. Even with technological inputs that effectively harness local supplies of water, there is a limit to their growth.

Postenvironmental thought counters this by evoking the idea of the Anthropocene, an era of human dominance over the environment. Scientific solutions have already enabled us to alter our environment and exceed supposed carrying capacities throughout the world. Future growth depends on our ability to engineer further physical, biological, and social solutions.

Historical Findings

Urban development in US deserts was spurred by federal military spending during WWII and then sustained by the military-industrial complex after the war, holding its image as an industrial center long enough for other non-military industries to settle there. Urban development in Saudi Arabia's deserts was also spurred by federal spending, except it was more deliberate in its intention to expand and modernize the city. In both cases, federal spending set the stage for migrations of millions of people, who found the cities comfortable (with new technologies like air conditioning) and economically opportune.

Federal spending and new technologies are also what brought additional water to these areas, sometimes over hundreds of miles, in order to satisfy the growing populations and keep the cities desirable. Water, a characteristically scarce part of the environment, did not limit their growth.

Unlikely Implications

The historical growth of desert metropolises shows the fallibility of *Limits to Growth*. It shows that finite resources do not necessarily constrain human development. We have the ability to contrive any sort of development we want, given the demand to do so. And so long as people desire to live in these cities (and so long as the technology and financing is available), they will continue to grow.

Further Reading

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