What happens if you cut down all of a city's trees? – Stefan Al

This is the **tale** of two **ancient cities** and the trees that **determined** their **destinies**. In 3,000 BC, Uruk was more **densely populated** than modern-day New York City. This **crowded capital** had to continually **expand** their **irrigation system** to **feed** its growing population. 2,500 years later in Sri Lanka, the city of Anuradhapura had a similar problem. They were also **growing constantly**, and like Uruk, their city **relied heavily on** an **elaborate** irrigation system.

As Uruk grew, its farmers began **chopping down** trees to **make space** for more **crops**. In Anuradhapura, however, trees were **sacred**. Their city **housed** an **offshoot** of the Bodhi tree under which Buddha himself was said to have **attained enlightenment**. **Religious reverence** slowed farmer's **axes** and even led the city to **plant additional trees** in urban parks.

Initially, Uruk's **expansion** worked well. But without trees to **filter** their **water supply**, Uruk's irrigation system became **contaminated**. **Evaporating** water left **mineral deposits**, which **rendered** the **soil** too **salty** for agriculture. **Conversely**, Anuradhapura's irrigation system was **designed to** work **in concert with** the **surrounding forest**. Their city **eventually** grew to **more than twice** Uruk's population, and today, Anuradhapura still **cares for a tree planted** over 2,000 years ago.

We may **think of** nature as being **unconnected to** our urban spaces, but trees have always been **an essential part of** successful cities. Trees act like a **natural sponge**, **absorbing stormwater runoff** before **releasing** it back into the **atmosphere**. The **webs of their roots** protect against **mudslides** while allowing soil to **retain water** and **filter out** toxins. Roots help prevent **floods** while **reducing the need for** storm **drains** and **water treatment plants**. Their **porous** leaves **purify** the air by **trapping carbon** and other **pollutants**, making them **essential** in the fight against climate change.

Humanity has been **uncovering** these **arboreal benefits** for centuries. But trees aren't just **crucial to** the health of a city's **infrastructure**; they **play a vital role in** the health of its citizens as well. In the 1870s, Manhattan had few trees outside the island's parks. Without trees to

provide shade, buildings **absorbed** up to nine times more **solar radiation** during deadly summer **heat waves**. Combined with the period's **poor sanitation standards**, the **oppressive** heat made the city a **breeding ground** for **bacteria** like cholera. In modern-day Hong Kong, tall **skyscrapers** and **underground infrastructure** make it difficult for trees to grow. This **contributes** to the city's dangerously **poor air quality**, which can cause **bronchitis** and **diminished** lung **function**. Trees affect our mental health as well. Research indicates that the **presence of green foliage** increases **attention spans** and decreases **stress levels**. It's even been shown that hospital **patients** with views of **brick walls** recover more slowly than those with views of **trees**.

Fortunately, many cities are **full of views** like this— and that's no **accident**. As early as the 18th century, city planners began to **embrace** the **importance of urban trees**. In 1733, Colonel James Oglethorpe planned the city of Savannah, Georgia to **ensure that** no neighborhood was more than a **2-minute walk from** a park. After World War II, Copenhagen directed all **new development along** five **arteries**— each **sandwiched** between a park. This **layout** increased the city's **resilience** to **pollution** and **natural disasters**. And urban trees don't just **benefit** people. Portland's Forest Park **preserves** the region's natural **biodiversity, making** the city **home to various local plants**, 112 bird **species**, and 62 species of **mammals**.

No city is more **committed to** trees than Singapore. Since 1967, Singapore's government has planted over 1.2 million trees, including those within 50-meter tall **vertical gardens** called **supertrees**. These **structures sustain themselves** and nearby **conservatories** with **solar energy** and **collected rainwater**. Trees and **vegetation** currently cover over 50% of Singapore's **landmass**, reducing the need for air **conditioning** and encouraging **low-pollution transportation**.

By 2050, it's estimated that over 65% of the world will be living in cities. **City planners** can **lay an eco-friendly foundation**, but it's up to the people who live in these **urban forests** to **make them homes for** more than humans.