Parallel Progress:

A Comparative Study Of Urbanisation in the UAE and Singapore

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INTRODUCTION ON THE UNITED ARAB EMIRATES

The United Arab Emirates was officially established on December 2, **1971**. Known for its modern skyline, luxury lifestyle, and diverse economy fueled by oil and tourism, the UAE comprises seven emirates, with Dubai and Abu Dhabi being prominent global business and tourist hubs.

INTRODUCTION ON SINGAPORE

Singapore gained independence on August 9, **1965**. Renowned for its efficient governance, economic prosperity, and multicultural society, Singapore is a global financial center. The city-state is celebrated for its cleanliness, advanced infrastructure, and strategic location as a key trading hub in Southeast Asia.

AIM & OBJECTIVE

COMPARATIVE ANALYSIS

Examine and compare the urbanization, ecological changes, and industrial growth in the UAE and Singapore since their independence.

FOCUS

Urban expansion, forestry changes, ecological reserves, and environmental impact.

OBJECTIVE

Analyzing urbanization patterns in the UAE and Singapore to understand their global environmental impacts.

GLOBAL OBJECTIVES & GOALS

OBJECTIVE

To elucidate urbanisation patterns and their global environmental impacts.

GOAL

To develop sustainable urbanisation guidelines contributing to the UN's New Urban Agenda, and providing a model for countries undergoing similar transformations.

DATA SOURCES & GLOBAL COLLABORATION

SOURCES

Satellite imagery from Google Earth, climate data from EOSDIS (Earth Observing System Data and Information System), UNEP, and UN data repositories.

DATA PROCESSING

Collaborating with UN experts for data collection, digitization, and ethical management.

ETHICAL ASPECTS

Aligning with UN standards for responsible and ethical data use.

SAMPLE SATELLITE DATA

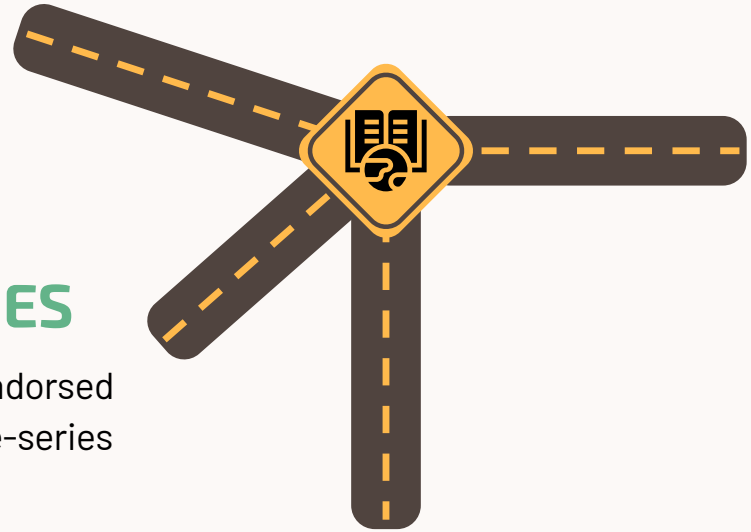
TECHNIQUES APPLIED

METHODS

GIS analysis and climate data comparison, in line with UN-Habitat guidelines.

TECHNIQUES

Incorporating UN-endorsed data mining and time-series analysis methods.



INTEGRATION

Using digital humanities methods to achieve UN Sustainable Development Goals.

ENVIRONMENTAL IMPACT ANALYSIS

Utilizing machine learning to identify patterns and quantify the impact of urbanization decisions on the environment, such as changes in green spaces, air quality, and water resources.

WORKING WITH DATA

GEORECTIFICATION

Georectification aligns satellite imagery with coordinates, improving map accuracy for tracking urbanization and environmental changes in the UAE and Singapore across different types of maps (analog, digital, heat-maps, etc.)

geoAI

GeoAI automates analysis, aiding precise urban planning and environmental monitoring, providing real-time insights and future predictions for sustainable development in both regions.

GIS DAY 2016

GIS Day 2016 featured events where organizations and communities showcased the applications of Geographic Information Systems technology through workshops, seminars, and exhibitions. We will leverage such events to include more GIS methods in our work and to have platform for presentation and collaboration.

SAMPLE DATA TO ANALYSE

The table shows values for Singapore relative to Dubai. You can also view this comparison the other way around from the perspective of Dubai vs Singapore.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Temperature °C (°F)	+7 (+13)	+7 (+13)	+5 (+8)	+1 (+2)	-2 (-4)	-5 (-9)	-7 (-13)	-7 (-13)	-5 (-10)	-2 (-3)	+2 (+4)	+5 (+9)	0 (0)
Average Precipitation mm (in)	+187 (+7)	+118 (+5)	+149 (+6)	+133 (+5)	+157 (+6)	+140 (+6)	+145 (+6)	+143 (+6)	+177 (+7)	+167 (+7)	+250 (+10)	+290 (+11)	+2056 (+81)
Average Daylight Hours & Minutes/ Day	+1h 18'	+0h 49'	+0h 09'	-0h 34'	-1h 09'	-1h 27'	-1h 19'	-0h 49'	-0h 07'	+0h 35'	+1h 10'	+1h 28'	0h 00'
Sun altitude at solar noon on the 21st day (°)	+23.7	+23.5	+22.8	+2.9	-13.7	-20.2	-14.2	+2.4	+22.8	+23.5	+23.8	+23.9	+10
Relative Humidity (%)	+17	+14	+16	+26	+28	+21	+24	+23	+20	+20	+21	+18	+20.7
Average Dew Point Temperature °C & (°F)	+10.5 (+19)	+9.9 (+18)	+8 (+14)	+7.3 (+13)	+4.6 (+8)	+0.5 (+1)	-0.9 (-2)	-1.3 (-2)	-0.3 (-1)	+2.9 (+5)	+6.7 (+12)	+8.8 (+16)	+4.7 (+8)

SOURCE

Singapore vs Dubai Climate & Distance Between

WORKPLAN

PHASES

From initial data collection to analysis, under the guidance of UN-Habitat.

DISSEMINATION

Presenting findings at UN conferences, publishing in international journals, and online platforms.

THANKS!

Do you have any questions?