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HOW TO BECOME A SUSTAINABLE SMART CITY: THE CASE OF AL QUASSIM ECO-NEIGHBORHOOD, SAUDI ARABIA

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SAUDI 2030 VISION



Reinforce the abilities of the economy

The use of resources other than oil

Global investment center

Transforming into a global hub connecting three continents

<http://vision2030.gov.sa/en>



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THEMES OF THE VISION

■ A vibrant society

The believe of the vibrant society, and the implementation of the Islamic principle, to be proud of their identity and cultural heritage, to enjoy a good beautiful life, and to be supported by an empowering social and health care system.



THEMES OF THE VISION

■ A thriving economy

Provides opportunities for all by building an education system to match the market needs. The development of the investment tools to reveal the promising economic sectors.



THEMES OF THE VISION

■ An ambitious nation

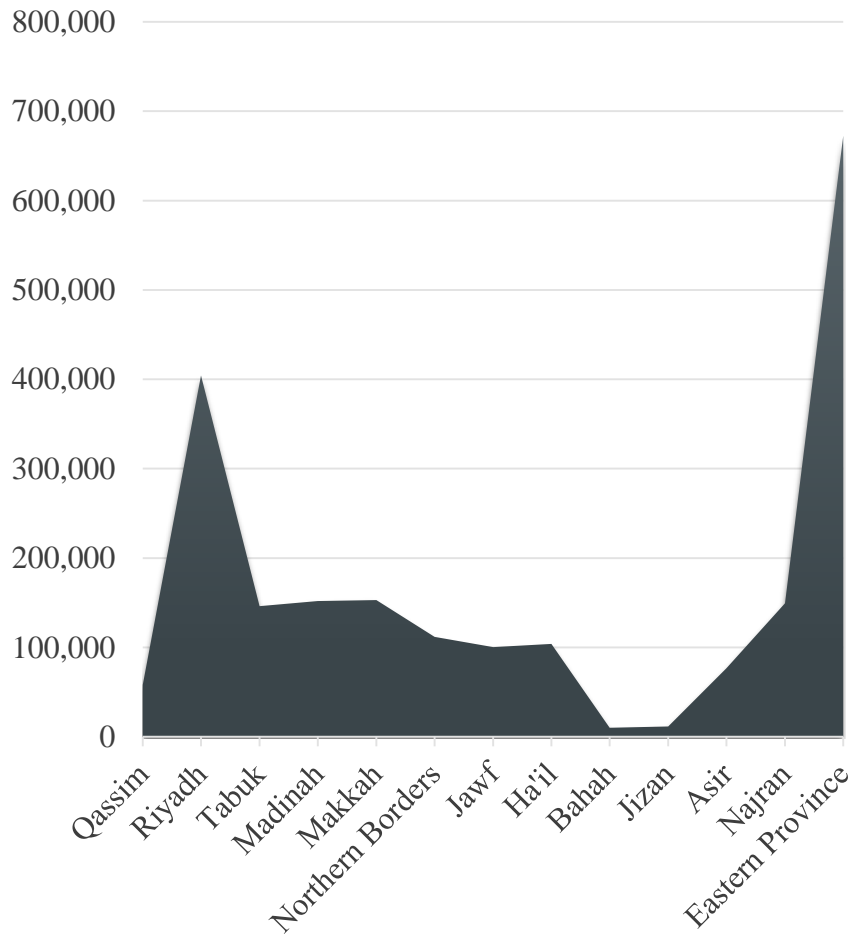
The theme is built on an effective, transparent, accountable, enabling and high-performing government. The nation is ambitious to achieve their goal. The government support the citizens with private sector and non-profit sector to take their responsibilities in facing challenges.





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AL QASSIM REGION



AL-Jawhara AL-Muhanna , Aida Nayer





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HOW TO BE SMART IN SUCH A REGION

In our case to be able to have a smart city we have to work with society more than other techniques



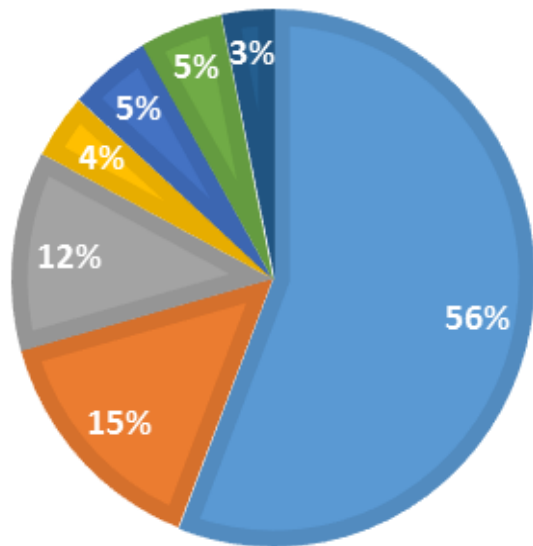
PRINCIPLES OF SOCIAL AND CULTURAL SUSTAINABILITY IN SAUDI ARABIA

- Respond to social needs
- Respond to cultural values
- Quality of life
- Adaptability
- Safety
- Security
- Participation
- Accessibility and
- Privacy

URBAN SETTLEMENTS AND DEMOGRAPHIC CHARACTERISTICS

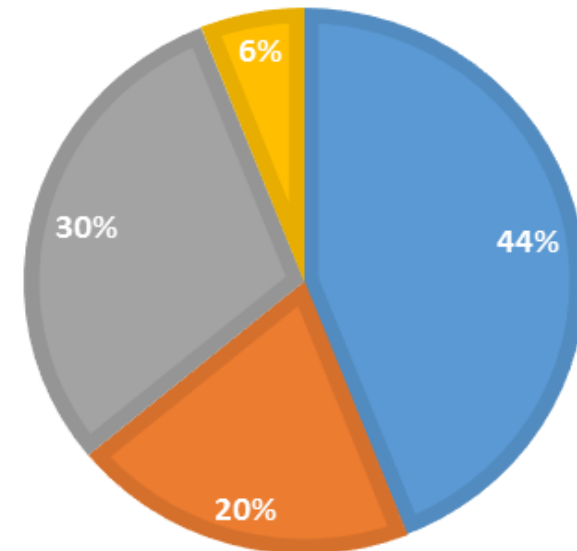
The population in the seven main cities of Qassim

- Buraydah
- Unayzah
- Arrass
- Almidhnab
- Albukayriyah
- Albadai
- Riyadh Alkhabra



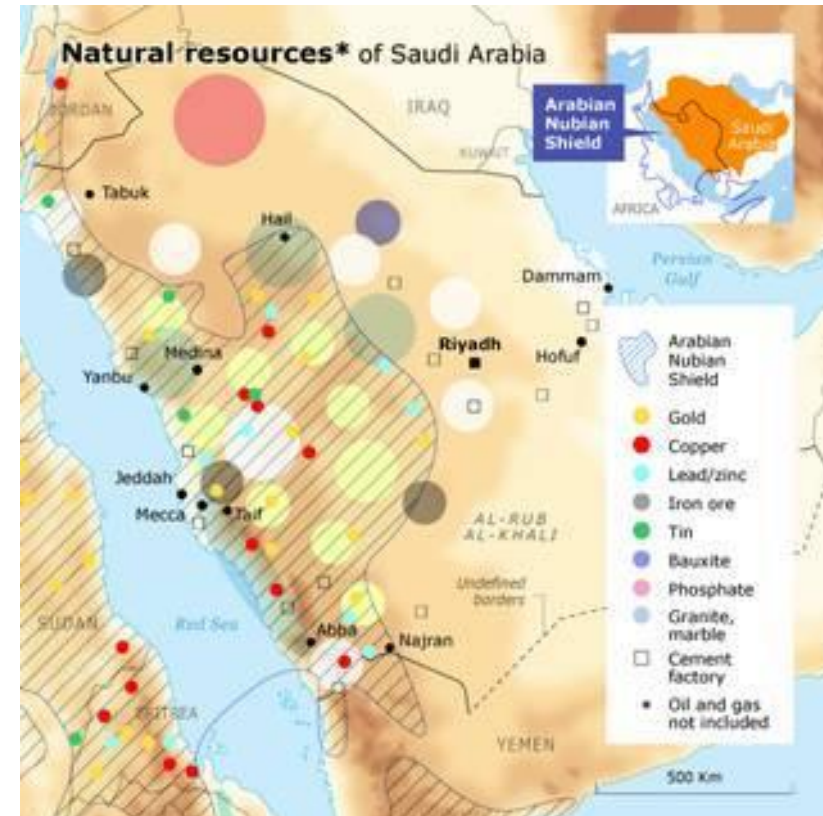
Population by age

- 0-15
- 15-29
- 30-59
- 60+



NATURAL RESOURCES IN AL-QUASSIM

- Groundwater
- Agricultural land
- Minerals





Social and cultural sustainability of Saudi traditional houses

- The physical characteristics of the region.
- All societies in the world has a unique standard to differentiate it from the rest of the world.
- social and cultural sustainability has to meet the culture needs.

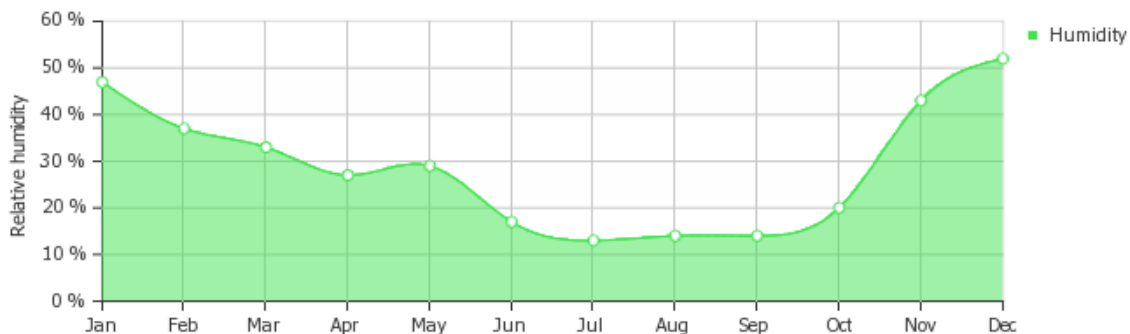
Design Considerations

- Balance public and private spaces
- Meet the need of the citizens
- Monitor and establish sustainable technologies and methods
- Reduce housing running cost
- Natural growing food on site.



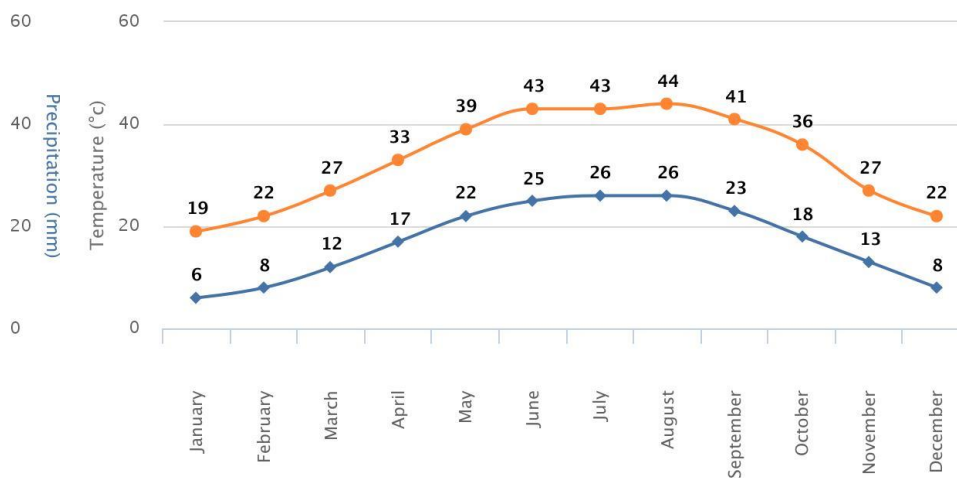
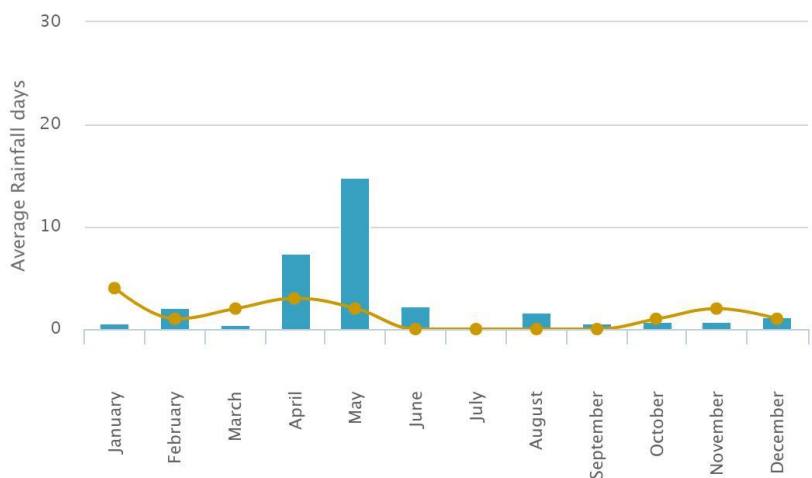
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ENVIRONMENTAL ANALYSIS FOR BURAIDAH CITY



Average Rainfall (mm Graph for Buraidah)

Average Temperature (°c) Graph for Buraidah

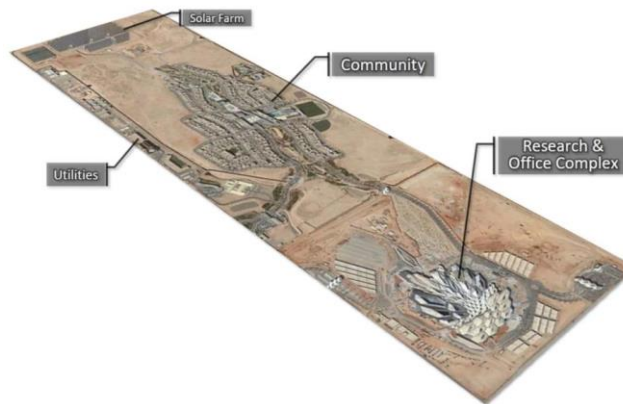


■ Precipitation (mm) ● Average Rainfall Days

● Average High Temp (°c) ◆ Average Low Temp (°c)

KING ABDULLAH PETROLEUM STUDIES AND RESEARCH CENTER RESIDENTIAL COMMUNITY (KAPSARC)

- **Location:** Riyadh, Saudi Arabia
- **Type:** residential community
- **Site area:** 30 hectares



THANK YOU

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