

ERBIL FORUM FOR SUSTAINABLE DEVELOPMENT

2nd INTERNATIONAL WORKSHOP



Dr. Mahmood Khayat

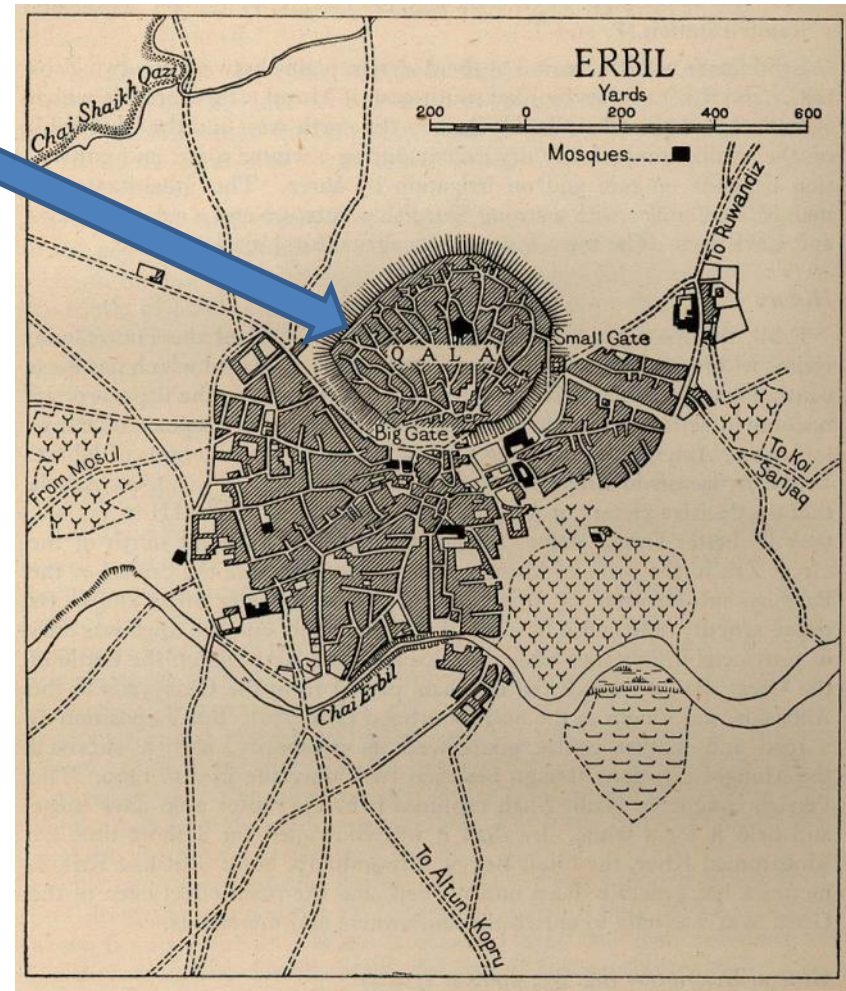
Department of Architecture-College of Engineering
Salahaddin University - Erbil

**Towards Sustainable Urban
Transportation**

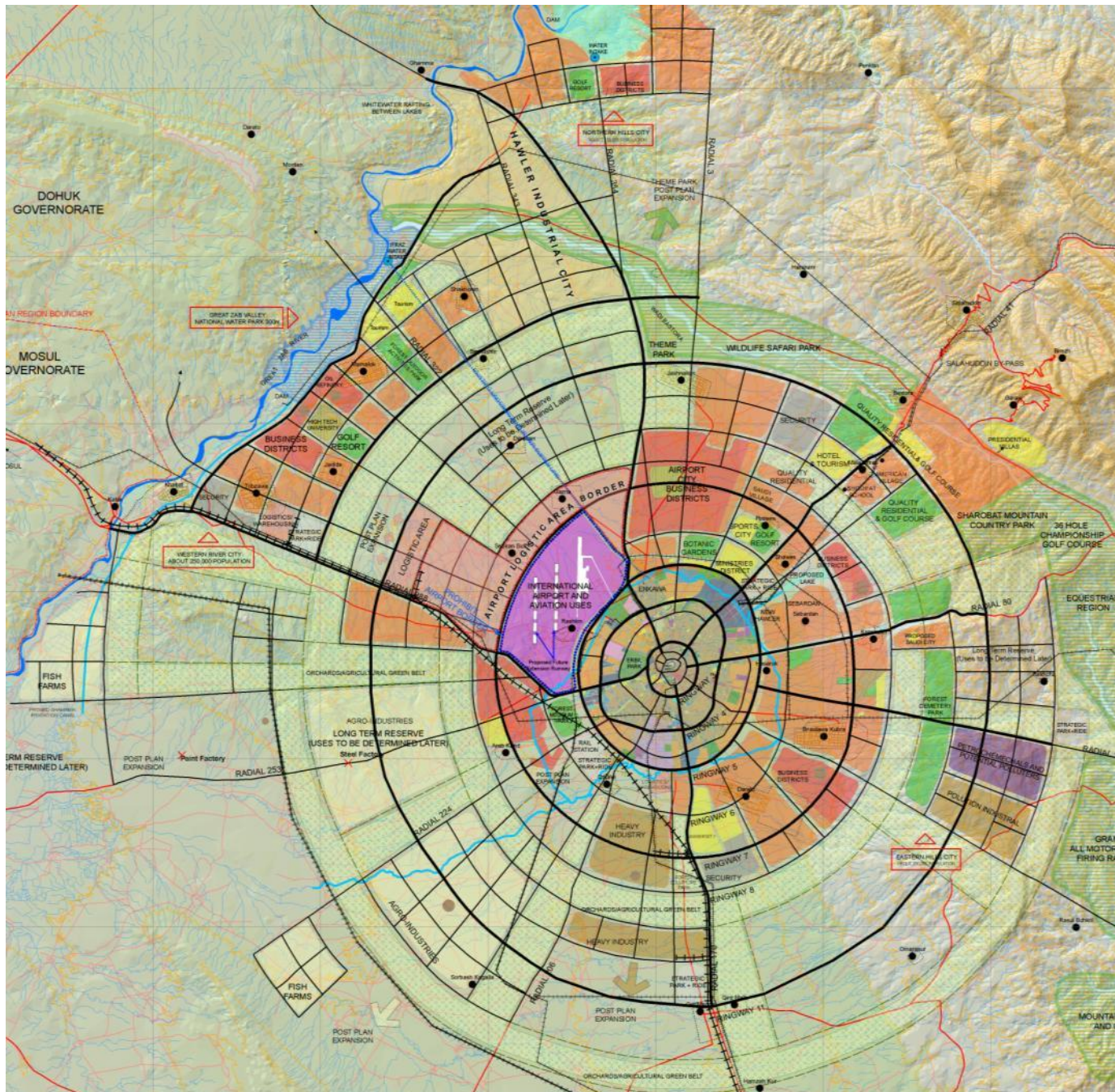
**Present Erbil Urban Design &
Sustainability**

A City with Less Than One Kilometer Diameter

**The citadel
400 m. Diameter**



Erbil City in 1944



**2007
Master plan
proposal
suggested
that on
2030 the
greater
Erbil city
will be
more than
50
kilometer
diameter**



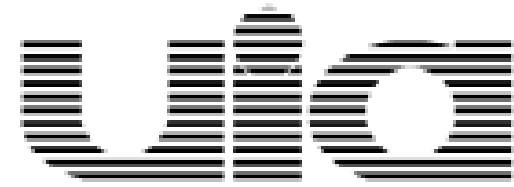
Present Erbil urban Design and sustainability

If sustainability is decided to be a requirement for Erbil Urban Design and it ought to be

Legislations are needed

Similar Legislations Requirements:

- 1- LEED USA
- 2- London Code for sustainable home
- 3- Green (LEED) Buildings Dubai



UNESCO/UIA CHARTER FOR ARCHITECTURAL EDUCATION

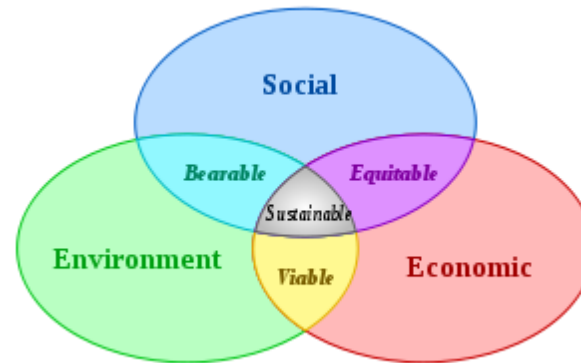
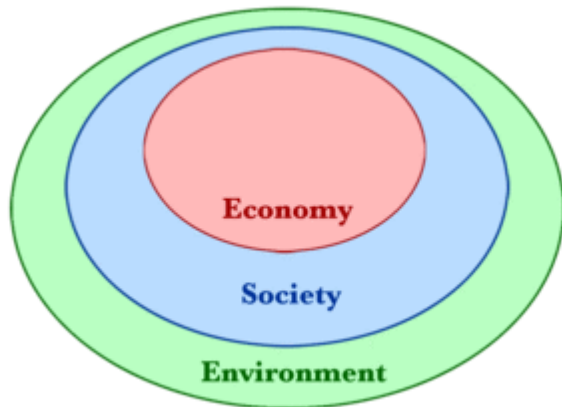
Revised Version 2005

Preamble

We, the architects, concerned for the future qualitative development of the built environment in a fast changing world, believe that architecture involves everything that influences the way in which the built environment is planned, designed, made, used, furnished, landscaped and maintained. We feel responsible for the improvement of the education and training of future architects to enable them to meet the expectations of XXIst Century societies worldwide for **sustainable human settlements** in every cultural heritage

, [Brundtland Commission](#) of the [United Nations](#) on March 20, 1987 Defined sustainability as “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

At the [2005 World Summit](#) it was noted that this requires the reconciliation of [environmental](#), [social](#) and [economic](#) demands - the "three pillars" of sustainability.[7]



Diagrams indicates the relationship between the three pillars of sustainability suggesting that both economy and society are constrained by environmental limits

CERTAINEED GYPSUM Sustainability Team



SUSTAINABLE MATERIALS
RECYCLED CONTENT



FIRE SAFETY



MOISTURE &
MOLD RESISTANCE



INDOOR AIR QUALITY



ACOUSTICS

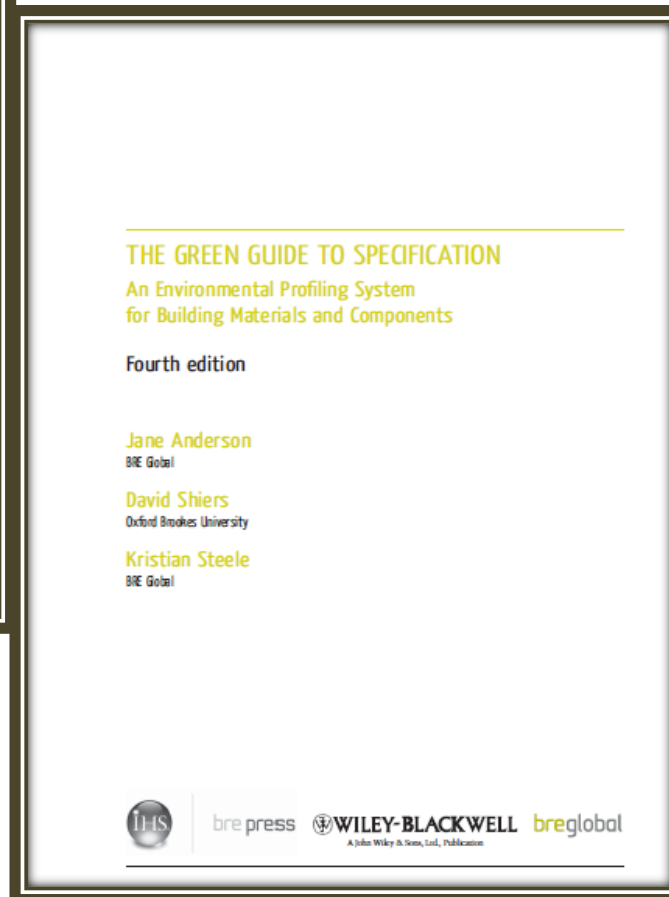
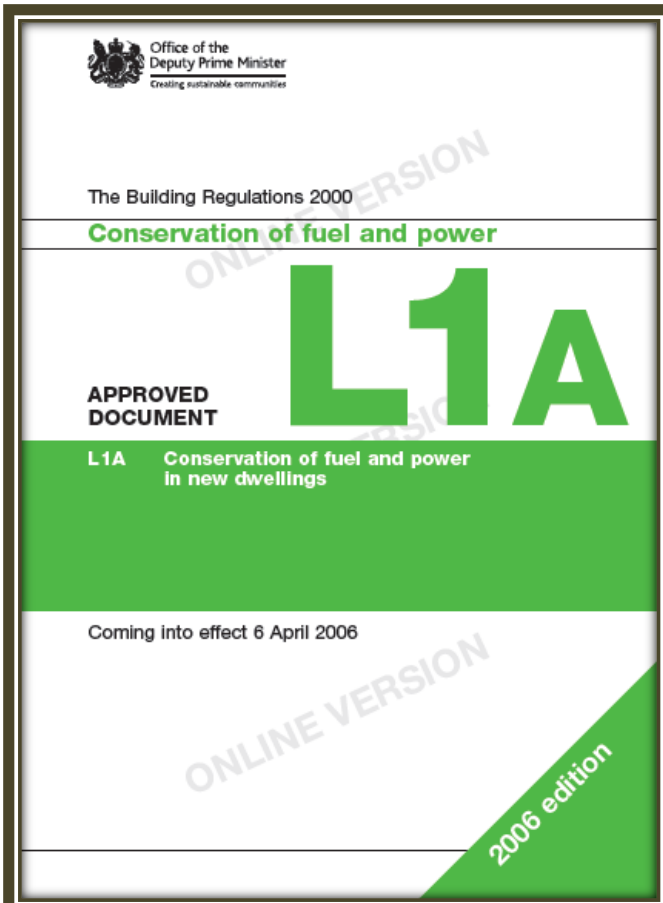


LEED[®] standards, in full Leadership in Energy and Environmental Design standards, a certification program devised in 1994 by the U.S. Green Building Council (USGBC; founded 1993) to encourage sustainable practices design and development by means of **tools and criteria for performance measurement.**

London code for sustainable home

The Code measures the sustainability of a home against design categories, rating the 'whole home' as a complete package. The design categories included within the Code are:

- energy/CO2
- water
- materials
- surface water run-off
- waste
- pollution
- health and well-being
- management
- ecology



Department of Planning & Development
Ports, Customs & Free Zone Corporation
Government of Dubai



دائرة التخطيط والتطوير
مؤسسة الموانئ والجمارك والمنطقة الحرة
حكومة دبي

Green Building Regulations for Dubai World Developments

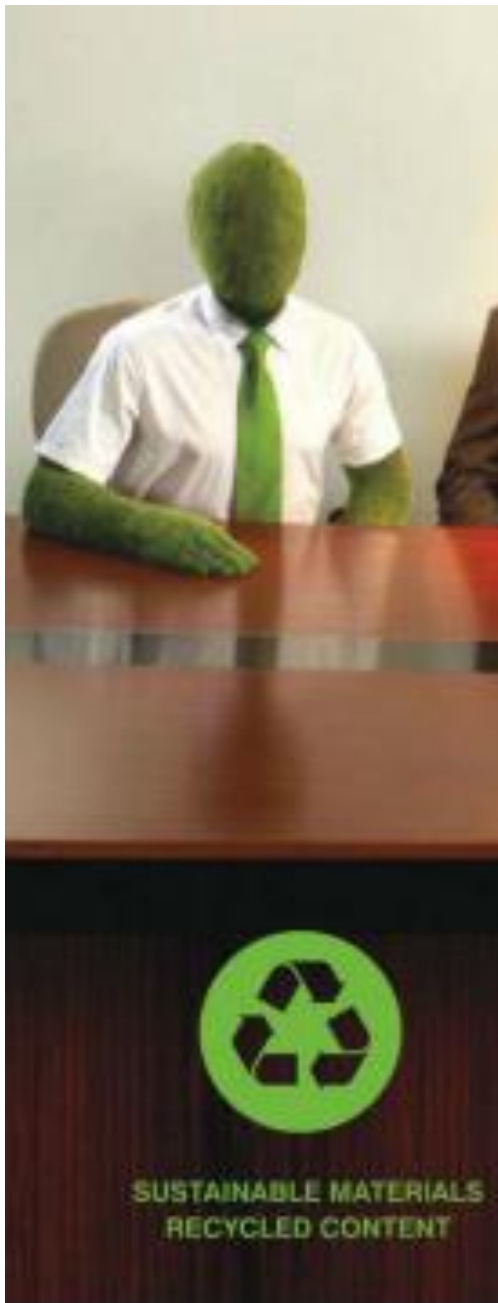
(For projects Registered with USGBC under LEED Version 2.2)

REGULATION NO.GB-001

1st EDITION January 2008

Sustainability Measurements, tools and scales

Materials recycling

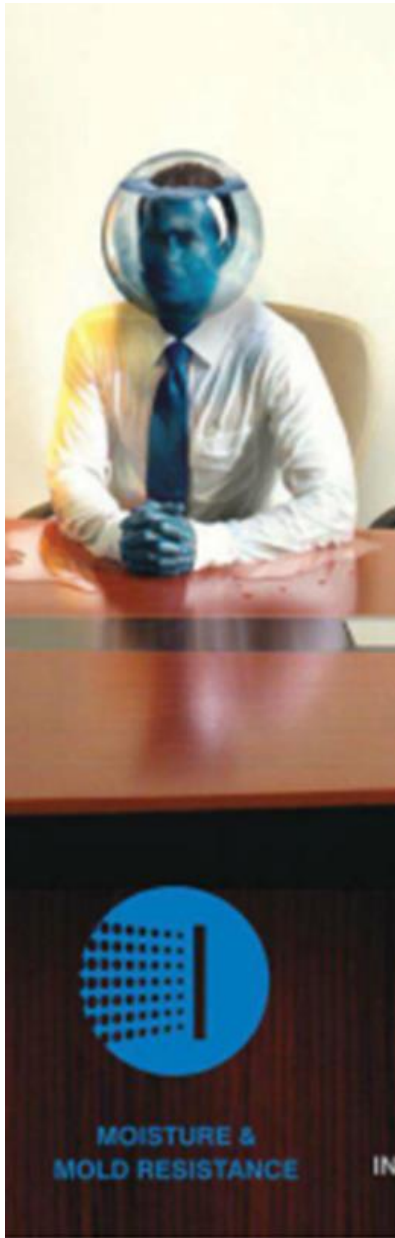


Sustainability Measurements, tools and scales



Energy consumption
Energy hazards
Energy resources
Carbon dioxide rate

Sustainability Measurements, tools and scales



Water resources
Water consumption
Water quality
Water recycling
Moisture and damp

Sustainability Measurements, tools and scales

HVAC

Air quality

Wind Energy



Sustainability Measurements, tools and scales



Acoustic Noise

The major question is

Do we have

Measurements, tools and scales

For the followings

:

- energy/CO2
- water
- materials
- surface water run-off
- waste
- pollution
- health and well-being
- management
- ecology

Erbil forum

This work shop

The Coming Activities

Can explore

- 1-Local institutions capacity in terms of data and measurements**
- 2-local academic experts capabilities in terms of sustainability**
- 3-International practical expertise**

For the sake of

**Sustainable urban development in Erbil City and the Region
of Kurdistan**

**With a perspective of expansion to cover Iraq and Middle
East**

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THANKS

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