

ABSTRACT OF THE LATEST PUBLISHED PAPERS

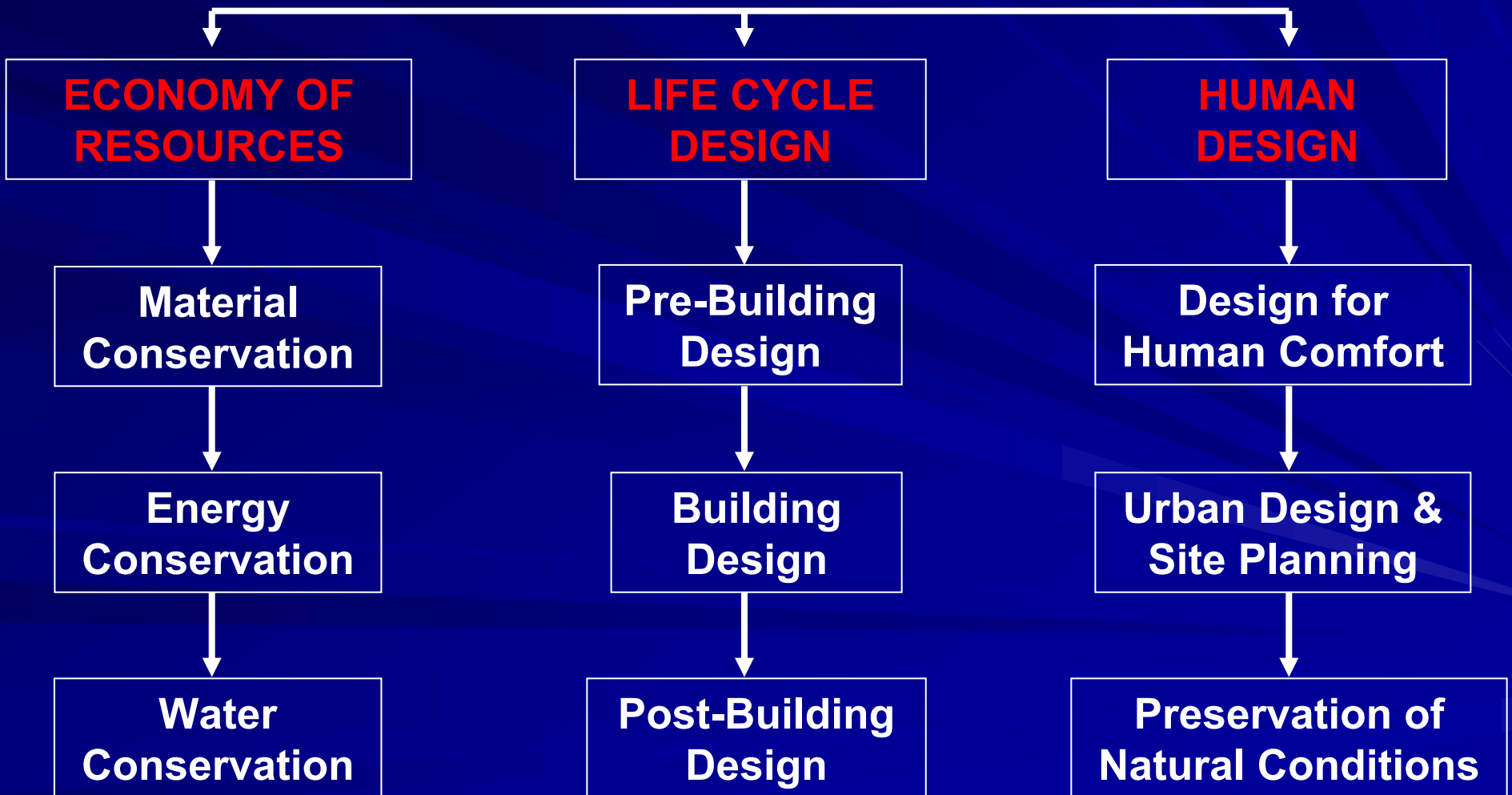
Dr. Hatem Galal A Ibrahim

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All the displayed publications related to the subject of SUSTANABLE DESIGN.

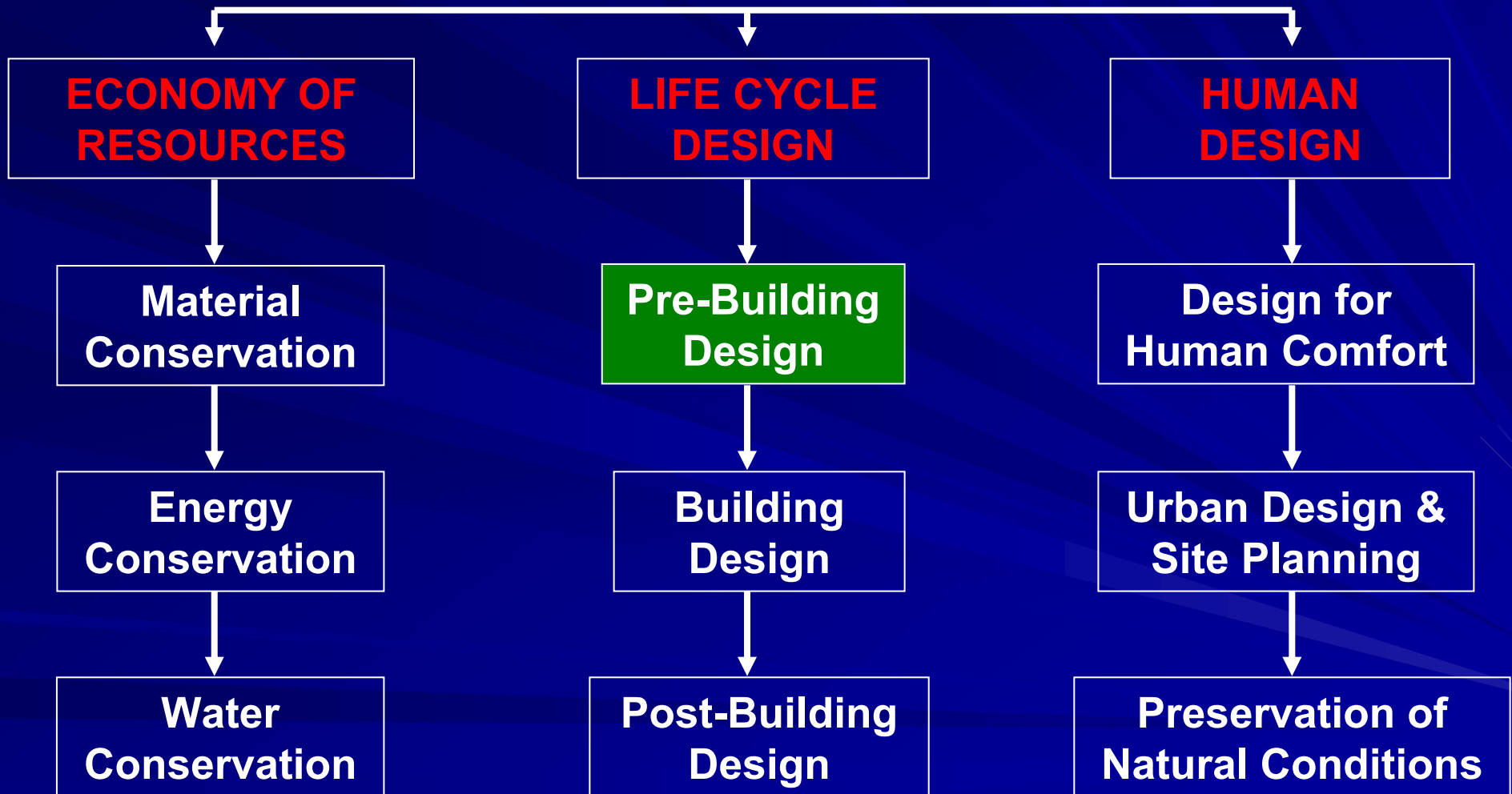
SUSTANABLE DESIGN

PRINCIPLES



SUSTANABLE DESIGN

PRINCIPLES

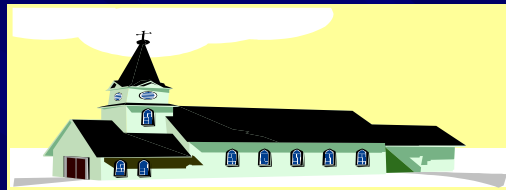


-1-

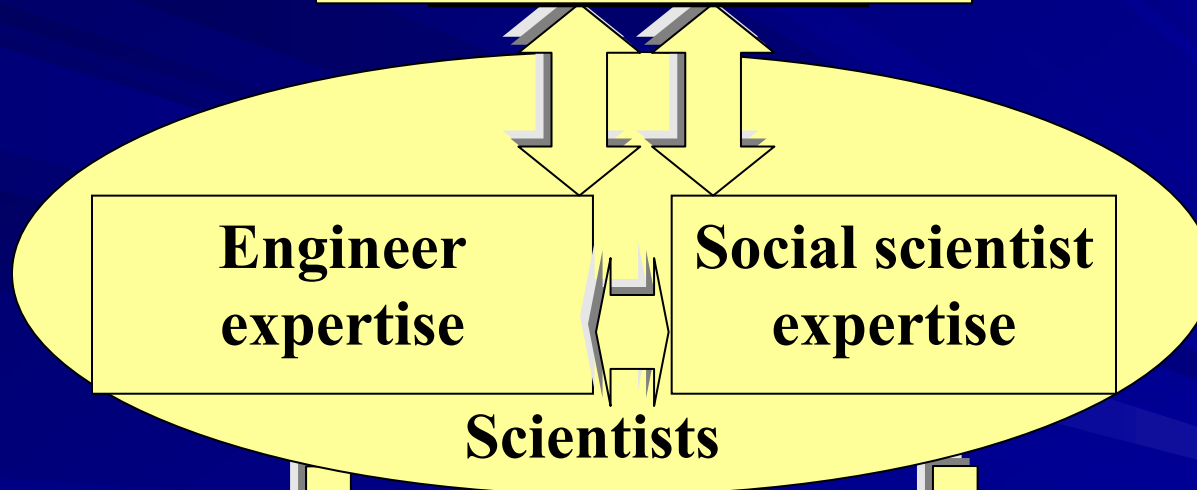
DESIGN PROCESS CO ORDINATIONS FOR
RELEVANT BUILDING ENVIRONMENT-
PROGRAM TO FULFIL USER NEED

المؤتمر المعماري الدولي الخامس (العمران والبيئة .. الفكر والتطبيق) - جامعة اسيوط : 20 - 22 ابريل 2003

Contribution between the architect, engineer and socialist to improve building environment performance.



Architect expertise



User need

User need

User need

1. TASK ANALYSIS

A

A client input

B

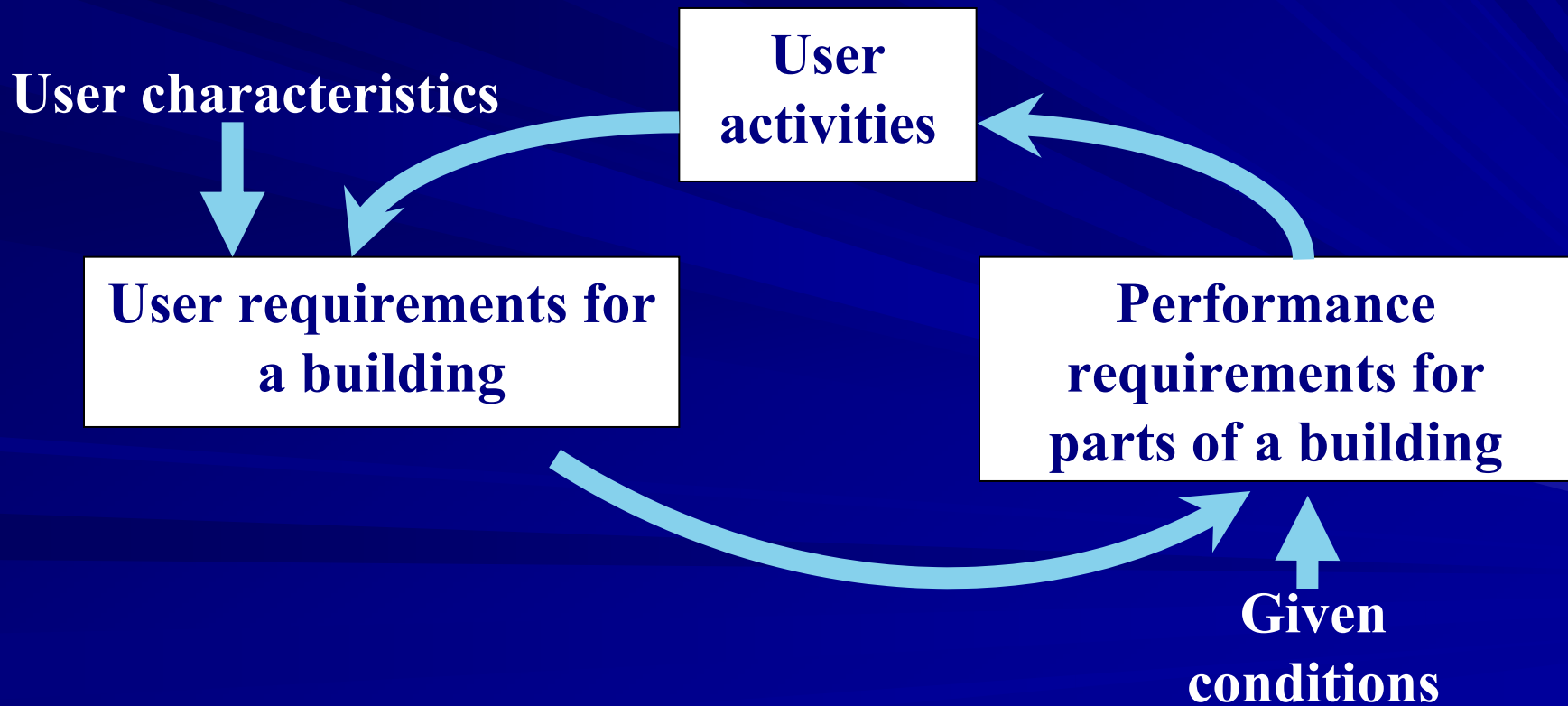
**The behavioral scientist must draw a plan,
which reflect the characteristics of the user**

C

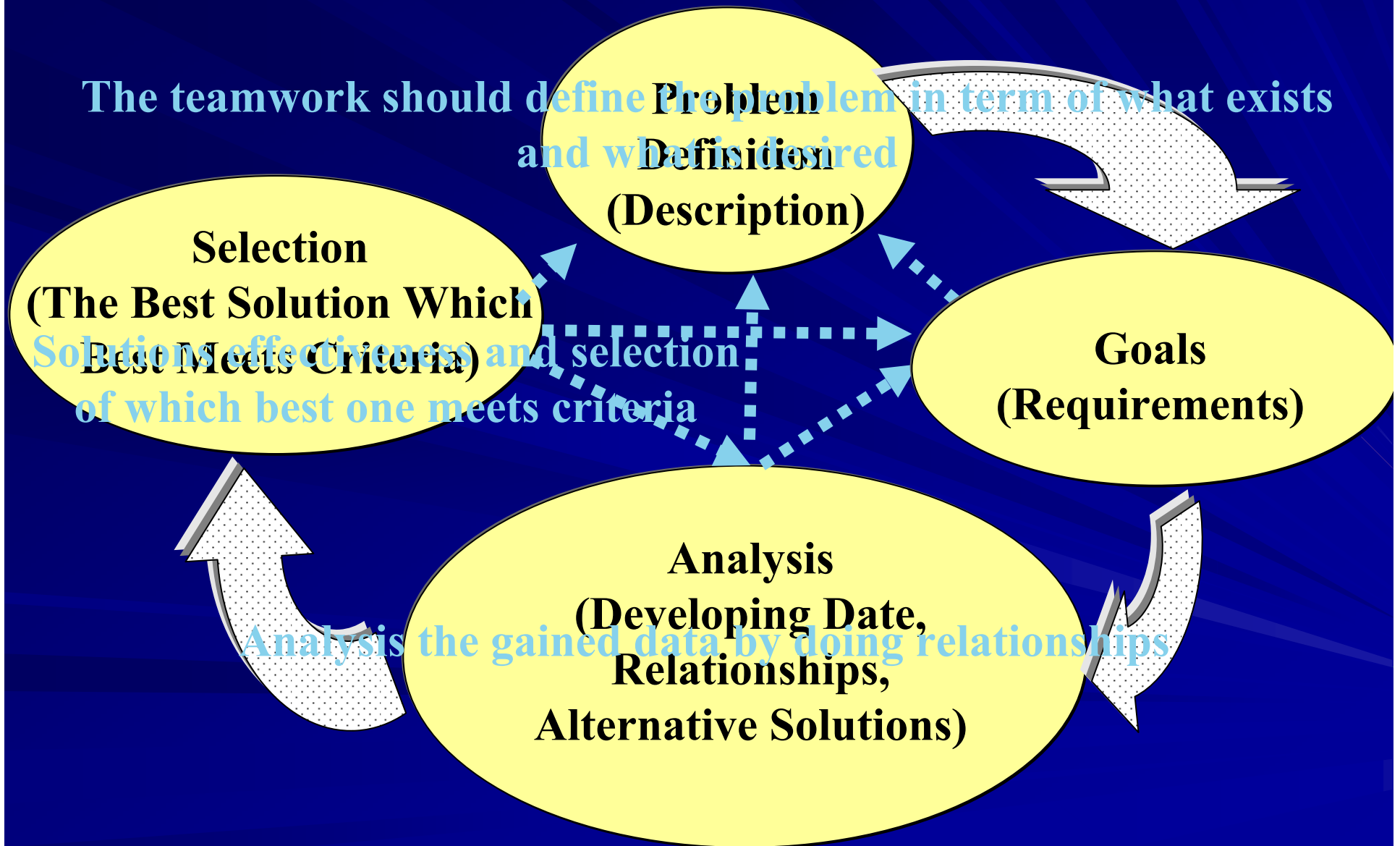
**Comparison between the client input and
what is suitable for the user**

2. Organization approach

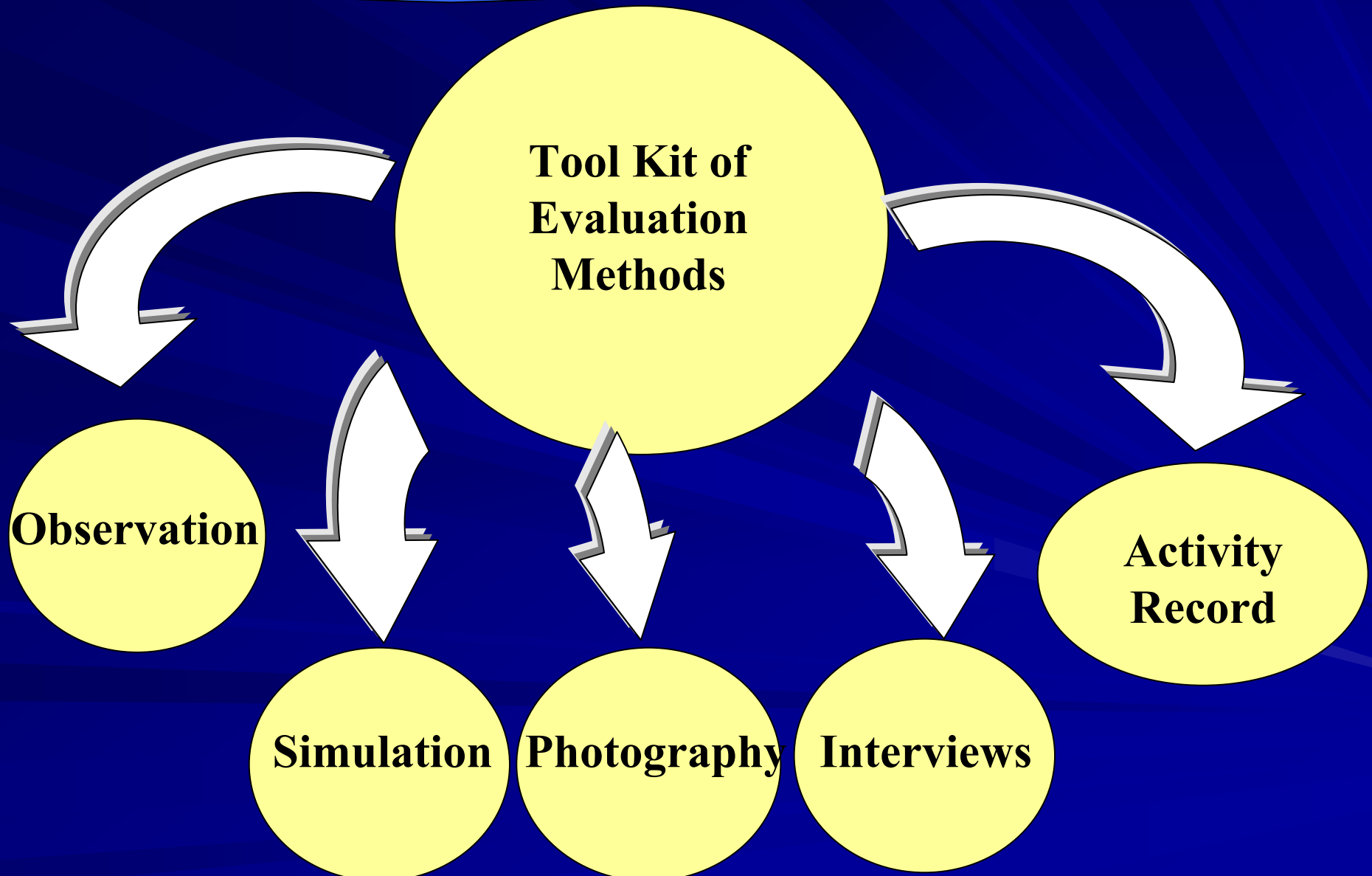
(User activities as basis for design)



Procedures of the organization stage

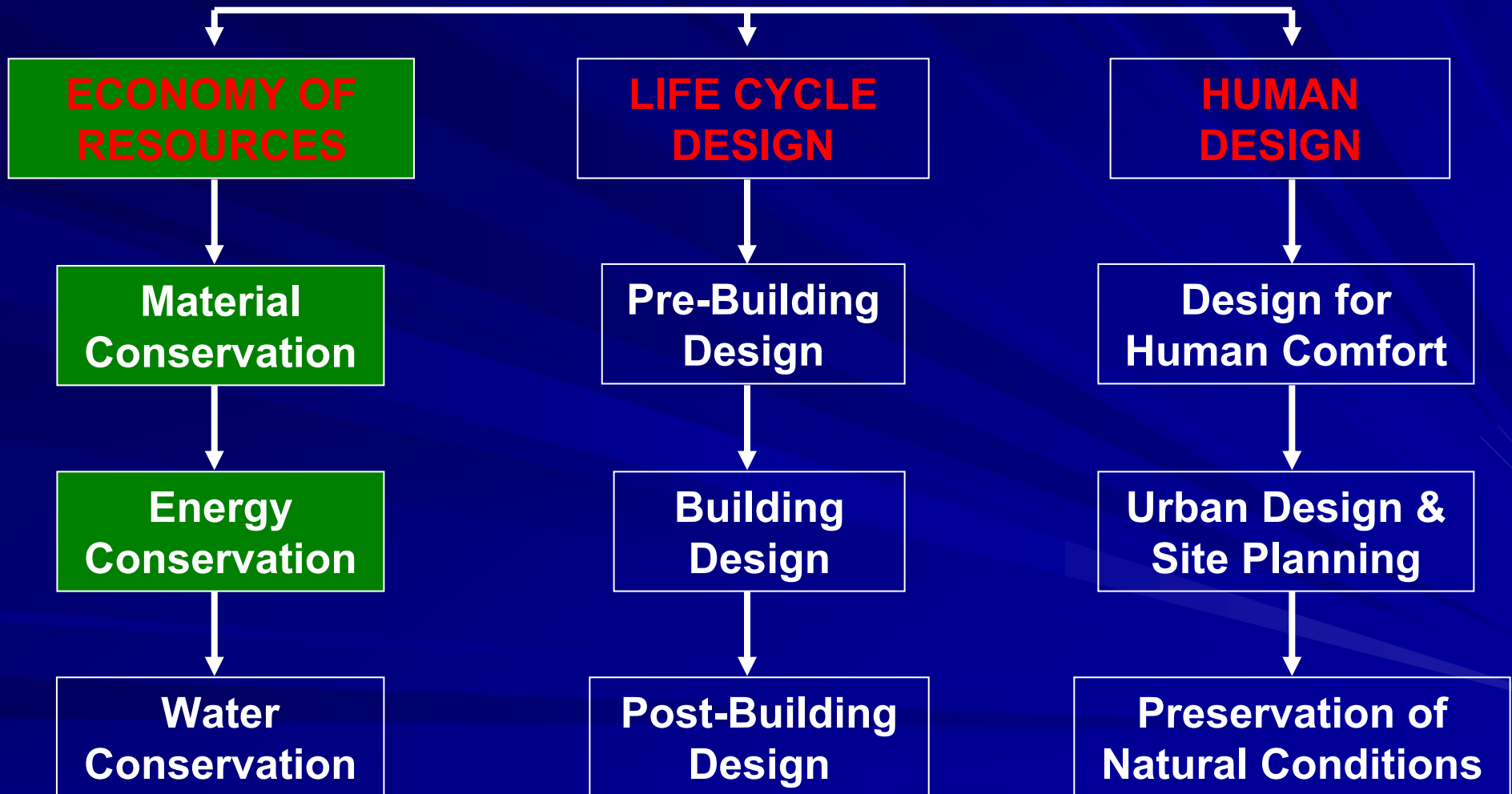


3. Building evaluation (performance-based design)



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SIMULATION-BASED DESIGN FOR
DEVELOPMENT AND IMPLEMENTATION
OF SUSTAINABLE BUILDING BASED ON
ECONOMY ISSUE

مجلة البحوث الهندسية – كلية الهندسة بالمطرية: مجلد (98) – ابريل 2005

ACHIEVING SUSTANABLE BUILDING – ECONOMY ISSUE

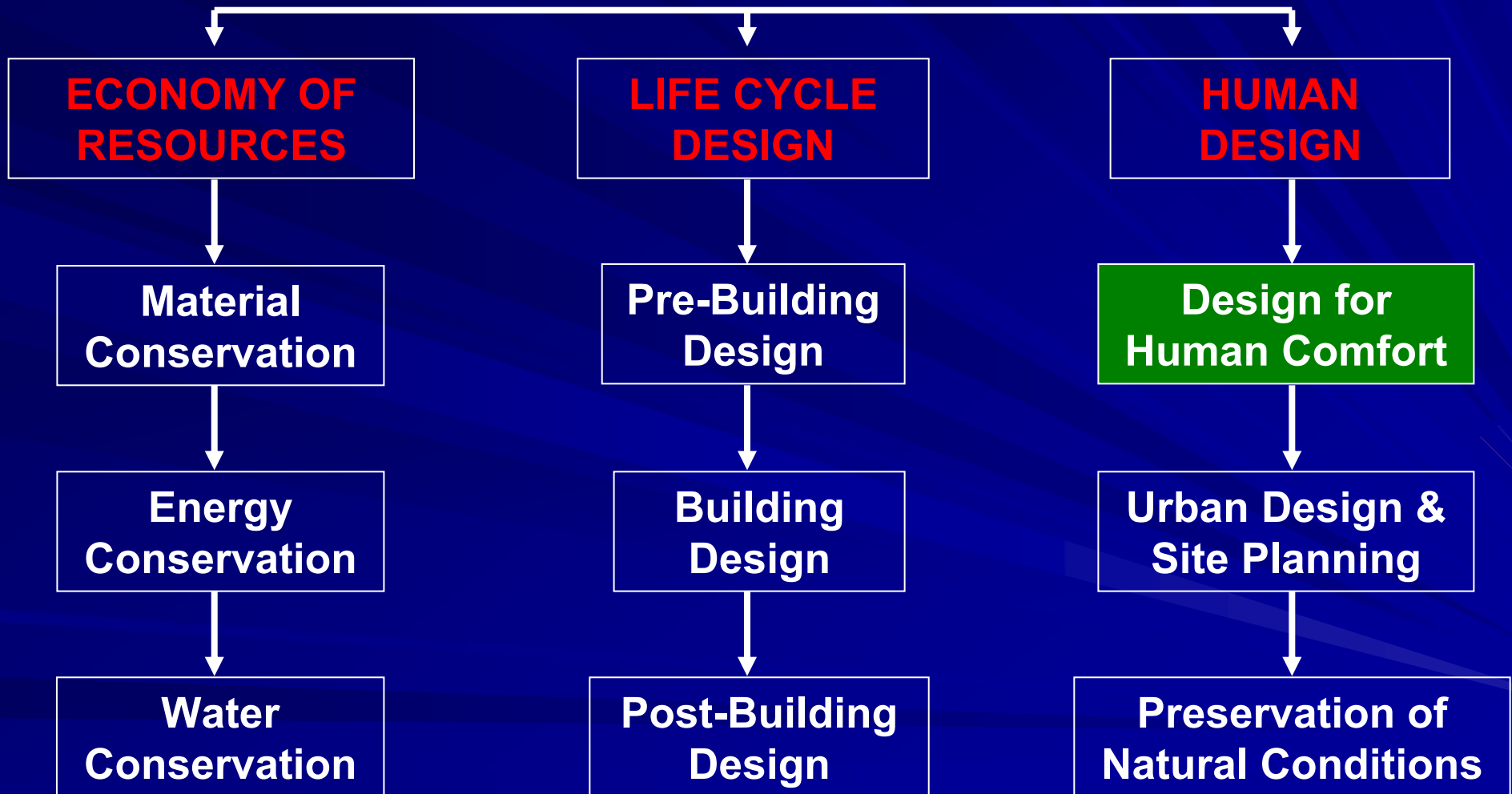
MATERIAL SELECTION

PLAN SHAPE AND COST

ENERGY COST

SUSTANABLE DESIGN

PRINCIPLES



-3-

HUMAN FACTORS AFFECTING TENANTS
OF INTELLIGENT BUILDINGS

مجلة البحوث الهندسية – كلية الهندسة بالمطرية – مجلد (100) – اغسطس 2005

Building structure

Structural components, Architectural Features, Fixtures/
Finishes, Furnishings, Locations

Building Management

Maintenance Management,
Inventory Control, Leasing,
Property Management, Facilities
Reservations, Tenet Billing,
Operations Budgets, Personal
Management

Building services

Voice, Video and data office
automation, Electronic and Voice
Mail, Guard Force, Cleaning,
Structural Maintenance, Garbage
Disposal, Freight Receiving, Freight
Distribution, Tenant Directory

**Owner,
Operator
and
Occupant
Needs**

Building Systems

Mechanical Systems
Electrical Systems
Plumping Systems
Vertical Transportation
Security Systems
Energy Management
Automation Systems
Lighting Control
Communications
Fire Detection, Alarm and
Communication Systems

**THE FOUR
BASICS
ELEMENTS OF IB**

Responsiveness of Intelligent Buildings to human needs

Flexibility

Adaptability

Cost efficient

Physiological Comfort

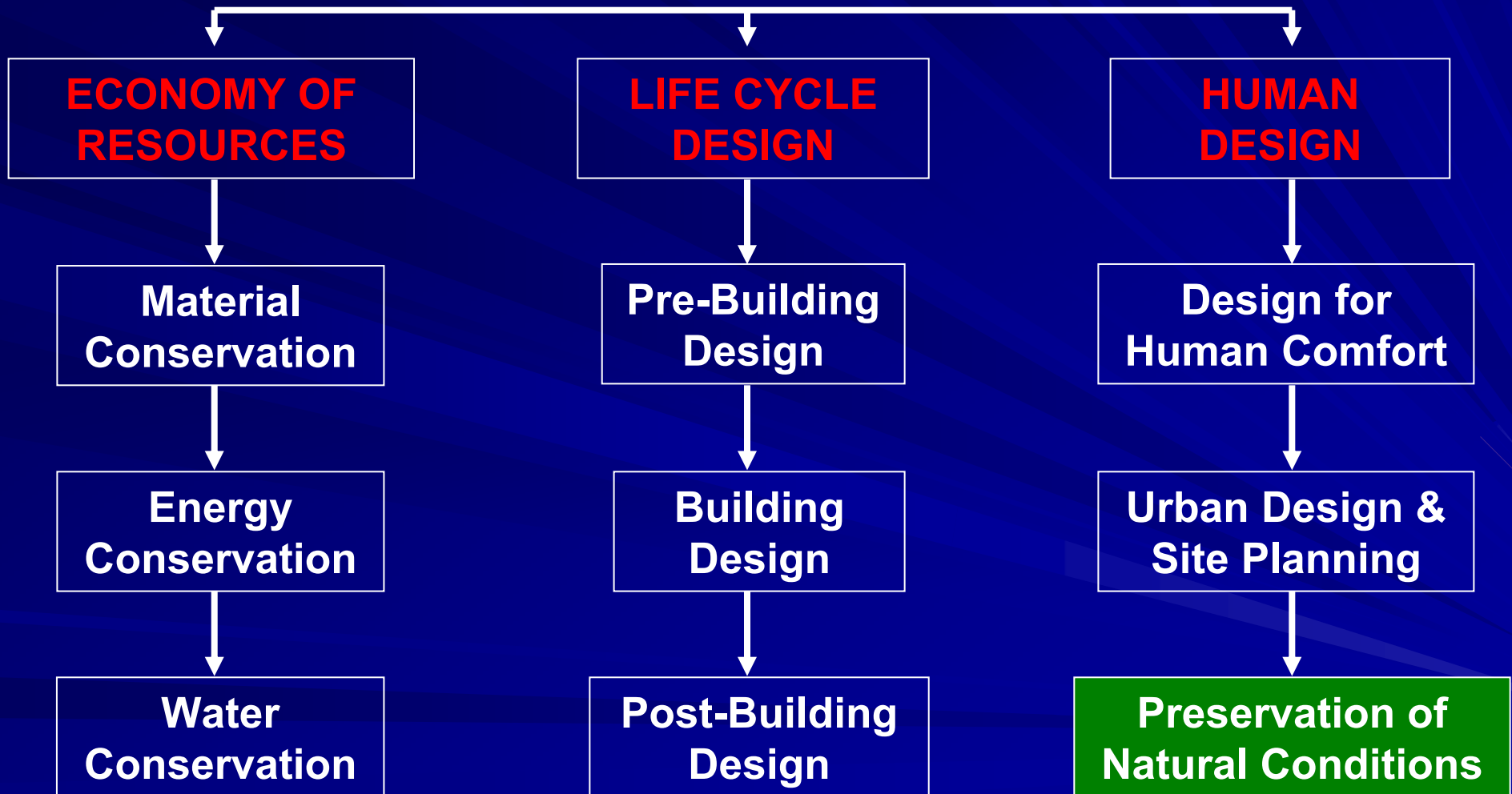
Occupant Productivity

Individuality

Aesthetics

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**OPPORTUNITIES FOR A NEW APPROACH
TOWARDS INTELLIGENCE IN BUILDINGS**

المؤتمر الدولي للمباني الذكية – الشرق الاوسط – 2005- جمعية المهندسين البحرينية 5-7 ديسمبر 2005

1. Relevant design features for intelligent buildings

Perspectives
of
effects

```
graph TD; A[Perspectives of effects] --- B[Natural ventilation]; A --- C[External color]; A --- D[Shading conditions]; A --- E[Properties of materials]; A --- F[Windows design]; A --- G[Effect of orientation];
```

Natural
ventilation

External
color

Shading
conditions

Properties
of
materials

Windows
design

Effect
of
orientation

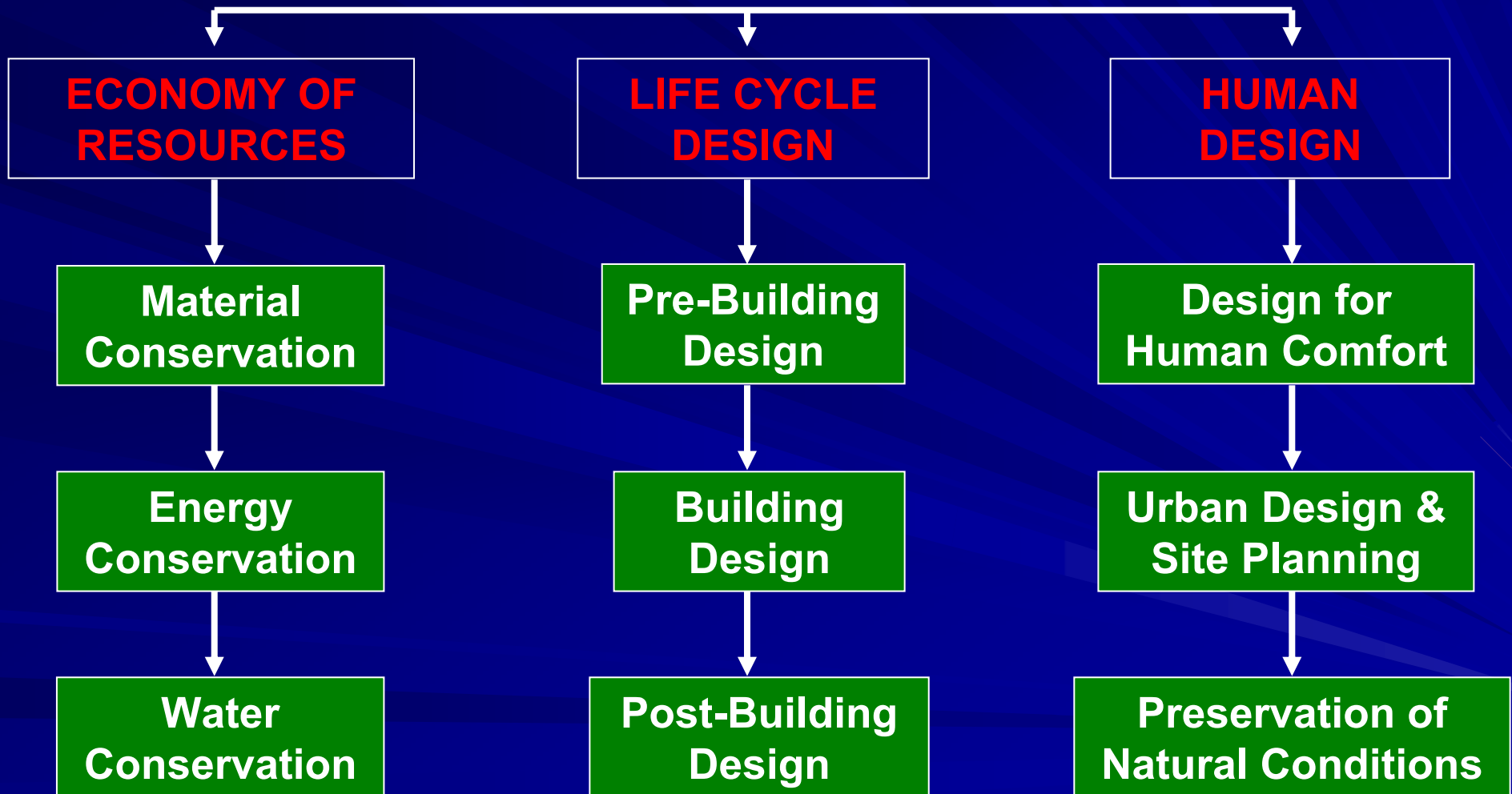
2. Case studies

Building 1: The Environmental Building

Building 2: Commerzbank Headquarters

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**INTEGRATING THE VALUE OF ECO-
BUILDING WITHIN THE DESIGN PROCESS:
AN APPROACH FOR ASSESSING CRITERIA
IN EGYPT**

مجلة العلوم الهندسية - JES - كلية الهندسة - جامعة اسيوط - مجلد 34 - العدد رقم (3) - مايو 2006

This piece of work introduces the idea of constructing an eco-building assessing tool for Egypt.

Existing development tools for assessing eco-building

1- LEED (Leadership in Energy and Environmental Design)

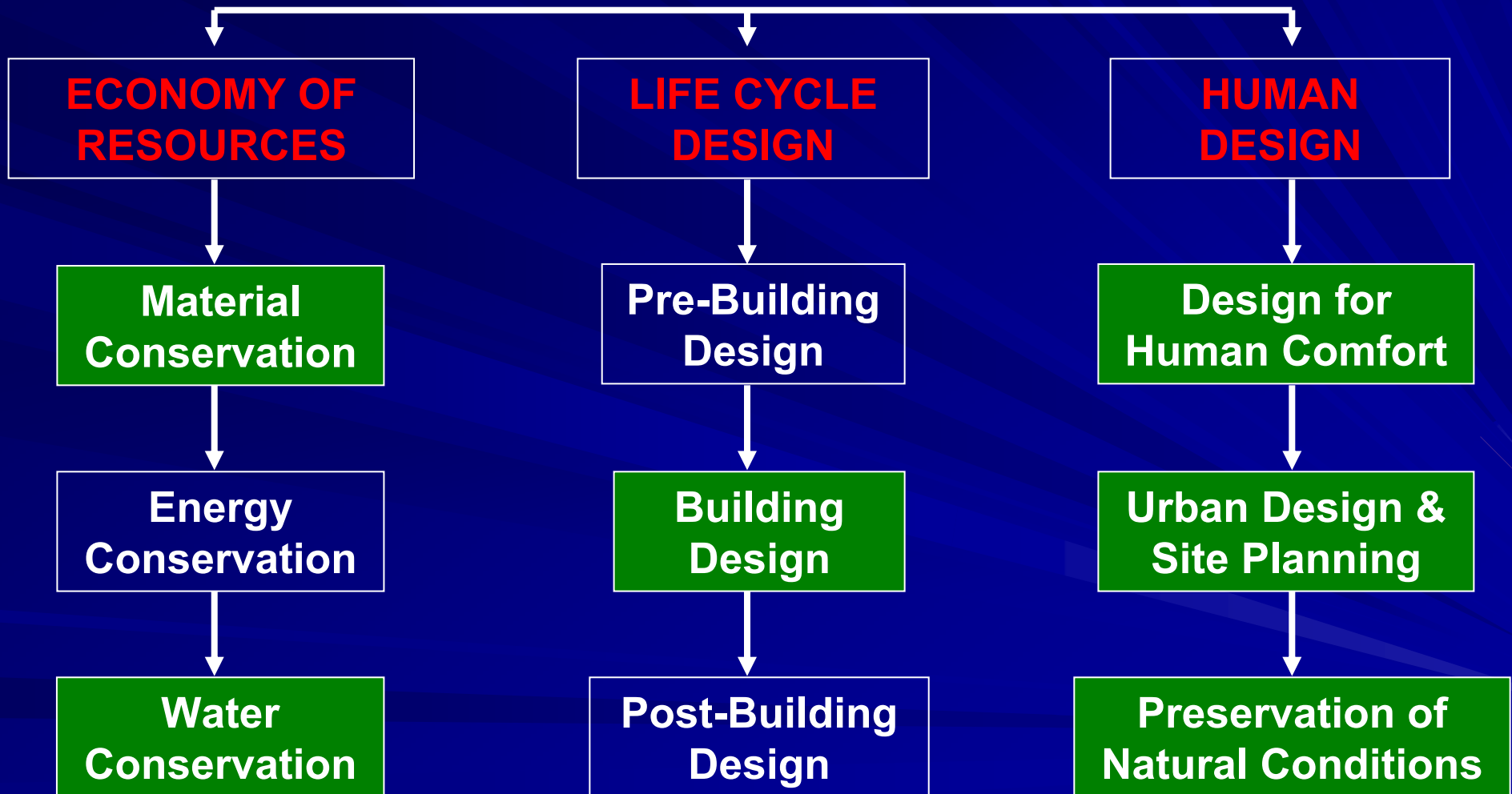
2- BRANZ (Building Research Association of New Zealand)

The suggested strategy for evaluating major examined eco-issues at the different stages of building design stage

	Master planning	Pre-design stage	Design development	Construction documents	Post construction
Energy consumption					
Sustainable materials					
Indoor air quality					
Water economy	The developer can evaluate the construction within each stage of the design process. This processing gives him/her a conclusion around the category that the building is located, and the opportunity to enhance the building performance in each stage.				
Waste and recycling					
Site					
Social					
Transport					
Total points					
Rating					

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ENVIRONMENTAL POLICIES FOR URBAN
REGIONS AT DESERT SOCIETIES - BASELINE
INDICATORS FOR FUTURE VENTURES

المجلة العلمية لهندسة الازهر – كلية الهندسة – جامعة الازهر – المجلد 9 – العدد 3 – يوليو 2006

DESIGN ASPECTS FOR DESERT URBANISATION

SITE CLIMATE

- Topography
- Water
- Ground surface
- Vegetation
- Sun angle
- Wind
- Temperature inversion

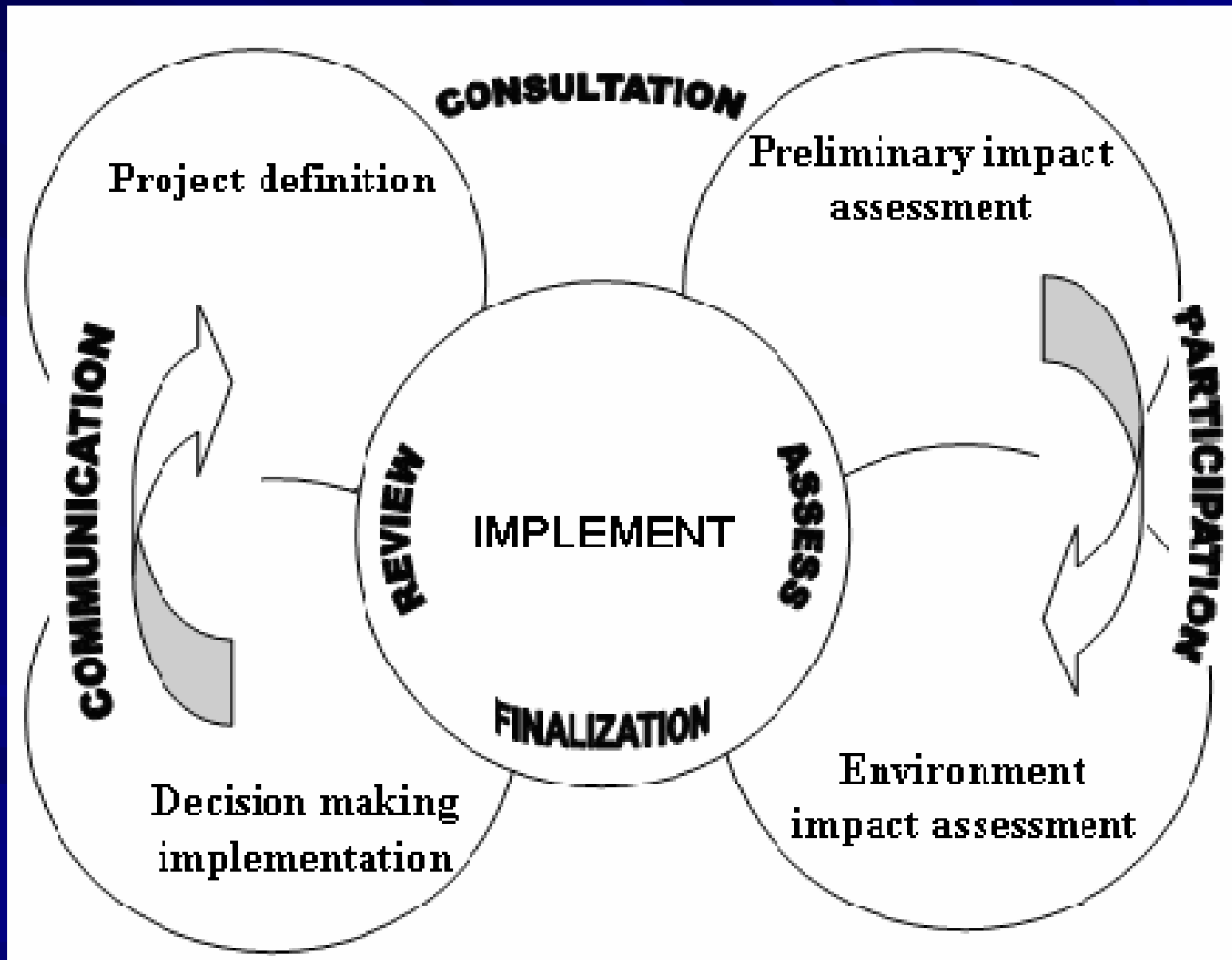
FORM OF DWELLINGS

- Form
- Layout
- Orientation
- Scale of dwellings

BUILDING MATERIALS IN DESERT REGION

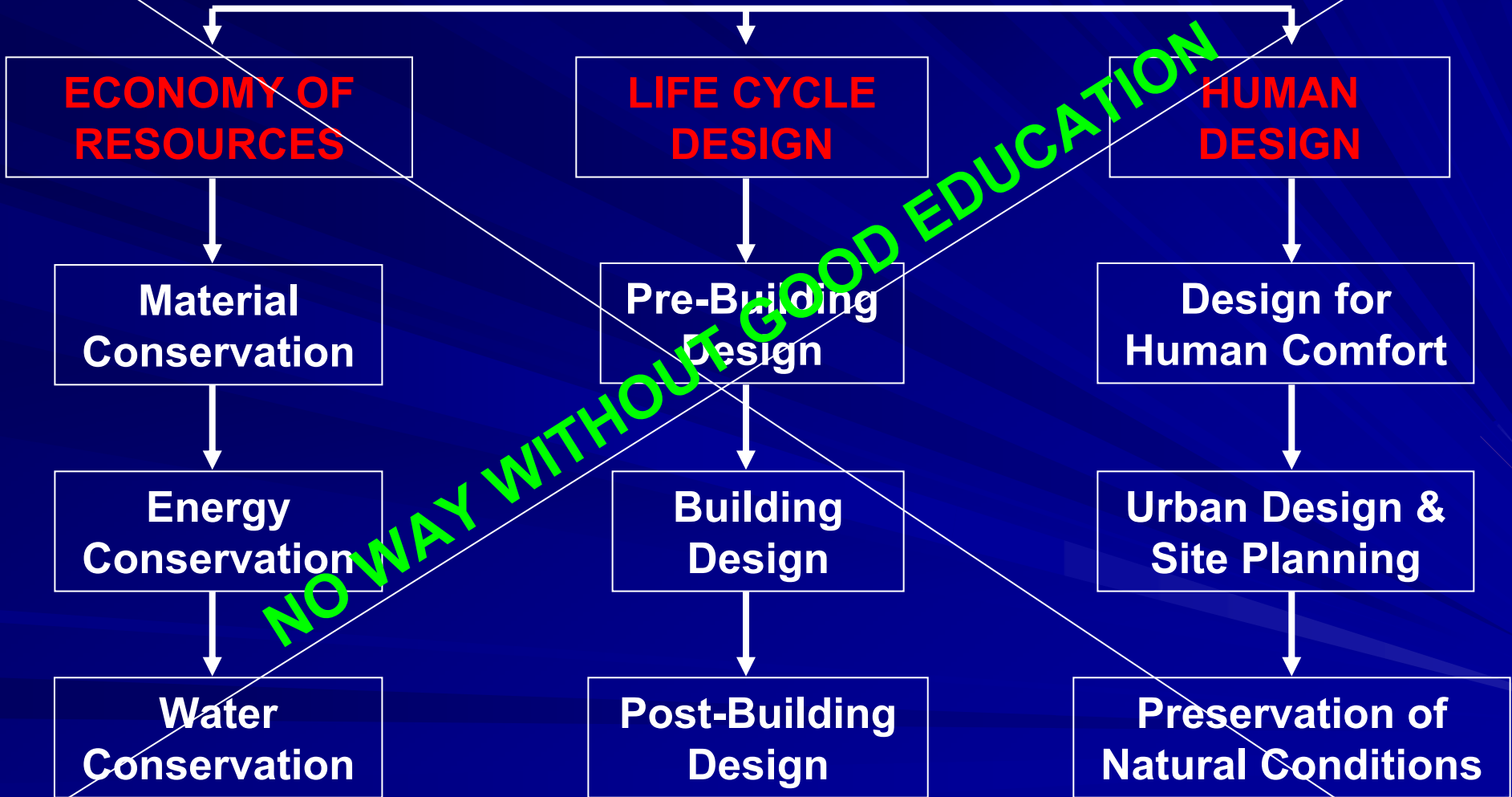
- Roofs
- Walls
- Openings
- Ceiling height

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS



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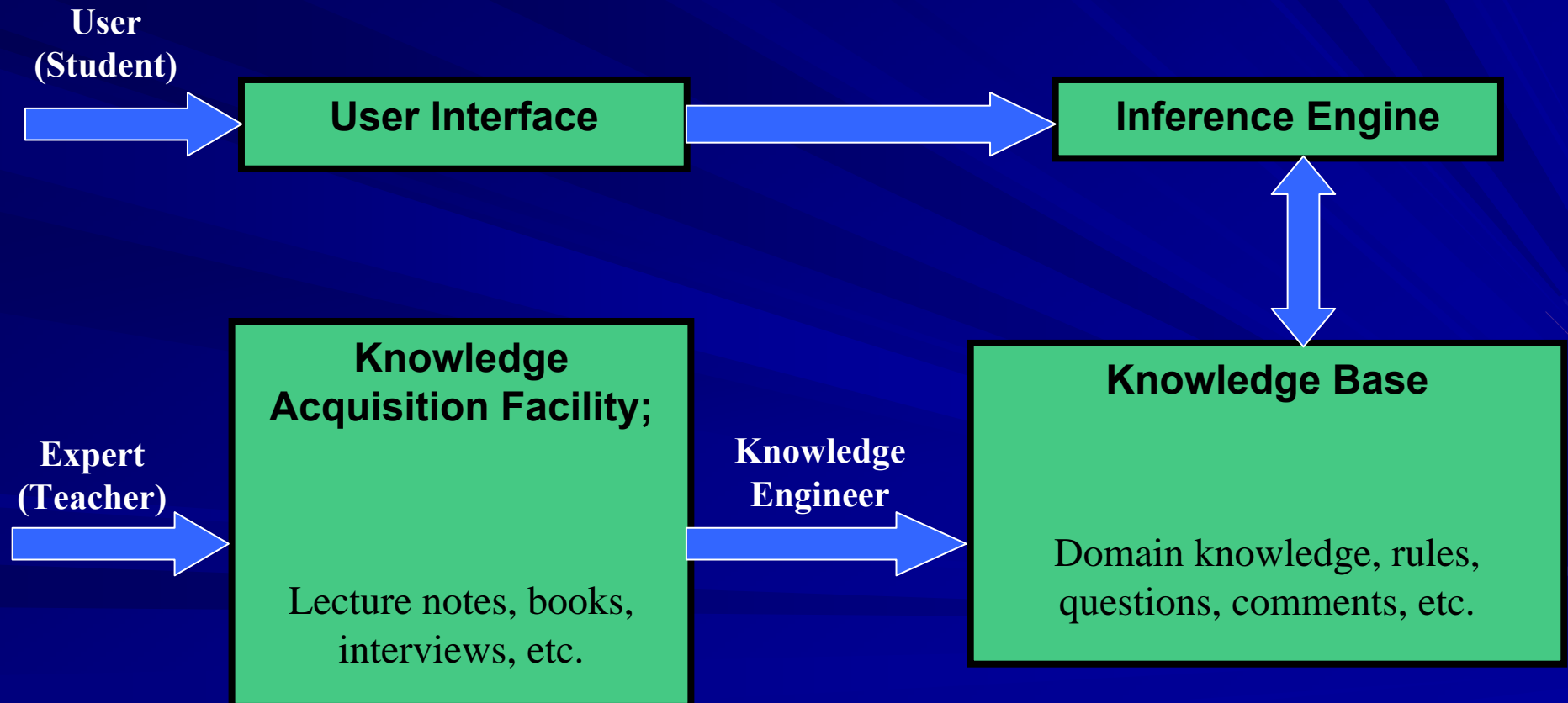


-7-

A KNOWLEDGE-BASED SYSTEM ASSISTED
TEACHING COURSE FOR THE
UNDERGRADUATE LEVEL “LANDSCAPE
COURSE AS AN APPLICATION”

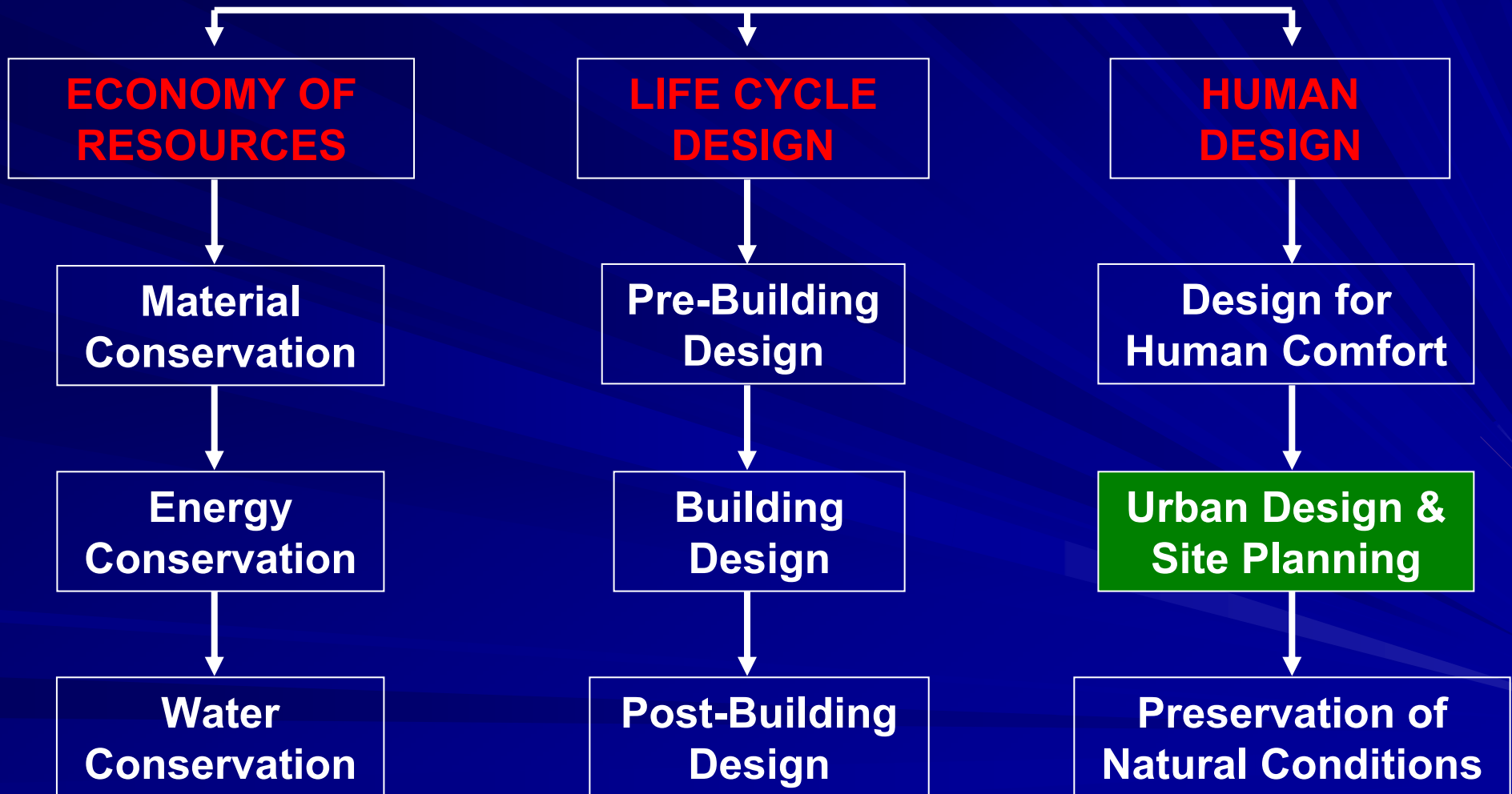
المؤتمر الهندسي الدولي السابع – جامعة الأزهر : 7 – 10 ابريل 2003

Development of an **Intelligent System Aided Architecture Learning (ISAAL)** to be employed in the field of architecture.



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Urban Development Associated With Sustainable
Community (Case Study of Siwa Oasis)

المؤتمر الدولي للمباني الذكية – الشرق الاوسط – 2005- جمعية المهندسين البحرينية 5-7 ديسمبر 2005

Urban Development Associated With Sustainable Community

(Case Study of Siwa Oasis)

Growing populations and expanding cities

LEAD TO



changing of People, their settlements and their social relationships rapidly
DEFINING THE PROBLEM

ACCORDINGLY



It is important issue to provide a high performance environment to all intended occupant activities.

THE TARGET

The answer can be constructed by the fact of
**How communities can shape their modes of change
in such a way to ensure the preconditions of
development for future generations?**
The relationships between society and nature
over long periods of time

future community development.

Leads to

FACT

Sustainable Community

AIMS AT
↓

**Aspects related to
the quality of life**

Enhancing human economic

Enhancing human social

Enhancing human environmental quality

THE RESULT OF QUALIFYING THE PREVIOUS ASPECTS

LEADS TO
↓

**Providing a healthy and productive life for all
community residents in present and future**

STEP 1:

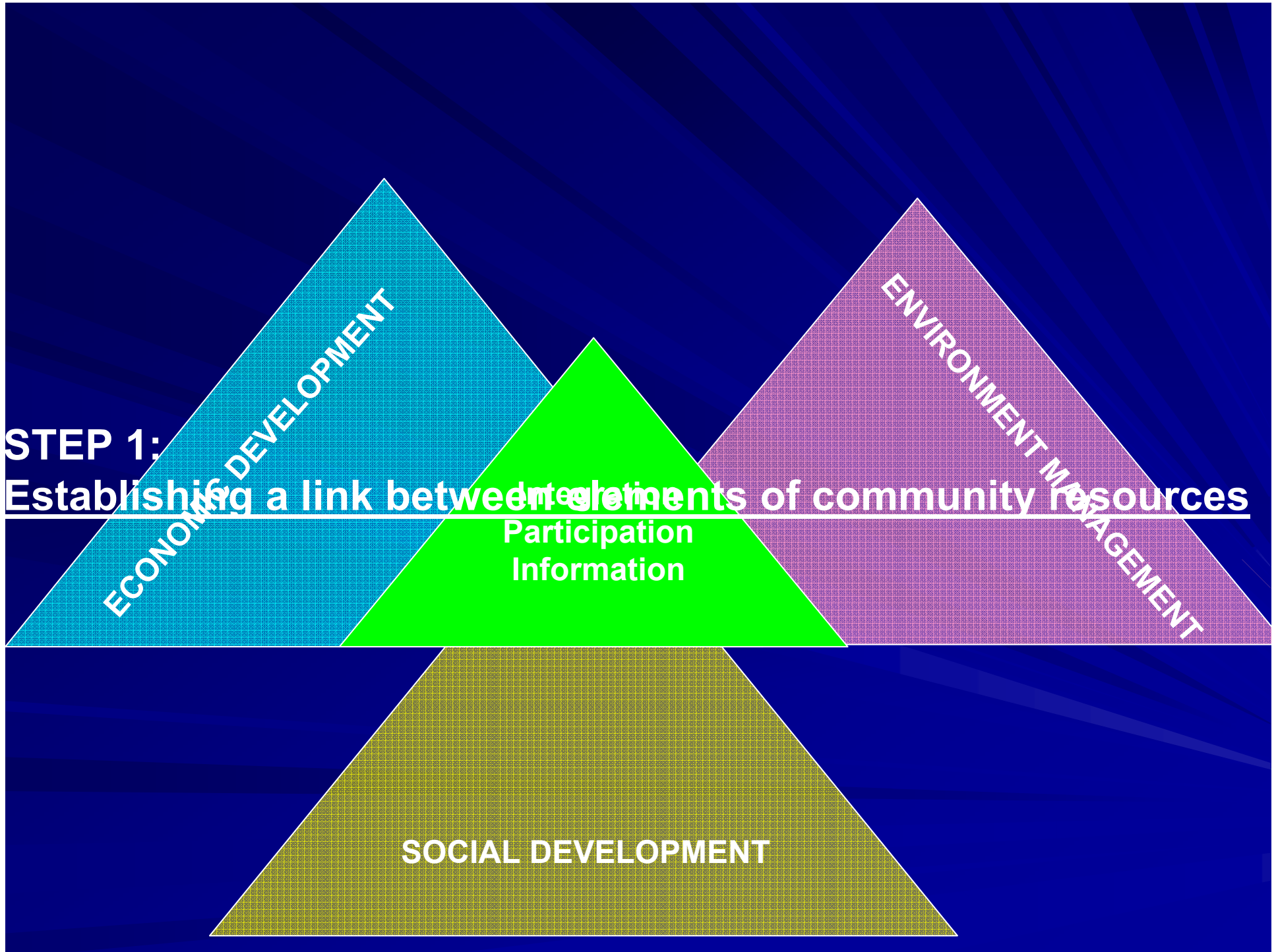
Establishing a link between requirements of community resources

ECONOMIC DEVELOPMENT

ENVIRONMENT MANAGEMENT

**Participation
Information**

SOCIAL DEVELOPMENT



METHODOLOGY

To have a conclusion around the target community, we have to identify:

STEP 2: What are the kind of community group the project intend to benefit and its housing needs

- ★ What are the economic and social characteristics of the target communities?
- ★ What contribution is the target communities able to make to meet basic housing needs?
- ★ What are its housing needs?

It should be understood what function are houses have in relation to their families by studying:

- ➔ what actions families can take to find housing which meet their needs?
- ➔ what problems stand in their way?

METHODOLOGY

Check list of NCRCRD (North Central Regional Center for Rural Development) for measuring community success and sustainability:

- **STEP 3:** The progress in increasing use of the skills, Measuring community success and sustainability
- 1. The progress in increasing use of the skills, Measuring community success and sustainability
- 2. How relationships and communication Hatem1 are strengthened.
- 3. What contribution the project is introduced for Improving community initiative, responsibility and adaptability.
- 4. The qualifying sustainable, healthy ecosystems with multiple community benefits.

Slide 40


Hatem1

Hatem, 12/1/2005

THE CASE STUDY

Adrère Amellal in Siwa oasis



 The site takes maximum advantage of solar access, existing vegetation, and natural geological features and its ability to meet other needs of the building owners, tenants, and visitors.

Measuring community success and sustainability in Adrére Amellal

 It has attracted highly cultured and environmentally sensitive travelers that added value to the local community and the economy



It has created a dynamic development where people becomes a positive force, working to enhance the quality of life of their community. A dynamic development where people relate to each other in a positive way and where everyone benefits



The Siwans are now interacting with other cultures, while maintaining their own culture



Six hundred Siwans are now employed in such areas. They are working in the supply of raw materials, production of furniture and handicrafts, transport of goods, transport of workers, and operation of tours



Before the project to be started, no traditional houses had been built in 18 years. When the project was started, over 50 new construction activities have adopted the Siwan traditional building style



The Governor of Matruh has decreed that all new buildings in Siwa are to be built in traditional architectural style, and has allocated funds for the restoration of cultural sites. Moreover, local government is now consulting with the local community



In Adrére Amellal, EQI has introduced improvements to Siwa's traditional building systems, and building techniques using a native material that maintains moderate indoor temperatures and eliminating the need for air-conditioning

➔ Sustainability of community is related to the quality of life in a community - whether the economic, social and environmental systems that make up the community are providing a healthy and productive life for all community residents,

➔ Three groups of people whom need appropriate skills to contribute to the sustainable development:

Conclusion

1. Professionals: such as planners and architects, decision-makers such as local authority, officers, and the leaders of community.
2. Associated occupations: those whom make an important contribution but are not involved full time in creating sustainable communities such as educators.
3. Those with a valid interest but not employed full time in the sector such as students and school children.

Measuring community success is one of the most important things to ensure that the development process is managed in a successful manner. It is likely to stimulate responsive action of population.

The Siwa sustainable development project has brought significant benefits to the local community. It is considered as one of the successful sustainable development projects in the world

Please contact me for the full version of the previous papers

تم بحمد الله