

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



**The World Institute for Development Economics Research of the
United Nations University**

**UNU-WIDER Conference on
Climate Change and Development Policy**

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Research Title:

***Landscape Architecture Role in Mitigating Negative Climate
Change Impacts Upon Urban Environment***

Islam Hamdi Elghonaimy, PhD

Associate Professor of Landscape Architecture and Urban Design

Department of Architecture – College of Fine Arts

University of Alexandria – Egypt

Department of Civil Engineering & Architecture – College of Engineering

– University of Bahrain

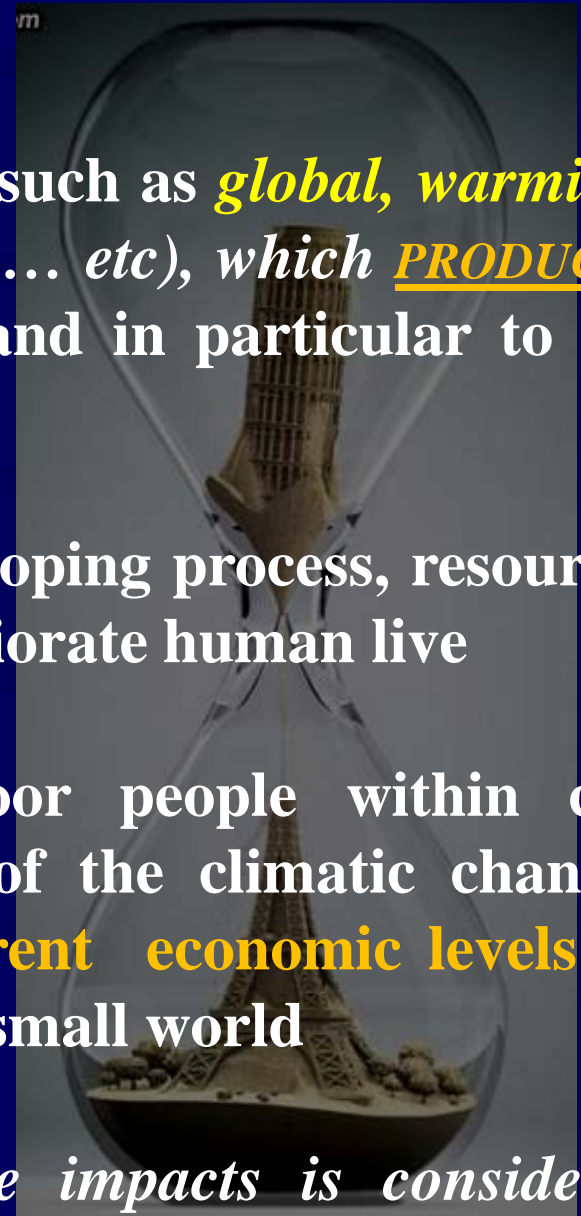
POINT TO BE INTRODUCED ...?

In a world of climate change problems (such as *global, warming, sea level rise and erosion desertification, ... etc*), which PRODUCES ADVERSE IMPACTS, to the environment and in particular to the socio-economic urban environment

Consequently, dramatically affects developing process, resources and people's livelihoods ... etc that deteriorate human live

To be considered that, Not only poor people within city livelihoods exposed for the impact of the climatic changes phenomena but also *all people in different economic levels ...* and accordingly to *near countries* .. It is small world

Therefore, dealing with *These negative impacts is considered* challenge that faces the developing countries.

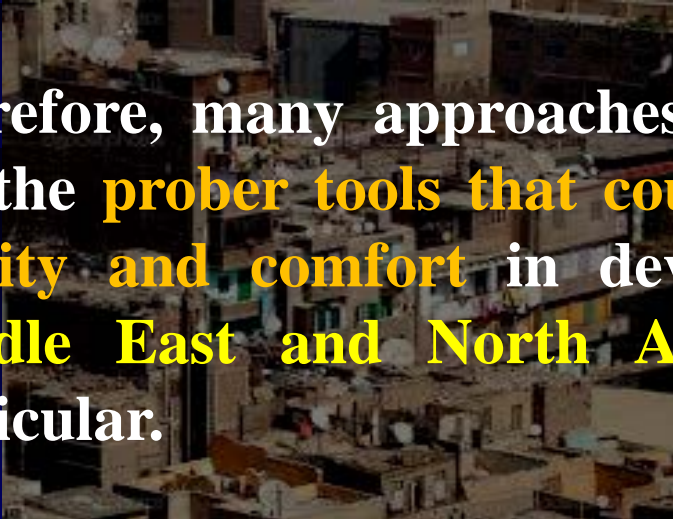


POINT TO BE INTRODUCED ...?

While in the developing countries many environmentally hazards **heavy industrial factories** are locating out of cities zones, and its effects again are exposing to near by urban and rural areas.

the effects of urbanization and climate change are converging in ways which threaten to have unprecedented negative impacts on urban quality of life, and economic and social stability

Therefore, many approaches were studied by expertise to find out the **prober tools that could be used to utilize residents' life quality and comfort** in developing countries in general and **Middle East and North Africa countries (MENA cities)** in particular.



P O I N T T O B E I N T R O D U C E D ... ?

Respecting the vision that we live in small world, whenever a region has an environmental problem (for instance climatic changes problems); it will extend to affect the neighbor regions as well.

Regrettably, In Middle East and North Africa countries (MENA cities) climate changes impacts are dramatically increasing due to the absence of the integration between MENA cities to manage and control such problems.

Therefore the resulted miss design of Landscape Architecture products produces adverse impacts, in general, to the environment and in particular to the cities urban areas ... the bill is in increasing

Diagnosis of the problems.

More QUESTION SHOULD BE HIGHLIGHTED

IS THERE CONFLICT OF URBAN PLANNING POLICY AND STRATEGIES IN CITIES URBAN DEVELOPING ?

OR ...

Is there miss applying of landscape Architecture and Urban Planning Policy and its Strategies in Cities Urban Developing?



And, what will happen if such conflict occurs between these levels?

Research problem.

so, the challenge in dealing with the resulted problems is not simple. Mainly the developing countries face the impacts upon urban environment dramatically in many forms such as:

- Global warming, decreased need for snow removal
- Sea level rise,
- Desertification,
- Deterioration of urban condition
 - Decline of Standard of living
 - longer summer recreational season and shorter winter season
 - invasion of new insects and diseases
- Dropping Quality of life
 - increased heat stress and decreased air quality
 - increased demand for air conditioning but reduced winter heating demand ... etc.



AND

Regrettably, many countries have yet primitively to mainstream climate change problems.

Aim of the research

- The research will present the significance of Landscape Architecture roles in controlling the impact of climatic changes problems,
- Present the possible solutions to overcome the physical urban expansion problems.

Before Azhar Park: Less than a foot print of green space per inhabitant



"Green Lung of Cairo"

The Largest park in the Middle East → 30 hectares (72 acres)

Technical Challenges

- 765,000 cubic m. of soil and debris removed. (40K trucks loads)
- 160,000 cubic m. re-used as "fill" elsewhere on the site.
- 605,000 cubic m. subjected to geotechnical treatment.
- 60,000 cubic m. of special top soil brought-in and mixed to create 0.5m – 2m of "good soil".
- Creation of a clay underlay → 2m below the surface.



hypothesis of the research

Argues that Landscape Architecture in urban areas have a **pivotal role in climate change mitigation adaptation and identifies strategies** and approaches for strengthening this role.

Creating regional policy with emphasis of **strategies** following by **action** plans in pilot projects will explore the Landscape Architecture significant in controlling climatic changes impacts.

Formatting **Landscape Architecture Chapter** in MENA cities can take the responsibility in managing efforts and prepare homogeneous policy between MENA cities that can manage the efforts of in Mitigating Negative Climate Change Impacts Upon Urban Environment

Consequently, **public community awareness** will be developed to support these Policy, strategic and actions.

Landscape architecture is a multi-disciplinary field

incorporating aspects of:

■ Geography, & ecology

■ industrial design,

■ botany,

■ environmental psychology,

■ geology & the earth sciences,

■ architecture,

■ horticulture,

■ the fine arts,



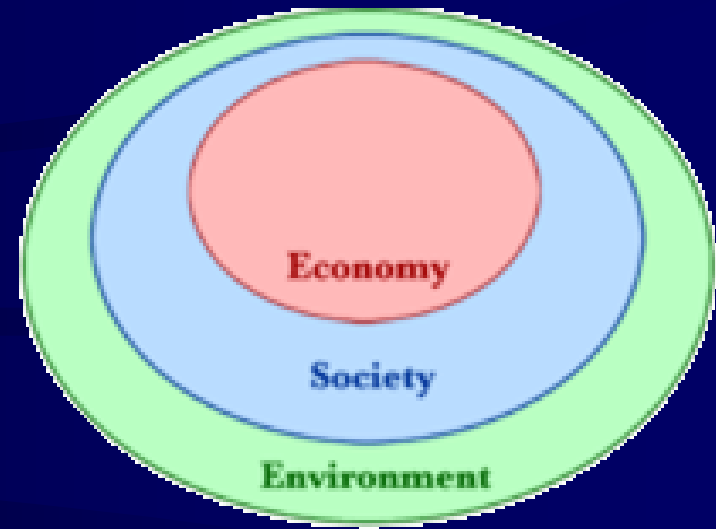
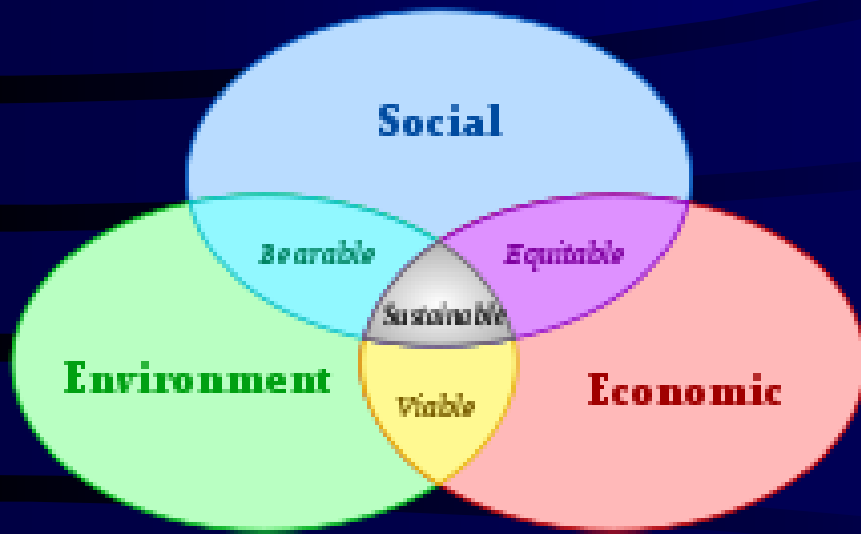
Climate change and sustainability



***P**racticing sustainability is a process of continual movement toward greater awareness. It is very committed to living and acting sustainably.*

***A**ttention to living sustainably requires us to actively be aware of the environmental, ... social; ... economic; ... needs of generation without neglecting the ability of future generations needs.*

***M**ore attention and following the vision of sustainability is needed to supply secure and comfortable environment for next generations*



Definitions of sustainability often refer to the "three pillars" of social, environmental and economic sustainability,

A representation of sustainability showing how both economy and society are constrained by environmental limits,

–The simple definition "sustainability is improving the quality of human life while living within the carrying capacity of supporting eco-systems", though vague, conveys the idea of sustainability having quantifiable limits .But sustainability is also a call to action, a task in progress or "journey". (Markus J., 2006).

Which are the major important lines when applying Landscape Architecture

–But, some questions are rising to the surface such as:

–What are the pointers to be respected in the work?

–Who are party' members ?

–And

–What is the role of Landscape Architecture to control the impact of Climate Change problems

–How can they work?

–and

–What is the main criteria of Landscape architecture performance?

–environment; ...

–social; ...

–economic; ...

–needs

–Sustainability



–General organization & Academic faculties

–Evaluators (Non governmental societies)

–Governorate and the local authorities

–Decision makers (Ministries & Municipality)

–Investors

–Users- public participation



Dealing with climatic changes in MENA cities

Actions toward dealing with climatic changes impacts within city urban areas or rural region as well should have unique vision in MENA cities.

For instance, In Egypt, authority creates action levels to manage City problems, which were varying between the general master plan till and the governmental on the following levels:

–Regional level,

–Through the regional plan of the region.

–Governmental level,

–Through general report for governorate planning.

–Urban development plan for the Governorate.

–In addition to the local governmental legislation.

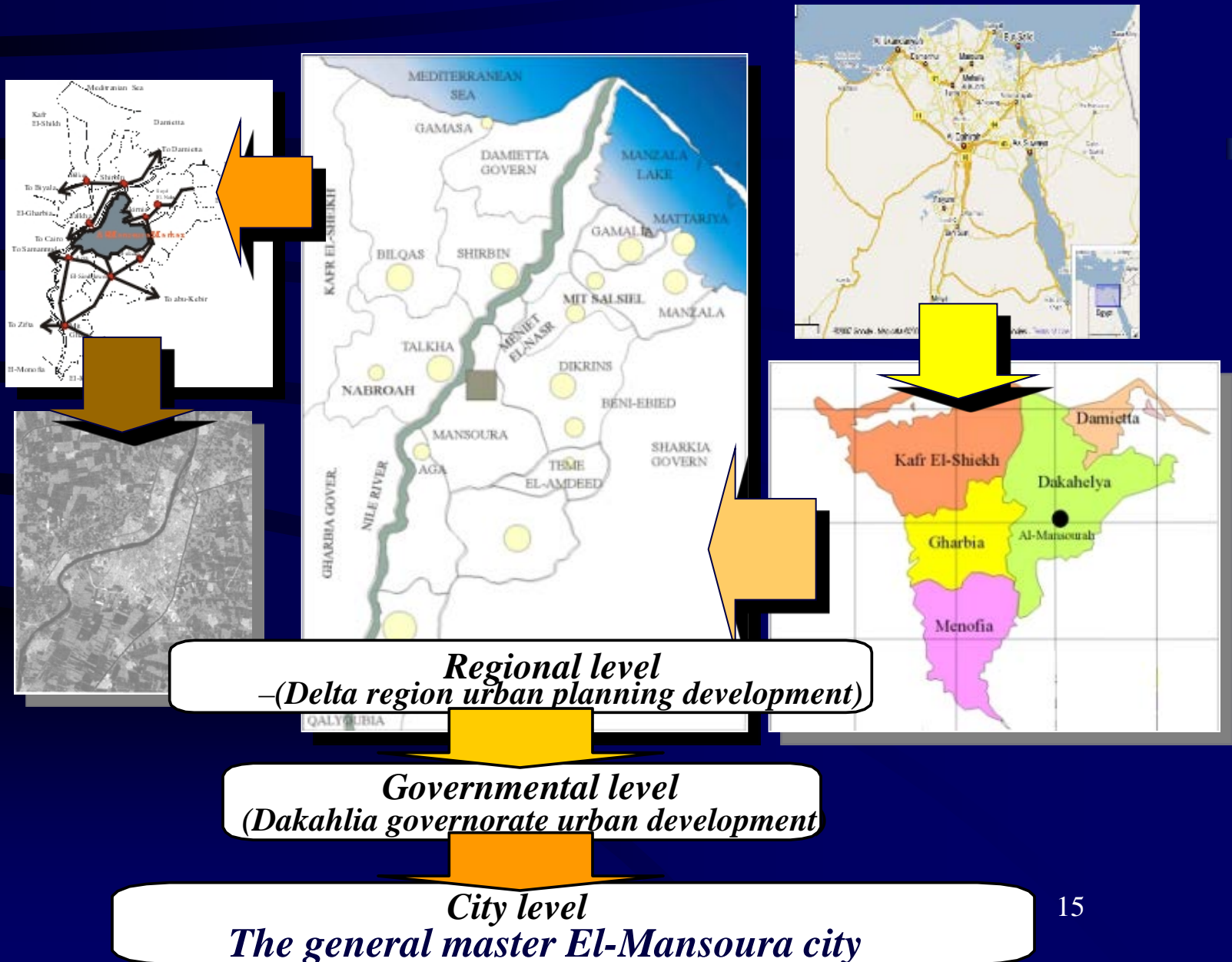
–The development report.

–local level

–Through the general master plan for such cities

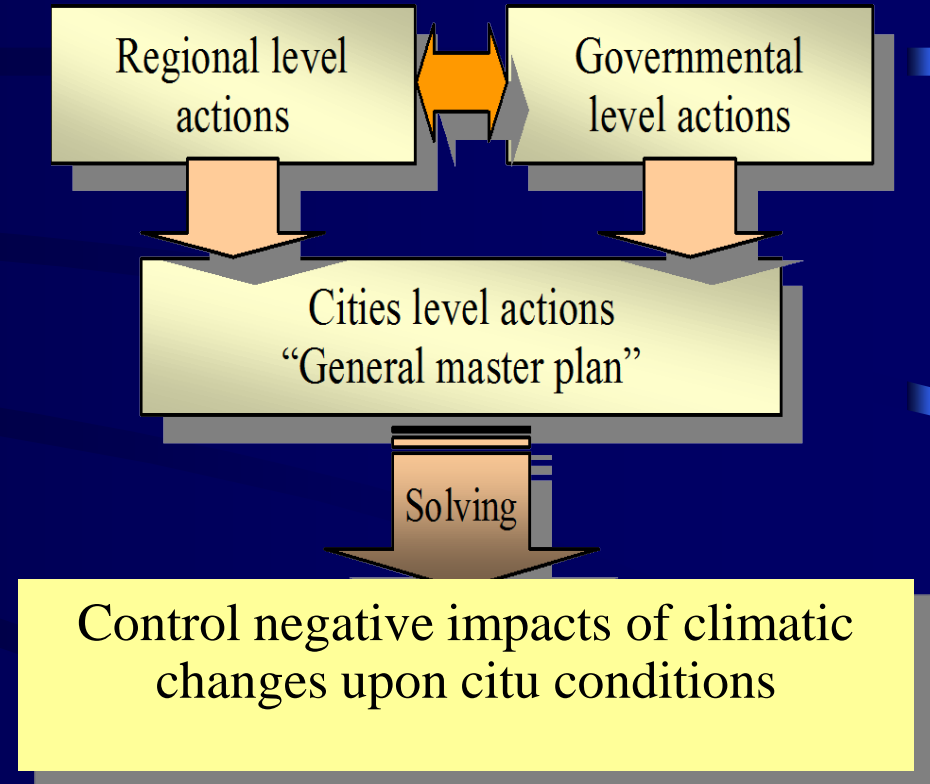


Dealing with climatic changes in MENA cities



Dealing with climatic changes in MENA cities

But unfortunately, due to acute shortage of awareness It is only theoretical

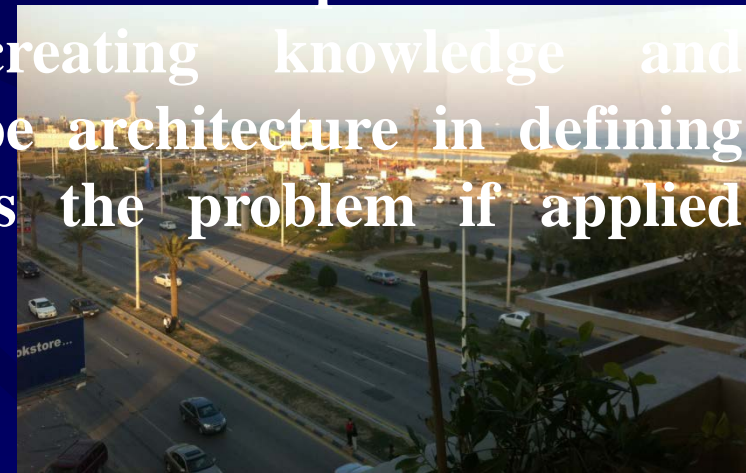


Motivation of selecting Landscape architecture in facing Climatic changes impacts.

It is important to show how significant of Landscape Architecture science in improving urban environment

So, we have to understand the focus and field of Landscape architecture work.

Therefore, presenting the significant of Landscape Architecture would be achieved through creating knowledge and understanding the role of landscape architecture in defining specific solutions that can address the problem if applied probably on an urban large scale



Motivation of selecting Landscape architecture in facing Climatic changes impacts.

Landscape Architecture contribution is including:

–Transportation

–human safety

–snow and ice control

–water and sewage

–Horticulture

–outdoor public areas and landmarks,

–structures to achieve comfortable environmental behavioral, or aesthetic outcomes.

–design of interventions that will produce the

–hazards (blizzards, wind storms, cold ..etc)

- garbage collection

- parks and recreation

- energy use

- pest control

- construction and building codes



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Motivation of selecting Landscape architecture in facing Climatic changes impacts.

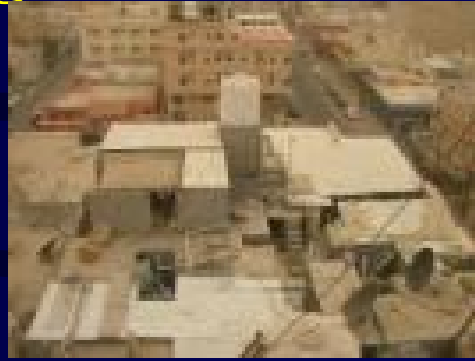
- The scope of the profession includes:*
- urban design; site planning; town or urban planning;*
- storm water management;*
- environmental restoration; parks and recreation planning;*
- visual resource management;*
- green infrastructure planning and provision of services;*
- private estate and residence landscape master planning*
- Design all at varying scales of design, planning and management*

Landscape architects work

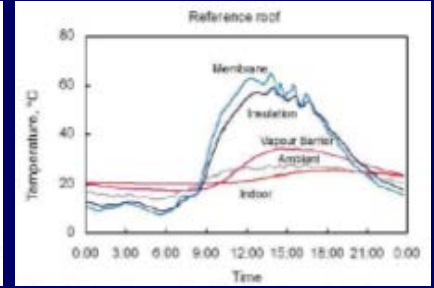
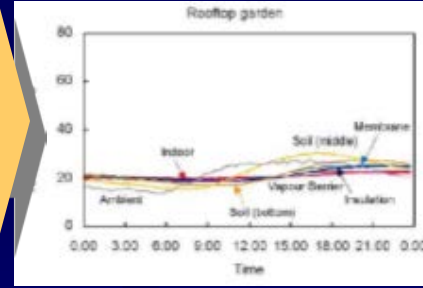
- with "hard" (built) and "soft" (planted) materials,*
- while integrating ecological sustainability.*



Motivation of selecting Landscape architecture in facing Climatic changes impacts.



Temperature profiles of rooftop green at different times of a certain day



Conclusion:

- MENA cities are suffering from the **unplanned urban developing** and neglecting **suitable and proper Landscape Architecture** Designs for city urban environment.
- The **conflict between MENA cities planning policies** in facing Climatic Changes problems are **creating critical environmental urban problems** not only locally in such cities but also extend to affect the cities in surrounding (masse in the urban pattern ... slum areas, economic problems, deteriorating human live standard .. etc).
- **Monitoring** real condition and clear image of cities Landscape Architecture performance and the attached urban changes are absent due to the deficiency of urban observatory system, which always didn't **give the design makers the prober circumstances of the city.**

Conclusion:

- **Updated Landscape Architecture situation** and Urban conditions (planning ... management ... assessment ... evaluation ... etc). should be carried out (to avoid conflict of implementing MENA cities developing policy, strategy, and action plans)
- **Unique vision** of Landscape Architecture and environmental urban planning developing should be created.
- Major contribution between controlling Climatic changes impacts and Landscape Architecture always take place within these three main axes as follows:
 - Human behavior and resources;
 - Urban and natural resources;
 - System of government and urban management.

Conclusion:

- To control the negative impacts of Climatic changes, the main tools in designing landscape projects and its interpretation shown consider the following carefully:
 - Soft scape species vegetation types with its performance
 - Hard scape materials (type of tiles, smart material, light structure, ...).
 - Design aspects and concept.
 - Social and economic issues.
 - Environmental consideration.
 - Life time Aesthetic
 - Physical urban spaces and Building conditions.



Recommendations:

In MENA cities A global vision to deal with these impacts should be basic whenever we deal with Climatic changes.

Indeed, with the era of communications, **Comprehensive policy** should deal with these impacts. MENA cities have limited technical resources and vision, especially with the dramatic political changes.

It is essentially recommended to Create **Landscape Architecture Chapter, In MENA cities following UN vision and continuo the efforts to** play important act in reducing the adverse impacts of climatic changes upon city urban life, which could be achieved by implementing regional policy that integrate the efforts of MENA cities using Landscape Architecture elements.

Recommendations:

Landscape Architecture chapter **main task** will emphasis upon creating and developing regional policy with emphasis of strategies following by action plans in pilot projects to explore Landscape Architecture significant in controlling negative impacts of climatic changes.

Landscape Architecture chapter **responsibility** in proposing comprehensive policy that **consider MENA cities resources**. This policy has to consider three main targets to be improved, which are: **urban condition, quality of life, and standard of living**



Recommendations:

Increase the awareness for the community about the proper landscape designs and the **appropriate**

Softscape species (**minimizing water consumption**),

and hardscape materials (**friendly environmental material, eco-materials, economically vision as well**)

Which are playing important factor in enhancing the environment



**Thanks very much for your
kind attendance and listen**

Islam Hamdi Elghonaimy

Associate Professor of Landscape Architecture and Urban Design

Department of Architecture – College of Fine Arts

University of Alexandria – Egypt

Department of Civil Engineering & Architecture – College of Engineering

– University of Bahrain

eslam_elghonaimy@yahoo.com