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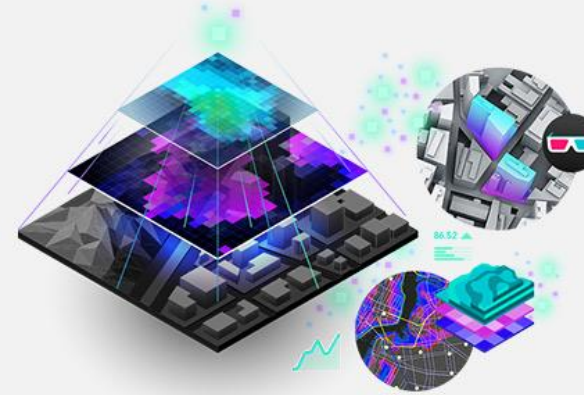
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University of Applied Sciences and Arts
Northwestern Switzerland



The 1st International Conference on:
**Geographic Perspectives on Climate Change
Mitigation in Urban and Rural Environments**

25 - 27 JUN 2024 University of Salento, Italy



Sustainable Urban Development and Climate Change Challenges within the Kingdom's Vision 2030

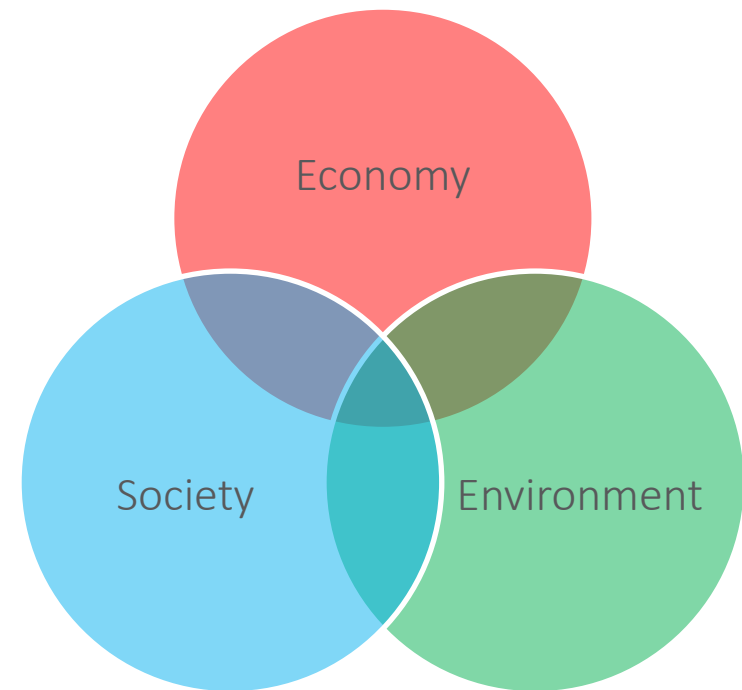
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Introduction

The concept of sustainability in urban planning

- ❑ Goal 13 of the United Nations Sustainable Development Goals refers *“to take urgent action to combat climate change and its impacts”*.
- ❑ National Vision 2030, emphasized the balance between the economic, environmental, and social dimensions to build a future that guarantees zero carbon neutrality for cities by 2060.



The Problem

- ❑ Climate change is not just an environmental problem, but rather a problem of “justice” between industrialized and developing countries.
- ❑ The right to development among countries does not mean equality in polluting the environment; Rather, international cooperation is one of the most important ways to protect the atmosphere as a shared resource through developing policies to reduce greenhouse gas emissions, global solidarity, and commitment to environmental treaties. The problem of climate change affects all countries of the world.

Local efforts

- ❑ Locally, efforts to mitigate climate change began to become evident with the emergence of the National Vision 2030 in 2016.
- ❑ The National Vision 2030 emphasized three important pillars that constitute a framework for sustainable development: a vibrant society, a prosperous economy, and an ambitious nation.
- ❑ National Vision 2030 developed a set of initiatives in the field of environmental protection and city development in a manner consistent with sustainable development goals.
- ❑ There is a need to analyze the National Vision 2030 initiatives to confront the climate challenges and formulate them as strategic framework in sustainable development of Saudi cities.

Objectives

This paper analyzes the initiatives of the National Vision 2030 in confronting the challenges of climate change. The results of this paper can help formulate a strategic framework for sustainable development of Saudi cities that mitigation climate change in urban and rural environments.



Literature review

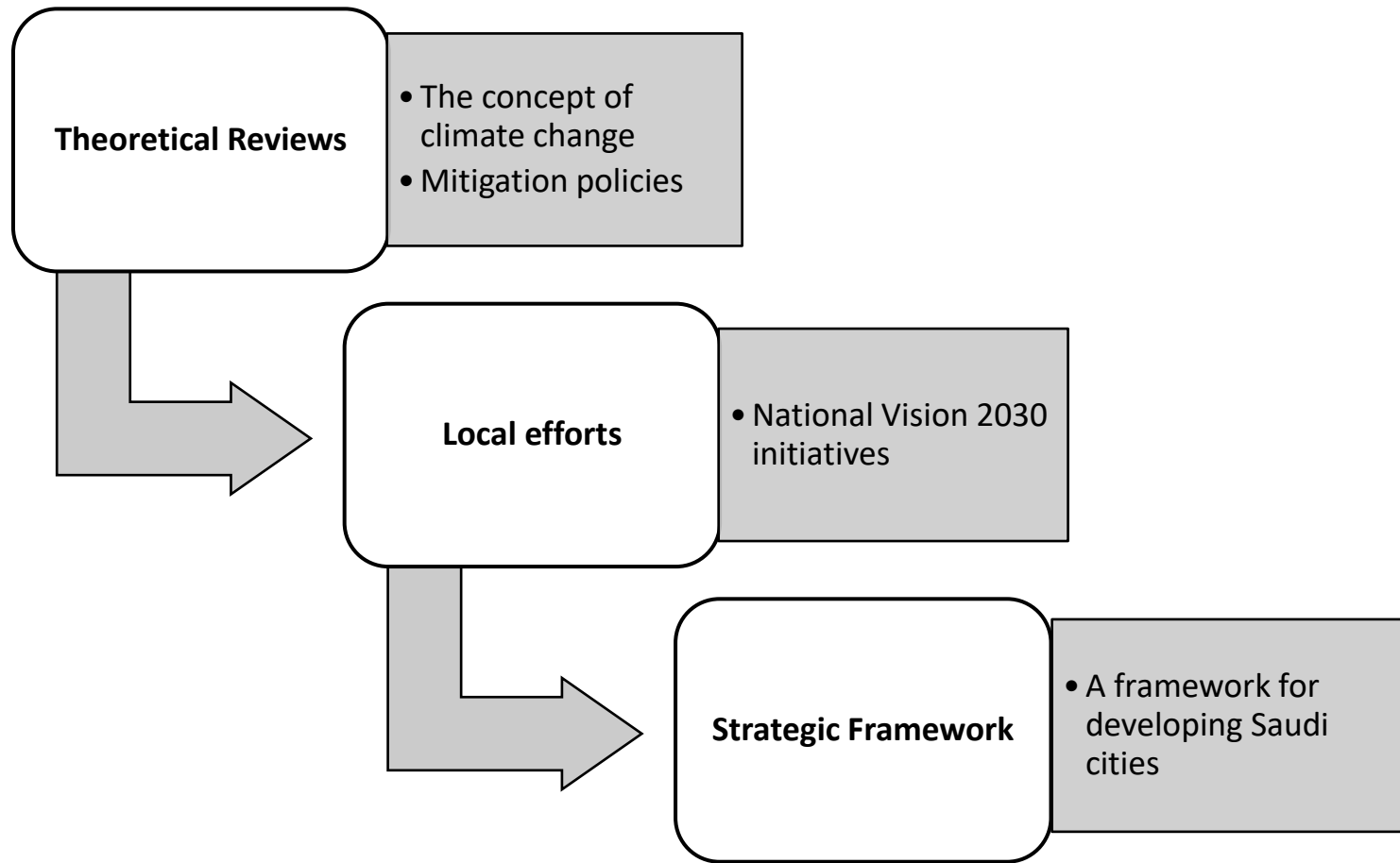
The Concept of Climate Change

- ❑ Climate change leads to risks to public health and human existence because climate affects air, food, and water.
- ❑ The Earth's climate changes permanently over the long term as a result of volcanic activity or movement of land masses. Scientists refer to this type as natural climate change.
- ❑ Climate change occurs due to human activity, including the use of traditional methods of waste disposal, the burning of fossil fuels to produce electricity, and urban encroachment on forests. These human activities lead to the production of greenhouse gases in the atmosphere.

Literature review

Climate Change Mitigation in Urban and Rural Environments

- ❑ **Long-term policies:** Building a strategic plan for the city that emphasizes the principles of sustainable development that achieves a balance between economic, social, and environmental development to reduce greenhouse gas emissions. This includes urban legislation to protect the natural environment, wildlife, and vegetation.
- ❑ **Short-term policies:** Developing a municipal management system to enhance environmental monitoring and developing environmental models. These policies also include urgent solutions to address the negative effects of climate change, such as directing valley paths, removing squatter areas that built along valley paths, treating sources of air pollution, and increasing vegetation cover.



Results: Urban actions of climate change mitigation

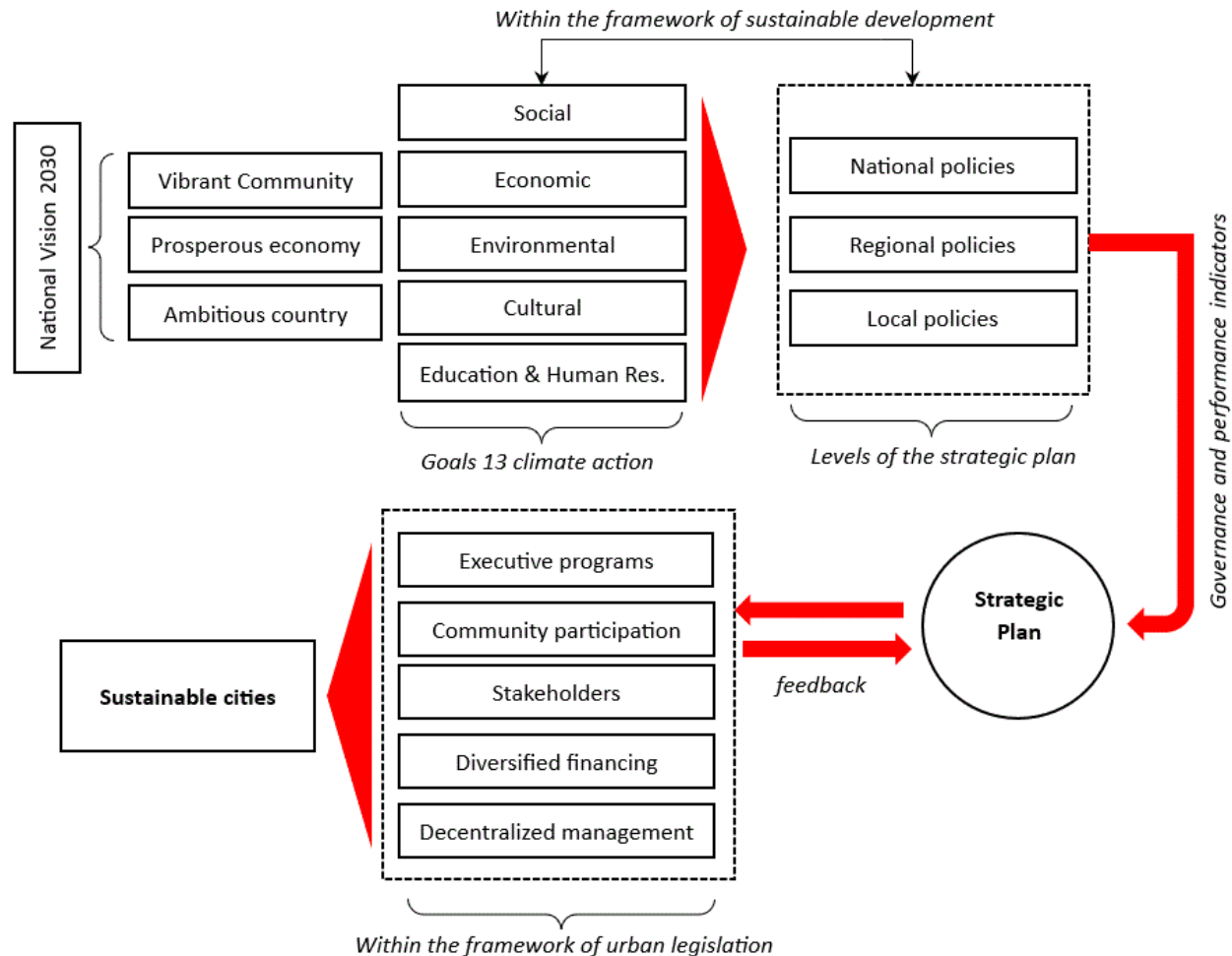
No.	Goal 13 targets	Climate change actions CCAs
13.1	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	<ul style="list-style-type: none"> ▪ Environmentally friendly transportation ▪ Safe waste disposal systems ▪ Renewable energy alternatives ▪ Enhancing the pedestrian environment ▪ Increase green areas ▪ Reducing negative environmental impact ▪ Air quality system ▪ Safe, comprehensive and accessible parks ▪ Water Conservation
13.2	Integrate climate change measures into national policies, strategies and planning	<ul style="list-style-type: none"> ▪ National plan ▪ Regional plan ▪ Local strategic plan ▪ Governance and environmental indicators ▪ Effective urban management ▪ Risk Management ▪ Disaster response policies ▪ Developing monitoring systems ▪ Sustainable buildings. ▪ Promoting smart cities ▪ Flexible urban legislation
13.3	Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	<ul style="list-style-type: none"> ▪ Community participation ▪ Raising the level of environmental awareness in education
13.4	Protect the Worlds Cultural and Natural Heritage	<ul style="list-style-type: none"> ▪ Strategy to protect local heritage ▪ Programs for the preservation of cultural heritage ▪ Legislation to protect valleys ▪ Legislation to protect wildlife ▪ Register local heritage sites
13.A	Financing support for the Green Climate Fund	<ul style="list-style-type: none"> ▪ Diversifying funding sources ▪ Non-profit sector participation ▪ Participation of civic associations ▪ Evaluation of economic losses resulting from disasters.
13.B	Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries	<ul style="list-style-type: none"> ▪ International data exchange systems ▪ Exchange of international experiences ▪ Policies to address social exclusion

Challenges facing Saudi cities to confront climate change

	No.	Goal 13 targets	Challenges facing Saudi cities
Environmental	13.1	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	<ul style="list-style-type: none"> Real estate development procedures need to be updated Activating sustainability in real estate development projects Implement air quality policies The urban planning pattern does not encourage environmentally friendly transportation alternatives. The use of alternative energy is still limited Delay in implementing waste disposal systems Using advanced environmental monitoring and analysis systems
Urban planning	13.2	Integrate climate change measures into national policies, strategies and planning	<ul style="list-style-type: none"> A gap between national plans and local city plans The relationship between urban projects and the urban context. Urban legislation is not consistent with the nature and characteristics of each area. Monitoring and evaluation mechanisms Lack of a clear plan for resource management Applying smart growth principles to cities The procedural aspect of urban planning
Social and cultural	13.3	Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	<ul style="list-style-type: none"> There is no participation in development decision-making Community engagement is limited to measuring satisfaction. Participation of the non-profit sector
	13.4	Protect the Worlds Cultural and Natural Heritage	<ul style="list-style-type: none"> Weak tourism infrastructure in some cities Integrating cultural elements and urban context Monitoring and evaluation mechanisms Realizing the economic, social and environmental returns of historical sites
Economic	13.A	Financing support for the Green Climate Fund	<ul style="list-style-type: none"> Exploiting city revenues Private sector participation Non-profit sector participation Measuring the cost and environmental returns of projects
Education	13.B	Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries	<ul style="list-style-type: none"> Strengthening the role of scientific research Qualification of human resources in urban planning International partnerships

Strategic framework

strategic framework for sustainable development of Saudi cities that mitigation climate change in urban and rural environments.



Conclusion

The study concluded that there are economic challenges, urban and administrative challenges, environmental challenges, social challenges, and challenges in education and human resources development.

Based on the above, the study recommends the following:

1. Promoting the concepts of sustainability of Saudi cities in urban planning at the local, regional, and national levels.
2. Activating a governance framework to measure performance indicators in Saudi cities in line with Goal No. 13 of climate change
3. Developing urban legislation in Saudi cities in line with resources, natural and climatic characteristics.
4. Stimulating urban growth in small cities in a way that ensures balance in the distribution of population and environmental resources

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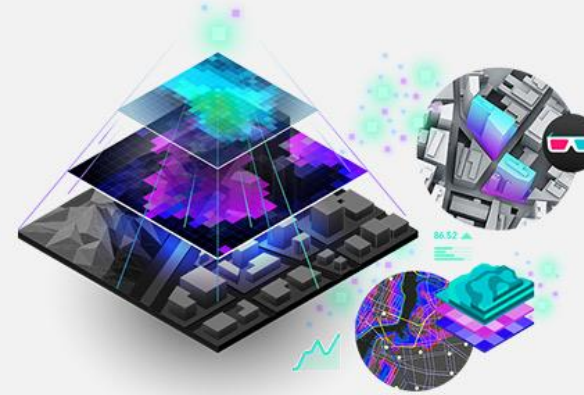
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