Al-Azhar Engineering 16th International Conference

Vol. 19, No. 72, July 2024, 644 - 667

ACHIEVING THE SUSTAINABILITY OF CITIES IN DEVELOPING COUNTRIES "SOLUTIONS AND CHALLENGES"

Mahmoud Mohamed Hamouda[1], Wael Mohamed Youssef [2], Gehan Ahmed[1]

[1] Architecture Department, Faculty of Engineering, Modern University, Mokattam, Cairo, Egypt

[2] Department of Urban Planning, Al-Azhar University, Nasr City, Cairo, Egypt

***Correspondence:** mhmahmoud672@gmail.com

Citation:

M. M. Hamouda, W, M. Youssef, G. Ahmed, "Achieving the Sustainability of Cities in Developing Countries "Solutions and Challenges, " Journal of Al-Azhar University Engineering Sector, vol. 19, pp. 644 - 667, 2024.

Received: 02 December 2023

Revised: 22 March 2024

Accepted: 29 March 2024

DOI:10.21608/auej.2024.252658.1502

ABSTRACT

Many nations have achieved success in this field since the trend of sustainable development and its applications in urban development (sustainable cities, green cities, etc.) emerged. However, other countries have not been able to achieve the same results because of various challenges and obstacles. With the goal of creating a set of broad frameworks that allow these nations to achieve sustainability in their cities, this study aims to identify the most significant barriers and difficulties that these nations face in this regard (sustainable cities). Urban sustainability in developing countries is a critical and complex issue that arises from the rapid urbanization and population growth experienced by many cities in these regions. The current state of urban sustainability in developing countries is characterized by various challenges, including inadequate infrastructure, limited access to basic services, environmental degradation, and social inequality. Developing country cities are facing a myriad of challenges and issues that hinder their progress towards sustainable development. The aim of this study is to identify and analyze these challenges, with a specific focus on their impact on the environment, society, and economy. The complexities involved in achieving sustainability in these urban settings necessitate a comprehensive understanding of the interconnected factors at play. This research seeks to contribute valuable insights to policymakers, urban planners, and stakeholders, guiding the formulation of targeted strategies for sustainable development in developing country cities. The findings will also serve as a foundation for future research and interventions aimed at fostering sustainability in urban environments.

KEYWORDS: developing Countries, sustainable urban development, and sustainability of cities.

تحقيق استدامة المدن "المدن المستدامة" فى الدول النامية "حلول وتحديات"

محمود محمد حموده[1] ، وائل محمد يوسف[2] ، جيهان احمد[1]

[1] قسم العماره ، كلية الهندسة ، الجامعة الحديثة ، المقطم، القاهره، مصر

[2] قسم التخطيط العمرانى، كلية الهندسة ، جامعة الازهر، مدينة نصر، القاهره، مصر

***البريد الاليكتروني للباحث الرئيسي**mhmahmoud672@gmail.com

المخلص

منذ ظهور اتجاه التنمية المستدامة وتطبيقاته فى التنمية العمرانية (المدن المستدامة والمدن الخضراء وغيرها) ، نجحت عدد من دول العالم فى تحقيق نتائج جيدة فى هذا المجال ، كما لم تنجح دول أخرى فى تحقيق نفس النتائج نظرا لوجود تحديات ومعوقات بها .. وفى هذا السياق ، تسعى هذه الورقة الى تحديد أهم المعوقات والتحديات التى تواجه هذه الدول فى هذا الشأن ، بغرض وضع مجموعة من الأطر العامة التى تمكن هذه الدول من تحقيق الاستدامة فى

المدن "المدن المستدامة". تعد الاستدامة الحضرية في البلدان النامية قضية حرجة ومعقدة تنشأ من التحضر السريع والنمو السكاني الذي تشهده العديد من المدن في هذه المناطق. تتميز الحالة الراهنة للاستدامة الحضرية في البلدان النامية بتحديات مختلفة، بما في ذلك عدم كفاية البنية التحتية، ومحدودية الوصول إلى الخدمات الأساسية، والتدهور البيئي، وعدم المساواة الاجتماعية. تواجه مدن البلدان النامية عددًا لا يحصى من التحديات والقضايا التي تعيق تقدمها نحو التنمية المستدامة. الهدف من هذه الدراسة هو تحديد وتحليل هذه التحديات، مع التركيز بشكل خاص على تأثيرها على المجتمع لبيئة والمجتمع والاقتصاد. تتطلب التعقيدات التي ينطوي عليها تحقيق الاستدامة في هذه البيئات الحضرية فهمًا شاملاً للعوامل المترابطة المؤثرة. يسعى هذا البحث إلى المساهمة برؤى قيمة لواضعي السياسات والمخططين الحضريين وأصحاب المصلحة، وتوجيه صياغة الاستراتيجيات المستهدفة للتنمية المستدامة في مدن البلدان النامية. وستكون النتائج أيضًا بمثابة أساس للأبحاث والتدخلات المستقبلية التي تهدف إلى تعزيز الاستدامة في البيئات الحضرية.

الكلمات المفتاحية: التنمية العمرانية المستدامة، إستدامة المدن ، المدن المستدامة ، الدول النامية

1. INTRODUCTION

Studying the current state of urban sustainability in developing countries serves several matters:

Identify challenges: Assessing the current situation helps identify specific challenges and issues related to urban sustainability in developing countries. This includes understanding the unique environmental, social and economic challenges of these regions.

Policy development and implementation: A comprehensive understanding of the current situation is crucial for developing and implementing effective policies. Policymakers can use the insights gained to create targeted strategies that address the specific needs and conditions of developing urban areas.

Resource allocation: By examining the current situation, governments and organizations can make informed decisions regarding resource allocation. This includes directing funding, manpower and technology towards areas where they are most needed to enhance sustainability.

Monitor progress: Establishing a baseline by analyzing the current state allows for continuous monitoring of progress. Regular evaluations help track changes over time, measure the impact of interventions, and adjust strategies as needed.

building abilities: Identifying areas requiring capacity building is essential to improving the ability of governments and local communities to address sustainability challenges. This may include providing training, technology transfer, or supporting community engagement.

Community Involvement: Understanding the current situation involves engaging with local communities. This enhances the sense of ownership and enables residents to actively participate in sustainable urban development initiatives.

International cooperation: Knowing the current status of urban sustainability in developing countries is crucial to strengthening international cooperation. It allows the

exchange of best practices, technologies and financial support to address common challenges.

Risk assessment and mitigation: Identifying potential vulnerabilities and risks in existing urban systems allows the development of risk assessment and mitigation strategies. This is especially important in the face of climate change and other global challenges.

Fostering innovation: Understanding the current situation encourages the development and implementation of innovative solutions to address sustainability issues. This may include incorporating new technologies, green infrastructure and sustainable urban planning practices.

Improving quality of life: Ultimately, the goal of studying the current state of urban sustainability in developing countries is to improve the overall quality of life of the population. This includes promoting environmental conditions, social justice, economic opportunity, and general well-being.

By achieving these goals, stakeholders can work to create more sustainable and resilient urban environments in developing countries.

General background

Since the emergence of the concepts of sustainable development and sustainable cities in the late twentieth century and the beginning of the twenty-first century, many countries around the world have sought to adopt and apply these concepts. Some of these countries have been able to make great strides and achieve good results in this field, while others have not been able to. It takes the same broad steps due to the presence of challenges and obstacles that hinder these countries from achieving the good results achieved by other countries.

Research problem

The primary issue with the research is the wide disparity in the degree of sustainability in cities between nations worldwide, as well as the incapacity of many nations—particularly developing nations—to achieve sustainable cities.

The primary issue raised by the research is the wide disparity in the degree of sustainability attained by various nations around the world and the incapacity of certain nations to do so.

As a result, the following query reflected the research problem: Sustainable development: what is it? It raises the following queries, which follow: What constitutes sustainable development's cornerstones? Which indicators are the most significant? Is it feasible to attain sustainable development?

research importance:

It's a strategy to make everyone's future better and more sustainable. These objectives tackle the world's problems, such as those pertaining to poverty, inequality, the environment and climate change, prosperity, peace, and justice. Achieving each goal by 2017 is crucial, not only to guarantee that no one is left behind but also because of how

interconnected they are.2030

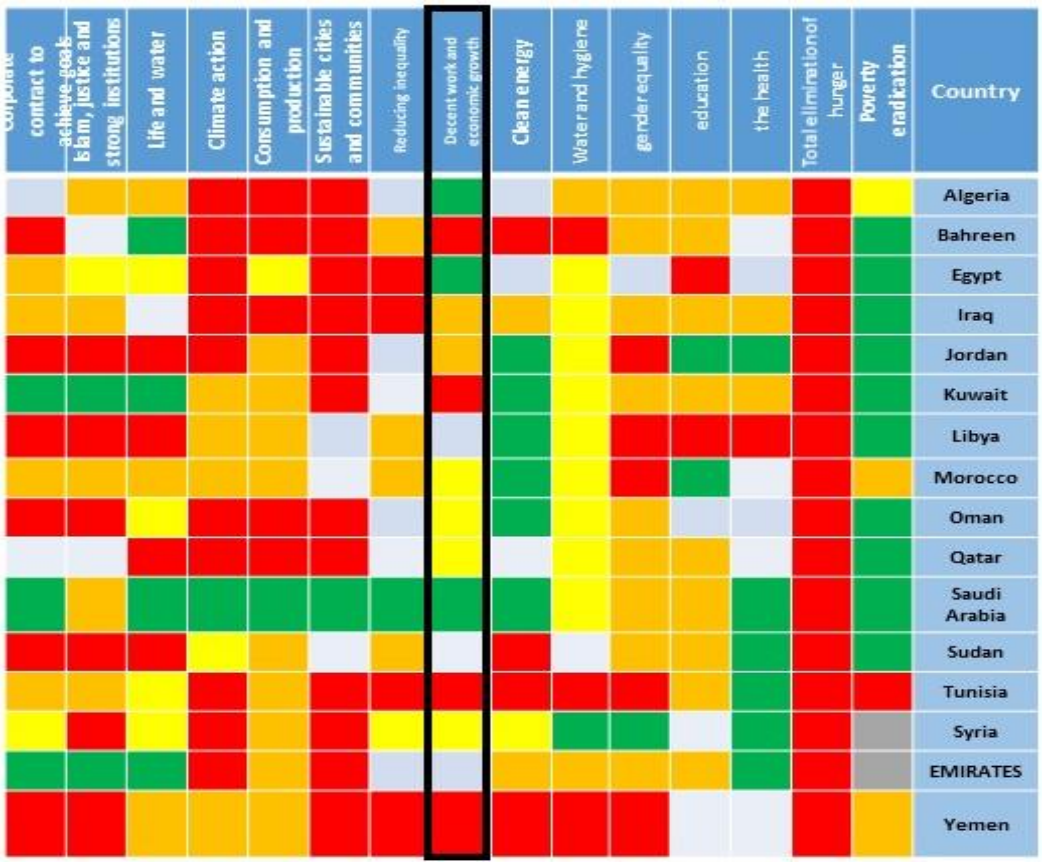
Since sustainable development is one of the development strategies enforced by the modern era and is marked by rapid development and change, states, bodies, organizations, civil society institutions, and individuals must keep up with it in order to achieve social balance, the significance of this research stems from the importance of its subject

research aims:

The goal of the study is to pinpoint the main roadblocks and difficulties that developing nations face in their quest for sustainable cities. Additionally, it seeks to develop a set of broad frameworks that will help these nations overcome their obstacles and realize sustainable cities.

According to the Sustainable Development Goals dashboard **Table .1**, the majority of Arab nations are still far from reaching the goals.

Table .1 Information panel on sustainable development goals in the Arab region



Note The maximum progress made in each indicator and the minimal amount needed to meet the sustainable development goals are shown by the green boxes. The boxes in yellow, orange, and red show a progressive departure from the sustainable development objectives. Gray boxes denote the absence of data.

Methodological procedures for research:

a. Describe the research methodology (mixed, qualitative, and quantitative). - Techniques for gathering data (interviews, surveys, case studies).

B. Data Analysis: Outline the instruments and methods for analyzing data. - Justifications for the strategies selected.

C. A practical program designed to track the difficulties and roadblocks developing countries run into when trying to build sustainable cities. The five primary steps that make up the research process's progressive curve form the foundation of the research paper. The first step pertains to the research introduction and comprises an explanation of the research problem, the research objectives and significance, as well as the methodological procedures used in the study. Controlling the key terms and concepts used in the research is the subject of the second step. Evaluating the current condition of cities is the subject of the third step. Developing nations considering the fundamentals of sustainable urban development. The fourth phase involves keeping an eye on the difficulties and roadblocks that developing nations face as they work to build sustainable cities. The last and fifth point has to do with creating a list of general

2 . Concepts and terminology

2.1 Developing countries

The term "developing country" has a single, widely recognized definition, and the majority of the definitions that are currently in use are based on the legal precedents of either international organizations or researchers. Among these jurisprudences, the International Monetary Fund's 2013 adoption is arguably the most well-known.2015 saw the expansion of the term "developing countries," also known as "Emerging Market and Developing Economies," to encompass all nations or economies that the World Bank does not designate as "Advanced Economies," or the nations with the highest value. GDP (Gross Domestic Product) (GDP) based on market exchange rates, comprising approximately 37 nations worldwide, with the United States, Canada, the United Kingdom, France, Germany, Italy, and Japan at the top, followed by several other European, Asian, and Australian nations. Consequently, the nations that comprise the "emerging market and developing economies" are About 152 nations have the lowest GDP values, the majority of which are in Latin America and the majority of Arab, African, and Asian nations First of all.

2.2 Characteristics of developing countries

Developing nations Several traits that have been included in this international classification to describe developing countries include the following, which are some of the most notable:[2]

Low productivity in the area.

• High dependence on primary and agricultural product exports;

• Low standards of living, including low per capita income, inequality, poor health, and inadequate education.

• Notable increases in the rates of population growth.

• Distinguished by reliance and vulnerability in global affairs (vulnerabilities in the political domain).

• The rate of unemployment is still rising.

2.3 What constitutes sustainable development

All forms of development are ongoing, dynamic processes that come from the entity and go in all directions. In order to change intellectual and value-based data and build the foundations of the modern state through the solidarity of human resources, a steady process that aims to alter social structures, roles, and positions, as well as mobilize multifaceted potentials, must be monitored and directed. This process translates scientific development plans into effective projects whose outputs lead to bringing about the necessary changes (Al-Zahrani 1426 AH).

It is described as "the ongoing effort to improve human life quality while considering the ecosystem's capabilities" (Viana, 1994). "Managing the resource base, preserving it, and directing the process of biological and institutional change in a way that ensures the continuous satisfaction of present and future generations' human needs in all economic sectors, and does not lead to environmental degradation and is characterized by With artistry and acceptance" is the expanded definition of sustainable development that emerged from the World Food and Agriculture Organization (FAO) conference.

2-4 The fundamentals of environmentally friendly growth

In order to achieve its objectives, the concept of sustainable development is predicated on a number of pillars, the most significant of which are:

1. As a foundation for collaboration with future generations regarding the resources available, development considers the preservation of the features and performance level of current and future natural resources.

2. According to this theory, development depends less on the quantity of returns from economic growth and more on the kind and distribution of those returns. The living conditions of the populace will improve if development policies are linked to environmental preservation. Rethinking current investment patterns is necessary, as is encouraging the use of environmentally friendly technical methods with the goal of minimizing harm, upsetting the natural equilibrium, and maintaining the availability of natural resources.

To prevent excess, resource waste, and pollution of the environment, it is imperative to alter not only production structures and investment patterns but also current consumption patterns.

2.5 Sustainable development indicators:

- It may be helpful to highlight the most significant fundamental indicators of

sustainable development, which are as follows:

- Development is a process, not a state, and as such, it is continuous and increasing, an expression of the renewed and increasing needs of society;
- Development is a societal process, to which all groups, sectors, and groups must contribute; it may not be dependent on a small number of groups or one resource;
- Development is an intentional process, which means that it follows a set of objectives rather than happening at random. Development is a process that is guided by a developmental will that is conscious of and dedicated to accomplishing societal goals. It also possesses the capacity to make effective use of the resources, production, and distribution of society in accordance with a civilized approach that conserves society's energies.

2.6 Domains in which sustainable development is attained:

- Improving everyone's quality of life while preserving natural resources and preventing their waste and depletion is necessary if the idea of sustainable development is to be implemented globally. In order to solve this challenging equation, attention must be paid to three key areas that are associated with realizing the idea of sustainable development:
- Achieving economic growth and justice, by creating an interconnection between global economic systems and laws, to ensure responsible and long-term economic growth for all countries and societies of the world without exception or discrimination.
- Preserving environmental and natural resources for future generations, which requires a continuous search for solutions to reduce unjustified and irrational consumption of economic resources, in addition to reducing factors polluting the environment.
- Achieving social development around the world, by creating job opportunities and providing food, education and health care for all, including water and energy. Global efforts continued between a year1972 and 2002 to emphasize the necessity of establishing the foundations for sustainable development at the global level, by holding three important international Earth conferences.

2.7 Obstacles to development in developing countries [28]

To attain development and improve all social, economic, and cultural aspects of society, collaboration between the government and its citizens is necessary. As a result, we discover that there are differences in the capacity to attain development. Because of their greatest developmental achievements while still in developing countries, developed countries have become what they are today. It is still one of the countries that is falling behind in many areas due to the barriers that prevent it from achieving the desired level of development. These challenges are listed in the following order:

2.7.1 Social obstacles

- The culture of shame, which is exemplified by the disdain society has for certain occupations like janitorial, blacksmithing, farming, and carpentry, where people are embarrassed to work because they fear society's mocking perception of them.
- The existence of some negative customs and traditions, such as disregard for the law in many social problems and obstacles to girls' university education in particular, among the many members of society who lack knowledge and ignorance.
- What is referred to as a population explosion—a rise in births accompanied by a fall in deaths.
- People who neglect to look after their health. Social instability includes family issues of all kinds and divorce.
- Insufficient in nurturing and advancing the abilities of individuals

2.7.2 Economic obstacles

- An imbalance in the way the economy is structured.
- Quick population expansion.
- Inadequate human resources.
- Corruption and poor administration.
- Ineffectiveness in state-produced commercial goods production.
- Insufficient real capital.
- The total amount of state debt. Lack of ownership rights.
- A failure to defend the rights of customers.
- The Law of Competition Among Merchants Limited. overuse of natural resources that are not renewable.
- Variations in climate. numerous deserts.

2.7.3 Political obstacles

- Outside political meddling in domestic affairs and legal matters.
- Robust waste management framework.
- Foreign funding is used for the majority of projects in developing nations.

2.7.4 Human obstacles

It refers to the limited number of experts in the field who can oversee development, since many state institutions lack highly experienced development professionals, which results in subpar development management. This issue resulted from the dearth of organizations that cared about qualifying people. capable of managing development properly.

Correct and required.

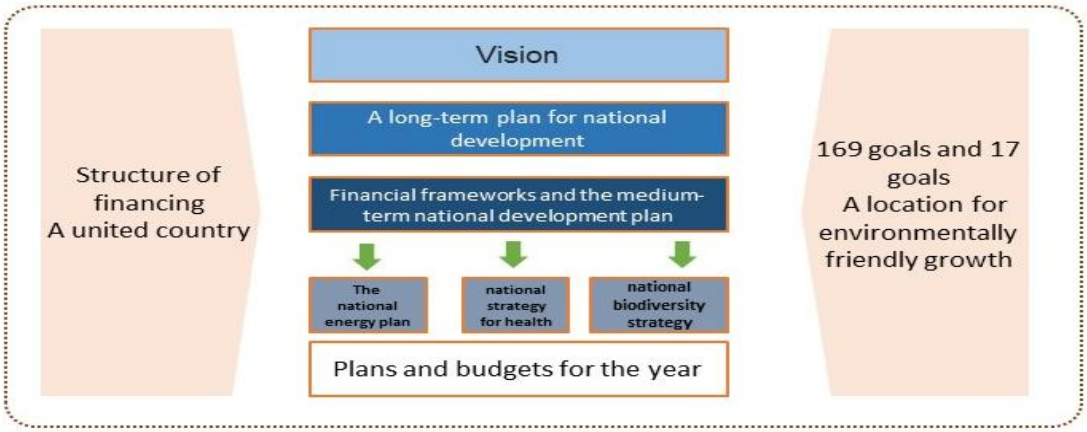


Fig. 1. Preparing development plans based on sustainable development goals.

• Based on the national statistical system, a mechanism for gauging sustainable development goals indicators offers a starting point and a way to gauge progress toward the goals while taking local priorities and realities into account.

• In order to expedite inclusive sustainable development, identify investment packages, rank them according to importance, and adopt an integrated policy framework that is informed by comprehensive data and analysis.

• Resource requirements that are estimated using an integrated financing strategy and accounting for the costs and benefits of environmental and human systems

• A national development strategy that draws inspiration from the 2030 general plan.

• A framework for monitoring and evaluation adapted to the needs of the nation.

A diverse array of UN agencies, non-governmental groups, and private businesses are examples of development actors. These players are crucial in assisting governments in creating and carrying out detailed plans that are both ambitious and precise, particularly when considering how to define integrated measures and secure adequate funding. Since continuous learning occurs during implementation, coordinating bodies should set up effective procedures to objectively and regularly assess progress. Clear timetables and indicators (specific, measurable, achievable, realistic, and timely) should be included in these reviews in order to track progress.

3. Evaluating the current state of cities in developing countries in light of the characteristics and indicators of sustainable cities

According to UN reports, developing country cities "generally" deal with serious issues like poverty, marginalization, insecurity, environmental degradation, and disparities in living environment quality.[3] Widespread unemployment (particularly among youth), high slum population percentages, the prevalence of the unorganized sector, inadequate access to basic services (particularly energy, sanitation, and drinking water), a lack of

urban planning, land-related social and political unrest, and heightened susceptibility to natural disasters are additional factors.[4].

The information that is currently available also shows that the majority of Arab societies, "in particular," bear the brunt of conflict, extreme poverty, and a failure to keep up with the pace of growth and development. In addition, the majority of Arab cities struggle with unchecked urban inflation, high population densities, a lack of affordable housing, and inadequate basic services. Along with public amenities and expensive land, there are issues related to climate change, such as drought, desertification, and food and water scarcity, as well as issues related to contemporary urban management practices, like extreme centralization, which makes it more difficult for local government bodies to effectively serve the needs of city dwellers.[5]

Table .2. List of indicators used in the sustainable cities index [6]

Indicator description	Indicator name	Index/Dimension
- Illiteracy rate - Ranking of universities - Share of population with higher education	education	**the people (social dimension)**
- Anticipation of life - Obesity rate	the health	
- Dependency rate	Population/demography	
- Gini coefficient	Injustice in the dahl	
- Consumer price index - Real estate prices	Ability to pay costs (convenience)	
- Average annual working hours	Work-life balance	
- Homicide rate	the crime	
- Exposure to natural disasters	Environmental risks	**Planet (environmental dimension)**
- Green spaces as a percentage of city area	green areas	
- Energy use - Share of renewable energy sources - Energy consumption per dollar of GDP	energy	
- Average level of pollutants	air pollution	
- Emissions in metric tons (per capita)	Greenhouse gas emissions	
- Solid waste management (landfill vs. recycling) - Share of treated wastewater	Waste management	
- Access to drinking water (% of households) - Access to improved sanitation (% of households)	Drinking water and sanitation	
- traffic jam - Railway infrastructure - Satisfaction at the airport	Transportation infrastructure	**Profit (Economic dimension)**
- GDP per capita	economical development	
- Ease of doing business index	Ease of doing business	
- Number of international visitors per year (absolute, per capita)	tourism	
- Mobile communication (via mobile phone) - Broadband communication (connection to the international information network) - Importance in global networks	Connection	

- Number of people employed (% of city population)	recruitment	

According to a 2016 ranking of the world's 100 most sustainable cities, approximately 63% of the world's most sustainable cities were found to be located in "advanced economies" nations. Additionally, it shows that these cities, which are associated with "advanced economies," held advanced positions in the classification, taking up the first fifty spots (all but position No. 37) and the next twenty spots (all but five of them). In addition, the classification shows that only 37% of the cities that were classified were in "emerging market and developing economies," and that the majority of these cities were ranked lower than those in "developed economies." countries.[7]

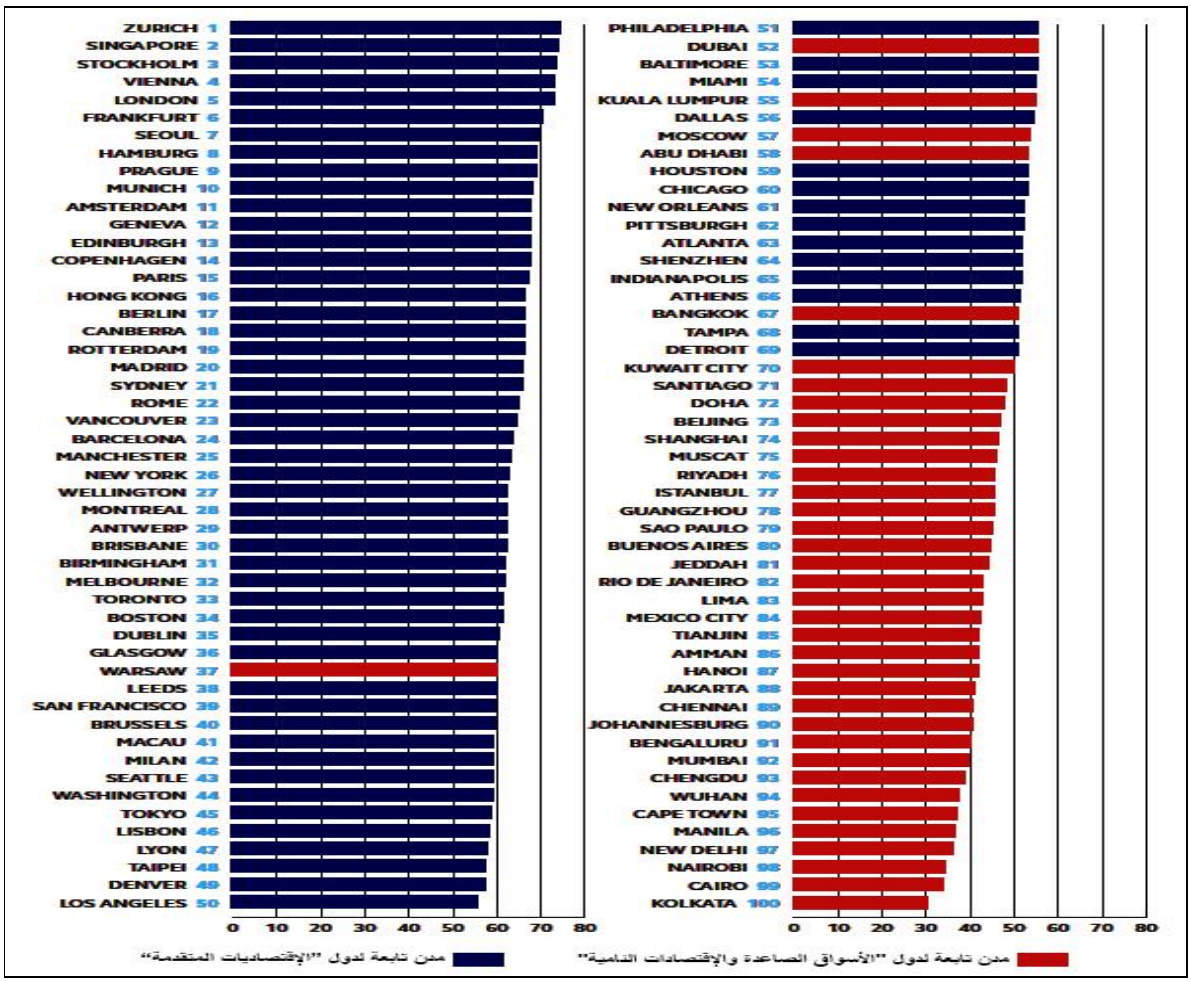


Fig. 2. Ranking of the top 100 cities according to the level of sustainability in the world for the year 2016 .[3,23]

Statistical indicators for sustainable development goals

Table .3. The indicators of the first goal that were measured and the method of calculation

An applied program used to monitor the challenges and obstacles facing developing countries in their efforts to build sustainable cities

Indicator layer	calculation method	the definition	Indicator	Index number
Tier11	Percentage of population who receive basic services: (Number of population with access to all basic services/number of population)*100	Refers to public service provision systems that meet basic human needs, including drinking water, sanitation, hygiene, energy, movement, waste collection, health care, education, information technology, and access to basic services. The service is adequate, affordable, and documentedly available.	Percentage of the population who have access to basic services	1.4.1
Tier11	100,000*A2+A3+= *B1/population A2= Number of deaths due to disasters A3=Number of people missing due to disasters B1=Number of people directly affected by disasters	This indicator measures the number of deaths, missing persons, or those directly affected by the heirs for each100,000 population	Percentage of people dead, missing, and directly affected by disasters out of all100,000 people	1.5.1
Tier11	**X =)C2+C3+C4+C5+**C6(/GDP) (global C2 = direct agricultural losses due to disasters C3=Direct economic losses of all productive assets due to disasters C4=Direct economic losses in the housing sector due to disasters C5=Direct economic losses resulting from infrastructure due to disasters C6=For cultural heritage affected by direct economic losses	This indicator measures the proportion of direct economic losses due to disasters in relation to the gross domestic product	Direct economic losses resulting from disasters as a percentage of GDP	1.5.2

4. Challenges that hinder the sustainability of cities (sustainable cities) in developing countries:

Numerous academic works have demonstrated that developing nations encounter numerous obstacles that impede their ability to establish sustainable cities. In order to facilitate their study, the researcher has gathered the most well-known challenges and categorized them into multiple groups, taking into account the wide variety of these challenges and the diversity of their fields (Figure 2). It should be highlighted that no single developing nation necessarily faces all of these difficulties; rather, a nation may face some of these difficulties while another nation may face distinct difficulties that are appropriate for each nation's unique circumstances.

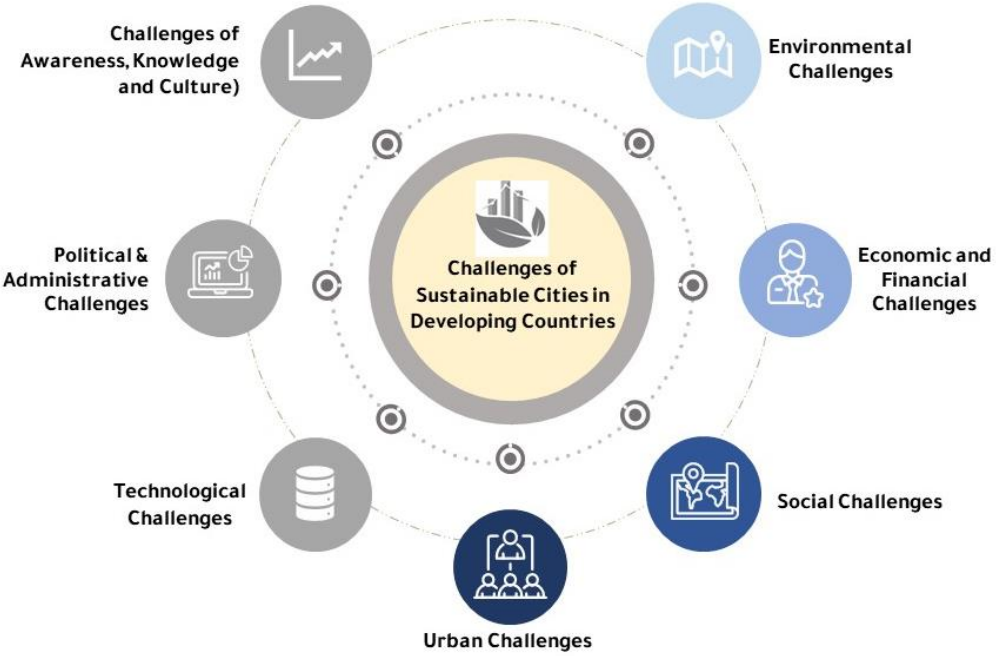


Fig. 3. Challenges of sustainability of cities "sustainable cities" in developing countries

5. Challenges of awareness, knowledge and culture(Challenges of Awareness, Knowledge and Culture)

This group focuses on only three prominent challenges related to awareness, knowledge, and culture, and they include:

- **Challenges of lack of awareness and** principlesEvery nation has a portion of its population that is uninterested in environmental issues, particularly in poor and developing nations; the other portion is engaged and aware of environmental issues. Their actions and choices in day-to-day living do not demonstrate this awareness. Homeowners do not prioritize sustainable development over the economy when making decisions. When constructing or remodeling their homes, they prioritize the environment[1].This makes it challenging for cities in these nations to become sustainable.

- **Challenges of vision and change:** Although sustainable cities are a desired policy objective, little is known about how they are actually implemented[4].Due to the many specializations that work in it, each with its own concept and vision, it is also an appealing, intricate, and elusive concept in practice.[11]This makes it more difficult for cities to become sustainable and necessitates numerous integrated measures in a variety of fields, which are challenging for many nations to implement.
- **Challenge the lack of decision-making tools:** Tools for assessing the degree of sustainability in the intended and actual situations in the city's various sectors, as well as for assessing the degree of sustainability in various plans and initiatives, are desperately needed. Without a systematic evaluation procedure, it is challenging to draw lessons from the past and make the same mistakes twice.[8]As a result, cities have fewer opportunities to gain from the sustainability experiences of others.4-2 Environmental Challenges.

This group includes the following challenges:

- **Challenges of climate conditions and changes:**Severe climate changes may cause phenomena such as drought, strong winds (tsunami), or the melting of ice on the Antarctic continents, resulting in the drowning of many cities around the world and exposing their residents to danger.[13,16]
- **Challenges of limited and erosion of natural resources:**The lack of natural resources or their excessive depletion threatens to not continuously supply cities with their needs for energy, food, water, and raw materials necessary for economic activities, which means that cities lack many factors for their sustainability.[3,23]
- **Environmental pollution challenges:**The spread of environmental pollution of various types (water, soil, and air pollution, in addition to audio, visual, chemical, radioactive, and biological pollution) in cities - regardless of its various causes and sources - negatively affects the economic, social, and health conditions in cities, making them lose one of the most important conditions for their sustainability.[13]
- **Challenges of natural hazards/disasters:**Natural hazards (earthquakes, volcanoes, floods, torrents, landslides, drought, desertification, natural fires, etc.) have major negative impacts on humans, cities, and human settlements in the world. Many cities around the world were completely or partially destroyed during the past ten years, and the death toll as a result of these Disasters during the period of one yearFrom 1990 to 2015, about more than 1.6 million people.[15,26]

5.1 Economic and Financial Challenges

This group focuses on two of the most important challenges related to the economic and financial aspects:

- **Slowing economic growth:**The slowdown in economic growth causes a contraction in economic activities, a decline in the number of jobs available in cities, an increase in the unemployment rate in them, and consequently a decline in the income levels of

individuals and a decrease in the standard of living in general, which constitutes one of the most important challenges facing the sustainability of cities.[3]

- **Lack of financial resources and direct investment:** The lack of financial resources and investment affects the ability of cities to provide job opportunities, housing, infrastructure networks (drinking water networks, sewage systems, electricity, etc.), public services (educational, health, recreational, religious, social services, etc.) and others for their citizens, which constitutes a major obstacle. Confronting the sustainability of cities, especially in developing and poor countries.[3]

Table .4. It explains the most important economic, social and environmental differences between developed countries that are capable of succeeding in sustainable development[9]

The most important economic differences between developed and developing countries						
CountryS	The country's share of GDP is the gross domestic product	Annual per capita growth rate of GDP output Gross domestic	Total development assistance Official	Public debt	Ratio of expor and imports	Total capital formation ratio
advanced countries Japan	31267	0,8	-	-	115,5	23.3
United State	41890	2.1			52,37	19.6
United kingdom	33238	2,5			76,81	17.2
China	6757	8.8	1756.9	1.2	115,45	40.1
Developing countries						
Saudi Arabia	15711	0,1	26,3	-	306,78	16.5
Tunisia	8371	3,3	376,5	7.2	79.55	22.6
Egypt	4337	2.4	925.9	2.8	53.77	17.9
Morocco	4555	1.5	651.8	5.3	53.85	27.5

It explains the most important social differences between developed and developing countries				
CountryS	literacy rate among those aged 15 years and above %	Education enrollment ratio % Primary, secondary and higher Males	Females	Unemployment rate as a per-centage of the labor force
advanced countries Japan	%1	%87	%85	4.5
United State	%1	%89	%98	5.0
United kingdom	%1	%90	%96	5.6
Developing countries				
Kuwait	25,5	6.7	7.1	1.1
Saudi Arabia	17.1	7.6	7.3	5,2
Egypt	55.6	22.4	13,8	11.4

Explains the most important environmental differences between developed and developing countries			
	Forest area as a percentage of % Lands	Annual percentage change	Average per capita share of Area in hectares

CountryS			
advanced countries Japan	68.2	-	-
United State	33.1	0.1	-
United kingdom	11.8	0.6	-
Developing countries			
Kuwait	0.3	6.7	-
Saudi Arabia	1.3	0	0.18
Tunisia	6.8	4.3	0.51
Egypt	0.1	3.5	0.05

5.2 Social Challenges

This group focuses on three basic challenges among all social challenges, which are:

- **High rates of population growth:**United Nations statistics indicate that the world population is about7 billion people in 2011 and is expected to reach about 9 billion in 2050[20], and that about50% of the total population increase in the world (about one billion people) is located in only eight countries, seven of which belong to developing countries.[18]Most of these increases are in cities, which results in the occurrence of major environmental problems in these cities, such as environmental pollution in various forms, deficiencies in housing, services, and infrastructure networks, and deterioration of living conditions in general, and thus these cities lose the most important components of sustainability.[9,25]

- **Poverty and debt:**Poverty and debt accumulation negatively affect the general economic performance of countries (especially poor and developing countries) and the economies of their cities, as they are engines of economic growth, and thus weaken the ability of cities to meet the needs of their citizens (food, job opportunities, housing, basic services, etc.)... In this context, United Nations statistics indicate that about767 million people (most of them in developing countries), or about 11% of the total world population in 2013, live below the international poverty line□, and about 793 million people, or about 11% of the total world population, during the period 2014-2016 suffer from malnutrition.[26]This means that the cities in which these people live lack basic aspects of sustainability.

- **Illiteracy and ineffective education systems:**Developing countries suffer from the weakness and backwardness of existing education systems. On the one hand, they are unable to accommodate all children and youth of school age, which leads to an increase in the dropout rate from education and thus an increase in the illiteracy rate. On the other hand, these systems lack quality education and are therefore unable to Providing its graduates with the basic information, skills and behaviors that enable

them to help their countries and cities achieve sustainability. In confirmation of the above, the data available to the United Nations indicate that about263 million children, adolescents and youth in the world (about 70% of them in developing countries) were not enrolled in school or outside the formal education system in 2014.[26]As indicated by the ranking of the top fifty universities in the world according to the level of quality of education for the year2018 indicates that universities in developing countries do not occupy any of the fifty positions in the classification[6]This means that these developing countries lack important indicators of city sustainability (see table.1.

5.3 Urban Challenges

Among the urban greetings, this group focuses on the following challenges:

- **Urbanization Rapid urban growth:**United Nations data indicate that the population of urban areas "cities" in the world has increased by0.70 billion people in 1950 to about 3.90 billion people in 2014. It also indicates that the percentage of urban population reached about 50% of the total world population in 2008 and is expected to reach about 70% of the world's population in 2050, and that most of these increases The population will be in the cities of developing countries, especially in Africa, Central, South and East Asia, and China[19] Which causes these cities to grow and expand significantly[21]This results in major environmental problems such as environmental pollution in various forms[7]There is a deficiency in housing, services, and infrastructure networks, and the deterioration of living conditions in general, and thus these cities lose the most important components of sustainability.[9].

- **Old and traditional planning systems:**Many developing countries in the world adopt traditional approaches to urban planning that are unable to accommodate the rapid changes that cities are going through and the great challenges they face, especially with regard to rapid urbanization processes, urban poverty, informal manifestations, slums, the level of availability of services and infrastructure, etc.[27]This constitutes a major challenge for these countries in achieving sustainable cities, "sustainable cities".

5.4 Technological Challenges

This group entails the following challenges:

- **Using outdated and inappropriate technologies**A number of developing countries use old technologies (in the processes of production, consumption, transportation, and/or waste disposal, etc.), and these old technologies have significant negative impacts on cities, the most important of which is environmental pollution in its various forms, "air pollution or Water or soil," and therefore the continued use of these technologies

Urbanization: means "the movement of the population from life in rural settlements (villages) to life in urban settlements (cities)."

constitutes a major challenge and causes the cities of these countries to lose many of the characteristics and qualities of sustainable cities.

- **Localization of environmentally polluting technology in developing**

- **countries:**Developed countries are exporting and resettling technologies and technologies within developing countries that have previously been used and proven to pollute the environment and pose a threat to human health. Perhaps the most prominent of these operations is the European countries' resettlement of cement and petrochemical industries technologies in the cities of some countries in Central and North Africa, which causes environmental pollution in these cities. It lacks important indicators of city sustainability.

- **Difficulties in transferring modern and clean technology:**The process of transferring new and clean technology in various fields (green industry, wastewater treatment for reuse, energy production from renewable sources, clean public transportation, etc.) from developed countries to developing countries faces many difficulties for reasons related to some of them. Due to the backwardness of the education and scientific research systems in these countries, or the lack of financial resources to purchase this technology, or due to restrictions imposed by developed countries on all or some developing countries for commercial, political, or military purposes, which contributes to causing more environmental pollution in the cities of developing countries and their lack of Important indicators of city sustainability.

5.5 Political & Administrative Challenges

This group focuses on the following core challenges:

- **Wars, armed conflicts and foreign occupation**Both wars between countries and armed conflicts between local parties within a single country cause the destruction of economic activities, infrastructure networks, and service buildings. They also cause environmental pollution in addition to the loss of security and stability in these societies, which leads to the cities of these countries lacking much One of the conditions for sustainable cities

- **Ineffective institutional and regulatory frameworks:**A number of developing countries lack the appropriate institutional structure and arrangements to manage cities efficiently to meet the needs of their citizens and achieve their hopes and aspirations. At the top of these lacking arrangements is the presence of effective institutions for managing cities, the existence of good relations between them and the integration of their roles, in addition to the presence of strong information systems that provide modern and accurate information for these institutions. And the presence of leaders and technical cadres who possess sufficient skills and capabilities to make decisions, which ultimately constitutes a major challenge and obstacle for cities in developing countries to reach sustainability.[27]

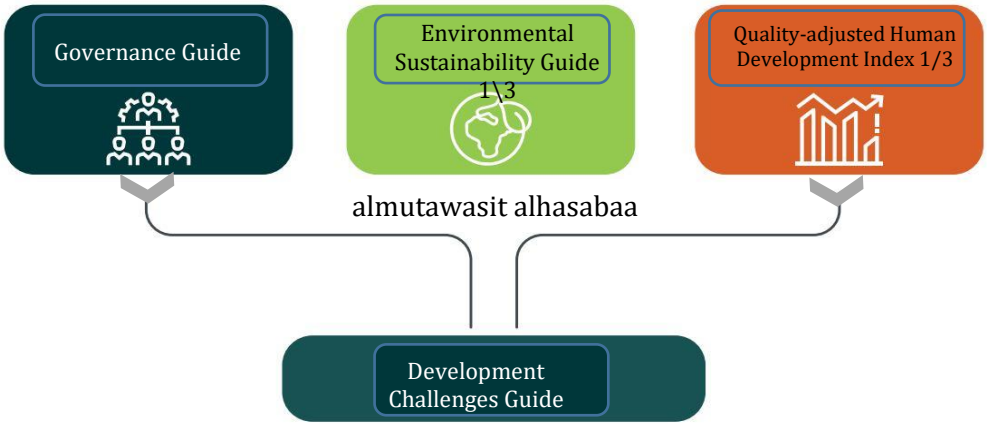
- **Legal and legislative frameworks that are not possible:** The legal and legislative frameworks of many developing countries suffer from major problems, including the lack of integration and consistency between the laws and each other, in addition to the overlap and conflict between them, which leads to the overlapping of the powers and powers of the various institutions in managing the affairs of the state and the failure to secure the legal requirements for each institution to carry out its roles and powers. In accordance with the law in dealing with issues related to cities and sustainable development.[27]

Table .5. A framework of development challenges affiliated with the Development Challenges Guide

Sub-indicator	Sub-dimension	The dimension	Challenge guide
Healthy life expectancy at birth in years		Health Challenge Guide	 Quality-adjusted Human Development Challenge Guide
Expected years of study		Education Challenge Guide	
Average years of schooling			
Harmonized test results (discount factor)			
Per capita gross national income		Income challenge guide	 Environmental Sustainability Challenge Guide
Human development index of income inequality			
Per capita carbon dioxide emissions	Climate change	Guide to challenging climate change and energy efficiency	
Per capita physical footprint			
Energy density per unit	Energy efficiency		
Exposure to suspended particles	Air quality	Environmental health challenge guide	
Use of solid fuel inside homes			
Exposure to ozone			
Unsafe sanitation	Sanitation and drinking water facilities		
Unsafe drinking water			
Exposure to lead	Heavy metals		
Solid waste control	trash mangment		
Transparency of laws and predictability of the extent of the ability to enforce them	Rule of law and access to justice	Guide to challenging democratic governance	 Governance Challenge Guide
Access to justice			
Executive oversight	Institutional accountability		
Judicial accountability			
Public administration characterized by integrity and impartiality			
Consultation with civil society organizations	Share		
Participatory environment for civil society			
Government effectiveness (quality of infrastructure and provision of public services).		Government Effectiveness Challenge Guide	

The income inequality index was used because of its role as a determinant of poverty and the absence of comparable data on income (fixed poverty lines have some problems and limitations). Thus, when better data on poverty are available, they are used instead of the income rollover to deduct the income component.

Fig. 4. Calculating the development challenges index



Shifting from development achievements to its challenges requires reversing the direction of the concept of development achievements. The countries facing the most serious challenges will score the highest. This shift is essential to ensuring that no country is left behind in the global debate on human development and the Sustainable Development Goals. Grades are distributed according to the Development Challenges Index

6. Conclusions

6-1 General results of the research

The study came to the conclusion that, based on the 2016 ranking of the world's 100 most sustainable cities, cities in "emerging market and developing economies" had lower rankings than cities in "advanced economies" relative to their level of sustainability. Seven problems were found to be present, according to the investigation. A few fundamental obstacles that developing nations (also known as emerging markets and developing economies) must overcome in order to create sustainable cities are as follows:

1.The issues of awareness, knowledge, and culture encompass a variety of difficulties, such as the absence of values and consciousness, the difficulty of vision and transformation, and the difficulty of decision-making instruments.

2. Environmental challenges: These comprise, among other things, shifting and changing climatic patterns, depletion of finite natural resources, pollution of the environment, and natural hazards and disasters.

3 .Financial and economic obstacles: These comprise, among other things, low financial resources, sluggish economic growth, and direct investment.

4 .Social challenges: These consist of high rates of population growth, debt and poverty,

illiteracy, and inadequate educational institutions, among other things.

5.Urban challenges: These encompass a range of issues such as urbanization, fast urban expansion, and antiquated planning frameworks.

6. The technological obstacles that a developing country faces encompass a range of issues, such as the improper use of technologies, the localization of environmentally harmful technologies, and the challenges associated with bringing modern technology to it.

7 .There are a number of political and administrative difficulties that need to be addressed, such as foreign occupation, armed conflict, war, inefficient institutional and regulatory frameworks, and impractical legal and legislative frameworks.

It should be highlighted that not all developing nations experience all of these difficulties; rather, depending on the specifics of each nation, one may experience some of these difficulties while another may experience other difficulties

6.2 Recommendations

In light of the above, the research proposes a set of general frameworks that enable developing countries to overcome the obstacles and challenges that hinder them from achieving sustainable cities, which include the following:

- Recommendations for decision makers
- Recommendations for planners and designers
- Recommendations for local administration

Table .6. A list of proposed general frameworks to overcome the challenges that hinder developing countries from achieving sustainable cities “sustainable cities”.

Frameworks the public proposed To overcome on Challenges	ChallengesWhich hinders developing countries from achieving sustainable cities “sustainable cities”.
the frame Educational And media/awareness	Challenges Awareness And knowledge And culture
the frame Environmental	Challenges Environmental
the frame The economist And social	Challenges Economic And finance
	Challenges Social
the frame Technique And technology	Challenges Technological
framework administration And governance the cities	Challenges Urbanism
	Challenges Political And administrative

- **Recommendations for decision makers**

This framework aims to overcome the challenges of awareness, knowledge and culture, and in it a set of measures are adopted to raise the level of awareness of the importance of the environment and ways to preserve it and culturally consolidate the ideas of sustainable cities among all segments of society, through adopting continuous campaigns in all media to raise awareness among ordinary citizens, and to establish Educational

programs and curricula at various stages of education to educate students and youth, in addition to developing special training programs to educate city administration officials and decision-makers.

- **Recommendations for planners and designers**

This framework aims to overcome technological challenges, and work is done to use advanced, clean and non-polluting technologies in various fields in cities (economic activities and production systems - public services and facilities - transport and communication systems - energy production systems - building systems - waste disposal systems). - Citizens' behaviors (consumption patterns - ...), by working to import these technological systems from developed countries (requires the provision of huge financial resources and good relations with exporting countries) or working to produce them locally (requires the development of education and manufacturing systems), in addition to To qualify human cadres in cities to manage, operate and maintain these systems.

- **Recommendations for local administration**

The objectives of this framework are to address administrative challenges by:

• Creating new city planning systems that are more efficient and adaptable to a variety of issues and quickly changing city conditions; and

• Offering workable and efficient solutions to issues that arise while maintaining the environment and available natural resources.

aiming to enhance the institutional frameworks and organizational structures of city agencies by providing them with the trained human cadres and cutting-edge technological tools they need to keep an eye on and follow up on the sustainability of the city and make necessary corrections on the path toward it.

• Providing efficient and enabling legal frameworks, such as granting city agencies the necessary authority and powers and arming them with enough funding, to allow them to implement the policies and procedures required to achieve city sustainability.

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