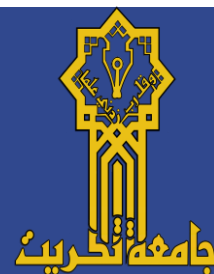


Tikrit University | جامعة تكريت

مجلة آداب الفراهيدي

Journal of Al-Farahidi's Arts



Humanizing Cities: Strategies to Enhance Sustainability and Inclusiveness in Urban Planning

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SUBMISSION
10/08/2024

ACCEPTED
17/10/2024

E-PUBLISHED
30/12/2024

P-ISSN: 2074-9554 | E-ISSN: 2663-8118 <https://doi.org/10.25130/jaa.9th.1.20> Conference (9th) No (1) September (2024) P (245-255)

ABSTRACT

In the current era, cities are at the forefront of deep transformations that are reshaping the face of the modern world. These cities, considered the pulse of economic, social, and cultural life, are facing increasing pressures resulting from rapid climate change and unbalanced population growth. To address these environmental and social challenges, cities urgently need to adopt new urban planning strategies that integrate sustainability and inclusiveness. This study aimed to explore the concept of "humanizing cities" as a means to promote sustainability and inclusiveness in urban planning. Using the Libyan city of Derna, which was devastated by Hurricane Daniel, as a case study, the research seeks to develop effective strategies that balance growth with environmental protection and social justice.

Moreover, the study identifies the core principles of humanizing cities, analyzes the integration of sustainability and resilience strategies in urban planning, and provides practical models for implementation. It also evaluates the challenges and opportunities associated with applying these strategies. Through a multi-dimensional methodology, including theoretical analysis, case studies, and interviews with stakeholders, this research aims to present a comprehensive framework that can be used by urban planners, policymakers, and researchers.

The study concluded that the concept of humanizing cities can be achieved by focusing on sustainability, inclusiveness, and resilience, contributing to building cities better prepared to face future challenges.

KEYWORDS

Humanizing Cities, Sustainability, Urban Resilience, Urban Planning



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Introduction:

In today's world, cities are facing accelerating environmental and climatic changes, such as global warming, which leads to an increase in natural disasters like hurricanes and floods. These natural phenomena pose a direct threat to cities, potentially causing widespread damage to infrastructure, economic losses, and a decline in the quality of life. Traditional urban planning may not be sufficient to address these challenges, necessitating the development of new strategies that account for environmental factors. In addition, unbalanced population growth presents a significant challenge for cities, where infrastructure and public services often cannot keep pace with the growing population, leading to overcrowding, resource shortages, and a deterioration in essential services such as housing, transportation, and healthcare.

Rapid population growth places tremendous pressure on urban planning, which must respond to this increase in a sustainable manner. This underscores the need to adopt the "humanization of cities" approach, which aims to improve the quality of life by balancing urban growth with sustainability. By focusing on people in the planning process, urban environments are created that promote social well-being and provide public spaces that foster community interaction and improve daily living standards.

Moreover, cities must be environmentally sustainable designed to reduce negative environmental impacts, such as lowering carbon emissions, managing natural resources efficiently, and encouraging the use of renewable energy. The humanization of cities also ensures that all members of society, including marginalized groups, have access to equal rights and services. Inclusivity means creating cities where everyone can live with dignity and equal opportunities.

Derna, Libya, serves as an ideal case study to analyze this concept due to its unique circumstances. The city recently suffered from the devastating Hurricane Daniel, which caused significant damage to infrastructure and resulted in substantial human and material losses. This disaster makes it imperative to study how the city can be rebuilt in a way that aligns with the principles of humanizing cities, transforming the rebuilding process into an opportunity to improve the city not only from a physical or environmental perspective but also by strengthening social and economic ties.

Problem Statement:

Derna faces exacerbating challenges in urban planning due to the extensive damage caused by Hurricane Daniel. The disaster resulted in widespread destruction of infrastructure, the ecosystem, and the local community. This natural catastrophe highlights the city's vulnerability in confronting major environmental events and underscores the need to adopt new urban strategies that prioritize sustainability, resilience, and the humanization of cities. The primary issue lies in how to develop the city to better prepare it for future natural disasters, while achieving a balance between economic, social, and environmental growth.

Significance of The Study:

This study is important as it sheds light on the concept of "humanizing cities" as a key strategy for addressing challenges posed by unregulated urban growth, environmental degradation, and natural disasters. The research provides both theoretical and practical frameworks that can be applied to urban planning not only in Derna but also in other cities facing similar circumstances. Furthermore, the study contributes to the ongoing discussion about

sustainability and inclusivity in the Libyan urban context and offer insights on how urban planning can be improved through the adoption of sustainable and inclusive practices.

Research Questions:

1. What is the concept of "humanizing cities," and what are its key principles?
2. What sustainable strategies can be used to rebuild disaster-affected cities?
3. What are the opportunities and challenges of implementing the humanization of cities in the Libyan context?

Study Objectives:

1. To provide an in-depth understanding of the concept of "humanizing cities," its core principles, and its significance in modern urban planning.
2. To propose sustainable and resilient urban strategies for rebuilding the city of Derna after the natural disaster, with a focus on environmental and social sustainability.
3. To assess the challenges and opportunities associated with implementing humanization strategies in the city of Derna and offer solutions to overcome potential obstacles

Study Methodology:

This research employs a multidimensional methodology that combines theoretical analysis, case studies, and interviews with local stakeholders and experts in urban planning. The literature on the humanization of cities was analyzed, alongside global models that have successfully addressed environmental and social challenges. Derna was used as a case study to examine the impact of the natural disaster and how sustainable strategies can be applied to its reconstruction. The study also analyzed the natural and urban conditions of the city before and after the hurricane. Additionally, interviews were conducted with representatives from the local government, urban planners, NGOs, and the local community to understand their needs and opinions on how to improve the city's quality of life. Environmental data, including rates of environmental degradation and the impacts of population growth on infrastructure and ecosystems, were also collected and analyzed.

Literature Review:

1. Study by Ahmed Salah, et al., 2020: "Humanizing Cities: Between the Reality of the City and Application", This study aimed to identify key principles for humanizing cities and how they can be applied to Egyptian cities. The study employed both descriptive-analytical and deductive approaches. The results highlighted several principles that could be utilized to achieve the humanization of cities. It also recommended the activation of urban observatories to monitor city performance and ensure adherence to the principles and standards of city humanization ^[1].

2. Study by Ghada El-Deeb, et al., 2022: "Towards More Humane Cities in Egypt: The HCUPM Model for Urban Planning", The goal of this study was to develop a model capable of measuring the humanization of cities, providing planners with a Human-Urban City Planning Model (HCUPM). The study followed an analytical approach, focusing on the most pressing issues facing modern cities, defining the principles of humane cities, and analyzing key global human city experiences. The analysis, which was based on surveys of urban planning and design experts, demonstrated the feasibility of applying this model to the Egyptian context, highlighting its significance in humanizing Egyptian cities. However, the study noted that aspects such as social, economic, and governance factors require further consideration to fully achieve a humane city ^[2].

Theoretical Aspect**Definition of Human Cities: (Humanizing Cities):**

Through literature review, it is evident that there is no single agreed-upon definition of the concept of "Human Cities." However, various prevalent concepts focus on humans as the central element of such cities. Terms such as "human-centered cities," "cities for people," and "human-friendly cities" have been used. The Human Cities Institute defines a human city as: "A city where policies are enacted and practices and initiatives are implemented to ensure the flourishing of human life in the best way possible, enabling citizens and communities to create a just, affordable, and shared society" ^[3].

In another context, some literature describes a human city as "a city that meets the diverse needs of its residents throughout different stages of their lives, with a special focus on areas where families (parents and children) are likely to live and support the local communities they are part of" ^[4].

Additionally, the human city has been discussed as a "city that is friendly to children, the disabled, the elderly, and the most vulnerable members of society. It consists of spaces designed for people, pedestrian walkways, parks, plazas, libraries, and accessible public transportation. Tree-shaded roads dedicated to pedestrians and cyclists can fundamentally change urban life, making the city more welcoming and accommodating for humans" ^[5].

Key Principles of Human Cities (Humanizing Cities):

Human Dimension: The human dimension is one of the new and crucial aspects of planning. For years, the human dimension was neglected due to planning ideologies, rapid mechanisms, and the difficulties in transitioning from a model where urban life was an explicit part of traditions to a model requiring active support for precise planning ^[6]. It includes the following:

1. Human Scale: Human scale starts from the human body and senses. Every ancient city was designed based on how people moved on their feet, how far their eyes could see, and how they used their surroundings. Thus, there is life; then there is space for life, and finally, there are structures on the outer surface of spaces. Life, space, and buildings in this order ^[7].

2. Right to the City: The right to the city is defined as the right of all current and future residents to live in just, inclusive, and sustainable cities. The right to the city entails the commitments of governments and individuals to affirm, defend, and enhance this right ^[8].

3. Human Needs: Human needs have been defined in various ways, ranging from global drivers of human life in communities to purely cultural structures. Generally, it refers to the set of personal, economic, social, and political requirements that people need to meet to avoid serious harm, achieve their goals, live a fulfilling life, and contribute to community development ^[9].

4. Citizen Participation: Building better cities for the future requires viewing others as collaborators rather than competitors. Good cities are planned and built by their residents ^[10], where cities evolve to be human-centered and designed by their citizens for their benefit, encouraging participation in a collaborative process and committing to open government policies ^[11].

Culture: UNESCO's vision focuses on revitalizing the role of cities as centers of cultural and democratic influence by harnessing the power of culture to promote human and inclusive cities. The aim is to support the cultural assets of cities and preserve the heritage that gives residents a sense of meaning and identity, as well as to encourage creative opportunities that contribute to vitality and prosperity in cities ^[12].

Place:

1. Mixed-Use Land: Humanizing cities means creating vibrant, safe, and multifunctional urban environments, with a focus on mobility and ease of living. This vision relies on the principle of mixed-use land, which contributes to creating human-friendly urban environments by enhancing efficiency in moving between different activities and reducing the need for long-distance travel ^[13].

2. Parks and Green Spaces: Human communities need nature within and around them to thrive ^[14]. Green spaces offer numerous physical and mental health benefits and are essential for urban health. Green spaces, especially trees, are beneficial for mental health, including positive mood and reduced negativity and stress ^[15].

3. Vibrant Public Spaces: Cities are centers for individuals to exchange ideas, engage in business activities, or simply relax and enjoy. Public spaces in the city, including streets, open areas, and parks, represent the infrastructure that enables these activities to flourish. Public space also forms the vital framework that allows the city to renew and adapt to diverse activities ^[16].

4. Transportation Planning: Human-centered transportation planning addresses challenges such as empty streets, environmental pollution, and physical inactivity resulting from reliance on cars. Through sustainable urban planning, safe and efficient mobility is promoted by encouraging walking, cycling, and public transportation. The concept of "shared streets" or Woonerf is an example of human-centered transportation, where car dominance is reduced, and social interaction and

children's play are increased. This model includes mechanisms such as traffic calming and providing public amenities like seating, trees, and outdoor facilities between homes ^[17].

Sustainable and Resilient Urban Strategies for Rebuilding Disaster-Affected Cities:

The United Nations-supported disaster risk reduction campaign includes the "Ten Essential Elements," which represent the guiding principles for governments and communities to enhance disaster resilience. These elements outline the essential steps for reducing risks at both local and national levels, and can be summarized as follows:

1. **Local Governance for Risk Reduction:** There should be a strong local governance framework to manage risks and enhance community resilience.
2. **Known Risks and Reducing Uncertainty:** Local governments and communities should be well-informed about potential risks, including understanding the impacts of climate change.
3. **Awareness Raising on Risk Reduction:** Authorities need to raise citizen awareness about potential risks and how to mitigate them through education and media programs.
4. **Comprehensive Risk Assessment:** Governments should conduct thorough risk assessments that address natural, technological, and environmental disasters affecting the community.
5. **Emergency Preparedness Planning:** Develop multi-disciplinary local emergency plans and train communities on how to respond to disasters.
6. **Protecting Natural Ecosystems:** It is important to preserve natural ecosystems as they help reduce natural risks such as flooding.
7. **Sustainable Urban Planning:** Urban planning should focus on risk reduction, including designing cities in ways that minimize disaster exposure.
8. **Enhancing Resilient Infrastructure:** Update and improve local infrastructure to make it more disaster-resistant.
9. **Financial Mechanisms for Resilience:** Provide financial solutions for dealing with disasters, such as insurance or emergency funds.
10. **Strengthening Cooperation and Participation:** Foster collaboration between various local and international stakeholders, including governments, the private sector, and civil society, to enhance local capacities.

These elements are based on the guidelines developed by the United Nations Office for Disaster Risk Reduction (UNDRR) and contribute to building safer and more resilient communities against disasters, as illustrated in Figure 1 ^[18].

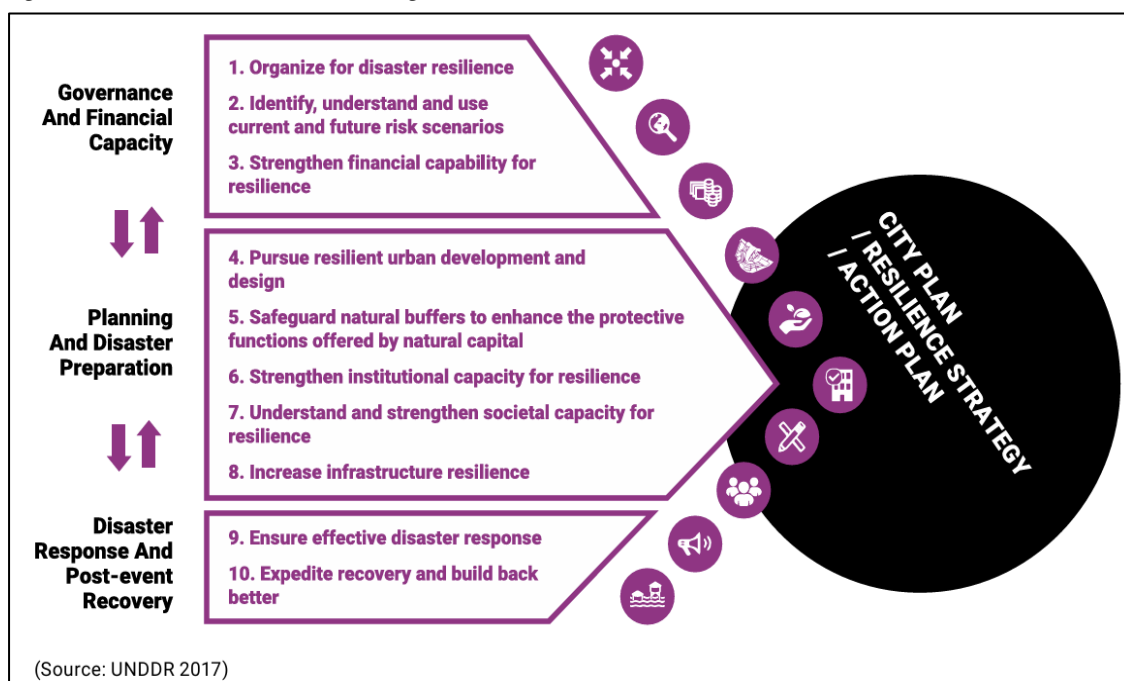


Figure 1. Ten new essentials of the MCR Campaign used to develop local DRR strategies and plan.

Practical Aspect:**Natural Characteristics of Derna City:**

1. Location: Derna City is situated in a delta plain along the northern coast of Libya, directly to the east of the Green Mountain. It is a significant center located on the coastal road connecting the cities of Al-Bayda and Tobruk, which are 90 km to the west and 175 km to the east, respectively. Figure 2 illustrates the city's location, which is geographically positioned at the intersection of latitude $35^{\circ}45'54''$ North and longitude $22^{\circ}38'29''$ East ^[19].

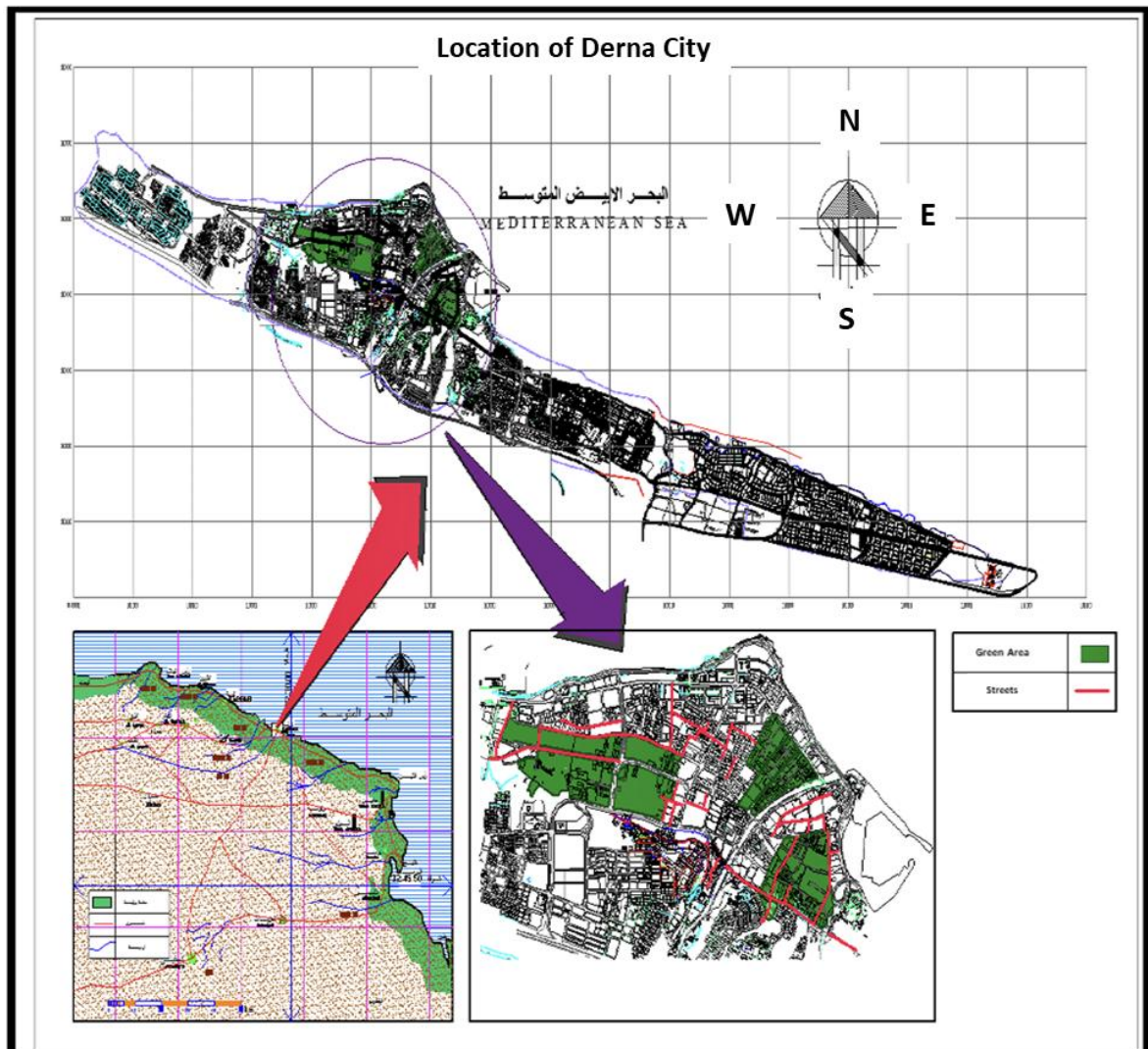


Figure2. shows the location of the city of Derna.

Source: Derna Urban Planning Authority, 2010

2. Topography: The topographical features of Derna City vary in elevation and differ from one location to another. The city exhibits a range of topographical characteristics, including both flat and mountainous terrain. Several wadis traverse the city, serving as its natural boundaries. The most significant of these is Wadi Derna, which is the largest wadi in the city and divides it into eastern and western sections. To the east, the city is bordered by Wadi Al-Khaleej, which is interspersed with several other wadis, including Wadi Al-Laqtati, which separates the eastern coastal area from the Bab Tobruk and Bumanasour regions, and Wadi Al-Husayin, which separates the Al-Husayin area from the eastern coast. This area represents the eastern edge of the city's plan and is under construction along the existing coastline. To the west, Wadi Derna delineates the boundary of the Bumanasour district, separating it from the Al-Jubaylah and Al-Balad areas, as shown in Figure 3, ^[20].



Figure 5. illustrates the land uses in the second-generation plan

Source: Urban Planning Department, Derna, 2010

3. Third Generation Plans (2000-2025): Due to the need for new plans to meet various land use requirements, the state initiated the preparation of third-generation plans. However, these planning studies were unfortunately not completed due to the events of 2011, which led to the disruption of all institutions and consequently, the plans have not been realized to date ^[23].

Urban Conditions of Derna City After the Devastating Hurricane Daniel 2023:

Derna City suffered significant damage in September 2023 due to Hurricane Daniel. This catastrophic weather event, exacerbated by inadequate infrastructure and unsustainable urban planning, resulted in widespread destruction of residential areas, infrastructure, and essential services. The urban fabric of the city, including both historic and modern buildings, was severely impacted, with entire neighborhoods destroyed, roads damaged, and water supply systems critically compromised. Figure 6 summarizes the impact of these catastrophic conditions as follows:

1. Urban Destruction and Infrastructure Damage:

❖ **Residential Areas:** Large parts of Derna's residential neighborhoods were destroyed due to severe flooding caused by the collapse of two dams. This resulted in massive torrents sweeping through large areas of the city. Urban areas near the wadi's path were the most affected, with buildings either collapsing or being washed into the Mediterranean Sea. This destruction can be attributed to poor urban planning, as many neighborhoods were built densely in flood-prone areas.

❖ **Transport Infrastructure:** Basic infrastructure, including roads, bridges, and transport networks, suffered significant or total destruction. Bridges connecting different parts of the city were destroyed, disrupting rescue and relief operations. These damages highlight the weaknesses in urban planning and the failure to update vital infrastructure to withstand extreme weather conditions.

❖ **Public and Health Services:** Essential services such as hospitals, schools, and government buildings were damaged or rendered non-functional. Local hospitals faced immense pressure due to the influx of injured individuals and a shortage of medical capabilities, exacerbating the humanitarian crisis as healthcare services struggled to cope with the rising number of victims and injured.

❖ **Water Supply and Sanitation:** Flooding contaminated local water supplies, raising concerns about waterborne disease outbreaks. Additionally, sanitation systems were destroyed, further deteriorating living conditions and increasing health challenges.

2. Environmental Issues and Urban Planning Challenges:

❖ **Environmental Vulnerability:** Derna's location along the wadi makes it particularly susceptible to flooding. The city has experienced unchecked urban expansion over the years without considering natural risks, increasing its exposure to flood damage. Moreover, the degradation of natural barriers such as forests and wetlands has worsened the disaster's effects.

❖ **Lack of Disaster Preparedness:** The disaster revealed the city's unpreparedness for severe weather conditions. Urban planning did not include sufficient strategies to mitigate disaster risks. Drainage systems failed to handle the scale of the flooding, and the collapse of the dams underscored the urgent need to update and maintain vital infrastructure.

3. Human Impact:

The humanitarian impact of this disaster was immense, with thousands of people losing their lives or suffering severe injuries, and large numbers of residents displaced as their homes were swept away. The scale of the destruction overwhelmed local authorities and highlighted the need for urgent humanitarian assistance, both for immediate relief and long-term reconstruction.

4. Future Challenges and Reconstruction:

❖ **Urban Reconstruction:** Rebuilding Derna will require a comprehensive and sustainable approach. This includes reassessing the wadi's course and identifying unsafe areas for reconstruction. Urban planners should adopt nature-based solutions, such as restoring natural flood barriers, and update infrastructure to be more resilient to future climate changes.

❖ **Governance and Policies:** Effective governance and institutional capacity building are crucial for Derna's recovery. Reconstruction efforts should address chronic shortcomings in urban planning and infrastructure maintenance. This will require international cooperation and leveraging urban planning expertise to ensure that the reconstruction process is sustainable and resilient.

❖ **Community Engagement:** The reconstruction process should involve local communities to ensure that future plans reflect residents' needs. Including citizens in planning and decision-making is essential to build a city that can withstand future environmental challenges ^[24].

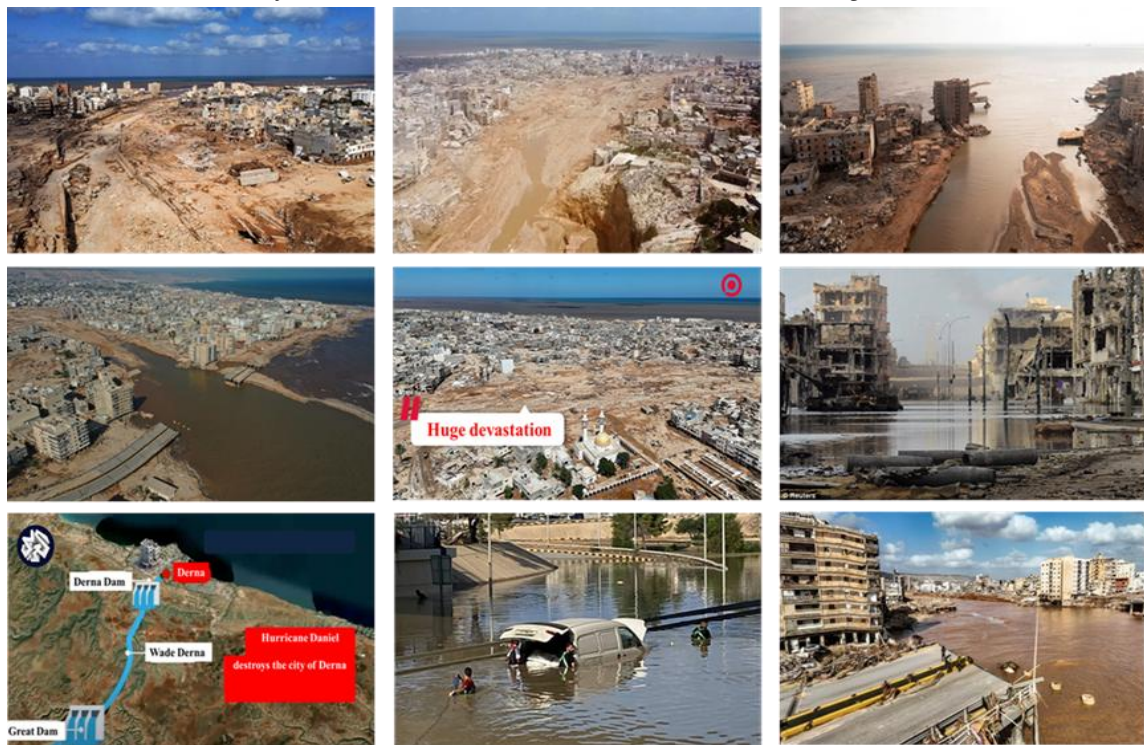


Figure 6. Massive destruction of residential areas, infrastructure, vital services, and the city's urban fabric

Evaluation of Challenges and Opportunities for Implementing Sustainable Development Strategies and Humanizing Cities in Derna, and Proposed Solutions to Overcome Potential Obstacles:

1. Challenges:

❖ **Post-Disaster Reconstruction:** Derna faces a significant challenge in rebuilding its infrastructure after Hurricane Daniel. The storm destroyed many roads, bridges, and essential services such as water and electricity. Therefore, implementing strategies aimed at humanizing cities requires substantial resources and a long-term commitment to rebuilding the city in a way that ensures sustainability and resilience.

❖ **Weak Institutional Capacity:** The implementation of humanizing cities strategies suffers from weak local institutions. Many Libyan cities, including Derna, experience institutional weakness due to ongoing political instability. This weakness complicates urban planning processes and limits the

city's ability to implement strategies that include social justice, inclusivity, and sustainability in urban design.

❖ **Limited Community Participation:** Humanizing cities heavily relies on active community involvement in urban planning. However, Derna's community has undergone significant trauma and displacement due to the hurricane and previous conflicts, which may make long-term community engagement in planning challenging. There is a risk that local voices may be overlooked in decision-making related to reconstruction.

❖ **Environmental Degradation:** As a coastal city, Derna faces environmental challenges such as rising sea levels, coastal erosion, and extreme weather impacts. The degradation of natural resources, especially coastlines, complicates the implementation of nature-based sustainable urban strategies, which are essential for humanizing cities.

2. Opportunities:

❖ **Rebuilding with a Focus on Sustainability:** Despite the destruction, the reconstruction of Derna's infrastructure presents an opportunity to apply principles of sustainable and human-centered urban design. This includes incorporating green infrastructure, public spaces, and sustainable energy systems, which can enhance the quality of life in the long term.

❖ **International Support and Funding:** International organizations and governments are expected to provide support for Derna's reconstruction efforts. This support can be used to promote strategies for building a resilient and sustainable city that aligns with humanizing cities principles.

❖ **Empowering the Local Community:** Despite the challenges, there is an opportunity for the community in Derna to actively participate in the city's reconstruction. Such participation can strengthen social bonds and give residents a sense of ownership and responsibility in the urban planning process.

❖ **Leveraging Technology and Innovation:** Derna can benefit from modern technologies such as smart infrastructure that relies on data and technology to improve city functions. These technologies can contribute to enhancing public services, reducing environmental impacts, and overall improving quality of life.

3. Proposed Solutions:

❖ **Enhancing Institutional Capacity:** To implement humanizing cities strategies, local institutional capacities should be strengthened through training local officials on sustainable urban planning and developing partnerships with specialized international organizations.

❖ **Integrating Community Participation:** The local community should be engaged in the planning process through public forums, surveys, and workshops to gather input and ensure that the reconstruction process reflects the needs and aspirations of Derna's residents.

❖ **Adopting Nature-Based Solutions:** As part of humanizing strategies, natural ecosystems such as green belts and coastal wetlands should be rehabilitated and integrated into the urban fabric. These nature-based solutions will help mitigate environmental risks and enhance the city's resilience.

❖ **Developing Public-Private Partnerships (PPP):** Given the financial challenges, public-private partnerships can play a crucial role in funding and managing urban development projects. These partnerships can leverage private sector expertise and investment to support public efforts in building a sustainable, human-centered city.

4. Conclusion:

Hurricane Daniel has exposed significant weaknesses in Derna's urban planning and infrastructure, leading to widespread destruction and a deep humanitarian crisis. Rebuilding the city requires adopting comprehensive and sustainable strategies focused on disaster risk reduction and climate adaptation, integrated into the urban fabric. Despite the major challenges facing Derna due to the extensive damage from Hurricane Daniel 2023 and institutional and political weaknesses, there are clear opportunities to enhance reconstruction efforts. This can be achieved by focusing on sustainability, inclusivity, and resilience, contributing to building a city better prepared to face future challenges.

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