



SUSTAINABLE HUMAN HABITATS DEVELOPMENT: A REVIEW ON CONCEPTS, TRENDS AND EVENTS BASED ON THE EXPERIENCES OF SUCCESSFUL CITIES IN THE WORLD

Desenvolvimento humano sustentável: uma revisão de conceitos, tendências e eventos a partir de experiências de cidades de sucesso no mundo

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ABSTRACT

The world in the 21st century is marked by high population mobility. When an increasing number of people have chosen to leave their motherlands and resettle in a new country, of those issues that have concerned the government, academics and the public throughout the world, urban sprawl is one of the most prominent. There are conflicting views toward this growing trend. While it has been taken as a positive development in many newly emerging cities, it is increasingly perceived as a threat to urban environment and considered as a trigger for numerous urban problems. The objective of this article is to evaluate the forces behind this trend and its consequences regarding to UN-Habitat program, based on the experiences of successful cities in the world to reveal the theoretical and practical aspects of what is currently known as a sustainable urban development on a global scale. The principles derived from the evaluating, are proposed to be used in sustainable development of Tehran city in Iran.

Keywords: Sustainable Development, Urbanization, UN-habitat, Urban Management.

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DESENVOLVIMENTO HUMANO SUSTENTÁVEL: UMA REVISÃO DE CONCEITOS, TENDÊNCIAS E EVENTOS A PARTIR DE EXPERIÊNCIAS DE CIDADES DE SUCESSO NO MUNDO

Sustainable human habitats development: a review on concepts, trends and events based on the experiences of successful cities in the world

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RESUMO

O mundo do século XXI é marcado por uma alta mobilidade populacional. Quando um número crescente de pessoas optou por deixar suas pátrias e se estabelecer em um novo país, das questões que preocupam o governo, os acadêmicos e o público em todo o mundo, a expansão urbana é uma das mais proeminentes. Há opiniões conflitantes em relação a essa tendência crescente. Embora tenha sido considerado um desenvolvimento positivo em muitas cidades emergentes, é cada vez mais percebido como uma ameaça ao ambiente urbano e considerado um gatilho para inúmeros problemas urbanos. O objetivo deste artigo é avaliar as forças por trás dessa tendência e suas consequências em relação ao programa UN-Habitat, com base nas experiências de cidades bem-sucedidas no mundo para revelar os aspectos teóricos e práticos do que hoje é conhecido como desenvolvimento urbano sustentável em uma escala global. Os princípios derivados da avaliação são propostos para serem usados no desenvolvimento sustentável da cidade de Teerã, no Irã.

Palavras-chave: Desenvolvimento Sustentável, Urbanização, UN-habitat, Gestão Urbana.

INTRODUCTION

Sustainable urban development is among the most serious current topics of urban communities on present and future issues of the environment and cities. Along with increasing global trend towards sustainable development, the cognitive aspect of this issue and more consideration to it at national level has also enhanced in accordance with the arising rate of urban development, and efforts have been made due to projection of sustainable urban development (De Roo & Miller, 2019). Until the performing of this research, the last major event under the International Development Sustainability Program was the World Urban Forum 9 (WUF 9) organized by the United Nations Un-Habitat Program in the February of 2018 in Kuala Lumpur, Malaysia, entitled as " Engaging the Challenges, Enhancing the Relevance ", which was in fact one of the chain of actions that has been taken over the past two decades, in order to institutionalize and realize sustainable development, and in particular sustainable urban development in the international society (Parivar et al., 2020). The increasing global attention and tendency to the issue of sustainable development, as well as the need to recognize and pay attention to it at the national level, has been the main motive behind the writing of this article due to the increasing rate of urban development in the country (Evans, 2017). This study reviews a trend towards urban sustainability in both theoretical and practical aspects, as well as a consideration of the path to the recognition of the role of cities and urbanization in sustainable development, revealing the role of local action for sustainability (Barakpou & Keivani, 2016). The mentioned topics are rooted in important events that can be regarded as history of the emergence of sustainable development. At the outset, the "Earth Summit" in Rio de Janeiro in 1992 and subsequently, the arrangement of "Agenda 21" provided the necessary ground for local action within the framework of Local Agenda 21. At the second phase of Habitat II Conference (1996) in Istanbul and via the regulation of "Habitat Agenda" the role of cities, organizations and associations of urban communities and local governments clearly underscored, as key contributors to enhancement of more sustainable forms of development (Rasoolimanesh et al. 2017). A sustainable city is defined as a city designed with environmental consideration, with minimum consumption of energy, renewable energy sources like wind and solar (Dindar et al.,2022), water resources management (Ourang, 2017), and food and minimum output of waste and air, water, and soil pollutions. Urban sustainability can also be defined as the improvement of the quality of life of human beings within the capacity of Earth's limited resources. Since the architectural design is related to that region's culture and climate therefore, it is of high significant to modify designs in case of sustainability and climate (Ashrafi et al.,2019). Hence, urban sustainability is the ability of cities to reduce the environmental effect of urban activities while improving social equity and livability in urban areas (Newman and Kenworthy 1999; Chiu 2008; van Wee and Handy 2016). Moreover, urban sustainability attempts to deal with the question of how societies develop and run their urban systems to ensure the preconditions of development for future generations. Thus, discovering how inhabitants can be educated and participate in developing a quality environment is important (Nurul, 2015). In order to become sustainable cities, need to adopt a new approach to planning the city. In the World Cities Report (UN Habitat, 2016) this is described as the city that plans in contrast to the planned city. The 'city that plans' uses integrated and multi-sectored planning approaches, takes into account local circumstances and involves diverse populations including women, plans are prepared at different geographical scales and across political boundaries, and improves the education for planners, especially in developing countries. A city that plans not only projects the future from past trends, it also brings the public, private and third sectors together with communities to build a collectively preferred future (Acuto, 2018). Therefore in this study, the concept of sustainable development and the process of its formation will be examined, which expresses the time and place of the affecting events, including well-known instances of individual and collective efforts to global conferences, in where subsequent debates have been performed about the dimensions of urbanization in the present world and its future prospects, containing related problems and issues that are in public spaces. The aim of this study, is to explain the concepts, trends and related events, and to consider the history of the realization of the idea of sustainable development, to reveal the theoretical and practical aspects of what is currently known as a sustainable urban development on a global scale.

Growth of global urbanization

Almost 50% of the world's population now accommodates in cities, and the urban population is growing at an accelerating rate, especially in so-called less-developed Southern countries. Cities are getting populated 65 million people a year, i.e. more than 180,000 people per day. The urbanization process during the second half of the twentieth century and to the present has led to the expansion of large cities with a population of more than one million and the emergence of metropolitans with a population of more than 10 million. In 1950, there were just 65 cities in the world with a population of more than one million, of which 40 were in the so-called industrial countries of the north. While, at the end of the twentieth century, there were 300 cities with more than a million residents, of which two thirds were in developing countries, and totally were 12 metropolitans. By 2015, it is estimated that there will probably be 360 cities with million inhabitants, of which 150 will be in Asia, and there will be about 30 metropolitans, half of which will be in Asia (Mellino & Ulgiati, 2015).

Further, it is estimated that, about 650 million urban people live in poverty-threatening and less-quality environmental situations, where it is expected to double by 2025. Although these global statistics are remarkable, but they cannot reflect the complexity and diversity of urban poverty. Urban poverty is defined by the lack of adequate and secure income for food, shelter, clothing, health, education and development for each member of a household. At the same time, income and wealth are not the single indicators of urban poverty, but also it is strongly related to social and physical insecurity, vulnerability to crises and problems caused by illness and Pandemi (Norouzi et al., 2021), unemployment, natural disasters, and ethnic and cultural marginalization (Yang et al., 2020). Although there are some research regarding feasible solutions for sustainable development specially in field of health and post pandemic care (Rezapour-Nasrabad, 2018), but studies indicate that it is not a integrated solution. Urban poverty has a negative impact on vulnerable and low-income people, and affects the security and efficiency of the entire city. The personal poverty of individuals exacerbates and aggravates the general poverty in the cities. Households suffering from urban poverty place heavy financial and administrative burdens on municipal agencies and institutions. They are the main clients of social welfare and social service institutions in a society that has little or no financial contribution to it. Therefore, the most practical approach of urban institutions can be poverty alleviation of the city, which reduces public expense as a result, and makes urban households to be more involved in generating public wealth and contribute to urban economics (Wakely & You, 2011)

Sustainable development

Over the years, global talks on strategies of constructing the societies, the economy and the environment have been accompanied by gradual adoption of environmental movement horizons. Since the early 1960s, the negative environmental impacts of development have been considered as highlighted in the "Fountain of Silence" (Carson, 1962) written by Rachel Carson, an American biologist, who warned about the limited capacity to absorb chemicals and the resulted dangers, and called for a worldwide determination to protect the environment. In 1968, the Club of Roman was established, led by Italian industrialist Aurelio Pecci and Scottish scientist Alexander King. Their goal was to create a comprehensive understanding of the environmental issue in the world. They collaborated with a group of scientists at the Massachusetts Institute of Technology (MIT) to perform the first computer simulation of environmental impacts caused by industrial production, population growth and natural resource consumption. When the results were published in "The Limits to Growth" (Meadows et al. 1972), four million copies were sold over four years, thus it provided one of the most common debates on the history of environmental considerations. Concerns on environment also led to the United Nations Conference on the Human Environment in Stockholm (1972). The conference raised the regional pollution and acid rain of North Europe and its ecological conclusions were supported strongly and globally, while followed by stances in response to the issues raised. This event has also been the first international compliance and consensus on environmental concerns, and led to the establishment of the United Nations Environment Program (UNEP) in the same year (Allen & You, 2002).

The concept of sustainable development was initially outlined on supporting ecological programs such as the conservation strategy of the world at International Union for the Conservation of Nature (IUCN). This strategy identified the main causes of the degradation of natural habitats as: poverty, population growth and pressure, social inequality and trade conditions. This initial step was indeed a very important move in explaining the relationship between the environment and development trends (De Roo, 2017). Despite the fact rising from this point, the concern was to devote the concept of sustainable development to the issue of ecological conservation rather than to the nature of development in its broad sense. Thus, the World Commission on Environment and Development (WCED), chaired by the Prime Minister of Norway, Gro Harlem Brundtland, was formed in 1983 affording to linkage the social, economic, cultural and environmental issues. The result was the generalization of the term "Sustainable Development" through the publication of the book "Our Common Future." This report defines sustainable development as, "a development that meets the needs of the current generation without destroying the ability of future generations to meet their needs" (WCED 1987), with the emphasis that current paths of development have not been sustainable.

UN Human Settlement role in Sustainable Urban Development

In this study, the concept of sustainable development and the process of its formation will be examined, which expresses the time and place of the affecting events, including well-known instances of individual and collective efforts to global conferences, in where subsequent debates have been performed about the dimensions of urbanization in the present world and its future prospects, containing related problems and issues that are in public spaces. Considering the concepts and approaches of sustainable development, United Nations Human Settlements Program (UN-habitat) has developed a plan that has the principles and approaches of advancing and supporting national and international resources for implementation in cities (Mady, 2019). The first conference of United Nations on human settlements called "Habitat" and led to the establishment of the United Nations Center for Human Settlements (UNCHS) in 1976, now known as the "UN Human Settlement." The first Habitat Conference made an emphasize on equal conditions for the underprivileged urban class, and paid much attention to the provision of housing; In addition, developing the capabilities was considered for urban planning and management of cities with a high rate of housing. In the 1980s, World Bank Urban Development Division demonstrated the plan called as "Brown Agenda" (Cohen, 1991), which the term was meaning an emphasis on the need for environmental awareness focusing on urban environmental issues, including waste water and solid waste management, air pollution control, and other inappropriate environmental aspects of the urban area. Meanwhile, the attention of the environmental and media movement to global environmental issues such as global warming, loss of forest rain and shortage of biodiversity was identified as "Green Agenda" (Yang et al., 2020). The environment issue, either through reducing the negative impacts of cities or by strengthening the potential capability of cities for sustainable development, is an issue of equal significance for urban managers and residents; Since the city is a central and major issue in both the "Green" and the "Brown" agenda. The Green Agenda addresses issues that are long-term and of a global impact (such as the loss of natural and pristine ecosystems, damages to variety of species, ozone layer rupture, or global warming). These are the matters that need global cooperation, and one country or city cannot face them alone. Further, the Brown Agenda covers those environmental issues that has an immediate local impact (such as water-air pollution or solid waste management), and wants to have a positive impact on the citizens' environment, thus, considers disruptions of urban environment and its harmful consequences on the quality of urban life (McGranahan, G. & Satterthwaite, D. 2003)

Therefore, urban development experts as dealing with complications rather than addressing the underlying causes often considered the identification and unveiling of these concepts, though being necessary. To overcome this problem, the activation of local governments was put on the agenda of the Earth Summit. The position and role of urban executives and local governments in directly influencing such issues is clearly understandable. Therefore, city

managers have a fundamental role to play in the cleanup and greening of the urban environment, which has been emphasized twice during the Habitat II conference (Istanbul, 1996).

With the growing interest of participants, including both governmental and non-governmental organizations, social organizations and the media agents, the mentioned issue has received a significant reception than before, and as a result, the "Habitat Agenda" emerged as an important achievement of this summit. The four-year interval between the Rio de Janeiro and Habitat 2 conferences was the experimentation period of views and decisions. Each of the United Nations conferences on this subject, namely the World Conference on Human Rights (Vienna, 1993), the International Conference on Population and Development (Cairo, 1994), World Summit for Social Development (Copenhagen, 1995) and the Fourth World Conference on Women (Beijing, 1995), explained the aspects of sustainable development with a focus on people.

The Habitat II conference, followed by the "Istanbul Declaration" and the "Habitat Agenda" were as instructions for action to provide shelter for all and provide sustainable human settlements. The Habitat Agenda completed Agenda 21, which was set up following the Rio Conference due to provide a basis for sustainable development in the 21st Century. Housing, construction, urban management and the role of urbanization in sustainable development were on close attention of the Habitat Agenda. Since in fact, the Agenda revealed the unbreakable links between key and major urban issues such as poverty, social discrimination, equality, and governance and administrative considerations in human settlements. Five years later than Rio Conference, i.e. the Earth Summit, which its other name is the United Nations Conference on Environment and Development (UNCED), the 19th United Nations General Assembly Special Session (UNGASS) was convened in New York to review the implementation of Agenda 21, known as the Rio +5. During the meeting, it became clear that despite some improvements the implementation of Agenda 21 was not satisfactory, so the leaders of fifty-three countries, together with ministers and other high-level officials, approved the mandate mission and practical plan for the implementation of Agenda 21 (Yazar et al., 2019). These international community activities were reflected in private sector efforts for better environmental performance. In 1996, the International Standardization Organization (ISO) established the ISO 14000 standard for the voluntary implementation of environmental management systems in the industry. The urban community has also been active in this era, e.g. the "Earth Charter" was developed consequently to explain the fundamental ethics for a sustainable path of life.

In addition, the special session of the General Assembly of United Nations (Istanbul +5, 2001) was held to review the implementation of the mandate of the mission, which resulted in a much better situation than the past. More than 1,000 documented experiences from all over the world suggests the improvement of sustainability trends through local partnerships, reflecting changes in previous development approaches and policies, and thus limiting its negative impacts (www.unchs.org).

The acceleration of action was the focus of the "World Summit on Sustainable Development (WSSD)" in Johannesburg (2002), which emphasized on local action with participation of local government leaders and technical experts, and restated the highlighted three priority topics as main issues of urban sustainability which have been identified since 1992:

- Poverty, inequality and the gap between rich and poor in cities and countries and between developed and developing societies.
- Failure to provide security which is caused by not only insufficient economic resources but also from natural-abnormal disasters, unstable political systems and the dangers of war and crime
- Correction and compensation of degraded conditions in environment, especially in societies who are not sufficiently capable in planning for ecological change or decreasing negative impacts on it, leading to an increase in poverty and insecurity

In the World Urban Forum I (WUF I), which was held in Nairobi (2002) with the participation of 1,200 participants from 80 countries, the function of cities was emphasized as centers of production, consumption and political-social changes, and it was also stipulated that the deprived class are marginalized from the mainstream of urban and society economics in cities, and have limited access to decision-making structures that can improve their

living conditions. Hence, cities should play a stronger and more effective role in poverty reduction strategies at the national level (Un-Habitat, 2002). The focal point of the World Urban Forum II (WUF II), which took place by attendance of 4,400 participants in Barcelona (2004), was the phenomenon of globalization and the issue of cultures as one of the most major matters in cities, especially for those that are considered as immigrant-accepting in this process. Therefore, it is mainly significant to establish a link between culture and different parts of the city, including housing departments, between foundations and the city administration and management. Hence, the subject of identity is regarded, and the protection of urban cultural heritage with the participation of the local community should be provided in urban planning and policymaking. Since the culture is natural of development and the enemy of poverty, its contribution must be considered in the planning, design and management of cities (Un-Habitat, 2004). The third World Urban Forum, attended by around 10,000 participants from more than 100 countries in Vancouver (2006), was in fact an attempt to search for new ideas and practical solutions to the urban problems in the world, which called for more hard work of all the actors in the scene of cities, namely citizens, local governments, provincial and state governments, national governments, the private sector, and urban community organizations to address these issues. Each division must take its share and act on it instead of transferring its responsibility to others (Un-Habitat, 2006).

1 SUCCESSFUL EXPERIENCES

1.1 Melbourne City, Australia

Despite the nostalgic rural mythology which has figured prominently in the Australian national story, cities have shaped and dominated the nation's progress. They have absorbed most of the national investment in infrastructure for more than a century and provide the focus for creative, inventive and entrepreneurial thinking and action. They are the sites for most of the nation's industry and employment. Large swathes of Australia's rural areas exist to service the major cities, providing the food, water, energy, tourism and other services needed to sustain city-dwellers. Australia's cities are under-researched and they can provide rich and rewarding ground for urban studies. Melbourne does not fit into European, US or Asian prototypes. If the outer suburbs are exemplars of the world's most extensive urban sprawl, there is no sign of the inner urban abandonment that has come to characterize many US cities. Flight from Melbourne's inner and middle suburbs was a phenomenon of the immediate post-war era but the influx of new migrants, along with strong effective planning and gentrification reversed the population decline (Figure 1). The central business district maintains its pre-eminent status (Goodman et al., 2016).

Australia has the most per capita energy consumption in the world, and many citizens still do not feel the need to change their attitude. The reason for this is somewhat due to the extent of the country and the immediate discovery of the effects of environmental pollution. The second factor is the availability of energy resources is relatively easy; the third factor is the widespread nature of the main urban areas that increase travel distances. Ultimately, the distance between the main cities encourages long-distance travel by ground or air transport, which brings energy and pollution (Yigitcanlar et al., 2008)

To reduce greenhouse gas emissions, the Australian government that will improve the environmental situation while being economically and socially acceptable is displaying some examples of sustainable development. Melbourne is among one of the cities in which proceedings and efforts have been made. It is the capital of the state of Victoria, and is said to be the world's most vibrant city. In 2000, the World Health Organization received the title of "Safe Community Accreditation". It has a population of approximately 60,000 (Goodman et al., 2016).

In 1999, after convening a meeting and working groups in Melbourne city, the City Council, with a sustained emphasis on sustainability for the future to transform Melbourne into a healthy city, derived principles from the presented principles at the summit and the work of various groups. The most important of these principles are as follows (Newton, 2008):

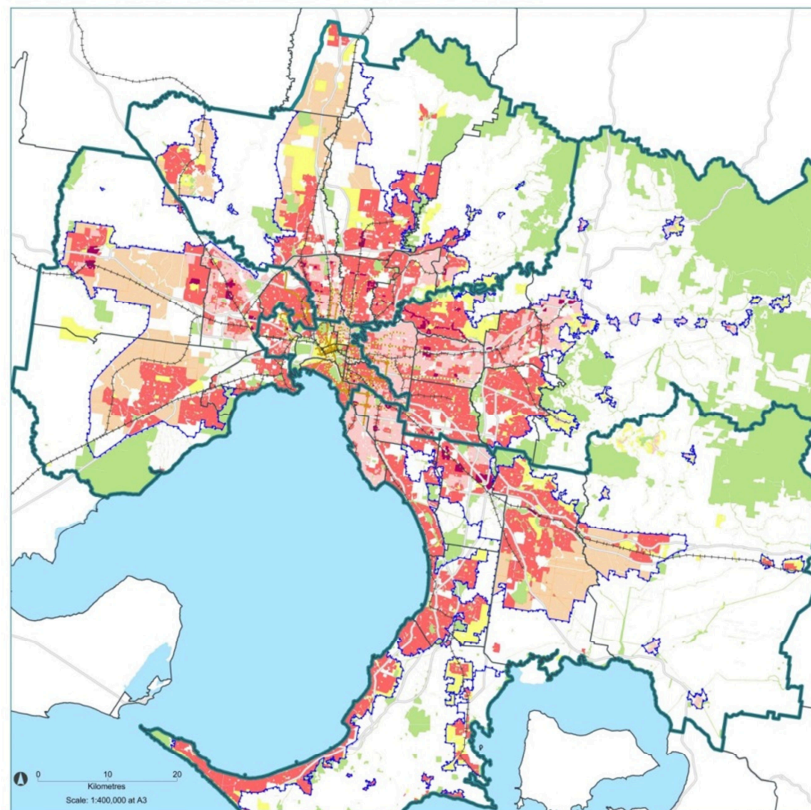
1. Developing a long-term vision for cities based on sustainability and intergenerational justice

2. Achieving long-term social and economic security
3. Understanding the inherent value of biodiversity and natural ecosystems and protecting and maintaining them
- 4- Building cities in order to minimize their destructive environmental impacts
- 5- Considering ecosystem characteristics in the healthy and sustainable development
6. Empowering people and strengthening public participation
7. Expanding and empowering cooperation networks to work towards a sustainable common future (the same).

According to these principles, some measures have been taken, including the use of solar energy, waste recycling, and the reduction of environmental pollution by implementing protective plans (Goodman et al., 2016).

Figure 1 - Melbourne's various growth zone Location (Goodman et al., 2016)

Metropolitan Melbourne: Zones that allow for residential development



1.2 Guangzhou, China

Guangzhou Development District (GDD) is located to the east of Guangzhou City and was developed from four economic zones, which were designated for accommodating foreign investment in the 1980–1990s (see Figures 2 and 3). With the development strategy of ‘exploration in the south, optimization in the north, extension in the east

and co-ordination in the west' made at the municipal level, GDD is being developed into the second urban center of Guangzhou City. By 2004, GDD comprised a total area of 215 km² and accommodated a population of approximately 120,000. The rapid urbanization has resulted in a number of problems associated with economic structure, land resource allocation, environmental degradation, and the provision of social security and welfare. Under such circumstances, the previous management mode which focused on attracting foreign investment has been inadequate to manage the district. The local government of GDD (i.e. the GDD Administrative Committee which is delegated by the Guangzhou Municipal Government with powers to exercise unified leadership and administration) has recognized the problem and actively responded to it by seeking ways to improve its urban planning and management practice (Wong et al., 2006).



Figure 2. Location map of Guangzhou City (Wong et al., 2006)



Figure 3. Location of Guangzhou and its main administrative districts. Source: adapted from Xu and Yeh (2003).

With the functional transformation from an economic zone to an urban area, the development vision of GDD is 'to build up a green ecological town ideal for business and living'. To achieve this vision, the GDD Administration Committee has been shifting its urban management work to focus on the following issues: (1) creation of an innovative environment for high-tech industries through the continuous investment in infrastructure and the establishment of a science innovation base; (2) optimization of economic structure through adjusting the ratio between secondary and tertiary industries; (3) optimization of land use management system through establishing a regulatory framework with particular reference to international experience to guide the practice of land acquisition and management; (4) development of human resources through introducing a new human resource management mechanism to attract and sustain new talents; and (5) strengthening the management of 'urban villages' by focusing on the resettlement of villagers affected by land resumption for urban development and the conversion of household status of the affected villagers from 'agricultural' to 'non-agricultural' to ensure they legally enjoy urban welfare benefits including health care and education (Wong et al., 2006).

Given the increased rates of urbanization in China, tremendous challenges have been imposed on local governments as well as the communities to improve their managerial capacities to cope with the increasing dynamics and uncertainties derived from urban development. To address these challenges effectively, a holistic understanding

of the meaning and the substance of urban management is essential for turning the concept of urban management into an operationally workable framework. Given that urban management approaches typically used in many Chinese cities are still influenced by the idea of central planning and characterized by inflexibility, inadequate responsiveness and lack of public participation, a shift of the existing management approach to strategic management is essential, given that it can provide urban management practitioners with a way to enhance capacities in handling changes and volatility. The case study of GDD demonstrates that performance assessment is a core element in using a strategic approach for urban management as it can help in examining and illustrating the needs for future improvement. The discussion in this paper is expected to generate interest in a more thorough understanding of the current urban management practice and hence a more rounded research agenda of the application of strategic urban planning and management in the Chinese context (Wong et al., 2006).

Due to the large number of inhabitants, the infrastructure of the environment and the cultural effects were greatly worn and overused; 2006, Wong & Tang 2006). The city's situation was such that 73% of its inhabitants were dissatisfied with life in the city, and they called the city with names like crowded and dirty (Figure 4). Following the upsurge of discontent, the municipality approved the following with the help of preliminary specialists (Yu & Zhao, 2020):

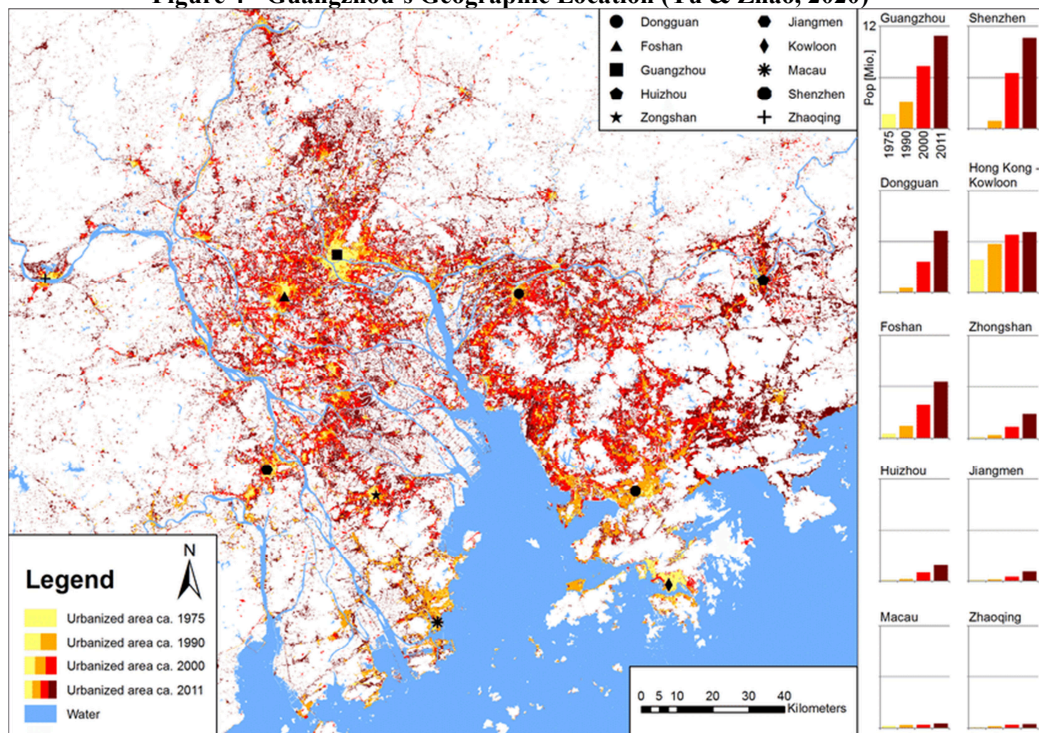
1. Structuring solid foundation for sustainable urban development
2. Improving the infrastructure, especially transport
3. Comprehensive urban rehabilitation, such as improving health and preserving cultural heritage
4. Decreasing industries, vehicles and household sewage to improve the quality of the climate that flood the city through campuses, gardens, etc.

The purpose of the municipality was to approve the preconditions for improving the welfare and the quality of life for people. The most important guidelines that the municipality drafted are as follows:

1. Traffic lubrication through the construction of bridges, new bridges and 18 subway lines,
2. Reducing contaminating sources inside the city
3. Making new properties and reconstructing historic areas at the same time.
4. Using waste collections in a proper way, recycling and utilizing them.

The city center was renovated by implementing this program. Program achievements were evident when Guangzhou City won the 2001 National award for the Best Living Environment and the 2001 award as a Compassionate Society (Seabrooke et al., 2004)

Figure 4 - Guangzhou's Geographic Location (Yu & Zhao, 2020)



1.3 Fez City, Morocco

Fez is the most ancient of the imperial cities of Morocco. In Fez the rate of population growth has been spectacular in recent times (484,300 inhabitants in 1982 and 1,129,768 in 2014). The accelerated rate of population growth has generated a large urban sprawl in all its forms and serious environmental problems (El Gharouani et al., 2017). The city of Fez is located in the northern part of Morocco on the African continent, and was founded around the year 800. The UNESCO in the list of cultural heritage cities registered historic texture of Fez city in 1980. The historic city is considered to be the busiest and most unrestricted area in the world (Figure 5).

In the city of Fez, like other historic cities, the erosion of the old texture took place following the twentieth century modernizations. Existing practices in the old texture were somewhat abandoned and new industries and commercial facilities needed space for development to accommodate their vehicles. Accommodation of families in small residential units increased the population density of the regions and created a wide range of social and environmental problems in these textures. These problems which were reflected in the historical context include the complicated system of ownership of disproportionate urban facilities, high population density in historical context, environmental pollution, transportation problems, and conflicts with the existing texture and the formation of informal settlements on the margins of the old texture, etc. (Abdullah, 2015).

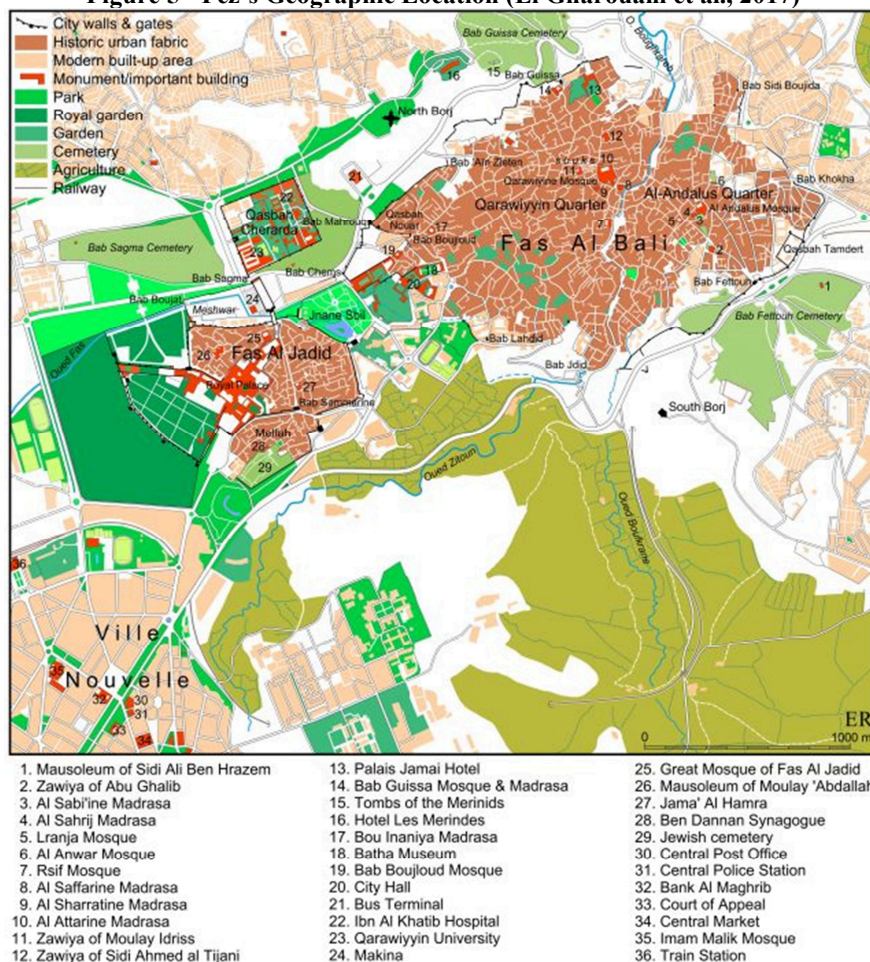
With the intensification of the historical context of Morocco's Fez government in 1997, Harvard University helped develop a plan to revitalize and promote sustainability indicators, and the World Bank and the Aga Khan Foundation were introduced as project finance providers. The intended objectives for the historical section were as follows:

- Reviving the applications and activities in the city's texture
- Preventing the division of residential houses into smaller units
- Eliminating the existing environmental pollution
- Reducing poverty and maintaining the status of traditional homes and public urban environments

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Figure 5 - Fez's Geographic Location (El Gharouani et al., 2017)



Regarding the goals set forth, the actions and plans that were put forward in pursuit of the objectives were of the following nature:

1. Improving the access and public service status
2. Improving the quality of urban environments by reducing pollution
3. Equipping the city for tourists by creating special tourism routes
4. Improving the sewage collection system
5. Strengthening the organizations and institutions implementing the plan
6. Restoring and replacing the buildings with worthy maintenance
7. Emphasizing the pedestrian axes, especially in the tourist areas
8. Suggesting the use of solar energy

The expectations from the results of the suggested plans for historical texture were to save a texture in a historic UNESCO protected area that was met with the correct implementation of this plan (Abdullah, 2015).

It has also shown that there are some positive results of the Fez conservation program, including the social participation which is essential for the successful rehabilitation of the historic housing stock, and the project has demonstrated that reconciling the objectives of urban conservation and rehabilitation with the housing needs of the impoverished inhabitants is feasible, through a process of consultation and social participation in the design and implementation of the interventions on the historic housing stock.

However there are some constraints: The tenure of land and buildings is a critical difficulty in the rehabilitation of historic cities, and the municipality should consider delegating urban rehabilitation operations to competent agencies. The urban rehabilitation projects should be designed according to simple objectives and design. Given the complexities of intervening in historic cities, the related interventions should not try and address all of the needs and opportunities under a single operation, but should rather support a programmatic approach (El Harouni, 2017). Table 1 shows plans and programs in the three mentioned cities.

Table 1 - Description of the Programs and Proceedings of Successful Cities in Achieving Urban Development Indicators

City	Objectives	Proceedings	Advantages
Melbourne, Australia	<ul style="list-style-type: none"> - Promoting Social Security - Promoting health level - Increasing training level - Employing - Environmental protection - Enhancing participation 	<ul style="list-style-type: none"> - Using solar energy - Reducing general energy consumption with appropriate policies - Using household appliances - Suitable traffic measures to reduce travel - Protective measures for environmental protection 	<ul style="list-style-type: none"> - Appropriate measures for social security - High participation of people in the implementation of the plan - Consolidation of residents - Achieving a sustainable long-term economy
Guangzhou, China	<ul style="list-style-type: none"> - Traffic management - Urban greenery - Health promotion - Maintaining nature and cultural effects - Population control 	<ul style="list-style-type: none"> - Traffic lubrication - Reducing polluting industries - Urban Ecology Improvement - Construction of new real estate and reconstruction of historic areas - Recycling waste 	<ul style="list-style-type: none"> - Priority replacement - Ecological instead of economic priority -Paying attention to people's participation and giving priority to people - Maintaining cultural environments - Using strategic planning
Fez, Morocco	<ul style="list-style-type: none"> -Population control -Revitalizing the city's historical texture and promoting sustainability indicators in it 	<ul style="list-style-type: none"> -Using solar energy -Avoiding the division of residential units into smaller ones -Reducing environmental pollution -Restoring existing applications in textures 	<ul style="list-style-type: none"> - Giving priority to the pedestrian -Using renewable energy sources -Using various colors in design -Tourist attraction and proper tourism planning

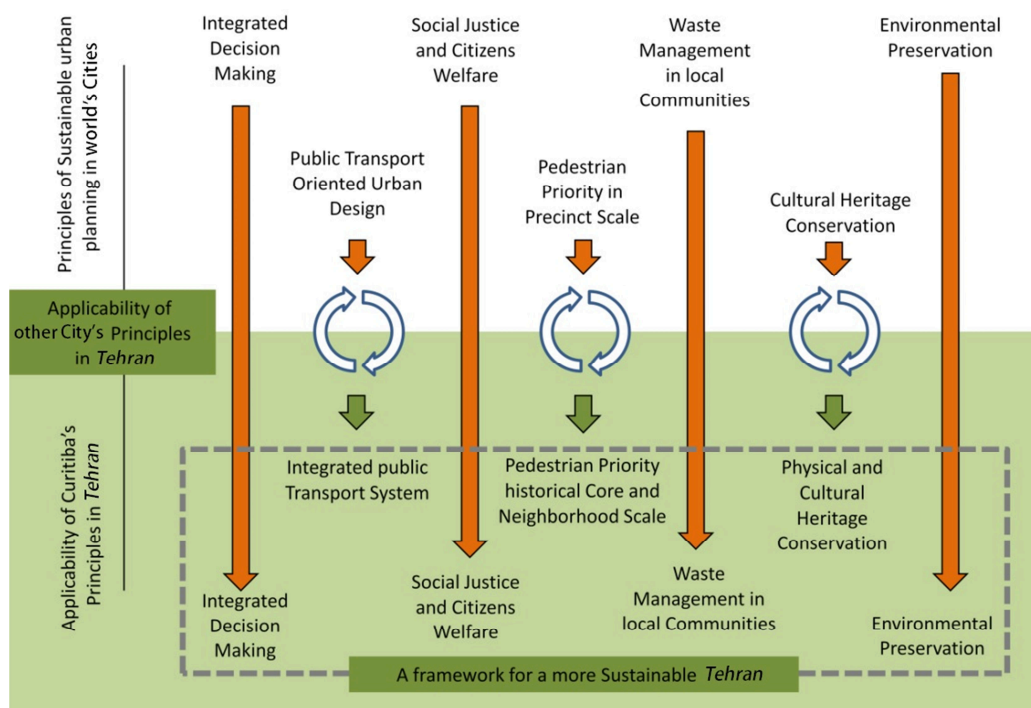
1.4 Sustainable Urban Development in Iran

The discussion of sustainable development in Iran has been discussed in recent years and has sometimes been introduced as an important phenomenon in the development programs (Ouria, 2019). Sustainable development in the urban planning system of Iran has been considered in the physical and skeletal design (Goudarzi & Moghaddam, 2018). In the community of Iran, regardless of this important approach, especially in urban cities, there is a great waste of economic, social and cultural resources. In urban cities, in the process of sustainable urban development, large urban migration to urban and suburbs, low employment rates and the presence of poverty in urban areas, the need for environmental planning, along with cultural planning that can be the basis of this process, is of great importance. (Shirazi & Keivani, 2019).

Urban network and urban structure of the country generally do not have the dynamics and efficiency due to various reasons, including urban inefficiency, the failure of experts to address urban issues in the urban planning and management structure, non-principled and ideal planning, concentration in the decision-making and order system from top to bottom, reducing the investment and not targeting the existing investments, coordination and the lack of coherence between existing investments, the existence of obsolete textures in the urban network and the inadequacy of it, increase in the urban population growth, and the neglect of architecture and urbanism to cultural and social characteristics of the barriers to achieve a sustainable urban development in Iran (Heydari et al., 2019). Hence, officials and managers of the country should seek to understand these problems and bottlenecks in order to provide

appropriate strategies and programs to promote the sustainable development index in Iranian cities. In Iranian historical cities, because of their unique role in country's urban network and their heritage potentials (monuments, sites, and events), the role of social-cultural aspects are stronger (Goudarzi & Gharai, 2016&2019). In practice, all of the sustainability aspects should be considered in an adaptive process. In Tehran case, because of the specific environmental and building characteristics the sustainability framework was shaped along with tourism industry development. Although this sustainability framework can be applied to other historical areas, but it needs to be localized in each context. Priorities need to be changed due to contextual, social, and environmental specifications. The key points are integration of urban planning and implementation of effective actions. The concluding diagram for how/what Sustainability principles in Curitiba can be practiced in Tehran situation can be like Figure 6.

Figure 6 - How sustainability principles in world's successful cities can be practiced in Tehran



2 RESULTS AND DISCUSSION

Given the problems mentioned in the previous section, we can conclude that the structure and texture of urbanization of the country is like a disease that needs adequate suggestions and solutions for treatment. This research, based on the experiences of successful cities in implementing the sustainable urban development program, offers the following solutions:

1. Decentralizing the structure of urban management and the establishing independent institutions in the management of city affairs
2. Paying attention to public participation and increased sense of belonging
3. Using different transport patterns and prioritizing the pedestrian
4. Using renewable resources, such as solar energy to supply energy to buildings
5. Using the experiences of developed countries in the preparation of urban sustainability plans
6. Promoting the local production and ensure local employment opportunities
7. Using indigenous materials and considering the climatic conditions in Iran for building design

8. Improving urban facilities and using modern technologies
9. Constructing waste recycling facilities and converting waste into energy consumption
10. Designing renovation projects and reconstructing projects of worn texture and regenerating the historical textures in cities
- 11- Creating an appropriate space for community groups and social networks
- 12-Reducing the consumption of fossil fuels as fuel in buildings and industrial sites
13. Increasing user configurations that contribute to social sustainability
- 14-Flexible design and reducing the cost of material cycle
15. Determining materials with usability and return to natural cycle. Renewable resources from sustainable sources are preferred to non-renewable resources.
16. Urban sustainability requires continuity and relevance to rural sustainability. Therefore, in order to promote sustainable indicators in Iranian cities, attention must be given to the interactions between the city and the countryside.

In conclusion, attention is also drawn to the fact that according to the social, economic and political conditions existing in each city, we need different strategies to achieve the urban sustainable indicators. This research aimed to find solutions based on the experiences of successful models in the field of urban sustainability, which could be implemented in different cities according to the conditions.

CONCLUSION

Sustainable development is not only an environmental, but also social, cultural and economic issue; and sustainable urban development currently is one of the most important challenges for the international community in a period that can be called as "age of cities", considering the increased rate of urbanization, which for the first time in history, led to urban population to be more than half of the world population. There is still a long-term vision of the development and urbanization for the present-day generation and future generations, which implies the necessity and emergency of local, national and international cooperation to overcome the problems and difficulties. Since the 1990s, growing awareness and attention to sustainable urban development issues resulted in adoption of practical measures and concrete actions in the realization of sustainable development, which has not been sufficient beside being effective, but has determined the path that urban sustainable development has been at the top of it, and a long and difficult way of achieving sustainable urban development has yet to be created and traveled. Meanwhile, the role of local action is major and prominent not only to solve the problems of the same region, but also to overcome the same matters in global scale. In the meantime, the need of new ideas and creativity in practical motivations towards the provision and realization of urban sustainability is one of the main considerations that should be regarded along with other well-known emergencies in this sense.

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