INVESTIGATING STRATEGIES FOR CREATING HEALTHY CITIES WITH SUSTAINABLE DEVELOPMENT APPROACH

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Abstract: Based on The World Health Organization’s researches, clinical psychiatrists have stated that today, tensions and neurological crises are the most basic and principal cause for seventy percent of human physical illnesses. In other words, the stress caused by the environmental crisis and lifestyle of the 21st century is the main source of most of the contemporary human physical illnesses. The major part of citizens’ health problems relates to the nature, lifestyle and urban facilities, which today is separated from nature by relying on human innovations and mechanization. Human beings are directly and indirectly related to their surroundings and affect from that; The health of the climate, plants, creatures and totally, nature
and the environment have played a significant role in the life of human civilization. In general, a healthy environment affects all human activities and characteristics, including individual intelligence and talent, and a healthy person will be more prosperous in all aspects. Hence, improving the condition of urban spaces and creating healthy places to provide mental health for today's and future generations is one of the main concerns of designers in the communities. Therefore, the aim of this study is to investigate and introduce improvement strategies for creating green spaces and urban environments in order to reduce energy consumption and environmental pollution. One of the most effective parameters on sustainable tissues is the greenness and its direct relationship with the mental health of the users.

**Index Terms:** Urban Healthy Places, Environmental Sustainability, Reduce Contamination, Vegetation.

### I. INTRODUCTION

Growing population growth, multiplicity of motor vehicles, the use of fossil fuels and the expansion of the building have caused the city to separate from nature. Thereupon, it was necessary to establish a relationship between nature and cities by creating urban green spaces.[1] Urban green spaces are part of urban areas that are in natural and artificial forms and it is often covered by trees, shrubs, plants, flowers, grass and other plants and is under the control and management of humans which provides a favorable living environment for the residents and welfare of the citizens.[2] Urban green space is effective in improving the weather conditions, reducing urban traffic volumes, reducing air pollution, increasing relative humidity, improving groundwater quality, increasing soil permeability, reducing noise pollution, urban aesthetics and it also the best way to deal with thermal islands.[3]

Cities as a living environment, have an essential role in creating a sense of satisfaction and, in fact, they shape the lifestyle of human and determines the quality of his life. Therefore, paying attention to the physical environment of the city by the authorities and organizing it will play an important role in improving the quality of life in populated cities. Since public space is considered as the most important part of urban environments, in such areas, the greatest contact and interaction occurs between
humans; One of the most important are parks and green spaces of the city. The importance of these spaces as an integral part of urban areas in improving the quality of life, spending leisure time and recreation in the lives of citizens, improving ecological conditions and changing the landscape, [4] has caused to count as the one of the five most important urban users. The city and its public spaces play an important role in the quality of life of citizens through their impact on their physical and mental health. Now many citizens are in dangers with illness that create from the city's physical conditions. Doctors see the emergence of these diseases because of lifestyle changes towards low levels of exercise, unhealthy nutrition, car dependence and, consequently, overweight and obesity. The existing urban spaces create a lot of obstacles for pedestrians, leading them to less physical activity and, on the other hand, limiting their access to places of healthy nutrition. [5] Green space is not the only place which covered with plants and trees, albeit a symbol of the cultural and social thinking of a community whose scope goes beyond the scope of parks and small green spaces. Usually, in all environmental design situations, the combination of plants has the most effect on the perception of the site. Plants are the most important environmental variables in landscape architecture and green space. The existence or absence of visual communication leads to a feeling of pleasure or unpleasantness sense. By matching the visual elements on the plant's shape, it can be seen that the plant does not have the only ecological and functional value, it also has a very strong potential for satisfying the human soul's needs. Therefore, one-dimensional selection of plants should be avoided in the planning of green space instead the plants should be selected visually; also, study the aspects of values and aesthetic effects would be effective. [6]

Figure 1. The Peripheral crisis of Our Era [Source: Writer]
II. SUSTAINABLE DEVELOPMENT

Sustainable urban development is a process in which the city's energy flow in the minimum operating conditions has maximum efficiency. It creates the similar distribution in moving elements as an integrated and connected complex. This space acts as an intrinsic motor for actuating the capabilities of the components, as well as acting as an external growth stimulus to move the hidden and solitary flows by connecting to its internal flow. It will have the least harmful environmental impact on its surroundings. A sustainable city is a space where most residents feel relaxed in space. [6]

The main objective of sustainable development is to meet basic needs, improve living standards, better manage ecosystems and secure the future. Sustainability in various economic, social, cultural, environmental and physical aspects requires the use of an efficient management system with sufficient strength to achieve these goals. [7] Sustainable development is a process to achieve sustainability in any activity requiring resources and their rapid and integrated substitution. In fact, environmental issues can be considered as an areas where sustainable development has emphasized on. The main objective of sustainable development is to meet basic needs, improve living standards, better manage ecosystems and secure the future; this goal itself involves a contradiction that many consider as the main features of the term sustainable development; Providing growth necessary to improve the standard of living of the public and a more prosperous future while preserving ecosystems; However, the point is that with the changes that humankind has created in its natural environment, it has reached such a critical stage of its history that the continuation of a healthy yard on Earth requires revision of the assumptions that common models are based on them. The widespread use of sustainability implies the strength and usefulness of goals for architecture and urbanization. [7] The issue of sustainable architecture, the optimal use of energy and attention to the environment, is at the head of most government executive programs. In fact, the design of buildings and cities in every corner of the globe can lead to the destruction or improvement of biological conditions on the ground, for this reason, and taking into account the interconnectedness of these effects, designing buildings that have an energy saving feature as well as environmental protection are among the main responsibilities of architects. [8]

Buildings alone account for
40% of the world's total energy consumption. This energy is used as a latent energy during the construction phase and in the phase of operation as the energy used by the building. Sustainability is necessarily from a human perspective how to preserve or improve the quality of human life within the limits of the capacities of protected ecosystems. The concept of sustainable development was made public in the late 1980s, after being raised at our next joint conference, known as the Brightland Report. The outcome of this conference was the emergence of a global agenda for changing in the concept and causes of development. [9]

![Sustainable Urbanization: Key Components and Indicators](image)

**Figure 2. Sustainable Urbanization: Key Components and Indicators [9]**

A. **Green City**

According to the definition provided by the Environmental Protection Agency at the Green Conference, The green city is a city where people feel responsible for their environment and, in partnership with civil institutions and government organizations, create a healthy, relaxed and vibrant environment with minimum environmental standards. In this city green space per capita, visual and auditory pollution at the level of acceptable, and production of waste is the lowest and the best form of recycling of materials, along with its separation from the source has exist. Also, energy consumption and materials are optimal and close to global standards. [10]

B. **Sustainable City**

It is a city that is able to survive because of the economic use of resources, avoiding excessive waste generation and recycling them as much as possible, and adopting long-term beneficial policies. Sustainable city planners should focus on creating cities with less energy inputs and less waste and pollution outputs.
One of the fundamental goals in sustainable development is to meet the needs of today's generation without compromising the needs of the next generation. [11]

Healthy city is a city in which the undesirable social, physical, environmental conditions are always provide being through public participation and intergovernmental cooperation among relevant organizations in order to utilize existing environmental resources and facilities. Public and private participation in the process of implementing this project has a constructive and influential role. [12] In such a situation, an environment is created that the people of the community will be able to maximize their capabilities and the participation of the group in the accomplishment of all their life, by creating and continuously expanding the physical and social environment, and the optimal use of available resources and facilities and with the support of each other.

Figure 3: Sustainable city pattern with less input and output and more recycling [11] 3

Figure 4: Needs Assessment Table for Healthy Cities [Source: Authors]
Successful urban specialists and managers all emphasize that the city is not merely a place of aggregation and habitation of a specific population, buildings, street, car and others, in fact, it is constantly changing as a living and dynamic entity. Population growth, especially in cities and the excessive urbanization in the 20th century, raised the issue of health. The health of the city depends on having a healthy environment and suitable social, economic, cultural, environmental, aesthetic, educational, scientific, political, psychological, health, sports, and so on that citizens form the basis and core capital of this city.

![Figure 5: The World Health Organization’s Framework for Healthy Cities Project [12]]

**III. AN ANALYSIS OF THE CHARACTERISTICS OF HEALTHY CITIES**

The foundation of a healthy city is based on the principle that health is something more than medical care. Healthy environments and society's nurture are also key features. The word of health refers to the state of a person or a community and this situation is linked to several factors, including medical care. Gradually, with the development of the idea of a healthy city on all continents, this idea became a global movement. A movement formed by the idea that all people who participate in urban affairs bringing together, plan for using of existing facilities with a coordinated order and a specific goal for environmental health. [13] A healthy city with a common ecological approach includes four principles:

1. Minimal interference in natural conditions: According to this principle, any new development or reconstruction should be in accordance and consistent with the topographic conditions, vegetation and climatic conditions of the site. Careful attention to local features in terms of surface water guidance, ventilation,
indoor air insulation and open and closed spaces can be very desirable. 2. Maximum variation: Maximum diversity can be found in the physical, social and economic structures of the city. Land uses and activities should be blended together instead of being separated and dispersed to the extent that it is possible and does not pose a hazard. A diverse range of economic activities will make cities less vulnerable to changes and reduce social polarization and injustice. 3. Closed urban system: The principle of the closed system in urban and environmental health management means that material is recovered in the urban area itself wherever possible. Water, energy and other resources are renewable. Green spaces management is aimed at preserving nature and recreational spaces in the city. 4. Establishing a competent balance between population and resources: Population changes, and in particular the urban population, should be proportionate to the natural and environmental systems that are supports for population. Such an equilibrium is necessary both in the city and in the neighborhood so as to create a high quality environment with favorable cultural and economic opportunities and facilities. The idea of healthy cities revives the sense of belonging to the city and the neighborhood because people have a special emotional and emotional relationship with their native place of birth and indigenous areas. The city is not just a geographic location or a collection of buildings, shops, and streets; city is made up of the social and physical environment of its inhabitants, represents specific architectural forms and past demonstrations and a place for the aggregation of human beings. The cultural and spiritual features of these are the deep roots that connect a person to his hometown and give him a sense of pride and responsibility at the same time. These are powerful factors that can be used as the main source for new measures to tackle urban issues. [14] To achieve the ideal human goals, namely having a healthy city or a healthy village with vibrant environment and people, appropriate solutions will be proposed:

- Having a Meritorious, Democratic and Lawful system with Targeted, Transformative, Universal and Dynamic’s economic, social, political, cultural, and security organizations;
- Continuing struggle against cultural spiritual and moral desertification in society;
- Improving the quality of citizen education
- Improving the quality of economic, social, intellectual, health, nutrition life;
- The sense of responsibility for maintaining national resources for the present and future generations;
- Actual and practical participation of citizens in urban and rural planning and division of responsibilities between them, according to their account responsibilities, skills, experiences, competencies and competencies;
- Globalization of Cultural Relations, Advanced Knowledge Management, Business Development and Electronic Democracy to achieve Sustainable Development Goals; The ultimate goals of the sustainable development include human development and vibrant citizens, full of love and affection and a healthy and sanitary environment.[14]

| 1. Sustainable revival | The city must have the ability to live and meet the basic human needs. |
| 2. Safety and Security | City must be safe. Safeguarding the city from natural, abnormal accidents and financial and life losses. |
| 3. Economic efficiency | The city must have a financial economy and increase productivity and efficiency in all areas of society. |
| 4. Cooperation | Healthy social communication that includes cooperation and sympathy. |
| 5. Access | The city must have the potential and actual availability of access to centers, news, resources, and so on. |
| 6. Balance | The city must strive to maintain, deploy and strengthen the balance and meet the needs. |
| 7. Compatibility | The city must make the components compatible with each other as well as with natural conditions. |
| 8. Dynamism | City must have dynamism. This dynamics is interpreted as a purpose-oriented and predictable development that takes into account specific goals. |
| 9. Identity | The city should prevent historical disconnection and the breakdown of cultural ties to protect its identity. |
| 10. Beauty | The city must strive to be enjoyable in all aspects, especially in visual representations. |
| 11. Variety | The city must strive to maximize diversity in its physical, economic and social structures, in order to provide the opportunity to assess and make choices for citizens. |
| 12. Leisure efficiency | The city must provide adequate facilities for spending leisure time outside of the serious flow for people's refreshes. |
| 13. Closed city | The city must try to control its data and output as much as possible especially in health matters. |
| 14. Feeling of belonging | The city should strengthen citizens' sense of belonging and alter it to responsible feel in different ways in order to achieve the goals of a healthy city. |

Figure 6: sub-study and features of healthy cities with a sustainable development approach [Gathering: Authors]
IV. CONCLUSION

Healthy societies have unique characteristics but have common principles that allow us to take them into consideration in general. Healthy communities offer a health perspective for the future and it uses processes to achieve goals. In this way, these principles help us to shape an idea of a healthy city, to determine the criteria and indicators for each principle. According to the definitions of the healthy city and the qualities presented in the healthy city, the general rules are deduced and extracted in fourteen principles based on the principles of a healthy city that each of them is observing several aspects of the quality of a healthy city. The principles of a healthy city here refer to the pillars of the idea of a healthy city. In fact, each principle has components of the conditions for realizing the idea of a healthy city which can be generalized for any city in each region. Sustainable development takes place in exchange for the codification of organized rules based on the expressed characteristics. Amongst the most important features of healthy cities can be inferred to sustainable revival and providing the basic needs of users.

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