READING EXERCISE > Read the following article and answer the questions below.

Urban Planning in the 21st Century

On Aug 8, 2022 - *By Muhammad Wajahat Sultan* >
Article taken from https://nation.com.pk/2022/08/08/urban-planning-in-the-21st-century/

Global warming is an existential threat that directly impacts the entire world population. Due to uncontrollable defects of global warming, it is feared that it can risk the global economy as well as sinking entire cities like Karachi and Miami due to rising sea levels and cyclones. It poses multifaceted problems ranging from geopolitical to aggravated economic issues. Urban planning is the sustainable way forward as the urbanized population of Pakistan is rising at a rapid pace. Urban planning includes technological innovation, sustainable development, and modern techniques to develop and sustain metropolitan cities in efficient ways.

Pakistan needs to leapfrog to new technology and management methods in urban planning for sustainable growth and countering the ominous threats of global warming. The first area which is under discussion in urban planning is the Modern Biophilic Design City. Organic architecture in urbanism helps to decrease carbon dioxide emissions. In the Chinese city of Liuzhou, about 10,000 tons of carbon dioxide and 57 tons of micro-particles were avoided by the introduction of Biophilic Design. This design in urbanized communities stressed the natural architecture and natural environment in the congested mega malls and commercial areas. Stephen R.Kellert in his book "Biophilic Design: The Theory, Science, and Practicing of Bringing Buildings to Life" argued that fostering beneficial interaction between people and nature in modern building landscapes reduced the anxiety level and increased creativity levels in modern urbanized communities. The Biophilic City Design facilitates the horizontal growth of urbanism and nature together.

The second point in sustainable urban planning is the Sponge City Model, which was introduced by Chinese researchers to manage the ecological infrastructure and drainage systems. The Sponge City Model can help to reduce urban flooding by up to 90 percent. The Sponge Model helps absorb the storm water and then release it like a sponge after purifying it. The released water can then be used for various purposes like agriculture and the construction of underground water tanks. During the monsoon season, a lot of people lose their lives and a lot of infrastructural damage take place in the mega cities of Pakistan. Karachi is more vulnerable to urban flooding due to rising sea levels and irregular weather conditions. The Sponge Model helps to prevent the excessive use of plastic pipes and channels. During rainfall and flood conditions, this pavement design and infrastructure model helps to absorb water in the ceilings and then use it for purposive means in the future.

The third planning strategy is the Mix-Use Design Model. The spurring growth of population and urban neighborhoods forced planners to design such adjustments in which all the essential units of life are integrated. Mix-Use design focuses on three or more uses in a single structure such as entertainment, parking, residence, and hotels. In Pakistan, it is high time to consider Mix-Design urban planning to adapt to global warming. The availability of all the resources in one place helps to prevent unnecessary transport usage which adds to global warming. The New Urbanism Movement's design to develop ecological and sustainable cities is helpful to reduce the momentum of rising heat waves and abrupt seasonal changes. JR Towers

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in Nagoya Japan has something in the mix for everyone. The three towers are built together which facilitates the bullet train as well as the local subway. It has office space and a hotel in the same tower. An exterior elevator provides easy access to the top fifteen stories. In Pakistan, there is no such trend of Mix-Design buildings that could facilitate multiple facilities together in one building. The rise of Mix-Design buildings can help scale back expanded communities in urban spaces which later deteriorate the climate of the cities.

Due to rapid rural-urban migration, Pakistan is experiencing lower agricultural yield. Vertical farming in megacities is the modern agri-tech technique to grow more plants in small places. It can be done in warehouses and even in buildings. In traditional societies, horizontal agriculture is widespread and focuses on expanded and large-scale area-based farming. In modern cities, planners can discern to produce more food and more agricultural resources in a limited space. The rising threats of global food shortage can also be combated through precision and agri-tech in cities where modern drones and GIS-based data can be utilized to increase fertility.

The last element of urban planning in the 21st century can be discussed in the form of the 15 Minutes City Model. It is a type of urban planning in which the consumption of oil, fuel, and other fossil fuels is reduced to prevent the harmful effects of global warming. In 15 minutes all the residents, commercial and recreational building blocks as well as facilities are provided for access and not for mobility. The cities are designed to connect each part within a mobility of 15 minutes so that unnecessary consumption can be avoided.

The effects of climate change are exacerbated everyday due to the rise of population in urban areas. To avoid an ecological apocalypse, we need efficient and sustainable cities that are eco-friendly. The metropolitan city planning committee must discern the prevalent eco-friendly techniques to avoid major global warming setbacks. It is imperative for our city planners to adopt these novel urban planning techniques.

Comprehension Questions

A. Based on the previous article, decide if the statements below are TRUE, FALSE or NOT GIVEN. Correct the false ones ONLY.

1. Global warming may cause a dramatic impact at different levels of the world economy.

Ans: _____

2. The *Biophilic Design City* has been introduced successfully in Chinese cities such as Liuzhou.

Ans: _____

3. The *Sponge Model* has proven to be revolutionary in cities where the rainfall causes flooding.

Ans: _____

4. The *Mix-Use Design Model* promotes single uses of any type of building for the well-being of the inhabitants.

Ans: _____

5. Pakistan has implemented the mix-use model to avoid the expansion of communities in urban areas.

Ans: _____

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6. Farming may become a reality in modern cities if it is developed in small areas.

Ans: _____

7. Urban planners still see mobility as a great concern due to the dependence on oil and fuel.

Ans: _____

B. Complete the summary below using ONLY ONE WORD from the text above.

It is evident that the world has started facing difficulties due to climate change, and populations and economic systems are at (1) _____ of suffering serious consequences. Nonetheless, urban planning might be a key to solve such a crisis. An interesting proposal in urban planning is called *Biophilic City Design*, which combines natural architecture and (2) _____ inside man-made constructions. This design has benefitted the interaction between nature and humans lowering (3) _____ and boosting their creativity. Another interesting sustainable idea is the *Sponge City Model*. This model offers the collection of rainwater preventing (4) _____ and allowing the reuse of it for different purposes. Specifically, cities like Karachi in Pakistan could take advantage of this proposal during the (5) _____ season. A third alternative is the *Mix-Use Design Model*, which permits structures to have different uses in one place. Thus, the reduction of the use of transport and impact during seasonal changes are among the advantages of this model. On the other hand, in modern cities, where the (6) _____ is limited, the application of technology in (7) _____ may contribute to fight possible food shortages and improve land fertility. Finally, it is the *15 Minutes City Model* where the usage of (8) _____ fuels is significantly reduced, and inhabitants may move around the entire area in a quarter of an hour. To conclude, the novelty and implementation of eco-friendly proposals in the design of future cities will help to mitigate the (9) _____ of climate change.

C. Find words in the text above that match the definitions given below. *Tip: There is ONE WORD in each paragraph to complete this exercise.*

P. 1 _____	=	***made worse or more severe; intensified***
P. 2 _____	=	***development; gradual increase***
P. 3 _____	=	***susceptible to being damaged or hurt***
P. 4 _____	=	***impetus; energy; force; power***
P. 5 _____	=	***scarcity; insufficiency; the opposite of abundance***
P. 6 _____	=	***damaging; destructive; negative***
P. 7 _____	=	***perceive; recognize; become conscious of***

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