

# Research of Future Directions and Considerations for Implementation of the Forest City Strategy

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## Abstract

A “Forest City” (FC) is an urban area that has a significant amount of forest cover. It is now a green urban development strategy that is supported by numerous nations. This essay compares the many FC implementation strategies used in developed and developing countries and explores potential future paths for this tactic. The variations between FC in terms of measurement targets, air purification, street trees, and forestry development are thoroughly compared in this research. This essay goes on to explore FC’s potential in the future regarding policy changes and the environment based on this comparison. Therefore, this essay focuses on the necessity of considering industrial innovation, encouraging biodiversity, lowering greenhouse gas emissions, paying attention to forest restructuring, and being more responsive to the issues provided by urbanization in the future global implementation of FC.

## Keywords

Forest City, Policy Adjustment, Ecological Environment, Measurement Objectives

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## 1. Introduction

This paper not only focuses on the development of FC in developing countries but also compares it with developed countries at the same time. This essay aims to analyze and summarize the possible future directions of the FC strategy by comparing the different strengths and weaknesses of FC implementation in developing and developed countries. Firstly, the essay introduces the development background of FC. Then, the essay discusses in detail the different ways FC has been implemented in developing countries (China, India, etc.) and developed

countries (USA, Europe, etc.), and focuses on the differences between FC in terms of measurement targets, air purification, street trees and forestry development. Based on this comparison, the essay demonstrates the future direction of FC development and implementation in terms of both policy adjustments and ecological context. Finally, this essay concludes.

Countries have been more exposed to issues including air pollution, diminished biodiversity, and resource constraints in recent years. There is a rising understanding of the significance of FC in enhancing the urban environment due to the acceleration of urbanization and the seriousness of these environmental issues. As a crucial tactic and leading indicator for sustainable urban development, FC has been embraced by numerous nations (Li et al., 2005). Innovative and sustainable technology, effective resource management, comprehensive environmental protection, and supportive regulations are all part of the current implementation of FC. Governments can design systems that maximize energy consumption, lower greenhouse gas emissions, enhance air quality, and preserve ecological balance using these components (Listianingsih & Susanto, 2023). As a result, FC is being considered as a sustainable development management strategy by an increasing number of nations (McPherson et al., 2005).

However, geography and climate, such as cold winters, can also determine the type of FC and the types of plants used for landscaping (Pietsch, 2009). At the same time, forest fires have become a prominent threat to the implementation of FC and the ignition and spread of fires involve additional socio-economic factors and human activities (Su et al., 2018). It is also worth noting that in some tropical countries, where urban populations continue to migrate out of the country and smallholder farmers are fleeing, forests have not increased. Instead, many smallholder farms have been replaced by a few large-scale producers (Padoch et al., 2008). Therefore, to implement an efficient and sustainable FC strategy, its design and arrangement need to be adapted to different urban environments, such as office and residential areas, green open spaces, etc. (Dahar et al., 2022).

## **2. Different Countries in Implementing FC**

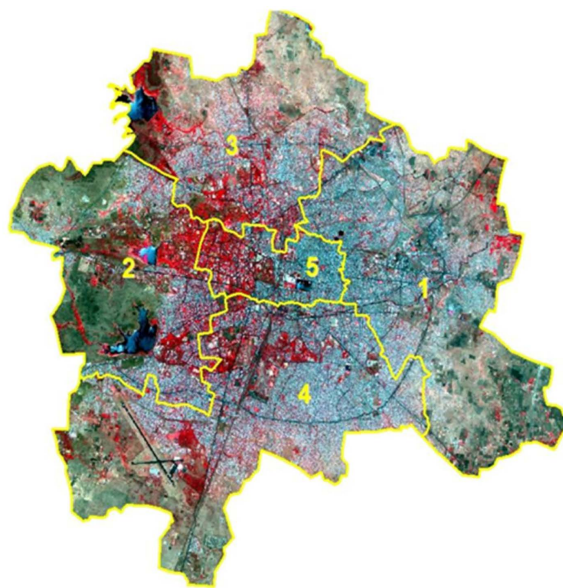
### **2.1. Developing Countries**

Developing countries are less consistent in their focus on developing FC strategies, largely due to different regional geographies and uneven levels of urbanisation. In China, for example, the northern cities of Beijing and Tianjin, one of the most polluted urban agglomerations in the country, have been experiencing widespread haze for many years, and the pollution has seriously affected the health of the region's residents. The 2017 China Ecological and Environmental Bulletin published the ten cities with the lowest air quality, and six of them are in the northern region. After this, FC began to target high concentrations of PM 2.51 more often (Xu et al., 2020) and made improving air quality the primary goal of FC's strategy. However, the local administration in Jinan, in the central area, has set the primary goals of the strategy to be expanding the number of

green belt corridors and establishing an ordered planar green belt. This is because the two primary types of urban landscape corridors are local streets and rivers. To establish orderly green belts and integrated ecological benefits, the local government thus concentrates on establishing green corridors that link to other green places (Zhang et al., 2007). In the meantime, Guangzhou in the south has created an urban forest system rich in plant diversity with native broadleaf evergreen species thanks to its more developed economy and higher degree of urbanization (Jim & Liu, 2001).

In India, Nagpur, one of the most environmentally friendly cities, has 18 per cent of forests and plantations, 17 per cent of arable land and 2 per cent of water bodies. At the same time, the local natural vegetation is very diverse with a high vegetation cover of 59%, a figure that surpasses most Indian cities (Chaturvedi et al., 2013). The areas where the local development of FC is relatively flourishing can only be the suburbs, which is mainly due to the special geography of the Deccan Plateau towns in which Nagpur is located. Most urban areas in the Gangetic Plain of India have emerged from agricultural landscapes, but the Nagpur area is uneven, and the agricultural landscapes of the surrounding lowlands have given way to green landscapes while the forests in the higher parts of the centre have been deforested to make way for the construction of towns (see Figure 1).

But as India grows more urbanized, the central woods are now under protection due to the significant threat that population growth poses to biodiversity in metropolitan areas. In contrast, Malaysia's FC will have a total area of 14 square kilometres and be constructed on four reclaimed islands in the Straits of Johor, Malaysia (Koh et al., 2021). However, shifts in scale politics, local politicians' interests, and geopolitical developments may all have an impact on FC tactics. This



**Figure 1.** Comparison of geosatellite data for the city of Nagpur, India (Chaturvedi et al., 2013).

is because speculative investors profit greatly from most of the local green infrastructure and technologies, frequently at the expense of locals. The negative costs associated with “green” endeavours may not always be fully borne by these facilities. Therefore, egalitarian, and sustainable green urbanization is subordinated to the logic of speculative urbanization.

Addis Ababa in Africa is home to nearly 30 per cent of Ethiopia’s urban population. But locally the city is heating up due to the heat island effect in many neighbourhoods. Unsustainable land use, uncoordinated urban development and insecure land tenure systems have become serious problems (Abebe & Megento, 2016). And they have a huge negative impact on the implementation of the FC strategy. Currently, green spaces in Addis Ababa are almost turned into urban habitats, and the LULC (Land Use Land Cover) classification scheme and FC strategy are no longer accepted locally (see Figure 2). As a result, for areas that lack public awareness, have low community participation, and have poor implementation of government policies, the FC strategy not only lacks budgets and technical talents but also must address the coordinated development of the city and the cooperation between different stakeholders.

## 2.2. Developed Countries

Indeed, developed countries have developed their forest systems with a greater emphasis on maintaining traditional social connections and deepening the connection with urban nature in a more culturally relevant way. They also sometimes collect more NTFP (Non-Timber Forest Products) to enhance urban residents’ access to nutrient-rich plants. For example, the city of Seattle in the United States has developed FC with a greater focus on the physical and mental health benefits of forests as part of a range of processes, including food and health sovereignty. The US sees the need for cities to develop a forest justice framework that gives local people some power over their own culturally appropriate food and

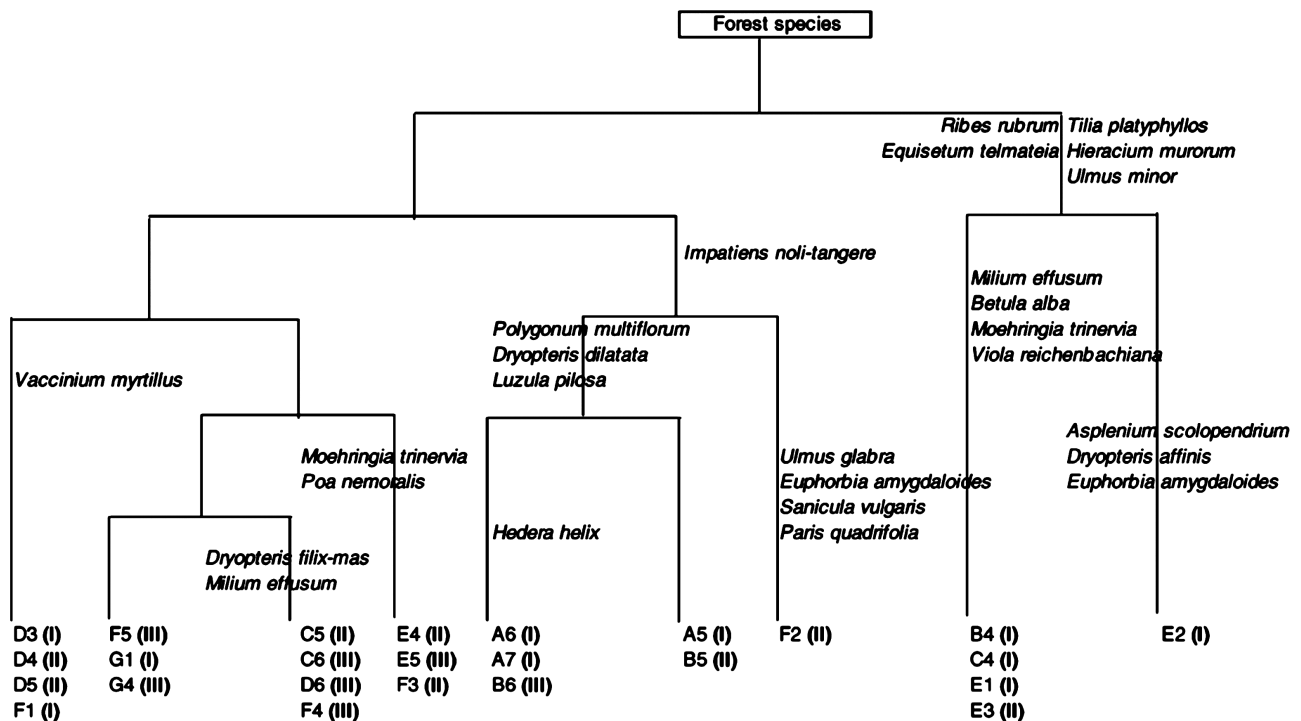
<b>LULC types</b>	<b>Description</b>
<b>Plantation</b>	Forests Areas covered by man-made trees.
<b>Forestland</b>	Areas dominated by natural high forests, which are coniferous or deciduous.
<b>Grasslands</b>	All areas covered with natural grass and small shrubs dominated by grass.
<b>Cultivated land</b>	Areas of land prepared for growing agricultural crops. This category includes areas currently under crop and land under preparation.
<b>Bare lands</b>	Are parts of the land surface which is mainly covered by bare soil.
<b>Built-up</b>	Areas allotted for residential, commercial and government and private institution.
<b>Transport area</b>	Area occupied by airport, road network and transport stations.

**Figure 2.** Initially, the Land Use Land Cover classification scheme was used in the strategy to implement the forest strategy (Abebe & Megento, 2016).

health systems, including power over how to access edible and healthful wildlife resources, to participate in decision-making about how to manage these resources, and to use local cultural identities and social relations to embed themselves in the forest system, among other things (Poe et al., 2013). However, this practice further limits meaningful government participation in urban environmental decision-making. Moreover, developed countries are also more concerned about global warming. In North America in particular, governments often promote and disseminate information about the role of urban trees in climate and air quality improvement and CO<sub>2</sub> reduction in industrialised countries. This approach has also awakened the country's educated, aware, and conscientious urban population and utilised them as a key constituency in support of forest conservation (Chaturvedi et al., 2013).

In the interim, human activity may harm the surrounding environments in highly industrialized and urbanized nations. Over the past 5000 years, human impacts on vegetation composition, biodiversity, and flora have been identified as the most significant causes. Hence, in developed nations, in addition to providing educational and health sovereignty to local communities, FC measures the environmental benefits of urban forests and converts them into biodiversity values. By doing this, it also greatly increases the value that urban forests are placed by citizens and policymakers (Chaturvedi et al., 2013). For instance, in the state of Kansas in the United States, metal mines are now largely absent to protect biodiversity and create an ecological environment. In the past, however, cadmium and germanium were major by-products of lead and zinc production in this area. The region's westward-dipping strata may also contain mineable resources of lead, zinc, and other by-product metals. However, it is not known that the western strata are currently being used commercially in the state to produce copper and other products (Steeple, 1989). In Brussels, Europe, for example, human impacts on biodiversity have increased exponentially since 1860 with the expansion of new housing into the surrounding area and the construction of urban infrastructure (transport and communications, etc.). As a result, local governments are now paying more attention to biodiversity research.

Governments are putting more of an emphasis on creating forest edges as part of the FC plan, including areas of the urban periphery that are environmentally influenced by nearby ecosystems (these areas differ from the ecosystems in urban centres in several features). This phenomenon sometimes called the Edge Effect, is characterized by these edges typically having a higher composition of forest species and tree community structure than the forest interior (see Figure 3). Considering ecological growth in the future, it is also anticipated that the usage of forests will increase due to increased land use intensity in industrialized nations and increased population density in areas near forested areas. This implies that as the number of biological species increases, so will their opportunities to exist (Godefroid & Koedam, 2003).



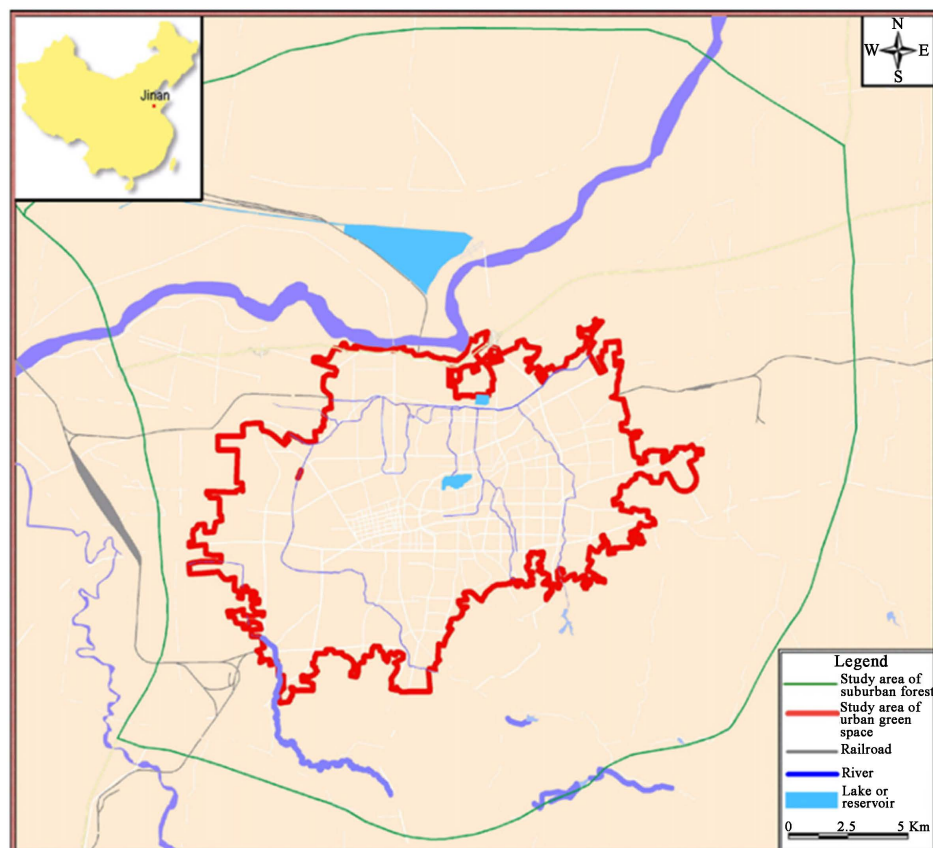
**Figure 3.** This shows that each forest species will be displayed through the unit code, indicating that each partition has a Twinspan indicator species (Godefroid & Koedam, 2003).

## 2.3. Comparing and Summarizing the Differences between Developing and Developed Countries

### 2.3.1. Measurement Objectives

Developing and developed countries have distinct current and impacting issues to consider in their FC policies due to disparities in economic development, urbanization levels, and geographic surroundings. In developing countries, the major purpose of the strategy is to reduce air pollution produced by industrial pollutants in places with higher economic development but more severe pollution, such as Beijing's response to China's PM 2.5 concentration. To optimize ecological benefits, Beijing initially improved cooperation with Tianjin and other regions, developed scientifically prepared FC construction plans, and enhanced the area of forested green space and tree species that may reduce PM 2.5 concentrations. It has also spurred industry reorganization and technology innovation to deal with the spatial spillover effects of air pollution (Xu et al., 2020).

In a similar spirit, the local government in Jinan, a less economically developed region of central China, is more likely to plan three-dimensional green spaces and belts. To guarantee that the FC plan's aims are met comprehensively, the government is changing its focus to three-dimensional green spaces and carefully selecting and contrasting urban tree species (see Figure 4). A greater emphasis has been placed on the integration of urban forest management systems and habitat conditions in cities with higher economic levels but lower industrial pollution (such as Guangzhou). This has resulted in the development of a distinct forest type in terms of ecology, amenity, and environmental services



**Figure 4.** The main area for developing the FC strategy and establishing three-dimensional green belts in Jinan (Zhang et al., 2007).

(Jim & Liu, 2001).

Conversely, in developed nations, the environmental advantages of urban forests are more frequently quantified when establishing goals for the execution of strategies, and they are converted and optimized into values of biodiversity, which also considerably adds to the growing recognition of the benefits of urban forests by decision-makers and the public (Chaturvedi et al., 2013). To better attain ecological civilization, wooded cities are being enhanced locally in industrialized countries through the coordinated growth of urban agglomerations. Through the restoration and construction of new FC elements and the connection of ecosystems like wetlands, young forests, and primary forests, most of the strategic objectives aim to improve the green ecological space and ecological carrying capacity of cities.

### 2.3.2. Air Purification and Street Trees

In recent years, how to reduce air pollution and improve the carrying capacity of the environment through the implementation of the FC strategy has become a hotly debated topic around the world. This is mainly because the deterioration of air quality has become a bottleneck constraining the sustainable development of various countries. The investment in urban green spaces, parks and urban sanitation facilities can better describe the degree of development of an FC, and

increasing the proportion of these three facilities can help to reduce the PM 2.5 concentration in the local and neighbouring areas (Xu et al., 2020). In addition, street trees—trees that grow on city streets—have improved the quality of the air in cities recently, and in many nations, this has become a significant way to lower air pollution. This is due to more than just the fact that street trees' ecological functions can enhance the surrounding area and standard of living. In terms of the environment, street trees also lessen stormwater runoff, eliminate air pollutants, store carbon dioxide, and conserve electricity. Furthermore, street trees can improve the recreational and aesthetic appeal of a neighbourhood, which can raise property values and business revenue (Wang et al., 2018). In Guangzhou, China, for instance, the majority of the street trees in the old town were planted before the 1960s. Over the years, these trees—especially Ficus—have affordably preserved the roadside vegetation by consistently removing air pollution from the roadways and meeting the vital demand for shade (Jim & Liu, 2001).

Meanwhile, we know that the benefits generated by roadside trees are worth the management costs. Studies have shown that for every US\$ 1 invested in street tree management costs, the average urban resident receives US\$ 3.2 in benefits. Currently, the annual energy savings of all street trees globally averages \$ 29/tree, with a net CO<sub>2</sub> reduction benefit of \$ 16/tree (Wang et al., 2018). It is worth noting, however, that managers and policymakers must recognize that street trees are a fragile resource that requires constant care to continue generating benefits into the future. In comparison, in developed countries, although the number of street trees and parkland trees is less than that on private land, they are also impacting the lives of many residents. In the implementation of FC's strategy, street and park trees were mostly the first species to be registered locally (McPherson et al., 2005). It is because of the importance of the management and control of street trees to sustained improvements in air efficiency that in many countries they are planted by the same organizations and often managed similarly.

### **2.3.3. Forestry Development**

On the one hand, current forestry development in developing countries is still largely directed towards the care and management of all those trees in and around cities. In developing countries, about 44% of the population currently lives in urban areas, but developing countries in Asia and Africa are likely to cross this historic threshold in the next 20 - 30 years (Chaturvedi et al., 2013). For instance, Nagpur, India, has 124 different tree species that are part of 38 families in its local forestry. The city's comparatively strong air quality is a result of the development of more diverse tree species and forestry. In addition, the diversity of natural forests under protection is higher than that of afforestation in the public and private sectors. When all these evaluations are combined, we discover that cities in developing nations with a variety of vegetation have a more beneficial impact on a cleaner environment (Chaturvedi et al., 2013).



On the other hand, forestry development in developed countries, for example in the UK and the Netherlands has been more concerned with networking and international connections. We know that the International Society of Arboriculture was founded in the United States in 1924 as the National Shade Tree Conference. In the 1990s, several new networks of urban forestry researchers emerged. The Nordic Forest Research Cooperation Committee continues to support urban forestry networking by funding joint Nordic-Baltic workshops. The UK also became the first stronghold of urban forestry in Europe (Zhang et al., 2007). The establishment and development of such forestry networks are undoubtedly more global in outlook, enabling global forestry to be linked and interconnected, resources to be shared and information to be synchronized.

### 3. Future Considerations and Directions

#### 3.1. Policy Adjustments

##### 3.1.1. Responding to the Challenges Posed by Urbanization and Development

Under the current rapid global urbanization, countries are collectively facing more challenges such as increased disaster and security risks, increased pollution, lack of green space, inadequate water and sanitation, lack of employment opportunities, and deteriorating building services and infrastructure (Abebe & Megento, 2016). Therefore, the implementation of FC's strategy should continuously adapt its policies to the emerging challenges. On the one hand, with the growing concern for ecological conservation, cities in developed countries have more potential to meet the challenges, and therefore local government policies should be more focused on the suburban environment and institutionalized in urban areas (Chaturvedi et al., 2013). On the other hand, policies in developing countries should be more local economic conditions and the actual level of urbanization, reasonably based on the principle of eco-efficiency, and integrate urban forests into the overall planning of the whole city (Zhang et al., 2007). For illustration, the policy should prioritize the selection of native tree species that are suited to the area's natural conditions. It should also consider the trees' aesthetic and financial worth, as well as how well they adapt ecologically to the area's climate and soil. Concurrently, the policy ought to prioritize the mitigation of tree species pollution, with a particular emphasis on the impact of industrial pollution.

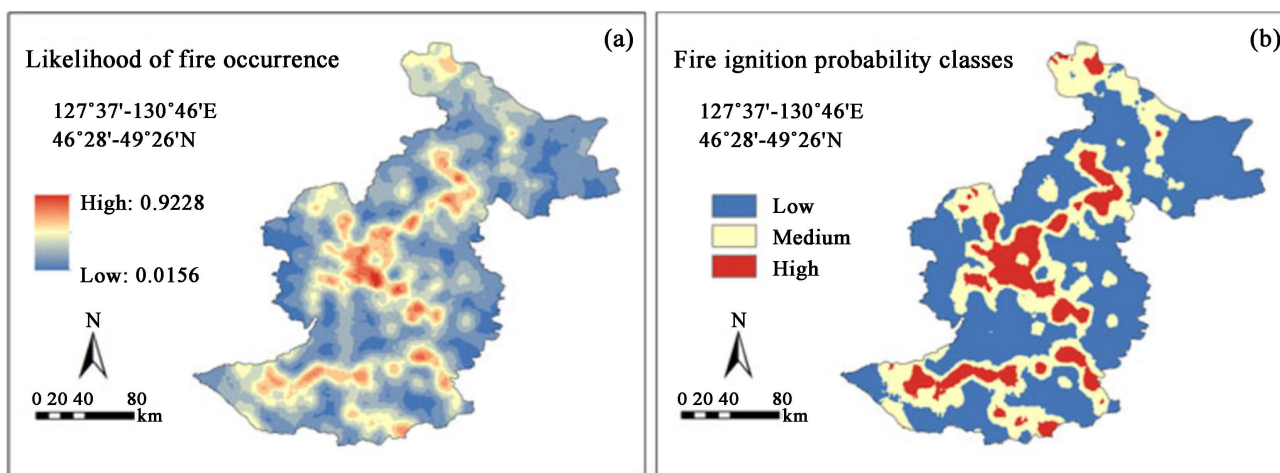
In general, the policy ought to encompass not only the expansion of green belts inside suburban areas but also the encouragement of green space development, a steady increase in the amount of forest cover, and an improvement in the ecological protection role. The government should simultaneously consider the financial advantages and disadvantages of the program for the city, particularly for emerging nations (Zhang et al., 2007). Moreover, the use of FC may introduce unanticipated risks like fire in addition to disaster safety concerns. As a result, more technical innovation and application should be encouraged by policy. According to GCM (General Circulation Model) simulations, the world will

experience rising temperatures in the future because of an increase in greenhouse gas concentrations in the atmosphere, which might potentially lead to a rise in the frequency of fires (Su et al., 2018). The study of Yichun City, China, where forest fire occurrence is dispersed in clusters, can be consulted regarding this matter (see Figure 5). To lower the risk of fires, the government may in the future put better preventative measures into place in places that are prone to them. Forest fire frequency will decrease along with the policy of increased forestry investment.

### 3.1.2. Industrial Innovation

Unprecedented worldwide urban expansion has resulted in a slew of issues, including industrial concerns. Changes in the urban economy have resulted in a situation in which the industrial sector is growing faster than the rest of the economy, particularly in emerging nations, and green industry services are frequently unable to keep up with the high rate of expansion. As a result, industrial innovation has emerged as a key focus for the FC strategy's future execution. Unsustainable land use, uncoordinated forest development, and land tenure insecurity are all important challenges that must be addressed to foster future industrial innovation (Abebe & Megento, 2016). Meanwhile, the number of people living in cities is expected to expand by 84%, from around 3.4 billion in 2009 to 6.3 billion in 2050. Almost 90% of this expansion is predicted to take place in emerging markets. As a result, there will be a huge and growing disparity between urban and rural populations. However, we are aware that local air PM 2.5 concentrations will fall as GDP per capita, population densities, and the proportion of secondary value added to GDP rise (Xu et al., 2020). As a result, industrial innovation makes a considerable contribution to PM2.5 air pollution.

Furthermore, based on the Malaysian example, we conclude that industrial innovation must be more careful of which opinions are dominant, as this will have a direct impact on how FC is handled. Equally important is who is implementing the



**Figure 5.** The probability of fire occurrence (a) and fire risk level (b) were investigated and statistically calculated in detail (Su et al., 2018).

FC strategy and what activities within the FC are deemed appropriate, as these will ultimately influence the species composition and structure of the urban forest. One thing we learned was that the distribution of sociopolitical power influences normative conceptions about the objective of FC implementation. FC must support fair and sustainable green urbanization in communities to keep residents' living standards from deteriorating while also allowing speculative urbanization to proceed. Local governments should carefully consider how green urbanism and speculative urbanization are linked. They should concentrate on the complex interplay between the local power structure and industry, as well as the micropolitics of speculative green urbanization. Furthermore, they should contextualize the attitudes and activities of many stakeholders. Only in this manner can the threat to the local population's habitat be avoided, and the employment of FC techniques will not be predicated on encroachment on locally available habitats (Koh et al., 2021).

## 3.2. Ecological Environment

### 3.2.1. Biodiversity

Different environmental circumstances and human interactions can cause species to differ significantly in terms of variety, provenance, and amenity qualities. These characteristics also contribute significantly to the FC's character. In the future, only by stimulating interactions between natural and cultural aspects will FC's biodiversity be shaped jointly. In developing nations, such as China, more and more people in economically developed cities are moving to the suburbs to enjoy a higher standard of living and cleaner air. As a result, suburban biodiversity has grown to some degree. However, in less economically developed cities, urban labor costs remain low while population densities remain high (Moser, 2017).

To prevent the possibility for the appearance and spread of these undesired species, which could affect the optimal development of forest vegetation, governments in developed countries may eventually need to take steps to limit uncontrolled public access to forests. With a high proportion of forest cover, Brussels, for example, should think about how to grow its forests with more competitive species rather than focused on increasing biological diversity. If the government wants to conserve forest biological processes, it should prioritize species with a larger range of potential habitats that are more tolerant to stress and open environments (Godefroid & Koedam, 2003). Simultaneously, forest stands near metropolitan regions in emerging cities will have a wider range of exotic species than forest interiors in the future. Surprisingly, however, mature FC stands are more likely to be classified as rare and ancient forest species. This is because statistics show that fewer than 5% of uncommon species live in forest cores, but up to 23% live on forest borders (Alvey, 2006).

Overall, it is vital to assess FC's future biodiversity expansion trajectory. Because of the disappearance of native forests and the deterioration of those that remain, preserving and enhancing biodiversity is especially important in FC.

The biodiversity of suburban and urban green zones is highlighted by the abundance of urban trees. Because of its magnitude and the major ecological services, it provides to safeguard human health and environmental quality in cities and their surroundings, the FC becomes increasingly vital as urbanization grows (Alvey, 2006). More specifically, one of the benefits provided by urban ecosystems should be biodiversity. This viewpoint reflects the long-held beliefs of FC practitioners and planners about the kind of economic health and safety activities that are permitted in urban environments (see Figure 6). Urban centers have long been regarded to contain minimal biodiversity. Nonetheless, growing evidence suggests that the FC strategy is creating a slow increase in biodiversity in both urban and suburban areas. This means that, during the last decade, FC proponents have successfully argued that biodiversity is an essential component of healthy urban ecosystems in many US communities (McLain et al., 2012).

### 3.2.2. Reducing Greenhouse Gas Emissions

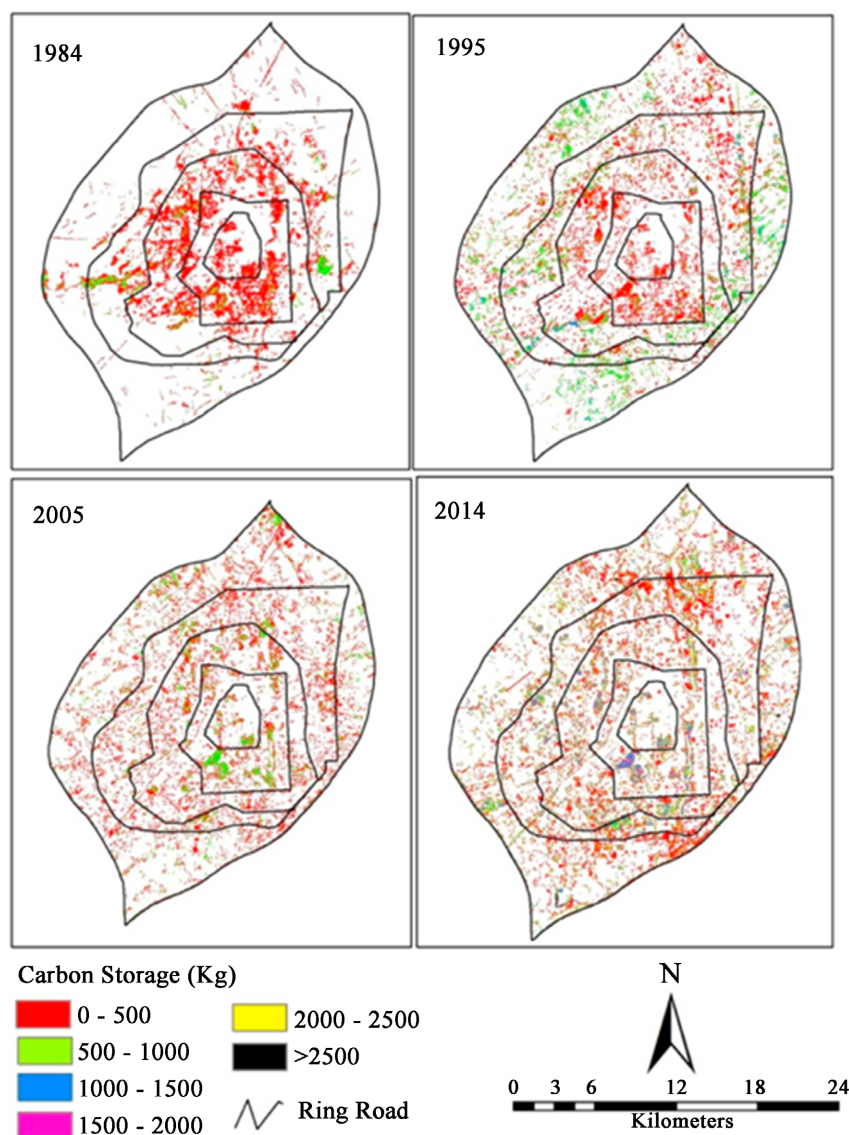
It is widely recognised that Forest Cities, which convert carbon dioxide into urban plant biomass, are an important sequestration strategy for urban carbon dioxide emissions. In developed countries, empirical studies have shown that Forest Cities in the United States have sequestered as much as 14 per cent of the country's total forests. In contrast, developing countries, such as the Chinese government, are still in the process of formulating many urban CO<sub>2</sub> emission reduction strategies. Since 2004, China has proposed FC targets for emissions reduction and has introduced many regulations related to urban greening. However, for the time being, the ecological function of FC in these Chinese cities is unclear, and the potential of the strategy itself to mitigate CO<sub>2</sub> emissions and climate change is far from understood (Ren et al., 2019). Thus, the construction of Forest Cities offers great potential for CO<sub>2</sub> sequestration. In addition, a study in Changchun, China, may demonstrate that the area of CS (Carbon Storage) is likely to increase gradually with the increase of UF (Urban Forest), especially in the outer ring of the city. 1984 From the outer ring to the city centre, there is a clear trend of low CS. However, with the implementation of the urban greening policy, CS landscape patches in Changchun in 2014 were more dispersed in the suburbs (see Figure 7).

### 3.2.3. Forest Structure

A change in the current forest structure may be the main emphasis of the future

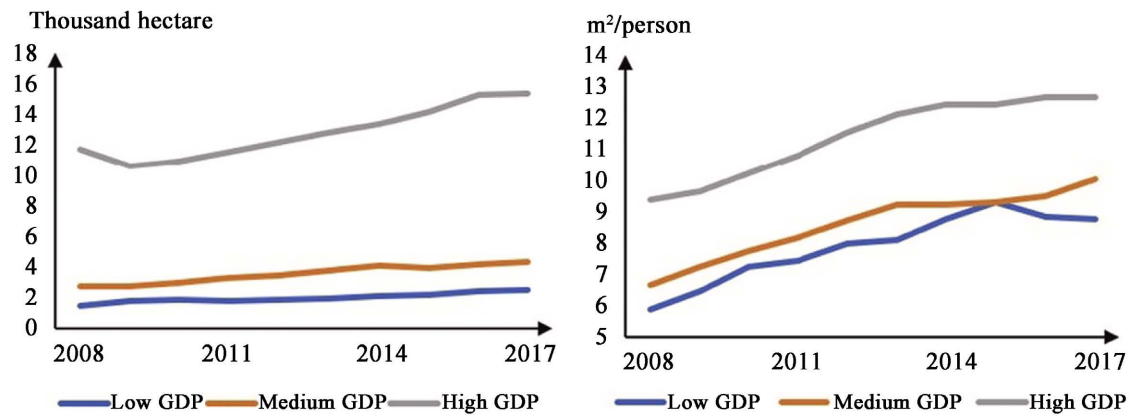
Ecological values	Quality of life values	Health and safety values	Economic values	Socio-cultural values
Wildlife and bird habitat	Livability	Reduction in crime rates	Increase in property values	Environmental learning opportunities
Shade to cool streams	Aesthetics	Reduction in health care costs	Higher shopping frequency	Connections to nature
Rainwater interception	Access to recreational facilities	Traffic calming	Higher office occupancy rate	Connections to people
Erosion reduction		Separation of pedestrians from vehicles		
Air quality improvements		Encourages people to exercise		
Water quality improvements				
Greenhouse gas reduction				

**Figure 6.** The different activities Seattle planners include in their urban forest strategy and their value (McLain et al., 2012).



**Figure 7.** Spatio-temporal distribution of CS change based on UF development between 18 and 4 -2014 in the city of Changchun, China (Ren et al., 2019).

FC strategy. Right now, there are four common development models for the FC strategy: garden cities, forest green belts, FC, and ecological economies (Li et al., 2005). Economic, meteorological, societal, and other factors can also have an impact on how FC plans are implemented. The actions of the government, laws and rules, science and technology, education and culture, public awareness and involvement, ecological planning and management, and education are examples of social elements. Temperature, sunshine, and rainfall are examples of climatic factors. The city's economic standing and FC funding are examples of economic considerations. Additionally, cities in stronger socioeconomic situations might take greater initiative. We can observe that both cities with greater initial levels of green space and more developed cities (high GDP per capita) have higher amounts of green space overall (see Figure 8). Future administrations ought to



**Figure 8.** Comparison of changes in green space area (left) and per capita green space area (right) in different cities with changes in GDP (Zhang et al., 2021).

therefore suggest more specialized and pertinent FC strategies considering the unique socioeconomic and biophysical circumstances of each city.

Meanwhile, they should also pay attention to the quantity and quality of green spaces, as well as to the availability and satisfaction of residents. In practice, designating urban green spaces improves urban air quality in cities with high levels of economic activity or high population densities, but in cities with low levels of economic activity or low population densities, designating urban green spaces only improves air quality. A certain degree of heterogeneity exists between cities with different economic levels. Heterogeneity here mainly refers to the fact that the impacts of national urban forest designation on the urban living environment may vary due to the cities' different population densities, levels of economic development, innate endowment of green space, and regional geography (Zhang et al., 2021).

#### 4. Conclusion

In conclusion, this essay argues that FC should give more consideration to both policy adjustment and the ecological environment in the future. To solve the problem of environmental pollution and sustainable development, the global FC strategy has been implemented in recent years. However, in the process of implementation by governments of developing and developed countries, this strategy has shown its different advantages. Moreover, due to the differences in economic level, urbanisation and geography between developing and developed countries, the current development of the strategy and the factors affecting the development of the strategy are also different. This essay believes that by comparing the differences between the two types of countries, we will have a clearer understanding of the direction and possibilities of the FC strategy in the future.

This essay suggests, on the one hand, that nations should take the initiative to address the various difficulties caused by their populations' increasing urbanization. Policies can raise disaster awareness and safety precautions, and nations should promote the development of neighborhood green spaces and gardens.

Furthermore, industrial innovation must be addressed while altering policies. A more prevalent perspective is required for industrial innovation, which will have a direct impact on how FC operates. However, biodiversity is an important consideration for FC's future development. This essay argues that more should be done by developing nations to promote biodiversity in urban areas that are still developing economically. To minimize the spread of unwanted species, governments in affluent nations may need to work in the future to restrict unrestricted public access to suburban forests. Furthermore, all nations ought to focus more on lowering their emissions of greenhouse gases. This essay contends that to address local environmental needs, future FC policies must focus on and step-up reforms of the forest structure.

### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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