

PAPER • OPEN ACCESS

Research on Urban Eco-environmental Problems and Sustainable Development

To cite this article: Chenchen Xing and Yu Ding 2019 *IOP Conf. Ser.: Earth Environ. Sci.* **300** 032103

View the [article online](#) for updates and enhancements.

Research on Urban Eco-environmental Problems and Sustainable Development

Chenchen Xing^a, Yu Ding^b

Wuhan University of Science and Technology, Wuhan, China

^a997897652@qq.com, ^b375900860@qq.com

Abstract. In the process of rapid urban development, the following issue is the ecological environment problems. How to alleviate the contradiction between economic development and ecological environment and promote sustainable development has become a topic of wide concern. The ecological environment of a city is affected by many factors. Only by dealing with the environmental problems in urban construction can the environmental quality of the city be guaranteed and the sustainable development of the city be promoted. Based on the reality, this paper analyses the problems of urban ecological environment, and puts forward relevant strategies and suggestions for the sustainable development of urban ecological environment.

1. Introduction

With the continuous growth of the economy, the pace of urbanization is accelerating. In the process of urbanization construction, a series of ecological environment problems have been brought about, and the natural environment is affected by many factors. In recent years, with the enhancement of people's awareness of environmental protection, the research on the construction of urban ecological environment for sustainable development has been increasing. Only by solving the urban ecological environment problems, can people's living standards be better improved and sustainable development be promoted.

2. Necessity of Sustainable Development of Urban Ecological Environment

2.1. The Present Situation of Urban Eco-environmental Problems

In recent years, the process of urbanization in various countries has been further accelerated, and economic and social development has been unprecedented. While material wealth has been greatly increased, resources have been over utilized and energy has been overdrawn, which has also destroyed the environment, especially the urban environment, whose quality affects our survival and quality of life. Public awareness of environmental protection is not strong, environmental participation is low, lack of environmental protection behavior. The rapid development of cities has brought about a series of pollution problems, which have also caused damage to the ecological environment. The problem of air pollution is serious. The acceleration of industrialization has resulted in various kinds of pollution. All of these have destroyed the city's ecological environment and caused many problems, only to find out these problems, and find appropriate ways to ease the relationship between man and nature, and take a sustainable development path.



2.2. The concept of sustainable development

Sustainable development pursues the overall development and coordinated development of economy, society, resources and environmental protection. They are an inseparable system. They should not only achieve the goal of economic development, but also protect the natural resources and environment on which human beings depend. Ecological sustainable development is an important part of sustainable development¹. It requires economic and social development to minimize the damage to the environment, not to exceed the carrying capacity of resources and environment, to maintain the sustainable use of natural resources and environmental costs, so that human development can be controlled in the earth's carrying capacity and so on. From a global perspective, the natural resources of mankind are scarce, so to achieve sustainable development is not just a matter of a country, but the common aspiration of all mankind.

2.3. Significance of Sustainable Development of Urban Ecological Environment

The city is a complete system which combines nature, society and economy. The development of the city should have a global concept. We should promote the sustainable development of urban ecological environment, speed up the development of new technologies for environmental protection, solve the environmental crisis, change the traditional mode of production, develop science and technology, reduce energy consumption and material consumption, realize the development mode of less input and more output, reduce dependence on resources and energy, and reduce the pollution load of the environment.

3. Problems of urban ecological environment

3.1. Destruction of ecological environment

In the process of urban construction, due to the rapid urbanization process, the surrounding environment has been damaged. Many human activities discharge harmful substances into the atmosphere, water, soil and other natural environment, resulting in environmental pollution. In the process of building construction, due to excavation of foundation, taking civil buildings, etc., the ground surface is damaged greatly, and the surrounding vegetation is destroyed, resulting in changes in the living environment of vegetation, soil degradation, soil erosion and soil erosion. The destruction of the ecological environment will directly affect the ecosystem, resulting in changes in the structure and function of the environment, and has a negative impact on the survival and development of human beings and the development of the environment itself, and these effects are difficult to eliminate.

3.2. Water pollution

Water pollution has always been a serious problem in urban ecological environment. Water pollution is mainly caused by pollutants produced by human activities, which includes industrial pollution sources, agricultural pollution sources and living pollution sources. The main pollutants of urban water pollution are: untreated industrial wastewater, untreated domestic wastewater, industrial waste and domestic waste piled up by riverside. Increasing water pollution. It has posed a major threat to human survival and security, destroyed the ecological environment, and become a major obstacle to human health, economic and social sustainable development.

3.3. Air pollution

Air pollution refers to those substances that are discharged into the atmosphere by human activities or natural processes and have harmful effects on the environment or people. Urban air pollution is a variety of air pollutants discharged to the nature in the production and life of the city, which exceeds the self-purification ability of the natural environment and brings harm to human body, production and life. In recent years, with the acceleration of industrialization, industrial exhaust has a direct impact on the air quality of the city. With the development of urban economy, the number of motor vehicles has increased

¹ Shang - Yu Chen, True sustainable development of green technology.

dramatically, and automobile exhaust has become one of the main sources of urban air pollution. Serious air pollution not only affects the health of residents, but also affects the weather and climate.

3.4. Noise pollution

Since the industrial revolution, the creation and use of various mechanical equipment has brought prosperity and progress to mankind, but at the same time, it has also produced more and more noise. The main sources of noise include traffic noise, industrial noise, building noise and social noise. As the number of motor vehicles has increased rapidly in recent years, traffic noise has become the main source of urban noise. Industrial noise generally has a higher sound level, which has a greater impact on workers and the surrounding residents. The characteristic of building noise is that it is strong and occurs in densely populated areas, which seriously affects the rest and life of residents. Social noise is the noise from social activities and household appliances in people's daily life. Noise can not only cause hearing damage, but also induce a variety of carcinogenic and fatal diseases, and also interfere with people's life and work.

3.5. Waste Pollution

With the development of global urbanization and industrialization, environmental problems have attracted worldwide attention. In the process of urbanization, the problems caused by urban garbage are becoming more and more serious. Municipal garbage mainly includes household garbage, industrial garbage and construction garbage. The development and utilization of natural resources by human beings are expanding in scale and intensity, and the speed of resource consumption is also greatly accelerated. On the one hand, it brings civilization to society and improves people's quality of life. On the other hand, it also means accelerating the growth of garbage. And garbage is one of the important reasons for environmental pollution. If neglected, it will pollute the environment and destroy the ecological environment. It will also affect health, spread diseases and endanger people's health.

4. Harnessing methods for sustainable development of urban ecological environment

4.1. Improvement of relevant laws

Keep a good ecological environment and build a harmonious coexistence between man and nature. It is not only the necessity and prerequisite of economic development, but also the purpose of human development. Therefore, in order to protect the ecological environment, we should make forward-looking laws, regulations and policies to protect it according to the actual situation and local conditions. The promulgation of laws and regulations is an important basis for the protection of urban ecological development. With the protection of relevant laws and regulations, the formulation of urban development strategies and policies can be carried out effectively and smoothly. Only by making relevant regulations and severe punishment measures on the protection of ecological environment, can the protection and sustainable development of ecological environment be more effectively realized.

4.2. Rational Planning of Urban Layout

Urban planning and construction is closely related to the future development of the city, the rational layout and comprehensive arrangement of the city and the construction of various urban projects, which has become an important part of urban management. The quality of life of residents depends not only on the level of economic development and the improvement of facilities in the whole city, but also on the rational layout and healthy ecological environment. In order to achieve sustainable development, cities must have a reasonable layout and pay attention to the overall development. The current situation of extensive urban development must be stopped, reversed and transformed. Establish modern and advanced cities.

4.3. Enhancing Residents' Awareness of Environmental Protection

To improve the environment, we should not only administer it, but more importantly, enhance the residents' awareness of environmental protection through all aspects of publicity. Residents' awareness of environmental protection has increased. The destruction of the environment naturally decreases. The level of public environmental awareness directly affects the formulation and implementation of national environmental protection policies. We should mobilize all sectors of society, vigorously publicize environmental protection, make people realize the importance of environmental problems, and enhance the sense of responsibility and mission of environmental protection. Strengthen people's awareness of ecological protection, cultivate the public's ecological values, so that the environmental protection awareness of urban residents, especially urban managers, is firmly established, and establish the ecological value concept of harmonious development of people, cities and the environment. If each of us can start from the things around us, from the small things, and each of us contributes his own strength, it will eventually play a role in promoting the development of the environment.

4.4. Strengthening Pollution Control and Resource Protection

The sustainable development of urban ecology requires strengthening pollution control and resource protection. Environmental pollution control is a means to control pollutant emission, including two main aspects: pollutant emission control technology and pollutant emission control policy. Various methods should be adopted to control water pollution, air pollution, noise pollution and garbage pollution. We should cherish resources and protect the environment, and human beings should consciously protect and make rational use of natural resources to prevent the natural environment from being polluted and destroyed, and make comprehensive management of the polluted and destroyed environment so as to create an environment suitable for human life and work, coordinate the relationship between human and nature, and make people live in harmony with nature.

4.5. Clean Energy and Waste Recycling

With the increasing demand for energy and the strengthening of environmental protection in the world, the promotion and application of clean energy has become an inevitable trend. We need to increase the use of clean energy, that is, more use of green energy and renewable energy. Water, wind, solar energy and other renewable energy are environmentally friendly, with less emissions and less pollution. Energy consumption can be restored or supplemented, and no or very few pollutants are produced. The recycling and renewable utilization of municipal solid waste provide a new method and approach for municipal solid waste disposal. Municipal garbage should be treated harmlessly, resourcefully, quantitatively and socially, and classified collection and recycling should be encouraged and guided. It plays an important role in promoting the sustainable development of urban ecological environment.

5. Conclusion

The environmental effects derived from environmental pollution are lagging behind, and are often not easily detected or predicted when pollution occurs. However, once it occurs, it means that environmental pollution has developed to a very serious level. Of course, the most direct and easily perceived consequence of environmental pollution is to reduce the quality of human environment, affecting the quality of human life, health and production activities. With the change of development mode, pollution can be reduced from the source to realize the sustainable development of urban ecological environment. Through legislation, rational planning, raising awareness of environmental protection, using new energy sources, establishing a good and healthy urban ecological environment, and improving the necessary safeguards for sustainable development.

References

- [1] Golcic SL, Smith CD 2013. A meta - analysis of environmentally sustainable supply chain management practices and firm performance. *Journal of Supply Chain Management* 49 (2): 78 – 95.

- [2] Govindan K, Rajendran S, Sarkis J, Murugesan P 2013. Multi criteria decision making approaches for green supplier evaluation and selection: a literature review. *Journal of Cleaner Production* 98: 66 – 83.
- [3] Kapoor, R., 2007. Auroville: a spiritual-social experiment in human unity and evolution. *Futures* 39, 632e643.
- [4] Aguinis H, Pierce CA, Bosco FA, Dalton DR, Dalton CM 2011. Debunking myths and urban legends about meta - analysis. *Organizational Research Methods* 14 (2): 306 – 331.
- [5] Bai C, Sarkis J 2011. Integrating sustainability into supplier selection with grey system and rough set methodologies. *International Journal of Production Economics* 124: 252 – 264.
- [6] Theißen S, Spinler S 2014. Strategic analysis of manufacturer–supplier partnerships: an ANP model for collaborative CO2 reduction management. *European Journal of Operational Research* 233: 383 – 397.
- [7] Abreu A, Camarinha-Matos LM 2008. On the role of value systems to promote the sustainability of collaborative environments. *International Journal of Production Research* 46 (5): 1207 – 1229.
- [8] Bai C, Sarkis J 2011. Integrating sustainability into supplier selection with grey system and rough set methodologies. *International Journal of Production Economics* 124: 252 – 264.