On the Management of Domestic Garbage and Its Significance for Sustainable Development

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Abstract. In China, the management of domestic garbage is becoming an urgent issue. With the acceleration of urbanization in China, the living standards of residents have improved and the material conditions have improved too. At the same time, the rapid development of urbanization has also led to many problems. The most prominent of these is that residents produce a large amount of domestic garbage every day. A large amount of domestic garbage will damage the appearance of the urban, and improper disposal of domestic garbage will waste resources and pollute the environment and damage the sustainable development of society. This paper focuses on the management of domestic garbage, and then analyzes the current situation and problems of domestic garbage management, and gives relevant suggestions. Finally, I summed up the significance of scientifically managing domestic garbage for sustainable development.

1. Introduction
In ancient times, China has been a self-sufficient small-scale peasant economy for a long time. The level of urbanization is very low. Most of the residents are in a state of diaspora. The domestic garbage produced can be decomposed by nature and does not bring too much pollution. However, after entering the modern era, especially after the reform and opening up of China, China's urbanization level has been continuously improved, and residents' concentrated production and life are producing a large amount of domestic garbage every year. The composition of domestic garbage is complex, some can be recycled, some can be naturally decomposed, while others are difficult to decompose in the natural state, and long-term shelving will also pollute the environment.

In Ecological Risk Assessment in the United States Environmental Protection Agency: A Historical Overview, Suter. Glenn mentioned that ecological assessment has become an important part of environmental management. Domestic garbage is one of the key factors, so it is especially important to manage domestic garbage well [1]. Explore how to manage domestic garbage scientifically, realize the harmless management of garbage, and recycle resources. It is conducive to safeguarding and improving people's living standards, resolving the contradiction between economic development and environmental protection, and promoting the green, healthy and sustainable development of the national economy.
2. Overview of domestic garbage Management of China

2.1. The total amount of domestic garbage is large and the growth rate is fast

| years | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  |
|-------|-------|-------|-------|-------|-------|-------|
| Quantity / 10000T | 16395.3 | 17080.9 | 17238.6 | 17860.2 | 19141.9 | 20362.0 |

(Source: National Bureau of Statistics of the People's Republic of China)

As shown in Table 1.1, the amount of domestic garbage produced in China is huge, and it is increasing every year rapidly. According to calculation, the amount of domestic garbage increased by 39.867 million tons from 2011 to 2016, average annual increase reached 4.8%, according to this speed, the amount of domestic garbage in China will reach 223.168 million tons in 2018. In fact, this is only the government’s statistical clearing volume. In the vast rural areas and more remote regions, there is still much domestic garbage that has not been cleared. These have not been accurately counted. With the further development of society, there is a large amount of potentially increased domestic garbage. If all of this is calculated, the total amount of domestic garbage produced in China each year will be a much larger number.

2.2. There is no strict classification system for domestic garbage, and there is no effective use

China has not yet formed a complete garbage classification system. In 2017, the Implementation Plan for Domestic Garbage Classification System issued by the General Office of the State Council of the People's Republic of China mentioned: "By the end of 2020, basically establish relevant laws, regulations and standards for garbage classification, and form replicable, a classification of domestic garbage that can be promoted" [2].

In real life, whether it is urban or rural, and whether or not there is a classified garbage bin, we will always find that all kinds of garbage are thrown together. The nationals generally lack the awareness of garbage classification, and the government lacks supervision over the implementation of garbage classification.

In 2016, the harmless management rate of domestic garbage of China reached 96.6% (data from the National Bureau of Statistics of the People's Republic of China), 2.5 percentage points more than the previous year, but 37.5% of this was completed by incineration. Many of these incinerated garbage can be recycled, and many incinerations are not carried out in waste-to-energy stations. A large amount of heat is lost in vain. There is ubiquitous waste for domestic garbage, as a resource.

2.3. The level of governance between regions is unbalance

The level of domestic garbage management is very different between urban and rural areas, between developed regions and undeveloped regions. In cities with high levels of domestic garbage management and developed regions in the east, domestic garbage is systematically recycled and turned waste into treasure. These areas may catch up and lead the world's advanced level. For example, the Implementation Plan for Domestic Garbage Classification System stipulates that "the mandatory classification of domestic garbage shall be implemented first in the urban areas of municipalities, provincial capital cities, Municipalities with Independent Planning Status under the National Social and Economic Development and the first batch of municipal garbage classification demonstration cities" [2]. In sharp contrast, the rural and western undeveloped regions with low levels of domestic garbage management are still in simple processing stages such as random dumping, open dumping, land filling and incineration.
3. Suggestions on the management of domestic garbage in China

3.1. Manage from the source, reduce the generation of domestic garbage

Garbage disposal is a palliative management, and reducing the production of garbage is the root cause. In countries and regions with rich experience in domestic garbage management, they’re not only in the development of more advanced garbage disposal technologies, but also research the management of garbage sources, such as Hong Kong and Taiwan in China. In the management of garbage, Hong Kong advocates residents to "cherish resources and reduce garbage" and reduce garbage from the source. In 2013, the government launched the "FoodWise Hong Kong" campaign, which greatly reduced the production of food waste. Taiwan stipulates that it is necessary to purchase and use the prescribed garbage bags at the convenience store. "No garbage charges, garbage charges are included in the cost of purchasing garbage bags" [3]. Through such regulations, the more garbage the residents make, the more they need to spend to buy garbage bags, thereby urging residents to make less garbage.

The practice in Hong Kong and Taiwan has given us a good inspiration. The Government has two basic ways to reduce the amount of domestic garbage. One is to strengthen publicity like Hong Kong and encourage residents to cherish resources and reduce unnecessary waste. The other is to follow the example of Taiwan, indirectly by increasing the cost of garbage dumping by using garbage bags and other means, so that residents can consciously reduce domestic garbage.

3.2. Establish a systematic and strict garbage classification system

Establishing a garbage classification system is the first step in the process of garbage classification. First, it is necessary to form a complete garbage classification system, and then educate the residents to establish garbage classification awareness. In New Jersey, USA, for example, the government will teach people to sort garbage. Residents can see the garbage classification guide by logging in to the official website of the municipal government. These guides are equipped with pictures, so that even if they are illiterate, they can be very Good understanding.

There must be corresponding supporting measures in the garbage collection process, including classified garbage bins, garbage trucks, etc. For example, the county government of New Jersey will issue containers for recycling waste free of charge. Blue plastic boxes for waste paper, yellow plastic drums for glass plastic bottles. The city government will arrange large garbage trucks to collect waste products in containers along the street. The frequency and timing of collections vary from place to place.

Strengthening supervision is also an important part of implementing garbage classification. In addition to formulating strict management and punishment methods, strengthening the construction of law enforcement teams. Mobilizing social forces to participate in supervision, may achieving the effect of getting twice the result with half the effort, the Japanese approach is a good proof. "Japanese communities generally have self-government associations. For newly-inhabited residents, people in the community self-government associations will guide them to classify and place garbage. For households that are not classified the garbage or put it on the wrong place, they will arrange for the elderly to knock on the door to remind them"[4]. With the joint efforts of society, the streets of Japan have become clean.

3.3. Use a variety of models to carry out domestic garbage management regional cooperation

Some scholars have studied the regional cooperation model of domestic garbage management. Ai ping Zhang (2017) [5] studied the decentralized processing and centralized processing mode under the premise of garbage classification. Pin jing He et al. (2015) [6] analyzed the "full concentration" and Two kings of "village and county coordination" models ,and so on. For the time being, no matter how good or how bad these models are, because each model has its own advantages, there are also defects. To control domestic garbage, it is necessary to choose an appropriate cooperation mode according to the characteristics of each region.
The joint management of domestic garbage should take the transportation distance into account. The concentrated management in urban dense areas is more efficient, but in areas where cities and towns are sparse, long-distance transportation will increase the cost. Therefore, it is possible to appropriately establish multiple governance centers on the premise of it was cheaper.

The management of domestic garbage should strengthen cooperation between regions, developed regions should support undeveloped regions. Those areas where domestic garbage management is at the forefront should invest in technology and funding to support undeveloped regions. With the improvement of governance technology and the advancement of ideas, people have realized that domestic garbage is not only waste, but also a resource that can be exploited. Cooperating and developing domestic garbage in developed and undeveloped regions will bring huge benefits to both sides.

4. The significance of domestic garbage management for sustainable development

4.1. Domestic garbage management solves a major source of environmental pollution
Randomly stacking garbage will occupy space, breed mosquitoes and flies, and emit odor. Other simple management methods are also harmful. Simple landfill garbage will pollute the soil. After the rain, the leachate in the garbage will seriously pollute the groundwater. Burning garbage in the open air will produce a lot of toxic gases such as smoke, dust and even dioxins, which will seriously pollute the air. It is an indisputable fact that the improper disposal of domestic garbage will cause serious pollution. Paris in the early 19th century was a good example. At that time, the industrial revolution spread to Paris, and a large number of rural people were crowded into the city. The sanitary conditions in the city were very poor. The road area was full of sludge, manure and garbage, dirt and other things flowed in Seine. Some people describe that old Paris is like suffering from "brain edema", and the city looks like hell on earth.

By improving the technology and improving the management method, the domestic garbage can be harmlessly treated, and the secondary pollution caused by the simple management can be avoided. Domestic garbage will be transformed from "pollution source" to "resource". This will not only protect the environment but also human health, and help maintain ecological harmony and build an environment-friendly society.

4.2. Domestic garbage management can reduce waste of resources and recycle resources
Domestic garbage is like a mine to be developed. Some people have counted that in domestic garbage, the part that can be recycled can account for 42.9% of the total amount of garbage. The traditional processing method regards it as a burden, without exploitation and utilization, wasting resources.

Domestic garbage is waste generated by household consumption. Encouraging residents to reduce domestic garbage is to increase residents' utilization of various products, and essentially save resources.

Domestic garbage management emphasizes the recycling and development of resources. For organic matter in domestic garbage, it can be converted into organic fertilizer favored by agricultural production by using techniques such as composting and biodegradation; for discarded metals and plastics, these are non-renewable resources that can be recycled; for those garbage that cannot be recycled can also be sent to a waste power station for incineration to generate electricity, which can be converted into valuable electrical energy, and even the slag can be made into building materials. In short, the classification and management of domestic garbage can avoid waste and recycle those non-renewable resources. To make the best use of the materials, turning waste into treasure, is conducive to the sustainable development of society.

4.3. Promote regional cooperation and common development
Unbalanced regional development is one of the basic characteristics of China, and this is also reflected in the management of domestic garbage. China has started recycling garbage resources very early. Some cities and towns even established garbage recycling enterprises in the middle of the twentieth
century. However, there are still many places regard domestic garbage as a burden and the degree of recycling is very low. Developed regions are researching more advanced processing technologies and management methods, pursuing the harmless management of domestic garbage, while in some undeveloped regions; they are still in a simple processing stage and have to endure secondary pollution caused by improper handling.

Through the joint management of domestic garbage by villages, towns and counties, resources can be effectively integrated and the disadvantages of weak rural governance capacity can be changed. Through the centralized management of domestic garbage in regions, the cost of governance can also be reduced, and the benefits of governance can be maximized.

Cooperation between developed and undeveloped regions to manage domestic garbage can make capital and advanced technologies in developed regions flow to undeveloped regions. Domestic garbage in undeveloped regions can be properly treated as "garbage" and effectively exploited as "resource". The cooperative management of domestic garbage can promotes exchanges between regions, reduce the pressure of domestic garbage management in undeveloped regions, and improve the environmental conditions, while developed regions can also benefit from them, and each region can achieve common development in cooperation.

5. Conclusion
Domestic garbage management is a process of continuous research and continuous innovation. This is determined by the nature of domestic garbage, because domestic garbage is produced by people. As long as there are people, it will produce domestic garbage, which requires us to conduct research and governance. I hope that my research can bring some help to the domestic garbage management cause.

The scientific management of domestic garbage is of great significance for achieving sustainable development. Because it can eliminate pollution and protect the environment, on the one hand, it saves resources and avoids waste, on the other hand, it promotes inter-regional coordination and common development through cooperation between regions. In general, researching and managing domestic garbage is one of the important ways to achieve sustainable development.

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