

Research and Countermeasure of Rural Waste Classification under Rural Revitalization Strategy

Ying Wang, Lei Wang

School of Business Administration, Hohai University, Nanjing, China

Keywords: garbage rural; garbage classification; incineration treatment; garbage town operation; three reforms.

Abstract: With the rapid development of economy and technology, China's rural construction has also entered a new stage. However, along with the rapid advancement of economy and culture, rural domestic production waste has not been treated in a timely and effective manner, and the phenomenon of “garbage surrounding villages” has become an important factor affecting and even hindering rural development. At present, most of China's rural areas are struggling in the treatment of garbage. In order to solve the problem of rural garbage disposal, this paper takes the implementation of the rural garbage classification of Guli Street in Nanjing as a research sample, conducts a research visit and obtains the classification of garbage in Guli Street, Nanjing. Based on the data, the evaluation index system of garbage classification effect in Guli Street of Nanjing was initially constructed, and the implementation of garbage classification in Nanjing was evaluated in combination with appropriate evaluation methods to provide reference for the further promotion of rural waste classification. Exploring the preparation of an evaluation index system for the implementation of rural waste classification. By obtaining the enlightenment of the typical case analysis results, to make up for the lack of research in the field of practical experience, to provide ideas for rural waste classification.

1. Several garbage disposal modes in rural China

1.1 The traditional mode of rural domestic waste disposal

In the traditional domestic garbage disposal mode, domestic garbage is randomly discarded, stacked in the open air, and some are even piled on both sides of the river, forming a phenomenon of “garbage around the village”. Any open-air stacking of domestic garbage, rainwater showering, forms a large area of water pollution, is also an important cause of eutrophication of water bodies; and the toxic substances contained in the garbage and the harmful substances generated during the stacking process are washed away by rainwater. Later, mixing the surface drinking water sources that flow into rural residents is a great threat to the health of rural residents. With the development of new rural construction, many rural areas have realized the harmfulness of domestic garbage. In order to achieve the goal of “clean and clean environment and environmental sanitation”, the domestic garbage accumulated in the village has been cleaned up and the garbage from the village has been cleared. Landfill, incineration and other treatments, but some still have not been treated, only the transfer of pollution has been carried out, and the goal of “reduction, resource and harmless” of waste disposal has not been achieved; and incineration and landfill have also been It is only open burning, simple landfill, and no protective measures. It not only pollutes the atmosphere and soil, but also buries hidden dangers for future environmental health.

1.2 Garbage collection pool centralized clearing processing mode

In this way, compared with the first mode, several cement-type garbage collection pools are built in the village. Each collection pool radiates about ten rural households around the service. Each household mixes and collects their own domestic garbage and puts them in the garbage collection pool. Then, each household will send people to regularly transport the garbage in the pool to the centralized garbage disposal point away from the village for landfill or incineration. This

management mode has basically changed the situation in which garbage is thrown in the village, and the management of domestic garbage disposal has a relatively stable route. Most of the rural household waste in the survey was treated using this model. The shortcoming of this model is that the garbage is still in an open-air stacking state in the collection pool, which not only affects the village capacity. If it is not cleaned up in time, it will produce odor, and the cement-built garbage collection pool does not adopt any anti-defense. Infiltration and leakage prevention measures will still pose a threat to environmental health and health under rain showers.

1.3 Village and household collection combined with centralized clearing and processing mode

This model is an example of the success of garbage collection and transportation in the new countryside. First of all, each household has its own garbage bin. The garbage is mixed and collected in the garbage bin every day. At the same time, several garbage collection boxes are set up on the main road of the village, which is convenient for the tourists who come to the village for sightseeing and transportation. Special garbage collectors are provided to collect and transport the garbage of each household and garbage bins to the garbage collection point for processing. This model is mainly promoted in the construction of eco-tourism and cultural tourism villages. This domestic garbage disposal management mode has received very good results. The garbage bagging is also convenient for the transportation personnel to collect and transport. The village capacity is relatively clean and garbage. The phenomenon of littering is rare. However, the final disposal of the garbage is not very satisfactory. The simple landfill method is only to transfer the pollution, and the waste resource is not resourced and harmless.

2. Garbage classification effect and improvement measures

2.1 Garbage classification effect

In general, the final treatment of garbage is divided into incineration, composting, landfilling and recycling. Recyclable can be recycled, such as metal, plastic bottles, etc.; compost is suitable for organic waste such as kitchen waste and peel; incineration is generally applicable to plastic products, and most of the garbage generated daily is such that the advantage of incineration is The volume of garbage will be changed to about 5% of the original, the weight is about 1/15 of the original, and then landfill, but the cost of incineration is high, and the incineration is required to be dried. If the water is too high, it will be produced during incineration. Carcinogen carbon monoxide, which is why China's incinerators have been used but not used often, because China's garbage is not wet and dry; landfill is the commonly used garbage disposal method in China, and the cost is high.

The garbage collected in the village is transferred to the county through the "transportation" link, and finally to the county-level landfill for landfill. However, with the increase in farmers' consumption levels, the production of rural domestic waste is increasing, and the composition of garbage is becoming more and more complicated. The data show that the per capita daily output of rural domestic garbage in China is 1.07 kg, and the annual output of rural domestic garbage is nearly 300 million tons.

2.2 Enhancing countermeasures and implementation methods

A joint force promotion mechanism has been established. The leaders of the counties attached great importance to it, and determined that the Agricultural Office was the lead unit, and set up a rural waste sorting group to participate in the rural areas, finance, environmental protection, planning and construction, agriculture, water conservancy, sanitation, transportation, land and resources, etc. , program development, project design, equipment procurement, project supervision, fund management, completion acceptance, operation management and other related work. On this basis, various systems have been established. Established a garbage classification system, a source traceability system, a villager self-discipline system, a standardized placement system, and a classified collection system. According to the different types of four types of garbage, the way of clearing and transporting non-waste compressed vehicles should be carried out in a closed manner to

prevent secondary pollution caused by leakage.

The garbage disposal terminal is determined for the source and processing point of the garbage. According to the characteristics of rural mountainous areas, residential areas and plain central villages in Nanjing, the rural domestic garbage disposal terminal adopts microbial fermentation resource rapid fertilizer machine, solar energy fertilizer room, pollution-free incinerator treatment, environmental enzymes, biogas treatment and power plant incineration, and measures The garbage pool is fermented, and there are ways to return to the mountains. Increase publicity, and the masses understand the atmosphere. Pay attention to propaganda and mobilization, improve village regulations and public relations, carry out extensive activities, organize the organization of youth members and young pioneers, carry out rural garbage clean-up propaganda and volunteer activities, and carry out activities such as “small hand-drawn hands” in the primary and middle school students, and increase news reports and The media exposed the efforts, promoted the advanced model, and worked hard to form a strong work and public opinion atmosphere in the whole society, and promoted this work in depth.

In the overall arrangement of the units at all levels, the classified counties combine the rural waste reduction and resource treatment with the ongoing comprehensive improvement of the rural environment, the comprehensive improvement of the road environment, rural tourism, and the three reforms and demolition work. Promote and implement together. In particular, it is linked to the “five-water joint governance” and actively promotes the reduction and recycling of rural waste. The sixth is the effect of local reduction. The classified counties should achieve “five unifications” in cleaning, collecting, clearing, handling, and curing. Non-composting garbage shall be implemented in accordance with the unified standards and requirements of the county, and implement the harmless management mode of “village collection, town transfer, and county treatment”.

3. Problems and solutions

3.1 Problems

The large increase in rural waste has led to the following problems: First, the surge in waste volume has led to a sharp increase in the pressure on landfill digestive waste. The total daily output of rural and county garbage has become several times the daily output of the original county garbage, which has greatly shortened the service life of county-level landfills, and a large number of landfills have been buried. Second, landfills invade land resources seriously. According to calculations, the total amount of garbage generated per 10,000 people per year needs at least 666.67 m² of land for landfill, so a county with a population of 1 million will need a permanent land occupation of 6.67 hm² per year. Third, the cost of landfill disposal is high. The cost of disposing of garbage by landfill is 200,300 yuan / t. fourth, the environment around the landfill is polluted. On the one hand, the smell around the landfill is smoky (especially in summer); on the other hand, even if the landfill is leak-proof, the groundwater will be polluted to varying degrees.

3.2 Solution

Increase terminal processing technology innovation. Following the principles of step-by-step implementation, orderly advancement, and technological innovation, we will promote the classification of rural domestic waste in an orderly manner and strengthen the construction of waste treatment facilities. In view of the actual situation in rural areas, we will innovate the engineering technology for the classification and reduction of rural domestic waste, increase the research and development of new treatment processes, and solve the current scale and technical problems of the classification and reduction of rural domestic waste by the typical demonstration. Explore a new model of garbage sorting. According to local conditions, the centralized collection and effective treatment mode is adopted: “three bags in front of door + unified collection + centralized sorting + comprehensive utilization, harmless treatment”; local treatment: “classification + collection + composting + manure + incineration + landfill + Biogas + environmentally friendly enzymes, the method of resource reduction and harmless degradation of waste. Actively promote the “source waste

reduction plan. “Establish an incentive mechanism combining rewards and punishments. Encourage villagers to try not to buy or purchase less non-recyclable packaging products, organic wastes to convert fertilizers as much as possible; for some consumables and durable goods, choose large-packaged goods as much as possible; for reusable items, try to increase their usage count. Re-education for villagers who do not follow the regulations, and penalties for repeated education. Explore classifications to handle third-party service models. In the classification and reduction of rural domestic waste, we will further explore third-party services and conduct a third-party service property management model of “government-led, open tendering, contract management, and evaluation of cash”. Through the market bidding, the introduction of the competition mechanism, the establishment of the beautiful rural environment services Ltd. The township and township grasp the management, and the Environmental Service Co., Ltd. specifically solves the problem of “easy to repeat and often rebound” in the classification of rural domestic garbage, and improves the quality of rural household waste classification and treatment and the satisfaction of the masses.

References

- [1] Qi Jinshang, Zhang Yue, Xiang Mingming. Research on Classification Behavior of Urban Residents' Domestic Waste--Based on Investigation and Analysis of Five Provinces in China[J].Arid Zone Resources and Environment, 2019,33(07):24-30.
- [2] Zhou Wei. Research on the implementation of urban domestic waste classification policy based on Massa model [d]. Nanjing University of Science and Technology, 2017.
- [3] Lu Weixia, Du Juan. Japanese Waste Category Management Experience and Its Enlightenment to China [j]. Journal of Central China Normal University (Humanities and Social Sciences Edition), 2016, 55 (01): 39-53.