

Study on Rural Residents' Willingness and Behavior of Garbage Sorting Under the Background of Rural Revitalization Strategy

-- Based on the Questionnaire Survey of 15 Natural Villages in Shangcheng County

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Abstract: With the rapid development of rural economy, the amount of rural domestic waste is increasing year by year, and the problem of rural ecological environment is becoming more and more prominent, which not only seriously damages the image of rural village neatness but also negatively affects the physical and mental health of villagers. In this background, this paper firstly introduces the background knowledge related to the rural revitalization strategy, gives an overview of the knowledge related to rural domestic waste and reverse logistics, conducts a survey on the residents of 15 natural villages in Shangcheng County, Henan Province, using questionnaires about the management of domestic waste classification, analyzes the problems and causes of rural domestic waste classification and recycling in Shangcheng County, Henan Province, combining with the survey data, and clarifies the problems and causes of rural domestic waste classification and recycling in Shangcheng County. The problems faced in the process of domestic waste classification and management. Finally, taking the construction of reverse logistics of waste classification and recycling as the starting point, specific countermeasures are proposed to establish a perfect recycling mechanism, improve the infrastructure of waste classification and recycling, build an incentive mechanism and use various channels to publicize the knowledge related to waste classification and governance, taking the actual situation into account.

Keywords: Rural revitalization strategy, Rural waste separation, Recycling mechanism, Incentive mechanism.

1. Introduction

The establishment of the strategic goal of "ecologically pleasant and beautiful countryside" in the 19th National Congress has kicked off the prelude of rural habitat environment management. The main direction of rural living environment management is to reduce, resourceize and harmless the rural household waste[1]. In recent years, with the improvement of economic development and people's living standard, the amount of various types of garbage (shown in Figure 1) generated in rural areas in China has been on a significant rise. Due to the weak environmental awareness and lagging garbage treatment capacity, the

phenomenon of garbage surrounding villages and towns in China is serious. between 2012 and 2018, the production and treatment volume of rural garbage in China increased year by year, and the treatment ratio increased from 45% to 67% (see Figure 2), which is a significant year-on-year increase, but it is far from achieving the goal of the Rural Revitalization Strategic Plan (2018-2022) of "By 2022, the disposal ratio of rural garbage will be greater than 90%", there is still a gap [2]." The problems of "garbage surrounding villages and garbage surrounding dams" are becoming increasingly serious, which not only seriously hinder the sustainable economic and social development of rural areas, but also have far reaching effects on the quality of life and even physical and mental health of farmers [3].

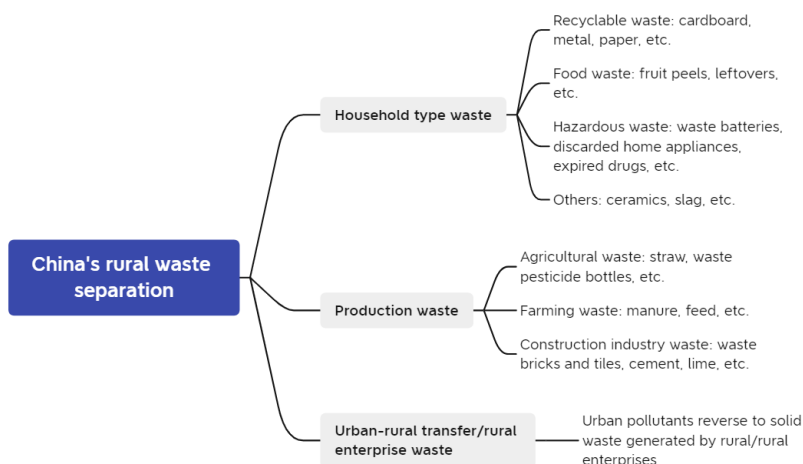


Figure 1. Participating parties in waste separation and recycling

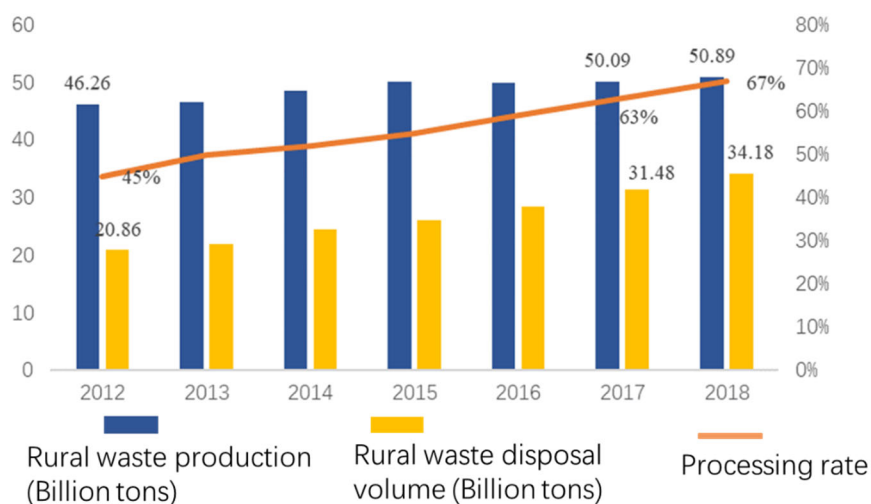


Figure 2. Rural waste management in China in 2012-2018

In terms of policies and regulations, the No. 1 document of the Central Government in 2021 proposed to fundamentally improve the rural ecological environment in 2035, and improving the rural ecological environment requires fundamentally solving the problem of rural domestic waste management [4-5]. According to Yao Wei, in this work of rural waste classification and management, the government should solve the problem of lack of infrastructure and give sufficient financial support to employ villagers to participate in waste classification and management in a paid way through joint local finance, so as to solve the employment problem of farmers while doing a good job of waste classification [6]. In a related study, Zhou Jichang analyzed in depth the situation, problems and main contradictions of rural villagers in this area of living environment in China, and put forward comprehensive and feasible policy recommendations in combination with the problems, including the use of perfect legal means to regulate, administrative means to regulate and third-party social forces to regulate, with a comprehensive and integrated regulatory mechanism, from fostering the environmental protection awareness of rural villagers, improving rural residents' environmental rights [7].

In general, with the continuous introduction of policies, the rules and regulations have become more perfect, but the relevant policies tend to be mostly urban domestic waste management, ignoring the differences between urban and rural areas, and the solutions applicable to urban waste management are not effective in rural waste management. At present, there are no laws and regulations on domestic waste management mainly for rural areas, which makes it difficult for local governments to propose valuable and local strategies to promote domestic waste management in rural areas. The existing literature has much room for expansion in terms of model research and optimization paths, as rural waste separation is still a relatively new research area.

Based on this, this paper collects data by means of a questionnaire survey based on existing literature and relevant reports to study the dilemmas and obstacles faced by the management of rural domestic waste classification, and analyze the reasons for the formation of the dilemmas, so as to put forward policy suggestions for better management of rural domestic waste and construction of beautiful countryside.

2. Questionnaire Design and Analysis of Results

2.1. Overview of Questionnaire Respondents

2.1.1. Policies Related to The Management of Rural Household Waste in Mall County

In order to promote the governance of rural garbage (domestic garbage, production waste and industrial solid waste) in Shangcheng County and improve the rural living environment, according to the "Implementation Opinions on Comprehensively Promoting the Governance of Rural Garbage" (Yu Zhengban [2016] No. 205) issued by the General Office of Henan Provincial People's Government and the "On Doing a Good Job of Informal Garbage Dumping Point Exhaustion Work" issued jointly by the provincial departments of housing and construction, environmental protection, agriculture and water conservancy (Jianban Village [2017] No. 2) and Xinyang City, urban management and law enforcement, environmental protection, agriculture, water conservancy and other departments jointly issued the "on doing a good job of informal garbage dumping site investigation" (Xin Jian Village [2017] No. 9) the spirit of the document to speed up the promotion of Mall County "beautiful countryside, civilized town, happy Mall" construction work .

2.2. Questionnaire Design

2.2.1. Survey Object

The survey was conducted in fifteen natural villages in Shangcheng County, Xinyang City, Henan Province, with ordinary residents and neighborhood workers as the main subjects. The 15 natural villages were Yangzhai, Taiping, Nongwo, Kengzhi, Huixiang, Wuqiao, Baitaji, Gaopang, Tianyuan, Peishan, Yangang, Wangzhai, Xiaozhai, Zhouzhai, and Shankan.

2.2.2. Survey Questions

Questionnaire (1) was designed for village officials and workers in each village, and the questions asked were intended to clarify the basic information about each village and the basic situation of waste management. Questionnaire (2) was designed to survey the general residents of each village, and the questions were focused on whether the residents were willing to take the initiative to separate their

garbage, and whether they knew about garbage management and whether they could properly separate their garbage.

questionnaires were returned, and 287 valid questionnaires were collected after removing the missing information and wrong information, with a valid rate of 98%.

2.3. Analysis of Questionnaire Data

2.3.1. Basic Information of The Survey Subjects

A total of 300 questionnaires were distributed, 291

Table 1. Basic information of survey respondents

Personal situation	Description	Number of samples	Sample proportion (%)
Age	Under 30 years old	34	11.8
	30-50 years old	108	37.6
	50-60 years old	116	40.4
	Over 70 years old	19	6.6
Education level	Elementary school and below	135	47.0
	Junior High School	82	28.6
	High School	59	20.6
	University and above	11	3.8
Monthly income	Under 2000 RMB	47	16.3
	2000-3000RMB	150	52.2
	3000-4000RMB	83	29.0
	Over 4000 RMB	7	2.4
Permanent household size	Less than 2 people	38	13.2
	2-4 People	192	66.8
	4-6 People	39	13.6
	More than 6 people	18	6.2
Whether it is a village cadre	Yes	45	15.7
	No	242	84.3

From the above basic information of the respondents, it can be seen that the age distribution of rural residents is concentrated between 30 and 70 years old, among which the number of residents with 50-70 accounts for the largest proportion, amounting to 40.4%. The education level of rural residents is at a low to medium level, the largest proportion of those with monthly income of 2000-3000 yuan reaches 52.2%, and the largest proportion of those with a permanent household size of 2-4 persons reaches 66.8%.

2.3.2. Survey on Rural Residents' Willingness to Separate Garbage

In terms of the willingness of rural residents to separate

waste, the questionnaire "Are you willing to separate waste?" was used as a statistical description. The questionnaire was divided into two attitudes: "willing" and "unwilling".

As far as different villages and towns are concerned, there are some differences in the willingness of rural residents in each village group to separate domestic waste, but the number of rural residents who are not willing to separate domestic waste exceeds 70% of the total number in that place in each village and town. As shown in Table2, among the rural residents in all sample sites, 76.05% were unwilling to separate domestic waste, and only 23.95% were willing to do so.

Table 2. Willingness of rural residents in sample sites to separate domestic waste

Number of samples	The proportion of residents' willingness to separate domestic waste in 15 natural villages in Shangcheng County (%)		
	Willingness	Reluctance	
General Information	287	23.95	76.05

The information obtained through questionnaire 2 is organized into Table3, which shows that there is a correlation between the willingness of rural residents to separate their

household waste and the individual characteristics of rural residents.

Table 3. Association between the willingness of rural residents to separate domestic waste and individual characteristics of rural residents

Influencing factor	Variable	Description	Sample size	Percentage of classified willingness (%)	
				Willingness	Reluctance
Individual Characteristics	Age	Under 30 years old	34	78.5	21.5
		30-50 years old	108	20.1	79.9
		50-70 years old	116	41.5	68.5
		Over 70 years old	19	37.8	62.2
	Education level	Elementary school and below	135	32.8	67.2
		Junior High School	82	21.3	78.7
		High School	59	47.7	42.3
		University and above	11	56.3	43.7
	Monthly income	Under 2000 RMB	47	31.5	68.2
		2000-3000	150	29.3	70.7
		3000-4000	83	13.4	86.8
		More than 4000	7	47.9	52.1
	Permanent household size	Less than 2 persons	38	22.1	77.9
		2-4 persons	192	36.2	63.8
		4-6 people	39	18.8	81.2
		More than 6 persons	18	9.4	90.6
	Whether it is a village cadre	Yes	45	67.3	32.7
No		242	22.5	77.5	

The willingness of rural residents to sort decreases with age, indicating that younger people are more willing to sort domestic waste than older people. In terms of education level, rural residents with high school education or above have a higher willingness. The willingness of rural residents to separate household waste increases with the increase of average monthly income, and the willingness of rural residents with average monthly income of RMB 4,000 or more is higher. In terms of the number of permanent household members, rural residents with 2-4 permanent household members have the highest proportion of willingness to separate household waste. In terms of rural residents' employment in the village, the willingness to separate wastes was higher among those who worked as village cadres (67.3%) than those who did not (22.54%), indicating that the willingness to separate wastes was higher among rural residents who worked as village cadres in the village. However, in rural areas, a large number of young people go out to work, and village cadres selected for village committees are generally older and less able to accept new things than young people, which affects the ability of village committees to participate in rural household waste management.

3. Analysis of the Problems and Causes of Rural Household Waste Classification and Management in Mall County

3.1. The Problems of Rural Household Waste Classification and Management in Mall County

From the survey data of rural residents' willingness to classify garbage, it can be seen that most residents are more inclined to choose not to classify garbage when facing the

problem of garbage classification, because there are various problems in the process of classifying and managing rural domestic garbage, and it is these problems that cause more residents to be unwilling to take the initiative to classify domestic garbage, and the problems are specifically reflected in four aspects.

3.1.1. The Scope of Grassroots Government Work in The Process of Waste Separation and Recycling Is Wide but Not Deep

At present, there are many loopholes in the management system of the rural domestic waste management work, and the government takes a big role in the work, which leads to other subjects to rely excessively on the government. But the grassroots government in the garbage management work - the township government, the management organization is relatively single and lacks experience in rural domestic garbage management, which leads to the situation that the government overly takes the lead in the work related to rural domestic garbage management and is prone to do a lot of work but the effect is not good enough. In addition, there is a phenomenon of shifting responsibilities between the grassroots government, village committees and sanitation enterprises in some rural areas, which makes the dead ends of domestic waste deposited in rural areas face the phenomenon of no one to manage. As some village committees and villagers are basically in a state of no responsibility in the current domestic garbage management work, most of the work relies on the government to promote the development of garbage management work. In the rural garbage management work, the grassroots government is burdened and under great pressure, but it has to stiffly meet the requirements of the higher government for domestic garbage management.

At present, the township government plays a leading role in the management of household waste, due to the actual situation in rural areas, the rural household waste

management work "a rod" responsible for the end, whether from the financial support above, or regulate the sanitation enterprises, or the national, higher government sanitation work in the dissemination of environmental knowledge. Township governments are basically hands-on. However, with the gradual advancement of waste management, the grassroots government is under great pressure due to the complexity of rural household waste management, as well as the current capacity and lack of staff. Based on the fact that the government cannot do everything and the nature of the market economy to pursue profit maximization, there may be loopholes in governance between the government and sanitation enterprises in some aspects, resulting in mutual shirking of responsibilities in some aspects, such as the cleaning of aged garbage. In addition, village committees are in direct contact with villagers and have a better understanding of the actual situation in rural areas, but the important role of village committees in rural household waste management has not been effectively played.

3.1.2. The Infrastructure of Waste Separation and Management Is Not Perfect

In this paper, we found that most of the domestic and foreign studies on waste management are on urban household waste separation and recycling and rural waste management models, and only a few studies on rural household waste separation and recycling reverse logistics networks have been conducted. With the rapid development of rural economy, rural waste management is an urgent and difficult problem for rural residents. In order to realize the rural revitalization strategy and build a beautiful countryside, the management of rural domestic waste has become urgent. As a large agricultural province, Henan has the majority of rural population, and the treatment of rural household waste classification and recycling is of great significance to Henan Province. In this paper, 15 natural villages in Shangcheng County, Henan Province were surveyed with the help of a questionnaire pair, as shown in Table 4.

Table 4. Investigation on Reverse Logistics Mechanism of Waste Sorting in 15 Natural Villages of Shangcheng County

	Problem Description	Number of samples	Percentage of %	
			Yes	No
1	Are there any explicit regulations on the separation of household waste in the village	15	65	35
2	Is the village set up fixed-point garbage sorting and recycling points	15	20	80
3	Whether the village is equipped with waste separation and removal vehicles	15	15	85
4	Does the village have a sound waste separation and recycling model	15	5	95
5	Does the village set up a reward and punishment system for waste separation	15	15	85

As can be seen from Table 4, although 10 of the 15 natural villages randomly sampled in Shangcheng County have explicit provisions for residents' domestic waste classification, the majority of villages and towns do not have a perfect domestic waste classification and recycling model, and do not have the relevant equipment necessary in the reverse logistics network for waste classification and recycling such as waste classification and transportation vehicles, fixed waste classification and recycling points and the corresponding waste classification. Therefore, in Mall County, the work on waste classification and management has been stagnant, and compared with other regions, it does not meet the requirements of rural environmental management and construction of beautiful villages.

3.1.3. Rural Residents Are Not Actively Involved in The Process of Waste Separation

For most villagers, they believe that the responsibility of domestic waste treatment in rural areas belongs entirely to the government, and hope that the government can provide more adequate infrastructure facilities and human resources guarantee. Villagers are both domestic waste producers and waste treatment beneficiaries, but their participation in waste management work is low, and there is an awkward situation that they only want to enjoy waste treatment services but are unwilling to bear the cost of waste treatment.

For villages and towns, village committees are relatively important villagers' self-governing organizations in rural areas of China, with functions such as maintaining the stability of the village, promoting near economic

development and social management, which play an important role in the daily operation of rural areas, but the current functions of village committees in domestic waste management have not been given full play, and there is a lack of main responsibility, resulting in the lack of an effective rural domestic waste management at the grassroots level. Supervision situation. The economic foundation determines the superstructure, and most of the rural areas in China do not have strong collective economic strength, and the village committees do not have enough financial resources to deal with public affairs, so their influence among villagers will be weaker, and they cannot effectively correct the uncivilized behaviors of villagers, such as throwing away household garbage in ditches and roadsides at will. In addition, most of the village committees in rural areas lack sufficient financial resources to build environmental protection teams, and in some rural areas, even though the economic base is good, the village committees do not include garbage control in their daily work, and the village committee cadres lack enthusiasm and initiative. Adequate funding is a key element for the successful implementation of the work. In the beginning stage of rural waste management in China, the main cost is the construction of sanitation infrastructure, and in the later stage, the main cost is the normal operation and cleaning. But at present, most rural areas lack funds for domestic waste management, especially in the less developed rural areas. The lack of financial support for rural domestic waste management is mainly manifested in two aspects: on the one hand, it is the insufficient supply of environmental protection

funds, and on the other hand, it is the single source of environmental protection funds, mainly relying on government appropriations. The data from questions 9, 11,

12, 16, 17, 18, 20, and 22 in Volume II were found to provide a reference for the above issues through the collation of questionnaire information.

Table 5. Survey on residents' and village groups' willingness to separate waste

Problem Description	Description	Proportion (%)
Do you think the lack of separation of domestic waste has an impact on your daily life?	YES	30.2
	NO	69.8
Is your family willing to pay a certain amount of money to support the development of domestic waste separation work	Willingness	22.1
	Reluctance	77.9
Whether your village arranges cleaners to sort domestic	YES	12
	NO	88
Do you charge for waste separation and disposal in your village?	Receive	71.2
	No charge	28.8
Whether party members and cadres in the village take the lead in waste separation and disposal	YES	67
	NO	33
Will anyone blame a villager for not separating the garbage on their own?	Will	10.3
	No	89.7

3.1.4. Slow Progress of Rural Household Waste Classification

In November 2017, the Henan Provincial Bureau of Animal Husbandry issued the "Implementation Plan for the Classification of Domestic Waste in 2017 of Henan Provincial Bureau of Animal Husbandry", proposing to improve the level of "quantification, resourceization and harmlessness" of domestic waste in the Bureau, taking "no garbage on the ground, no exposed garbage, no scattering garbage and" The whole process of classification" as the standard, strengthen the source of grasp, system management, standardized management concept, strengthen the domestic waste classification of publicity and education, solid and orderly promotion of domestic waste classification, classification of collection, classification of disposal work. At present, the main components of rural household garbage in Mall County are kitchen waste (such as vegetable leaves, eggshells, melon

and fruit shells, discarded food), livestock dung, ash, broken glass, broken tiles, waste paper, waste plastic, waste batteries and other discarded household items. The villagers do not have the awareness and habit of separating their daily garbage, but just put all the domestic garbage in the nearby garbage cans uniformly.

In rural areas, due to the relatively serious age bifurcation of rural residents, generally lower education level, coupled with relatively backward economy, underdeveloped transportation and single source of information, many residents have little awareness of environmental protection and little knowledge about waste classification, if villages and towns do not do a good job of waste classification and management, and residents do not understand the requirements and standards of domestic waste classification, then the source of waste classification of the work will be difficult to carry out smoothly. Questions 8, 13, 15, 19, 21 and 23 in the questionnaire provide the data basis for this issue.

Table 6. Publicity on the standards and requirements of classified treatment of domestic garbage in the village

Number of samples	Are the standards and requirements for separate household waste disposal publicized in your village (%)	
	Yes	No
General Information 287	60.95	39.05

Table 7. Understand the standards and requirements of household garbage classification and treatment

Number of samples	Do you understand the standards and requirements of domestic waste separation and disposal (%)	
	Yes	No
General Information 287	13.95	86.05

Table6 shows that more than half of the rural residents acknowledge that the village has publicized the standards and requirements of domestic waste separation and disposal, but in Table7, the question "Do you understand the standards and requirements of domestic waste separation and disposal?" However, in Table7, the question "Do you understand the standards and requirements of domestic waste separation and disposal?", only 13% of the residents know more clearly the

standards and requirements of domestic waste separation and disposal, and the village cadres account for most of them.

From the interviews with the staff of each village committee, it is understood that Mall County has not yet launched the relevant standards and policy provisions on the separation of rural domestic waste. The government's attention to this aspect of waste separation is not high, the implementation of less effort, publicity measures are

insufficient, and the planning of related facilities is not complete. Most of the garbage cans used in the natural villages in Mall County do not have classification signs, and the policies and measures for garbage classification are in a blank state, and the promotion of garbage classification is very lacking.

3.2. The Reasons for The Problems of Rural Household Waste Classification and Management in Mall County

In recent years, the county conscientiously implement the decision and deployment of the Party Central Committee and the State Council, and solidly promote the improvement of the rural living environment, and has achieved initial results. However, we should also see that the province is a large agricultural province, a large population, the rural population accounted for a large proportion of rural living waste management history is relatively large, the overall progress is slow, especially in solving the problem of rural living waste outlet and other problems with the goal of building a well-off society in all aspects of the requirements of a large gap, the comprehensive promotion of rural living waste classification and management of this work is a long way to go.

First, some local governments do not pay enough attention. Influenced by the traditional development concept, the county government attaches insufficient importance to the integrated management of urban and rural domestic waste, emphasis on urban, light rural thinking, urban domestic waste can do daily production, daily cleaning, but the rural front of the house, ponds, roadside domestic waste dumped at will, turning a blind eye.

Secondly, the farmers' mindset and production and living habits are not enough to change. For a long time, the influence of traditional habits, many farmers are not very strong environmental awareness, the increasing amount of rural household waste, without classification and disposal, throwing away, crop straw everywhere. This is the result of the long-term formation of rural production methods, farmers' way of life, the need for a process of change.

Once again, the financial investment is insufficient. The local government's investment in improving the rural habitat environment is generally insufficient, and no stable policy guarantee has been formed. In the integration of funds related to agriculture, funds are scattered and no synergy is formed, although all places have taken out certain special funds and made budgetary arrangements at the beginning of the year, but due to the many points, wide areas and long fronts of rural living garbage management, there is still a small gap between the existing funds and the financial needs of rural living garbage management, resulting in the lagging of rural living garbage management.

Fourth, the infrastructure construction owes more. Most places in the county are lagging behind in the construction of rural domestic waste treatment facilities and equipment, and most administrative villages lack a basic waste removal and treatment system. In the county's 17 towns and 370 administrative villages, the administrative villages with domestic garbage collection facilities are less than half of the total number of administrative villages in the county, without

forming a complete chain of cleaning, collection, transportation and treatment, the problem of where to go for rural domestic garbage has become a bottleneck that restricts the comprehensive promotion of rural domestic garbage management.

4. Study on the Countermeasures of Rural Domestic Waste Classification Management Under the Background of Rural Revitalization Strategy

4.1. To Establish A Sound Recovery Mechanism and Clarify the Responsibilities of Each Participating Body

The establishment of a sound recycling mechanism begins with the grading of the entire waste separation and recycling process.

The first level, waste separation at source. This level is for the rural residents, the garbage is sorted by the residents and thrown to the corresponding garbage cans or the sorting and recycling sites designated by the village groups. The source of garbage recycling lies in the classification, and reasonable classification will greatly reduce the workload of sorting later. The province's rural population is large, each village has different basic conditions, and residents have different levels of education, so it is unrealistic for rural residents to master the complex and tedious classification rules. The first level in the reverse logistics system of rural household waste sorting and recycling regarding waste sorting should be simple and easy to operate as the basic principle.

The second level, the effective removal of waste after separation. The garbage that is discarded to the garbage bin or the designated recycling point of the village group after primary sorting needs a reasonable transportation system to ensure that the recycling process is carried out effectively. The transportation rules are formulated based on the source separation of garbage, and can be adopted as a means to transport different types of garbage by different vehicles, or to make reasonable arrangements for transportation time, i.e. one transportation vehicle can transport different types of garbage at different points in time, so as to reduce the cost in the process of garbage removal.

At the third level, waste is sorted and processed centrally. Through the second level of the appropriate waste removal system, the waste is transported to the waste sorting and processing station for secondary sorting work, through which it is possible to distinguish between resource waste that has value for use and waste that has no value for use. The waste with value can be turned into useful resources through treatment, while the waste without value can be landfilled or incinerated according to relevant policies and regulations. In this link, it is important to re-sort the initially sorted waste. In order to improve efficiency and accuracy, this paper proposes that in the future, an intelligent waste identification and sorting system will be used to automatically identify and sort the waste.

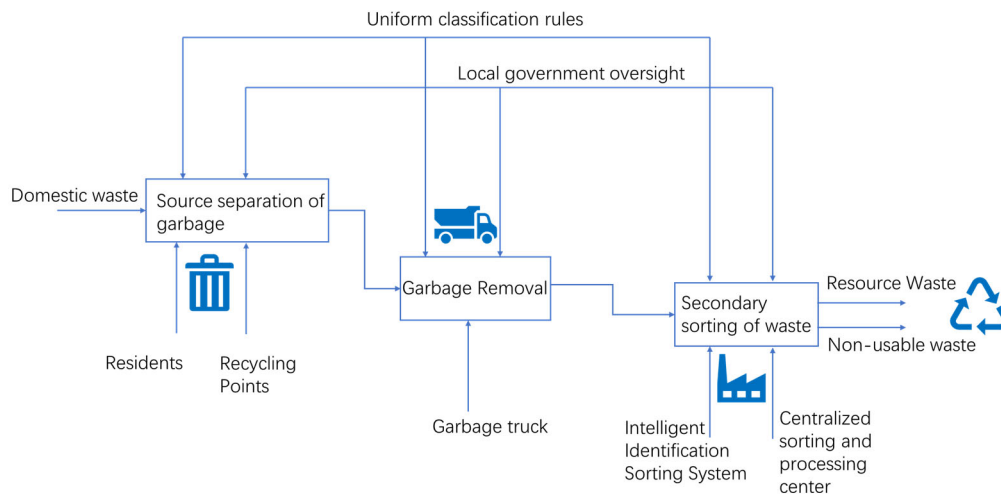


Figure 3. Participating parties in waste separation and recycling

As shown in Figure 3, the diagram clearly divides the waste separation and recycling process, and specifies the participating entities at each level. The first level is the source of waste sorting, which mainly involves rural residents and relevant work units of the village group; the second level is the waste sorting and cleaning process, which may involve the rural sanitation bureau or relevant waste recycling units; and the last level is the centralized waste sorting and processing center, in which the centralized waste processing plant plays the main role and is where the final destination of the waste is decided.

Secondly, the responsibilities of each subject should be clearly delineated.

The central government, especially the grassroots government, should reasonably formulate the rules of participation of each subject on the basis of extensive consultation with the public, and make clear the responsibilities that each subject should assume in the work of rural domestic waste management through the common cooperative participation mechanism established.

First, government departments should, according to the local situation, set up a special rural environmental inspection and enforcement team, especially for the improvement of domestic garbage, the grassroots level of garbage enforcement and inspection team composed of special staff and village committee groups and some villagers sent by the grassroots level of township and village governments, to timely find, feedback and solve the problems in the process of domestic garbage management; secondly, to regularly carry out the monitoring staff responsible for professional training, increase education on topics such as rural environmental governance, and develop a practical and effective assessment system, so as to improve the level of staff law enforcement and law enforcement; finally, the environmental health department of the grassroots township government and the same level of public security organs departments and other regular joint law enforcement, to provide a strong guarantee for the smooth implementation of law enforcement and inspection work.

The village committee is an organization in close contact with farmers, but also on all aspects of the rural environment to understand the most clearly, so the village committee can add an environmental protection committee, just like the village security committee, the responsibility of the village's domestic waste management work clearly to a specific person

or group, specifically set up environmental inspection team, with the higher government or the township's environmental protection inspection work, work funding to the village's annual activity funds Secondly, the village committee in the village of domestic waste management grid management, specific measures are set up in the village of environmental protection work grid, according to the living conditions of farmers reasonable planning grid, elected to be responsible for the villagers as the grid leader, while clear they are responsible for the work of the grid responsibilities to guide the grid between the households and each grid between the mutual supervision.

4.2. Strengthen Rural Sanitation Infrastructure and Personnel Construction

Most of the rural areas waste treatment infrastructure construction, need to strengthen the construction of three aspects: First, the need to increase the amount of waste classification infrastructure (classification buckets, classification boxes, etc.) in rural areas, classification facilities is an important material guarantee for the smooth implementation of rural domestic waste classification, reasonable waste classification facilities can improve the villagers' awareness of classification and; Second, the establishment of an appropriate amount of waste treatment transfer station to reduce the Third, to improve the level of terminal treatment of garbage, most of the current terminal treatment of rural domestic garbage is mainly landfill and incineration, which not only consumes and pollutes land resources, but also causes serious pollution to the local air. Central and western rural areas can learn from the eastern Jinhua City rural waste management, the establishment of sunlight composting room in the waste treatment center, through biological fermentation engineering, so that food waste and other perishable waste after treatment, to achieve resourcefulness and harmlessness of rural domestic waste treatment; and the treatment of other waste (except toxic waste), to high-tech, non-polluting incineration, to provide incineration materials for power plants, not only can timely and effective treatment of garbage, and waste heat from waste incineration can also be used for heating, and the residue after combustion can also be used as construction materials. Waste disposal reduction, harmless and resourceful is the best choice for environmental protection, energy saving and emission reduction in China.

Rural domestic garbage management is in its initial stage, and most rural areas have accumulated a large amount of garbage for decades, so there is a relatively high demand for the number of sanitation workers, but currently there is a large shortage of rural sanitation workers, and the ratio of the number of sanitation workers to the number of villages is low, and the grassroots government and sanitation units are under great pressure in rural domestic garbage management, and if we ensure that garbage management work If we want to ensure the long-term development of waste management, we must invest a lot in the number of sanitation workers. In the recruitment of sanitation workers, on the one hand, we should increase the publicity to make villagers understand the importance and professionalism of sanitation work; on the other hand, we should provide sanitation workers with good salaries and wages, good salaries and wages are the magic weapon to retain sanitation workers, who can take care of their family life and work to earn an extra salary, so as to attract a large number of rural people to participate in the process of domestic waste management and promote The construction of livable rural work

4.3. Establish A Reasonable Incentive Mechanism to Encourage Residents to Take the Initiative in Waste Separation

First of all, to encourage residents to take the initiative in waste separation by establishing a positive incentive to promote waste separation.

For the relevant work units of each village group, first, the local government should develop a detailed and appropriate classification management system for each village group according to local conditions and give spiritual encouragement and praise to the village groups that actively participate in the management of residential waste classification; second, the village groups that participate in the management of residential classification should develop an annual contribution performance assessment system and provide corresponding subsidies for the village groups that participate in residential waste classification; third, the village groups should jointly The third is the joint construction system of village groups, which encourages village groups that cannot independently construct a reverse logistics system for waste separation and recycling to jointly construct a system that, in addition to the aforementioned subsidies, also provides technical assistance for waste disposal.

For the residents, firstly, the knowledge of waste separation should be publicized, and the educational work on waste separation in schools should be strengthened to raise the residents' awareness of environmental protection and social morality, so as to motivate them to take the initiative in waste separation from the positive side; secondly, the policy of waste separation incentives should be implemented to compensate the residents financially for the good work of waste separation.

Secondly, the establishment of a negative incentive promotion mechanism for waste separation motivates residents to take the initiative to separate waste.

For the relevant work units of village groups: first, to develop an administrative penalty system, if a village group refuses to participate in the management of residential waste separation, the supervisory agency will estimate the value of the loss of living welfare caused by it and impose an administrative fine of equal amount; second, to build a liability loss mechanism, if the negative participation of a

village group in the management of residential waste separation and recycling brings about a loss of social welfare, its manager will be jointly and severally liable and face If a village group's negative participation in the management of residential waste separation brings about a loss of social welfare, its manager will be jointly and severally liable and face the penalty of demotion or removal from office, and will be required to bear the increased cost of reverse logistics.

Residents who do not separate their waste are fined according to the system's reward and punishment system, ordered to immediately change their improper behavior, and have their other social benefits cancelled, negatively motivating them to take the initiative to separate their household waste.

4.4. The Use of a Variety of Channels to Promote Knowledge Related to Waste Classification and Management

First, the government should make full use of the role of the news media to vigorously promote environmental protection and domestic waste management.

The relevant knowledge. Through television, newspapers, the Internet, radio, etc. to publicize the hazards caused by rural household waste and the education and publicity of the knowledge of household waste classification, informing residents of the careful separation of waste. At the same time, it can also popularize the policy content related to domestic waste classification to the public by issuing brochures, posting publicity materials and board wall posters. Secondly, the government can arrange dedicated personnel to go to the countryside and grassroots level to popularize the knowledge related to domestic waste classification and treatment to the villagers and guide them to participate in the process of rural domestic waste classification voluntarily. Let villagers consciously supervise each other and influence each other to form a good atmosphere of timely classification of domestic waste. Finally, the government should pay full attention to the role of education, bring the knowledge of garbage classification into the school, and open relevant courses to start receiving relevant knowledge of domestic waste classification education from a young age. Through one student to drive a family and then influence the whole society, gradually form the social atmosphere of garbage classification from me, protect the environment is everyone's responsibility. We will make every villager have a sense of responsibility, take the initiative to separate and clean the garbage, and take the initiative to protect the village environment.

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