

石城子村垃圾分類——一次集體行動的嘗試

石城子村，位於秦皇島市青龍縣隸屬七道河鄉，由5個自然片構成，是「十三五」國家級貧困村。截止2019年初，全村共262戶，1015人，佔地面積9.4平方公里（1.41萬畝），其中耕地423畝，山林面積12,400畝，種植了板栗和核桃5000余畝，26萬余株。村民主要收入來源為種植收入和勞務收入。

這是一個在資源稟賦方面泛善可陳的村莊。但從2019年3月到5月，在外部團隊協作下，全村垃圾分類正確率達到95%以上，生活垃圾減量達到50%，月垃圾減量平均達到1.2噸。

除了2017年以來鄉村振興戰略對農村人居環境整治問題的重視，政策支持和不計代價的基礎設施投資，「青山綠水就是金山銀山」，灑掃除塵，讓廣袤農村中的古樸風貌、山水資源獲得進入市場的機會，贏得資本青睞，最終轉化為農民的收入，是石城子村基層領導班子願意推動垃圾分類的最深層次和最重要的動機。

在此之前，以村支書為核心的基層領導班子已經堅持不懈探索了近十年。村集體於2012年成立了「又飄香」農民專業合作社，發展生態板栗產業。但是農業產業風險大，週期長，且受限於種植規模，給村集體帶來的收入非常有限。2014年提出「脫貧攻堅」政策以來，石城子村的水、電、路、網等基礎設施不斷完善，為村莊的鄉村旅遊發展提供了良好的基礎條件。

2016年，中國鄉建院受青龍縣政府邀請到石城子村協助村莊組建以資金互助功能為核心的農民綜合服務組織，簡單來說就是建立一個村莊內部的小銀行，為村民發展提供資金支持。截至2019年5月，合作社吸收鄉賢社員和老人社員股金67.34萬，政府投入種子資金35萬，累計發放貸款150余萬，目前產生收益7.6萬，為村內老人分紅1.44萬。但合作社的發展繫於少數幾個理事會成員，村莊更長期地發展仍然需要更好地組織動員村莊成員，提高參與度，增強信任感。村支書以他的政治敏感性抓住了農村人居環境整治三年行動的政策機遇，希望以垃圾分類這件和村莊成員日常生活息息相關事情入手，重構村莊組織機制。

但垃圾分類並不如想象簡單。中國大陸的城市地區，推行垃圾分類十餘年，城市居民的垃圾分類知曉率達90%，但執行率不足20%。源頭垃圾分類無法監督，後端處理體系停留在焚燒廠建設階段是導致城市垃圾分類仍處於突破階段的兩大原因。但是農村已經在超車，河北省涞水縣南峪村採用村民生活垃圾源頭分類，保潔員上門收運監督，廚余垃圾在地堆肥資源化處理的方式，實

現了垃圾處理的減量化、無害化和資源化。石城子村的案例即在結合村內實際情況基礎上，借鑒了南峪村的垃圾分類模式。但石城子村垃圾分類經驗中最重要並不在於技術層面，而在於組織層面。如何在推動垃圾分類的過程中建立利益共同體，以集體行動的方式完成環保理念教育學習，建立起更為牢固可靠的組織機制，作為協作者實際上經歷了一個複雜的過程。

一、前期準備、制定方案。由村兩委主導組建垃圾分類工作小組，討論制定實施方案和設施設備清單。同時召開協商會議，向全村每人每月收取1元的垃圾費，剩餘部分由村集體支出，落實垃圾分類工作經費保障，由工作小組採購準備硬件設備。

二、陳年垃圾清理、垃圾分類宣傳。村兩委動員全體村民清理村莊陳年垃圾，成立環保志願者服務隊。協作者進行垃圾分類宣講，確保環境保護意識和垃圾分類理念深入人心。宣傳發動充分發揮兒童群體的作用，開展兒童環境教育活動，通過一個兒童帶動一個家庭。

三、制定各項管理制度。工作小組同村莊的保潔員、群眾代表因地制宜討論制定「致村民一封信」「垃圾分類管理細則」和「保潔員管理細則」。村幹部主持到各自然片開會，公示各項管理制度，聽取群眾意見進行修改定稿。

四、召開啓動儀式。邀請市、縣、鎮領導到村召開垃圾分類啓動儀式，包括領導講話、為志願隊授旗、現場宣讀「致村民的一封信」及垃圾分類現場示範四個環節。啓動儀式後，村幹部和保潔員到各自然片分發垃圾桶，再次現場指導分類。村莊廣播持續兩周每天3次循環播報「致全體村民的一封信」和「垃圾分類管理細則」，確保全體村民充分瞭解垃圾分類方法和管理制度。

五、上門收運、現場指導。第一次收運之前，保潔員將公共場所大垃圾桶撤離集中安置，垃圾池填土改造成花壇，保證各戶生活垃圾只有分類收運一個出口。第一次收運，收運車播放音樂提醒，村民自行提桶外倒，保潔員現場指導分類。第一次收運垃圾分類正確率就達到了70%，廚余垃圾減量達到89公斤。村幹部跟車收運一個月，入戶與村民充分溝通，截至目前，全村95%以上村民分類正確，垃圾分類工作得到了群眾廣泛支持。第二個月，我們啓動保潔員分類打分管理，按照標準為每戶進行打分，並通過獎懲制度做好激勵和監督管理。

六、建立垃圾分類台賬制度。上門收運的同時，現場記錄分類正確、錯誤和未倒桶的戶數，並記錄錯誤原因，計算正確分類比例。收運匯總之後，對分類垃圾進行稱重，計算廚余垃圾佔比和垃圾分類減量數據。

七、乾濕垃圾分類處理。廚余垃圾在地好氧堆肥，由保潔員負責添加樹葉、秸稈等褐色材料，每6天翻堆一次，持續40–60天即可成肥，有機肥料投入板栗示範園，推動示範園土壤生態轉化。其他垃圾進入縣級焚燒廠焚燒，通過垃圾分類，減少濕垃圾重量，降低運輸和處理成本。

通過近兩個月的垃圾分類行動，村莊亂扔垃圾的人少了，村民環境意識提升了，村莊的環境衛生變好了。通過開展農村生活垃圾分類及資源化利用，切實改善了農村人居環境。最重要的是以村兩委為代表的基層領導與村民在共同推動問題解決的過程中，前所未有地達成了充分的溝通和相互的理解，各方利益訴求在行動中找到了平衡點，針對垃圾分類建立起了一套有效的組織機制。而這一組織在接下來統籌村莊資源的經濟行動中發揮了重要作用。

2019年5月初，經村民會議討論，合作社收儲了村民18套閒置房屋用作民宿改造和經營，石城子村的良好生態環境和閒置的固定資產將通過鄉村旅遊產業變現，為農民增收，由公共利益凝聚而成的組織在個體利益的增長中更加穩固可靠，成為村莊建設和發展的最核心的驅動力。

Shichengzi village, located in Qinhuangdao City in the northwestern Hebei Province, was defined as a national-level poverty-stricken village in the 13th Five-year Plan. By the beginning of 2019, there were 262 households, 1,015 residents, in the village. This village covered an area of 9.4 square kilometers (14,100 mu), including 423 mu of arable land, and 12,400 mu of mountain forestry which contained 5,000 mu of chestnut and walnut trees. The main sources of income of the villagers were family plantation and labor service.

Although from these numbers, the village looked quite mediocre and seemed like it lacked advantages in natural resources which could be otherwise used for community developing, it has still made huge achievements in garbage sorting with the assistance of external experts. From March to May this year, 95% of the total garbage was properly sorted, and the household garbage was reduced by 50%, and as a result, the average monthly reduction in waste volume was 1.2 ton.

Besides the policy emphasis on the management and improvement of residential environment since the outset of the Rural Revitalization Campaign, the policy-supported infrastructure investment and the idea of “Lucid waters and lush mountains are invaluable assets” did provide the village a good chance of promoting the scenic of local environment in tourist markets. And this was the deepest and most important motive of local ruling party to carry out the garbage sorting project.

Before this project, the village party branch and village committee had made huge efforts to explore how to develop the rural community for nearly a decade. Since 2012, "Youpiaoxiang" farmers' professional cooperative had been established to develop the ecological chestnut industry. However, due to the high risk, long payback period and limited planting scale of local agricultural industry, the income of the village collective was very limited. However, with the proposing of “Fight with Poverty” in 2014, the infrastructure such as water supply, electricity access, road and communicational network were greatly improved, and these provided good foundations for developing rural tourism.

In 2016, by the request of Qinglong County government, China New Rural Planning and Design (CNRPD) came to Shichengzi to assist them to establish a rural

mutual financial cooperative which aimed at solving fund shortages in the village. To put it simple, we established a “small bank” in the village which could provide funding for the local residents. By the end of May 2019, the institution has played an important role in community development and community empowerment. Specifically, the mutual financial cooperative has received 673400 yuan of share capital from xiangxian (members who are warmhearted and from a financially sound background) and the senior members; 350000 yuan as so-called “seed capital” from the local government. The accumulative total of lending amounted to 1500000 and generated 76000 yuan profit.

However, the development of the cooperative depended on several core members, and to achieve comprehensive development in the long-run asked for extensive participation, improved sense of mutual trust and broader mobilization. The village secretary, drawing on his good sense of politics, seized on the policy-based opportunity of the three-year action on improving residential environment to re-structure the organizational mechanism of the village through promoting garbage sorting which was closely related to the daily life of the common villagers.

However, garbage sorting is not easy. In urban areas of the mainland, garbage sorting has been promoted for more than 10 years. As a result, the awareness rate of garbage sorting among urban residents reaches up to 90%, but the actual implementation rate is lower than 20%. There are two major reasons why garbage classification in urban areas is still stuck in the primary stage: the source of waste cannot be monitored, or the downstream treatment systems are dominantly limited to waste incinerators. On the contrary, more advanced methods have been taken into practice in rural areas in recent years. The case of Nanyu village in Hebei province can serve as an applicable example. In Nanyu village, the household waste is classified at its source, and the cleaners supervise the sorting and collect the waste at each household, and the organic garbage is reduced, decontaminated, and recycled through composting. In reference to this case and by taking account of the practical condition, Shichengzi set out its own project. What should be emphasized here is that, rather than the technological issues, the systematization of local residents played a predominant factor during the whole process. How to build up a commonly-interested

community in the project and how to establish a firm and reliable organizational mechanism through collective action and learning? All these questions were confronted by the collaborators during the project process.

The practical process can be divided into following seven phases :

(1) Initial preparation and plan making.

In this phase, the village party branch and village committee set up a team which was responsible for making plans and buying facilities and equipment. Meanwhile, a general village meeting was hold and according to the decision of the meeting, for adequately funding the project, everyone in the community must pay 1 yuan per month to this project and rest was funded by the village cooperative.

(2) Cleaning of existing garbage and publicity of waste sorting.

The village party branch and village committee mobilized villagers to clean existing refuse in public areas in the village, as well as set up a volunteer team for environment protection. Meanwhile, as the collaborator, I have tried my best to promote the idea of environmental protection among common villagers, especially for children, and this was believed to be an effective way to engage a family into the collective action.

(3) Making the code of project.

In the third phase, we carried out the rule-making process in which our team had an open discussion with the cleaners and villager representatives, and on top of that, we jointly made three documents: “The letter to the villagers”, “Administrative Rules of Garbage Classification” and the “Administrative Rules of Cleaners”. All these documents have gone through village meetings, publicity and amendment based on public opinions before they actually went into effect.

(4) holding a launching event.

We invited the leaders from city, county and township governments to our village to join this event with all the villagers. This event consisted of four parts, including leaders’ speeches, presenting a flag to the volunteers, public presenting the “The Letter to the Villagers” and an open presentation of the garbage sorting process. The main aim of this event was to make sure that villagers fully understood the sorting

methods and related administrative rules.

(5) Home visiting and detailed instruction.

Before the first door-to-door sorting collection and cleaning, all the rubbish bins had been removed and the garbage dump had been buried and re-decorated as a flower bed. This was to ensure that the household garbage could only be disposed through one channel. At the first time of sorted garbage collection, 70% of the waste was properly sorted, and the total kitchen waste reduced by 89 kg comparing to it of the last time. In the first month, the local cadres worked in cooperate with the cleaners and they communicated ideas with the local villagers via home-visiting. In the second month, we launched a new plan in which the cleaners were given the right to grade every household according to their executive conditions of waste classification. Eventually, the correct rate of garbage classification has increased to 95% at the end of May.

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(6) Setting up a book-keeping system of the waste sorting records.

The cleaner took records of the garbage sorting, including the households of correct sorting, wrong sorting and undisposed, the reason for inaccurate handling of garbage and the percentage of the households who correctly sorted their waste. After gathering all the waste, we weighed the dry waste and the wet waste to calculate the percentage of kitchen waste and the data of garbage reduction.

(7) Separate treatment of wet and dry waste.

The kitchen waste was mixed with leaves and straw for composting, and it was raked over every six days by the cleaners. After 40 to 60 days, it was turned into organic fertilizer which was used in the chestnut plantation to organically improve the soil quality. The rest of the garbage was incinerated in the county-level incinerators and the reduction in waste volume lowered the cost of both transportation and disposal.

The garbage sorting project has been taken into action for two months so far. In this period of time, the villagers' environmental awareness and the sanitation condition has been improved, and the rural residential environment of the village has also been greatly upgraded. what's more important is that in the process of promoting this project, the local cadres and villagers reached mutual understanding through adequate and effective communication, allowing the interests of different parties achieved an equilibrium point. And this machanism played an important role in the subsequent overall arrangement of resources in the community.

In the early May 2019, according to the discussion of the village meeting, the cooperative purchased 18 idle houses which would be further restructured into home-stay inns. It can be reasonably predicted that the good ecological environment and the idle assets will generate income for the local residents through tourist development, and the organization based on common interest will become more reliable and stable when it contributes to the increase of individual income, and this is the ultimate core driver of village development.