'Recycling the past' Tzu-chi waste recycling and the cultural politics of nostalgia in Taiwan

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Chapter Three | Recycling Scheme: Taiwan and Tzu-chi

1. Introduction

In approximately the 1990s, recycling as we know it today swept into Taiwan as a social movement, and successive endeavours have been implemented and contributed to the ubiquitous practice of recycling. As the primary waste treatment, the Taiwanese recycling movement developed an institutionalised system solidified by governmental legislation, municipal practices, educational curricula, and a thriving industry. Building upon pre-existing traditions of scrap collection, a commodity chain of 'resource recovery' was formed by the amalgamation of governmental administrations and market operations and was enforced by the national waste management.

Gradually, recycling discarded materials became a part of the Taiwanese daily routine, and Taiwan became a recycling society. According to official statistics from the Taiwanese government, the success of the recycling movement was a recycling rate of over 60% in 2016,[28;29] giving Taiwan one of the three highest

[28] Environmental Protection Administration. 2019. Environmental Statistic Search Net (環境統計搜尋網): General waste, recycling rate. Taipei, Taiwan: https://stat.epa.gov.tw/ (accessed on 18 Oct 2020).

[29] The environmental organisation Taiwan Watch, has questioned the officially stated recycling rate, however, and suggested that the number was inflated by counting a large proportion of the general waste collected by private businesses as industrial waste. The

national recycling rates worldwide[30]. In the accompanying media reports, scholarly publications, and governmental policy documents, this achievement is commonly hailed as having been made possible by the collaboration between the government and citizens—the result of a series of waste-management developments starting in the 1980s. Recycling, in this framework, is often represented as the keystone of environmental reform, an embodiment of a growing expression of civic society, environmentalism, economic incentives, and technological innovation that has transformed Taiwan into a 'waste reduction miracle'[31] and 'the world's genius of garbage disposal'.[32;33] The celebration, nevertheless, often conceals the multifaceted nature of the Taiwanese recycling system and overlooks the roles of the non-governmental and non-industrial players, such as Tzu-chi.

Begun in the early 1990s, Tzu-chi recycling parallels Taiwan's recycling movement. Compared to the general political-economic system of Taiwanese recycling, the religious background and voluntary operation of the Tzu-chi recycling scheme stand out as a particular case. However, with its intact logistics system and elaborate management scheme, the national programme of Tzu-chi recycling and its local operations are not a detached case. Instead, they are part of the Taiwanese recycling system and movement.

In this chapter, the management and operation of the Tzu-chi recycling programme is introduced. To understand the saliency and particularity of Tzu-chi

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'reduced' general waste total therefore contributed to a higher recycling rate, which, according to the organisation, only totals about 40% in reality. See: Lai, Pin-Yu 賴品瑀. "Fenmu Suoshui, Fenzi Xubao: Huantuan Tibao Taiwan Huishoulu 58% Tiancai Jiaxiang" 分母縮水、分子虛報 環團踢爆台灣回收率 58%「天才」假象[Shrink Denominator, Exaggerating Numerator: Environmental Group Revealsthe Facade of Genius 58% Taiwanese Recycling Rate]. *Taiwan Environmental Information Center*, December 9, 2017. http://e-info.org.tw/node/208921 (accessed on 17 Oct 2020).

30 Stocker, Mark, "Taiwan shi Shijie Qian Sanming de Ziyuan Huishou Daguo, Weishime Guoji Xingxiang Shizhong Mei Genshang " 台灣是世界前三名的資源回收大國,為 什麼國際形象始終沒跟上? [Why does the international image of Taiwan does not match the fact that Taiwan is one of the top three international recycling countries?], *Tianxia Duli Pinglun* 天下獨立評論, August 5, 2017, https://opinion.cw.com.tw/blog/profile/416/article/5954 (accessed on 17 Oct 2020).

31 Maynard, N., 2018. "Taiwan's Waste Reduction Miracle." *The News Lens*, January 24, 2018. https://international.thenewslens.com/article/88257 (accessed on 17 Oct 2020).

32 Chen, Kathy. 2016. "Taiwan: The World's Geniuses of Garbage Disposal." *The Wall Street Journal*, May 17, 2016. https://www.wsj.com/articles/taiwan-the-worlds-geniuses-of-garbage-disposal-1463519134 (accessed on 17 Oct 2020).

33 For example, see Hsiao et al. 2002; Tsai and Chou 2004; Chen and Huang 2003; Wong 2017.

recycling, it is first necessary to contextualise Tzu-chi recycling in Taiwan's recycling system to explore its relation to the other players. Thus, this chapter is divided into three main sections. The first section provides a brief overview of Taiwan's contemporary recycling movement. The second section describes the Taiwanese recycling system via the industrial logistics network and compares three recycling conduits: local government, private business, and Tzu-chi. In the final section, the discussion focuses on the Tzu-chi recycling programme and thoroughly examines five aspects of it: volunteer types, recycling sites, material categories, the administrative task force, and institutional partners. In doing so, this chapter serves two purposes. The first is to highlight that the development of Tzu-chi recycling is rooted in the pre-existing traditions of recycling practice and industry in Taiwan, and that it is part of the national recycling movement as a whole. Second, the chapter provides a more general organisational background of the Tzu-chi recycling programme, which is necessary for discussions in the following chapters.

2. The Taiwanese Recycling Movement

Prior to 1984, when there were only a few crude incinerators which had been built under Japanese rule (c. 1895-1945), more than 97% of Taiwanese waste was disposed of on open land.[34] Between the early 1980s and late 1990s, though, the amount of solid waste on the island exploded and almost tripled, reaching a peak in 1998 (Zhang 1994; Chen and Huang 2003).[35] However, the composition of the waste had gradually shifted from predominantly organic matter to less decomposable manufactured goods.[36]

Facing the piling up of rubbish by riversides, in mountain valleys, and on the street corners of cities, the governmental waste management policy exhibited three major turning points between the 1980s and the 2000s.[37] The first was building

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[34] Environmental Protection Bureau, Taiwan Province Government. 1986. 'Taiwan sheng doushi laji chuli jihua' (台灣省都市垃圾處理計畫). Taipei, Taiwan.

[35] In 1980, the total volume of waste treated was 3,190,100 tonnes (Lin 1985); in 1998, it was about 8,880,487 tonnes (Chen and Huang 2003).

[36] Yu-lan Chien (2000). "A study of Fee-Charging Techniques of General Solid Waste Disposal" (C00063) [data file]. Available from *Survey Research Data Archive*, Academia Sinica. doi:10.6141/TW-SRDA-C00063-1.

[37] Environmental Protection Administration, Executive Yuan. 2012. 'Feiqiwu guanli jishi, 1987-2012' (廢棄物管理紀實). Taipei, Taiwan: https://www.epa.gov.tw/DisplayFile.aspx?FileID=EF308C741FCC0CCD&P=0ebc861f-620b-413b-9633-b14665724256 (accessed on 17 Oct 2020).

sanitary landfill sites in the 1980s. However, while the construction of monitored landfill sites was underway, waste generation overwhelmed the capacity of the existing sites, and the smells, smoke from fires, and pests that resulted from open and illegal dumping became a major public health problem for local residents and governments, as well as a source of public conflict.[38; 39] The Taiwanese Environmental Protection Administration (TEPA), which had held Cabinet status starting in 1987, began to favour incineration as the solution to the disposal problem, leading to a second turning point. Accordingly, in 1994, the policy plan 'One City, One Incinerator' (一縣市一垃圾焚化廠[40]) was announced. However, the rise in environmental awareness and growing social movements halted the multiplication of incineration plants (Tseng 2001; Chen 2003), and by the late 1990s, the focus of Taiwanese waste governance shifted from 'the logic of disposal' to 'the logic of diversion' (Bulkeley and Gregson 2009). Consequently, recycling as a waste-treatment method has been favoured by the government and related systems, and this preference is reflected both in widespread support from the general public and in material responses. The recycling policies were developed accordingly.

The current Taiwanese recycling system has as its backbone two governmental regulatory frameworks: the national 'Four-in-One Resource Recycling Programme' (資源回收四合一計畫[41]; hereafter, the Four-in-One programme), which was launched in 1997, and the National Recycling Act, which was passed in 2000. As a 'revised' version of the Extended Producer Responsibility (EPR) model, the Four-in-One programme[42] is a 'two-part instrument' environmental tax policy (Wen 2005) in that the central government, through the Recycling Fund Management Board (RFMB), collects a presumptive tax from manufacturers and importers of selected recyclable products; this tax is used to subsidise recycling

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38 Kong, Wei-Qin 孔維勤. "Garbage War" [垃圾大戰 *laji dazhan*]. *Family Monthly* 家庭月刊 12 (1982): 82-89.

39 Pan, Ting-Song 潘庭松. "*Zai Neihu Laji Shanshang Taoshenghuo de Renmen*" 在內湖垃圾山上討生活的人們 [The People Who Work at Nei-Hu Garbage Mountain for Their Livelihood]. *Renjen Magazine* 人間雜誌 1 (1985): 1-48.

40 yi xianshi yi laji fenhua chang

41 ziyuan huishou si he yi jihua

42 The 'four' in the Four-in-One programme refers to the four stakeholders recognised by the state who jointly constitute the main participants in Taiwanese recycling: 1) households and communities as the material providers, 2) municipal refuse collection teams as the formal collectors, 3) recycling businesses as the market operators, and 4) the governmental agencies of TEPA and the Recycling Fund Management Board (RFMB) as the administrative and financial managers.

businesses, including the collector and recycler (see figure 3.1).[43]

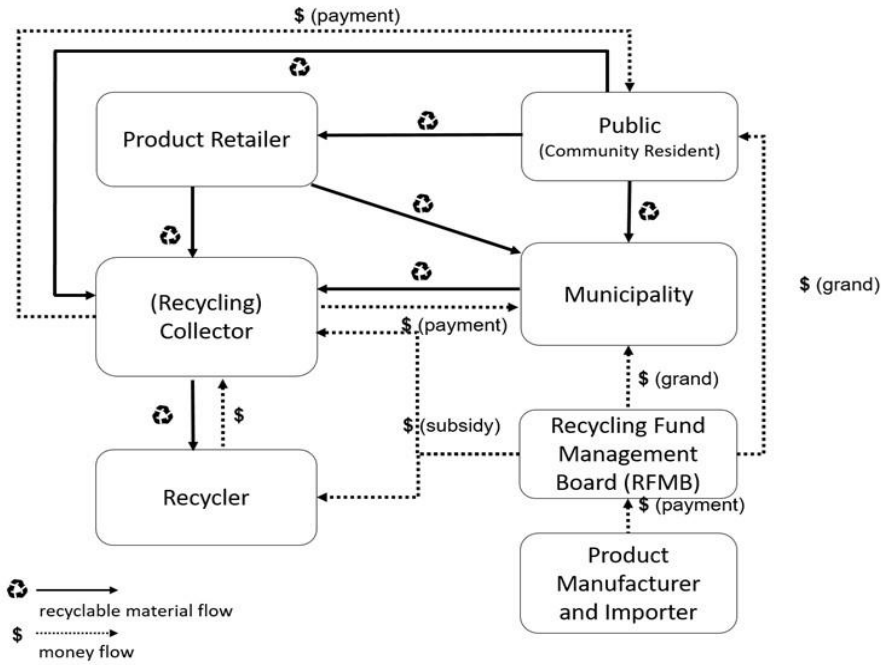

Figure 3.1 Four-in-One Resource Recycling Programme (source: TEPA;[44] redrawing by the author)

[43] However, not all recycling materials receive subsidies. There are officially two types of recyclables in Taiwan, 'general recyclable waste' and 'regulated recyclable waste', and each is managed by different governmental authorities. The general category is regulated by the Waste Management Department of TEPA and is exempt from the management of the RFMB, which manages the regulated category. In principle, the four-in-one programme can be seen as governmental intervention in order to provide economic incentives in the secondary materials market of 'less wanted' and 'environmentally harmful' recyclable-waste materials, such as coffee cups and light bulbs. Materials that already have relatively mature recycling markets, such as paper and lubricants, do not receive government subsidies and are fully dependent on market mechanisms. These items are categorised as general recyclables in official regulations. With or without subsidies, both recyclable categories move through the recycling business network of collectors. It seems that the national system combines and creates an adequate balance between governmental regulations and market mechanisms by dividing the two categories of recyclables. In reality, however, the division between the general and regulated recyclable waste is often determined by whether the RFMB can successfully identify the relevant manufacturers and importers from which they need to collect recycling fees. In other words, if a particular waste material is not desirable in the secondary materials market, and yet there are no corresponding manufacturers to pay the recycling fee, under the four-in-one programme, the waste material still cannot be included in the list of regulated recyclables.

[44] EPA, Executive Yuan. 2012. 'Ziyuan huishou guanli jijin guanli weiyuan hui 14 nian jishi' (資源回收管理基金管理委員會 14 年紀實). Taipei, Taiwan.

Figure 3.2 Recyclable Classification and Municipal Recycling Timetable of Taipei City (source: Taipei City Government)

Moreover, under the National Recycling Act, Taiwanese citizens are required by law to separate recyclable resources and food waste from general waste and to allocate them to the appropriate categories (figure 3.2); failure to do so results in the imposition of fines. At elementary and junior high schools, students are trained to classify recyclable materials into various categories via school programmes that follow national guidelines. Gradually, recycling has become part of the Taiwanese daily routine. The musical tunes played by the municipal refuse and recycling trucks as they collect rubbish are a signature sound of Taiwanese contemporary culture.[45] The recycling movement has recently begun to transition to the development of a 'circular economy'[46] as a response to the global/European political-economic agenda, and this transition received a welcome boost from President Tsai Ing-wen (蔡英文) in her inaugural address in 2016, which included the development of a circular economy as one of her seven primary national policies.

3. Recycling Industry and Network

Although the scale and omnipresence of the recycling practice seen in Taiwan today are a more 'recent' product of the contemporary waste-management policy, waste recycling, as the process 'by which previously used objects and materials are converted into something else, rather than discarded' (Alexdander and Reno 2012,1), is by no means recent or novel. Du Ya-ling's research on the traditional Taiwanese scrap collection system provides some local historical background on the matter. Du notes that the pre-existing scavenging system in Taiwan can be traced to the period of Japanese rule, when collections were mainly of the 'by-products' of agricultural society, such as chicken feathers, pig bones, and rags. Until the 1970s, the traditional scrap collection system (傳統拾荒系統[47]) mainly

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[45] Bush, Jessica. "Taiwan Has Found a Brilliant Way to Get People to Recycle More." *Buzzworthy,* 30 August 2017. https://www.buzzworthy.com/taiwan-garbage-disposal/.

[46] According to the Ellen MacArthur Foundation, a representative global organisation advocating a circular economy, a policy ideal that contrasts with a linear, extractive industrial production model of 'take-make-waste'. On the foundation's official website, the statement defining circular economy concept notes that this model is 'underpinned by a transition to renewable energy resources' and aims to 'decouple economic activities from the consumption of finite resources'; the circular model is thus built based on three principles: 1) design out waste and pollution; 2) keep products and materials in use; and 3) regenerate natural systems.

[47] chuantong shihuang xitong

revolved around three waste materials: paper, glass bottles, and scrap metals such as copper and tin (2000, 22-23).

By the 1970s, the traditional scrap collection system had shifted from small-scale to industrial in the context of the global oil crisis and the series of intensive national economic development projects and mega-infrastructure building plans. For example, the shortage and surging market price of petroleum as the raw material of the petrochemical industry made plastic recycling widespread;[48] the high demand for building materials led, for example, to prosperity for the various non-ferrous scrap-metal recycling (廢五金回收[49]) plants around Kaohsiung Port, which became the centre of the world's shipbreaking industry in the 1970s and 1980s (Terao 2008). The 'recovery' of the international price of raw materials in the 1980s, however, affected the secondary materials market. Moreover, the saturation of Taiwanese recycling businesses slowed the development of the industry (Du 2000, 24).

It was not until the late 1990s that the Taiwanese recycling industry was 'revived' through its new role as the solution to the environmental waste problem. Accordingly, recycling firms have ballooned in number from around 100 in the 1980s to about 2,000 in the 2000s (Wen and Luo 2007); a national system of resource recovery was thus formed primarily through the combination of governmental administration and market operations. In the system, domestic recyclable rubbish—those discarded materials collected from the public, including residents, communities, and commercial enterprises, excluding industrial and construction sectors—travel through two main types of conduits in the first round of collection: the governmental and the non-governmental (see figure 3.3).

The governmental channel generally refers to the municipal refuse collection system, the local government refuse and recycling trucks travelling through the streets on a fixed schedule; the non-governmental conduits are operated primarily by two types of groups: 1) those who collect and process recyclable materials as their livelihood and 2) those who use recycling activity and income for other social purposes, such as Tzu-chi.[50] While local government recycling

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[48] Interview with a wholesaler representative of plastic recycling at New Taipei Area (Jan 23, 2018).

[49] fei wuchin huishou

[50] Fang (2001) has identified three primary motivations for Taiwanese scrap collectors to engage in recycling: livelihood, physical exercise, and altruism. Fang considers Tzu-chi volunteers to be altruist collectors. In addition to these three motivations, Gong (2006) adds

teams and refuse trucks are the most visible and audible collector group in the city, the non-governmental collectors nevertheless handle the majority of waste recyclables in the first round of collection.[51] Combined under one single official category, the 'collector' (回收商[52]), in the governmental Four-in-One recycling programme, in reality, the non-governmental collectors consist of an array of the original players in the traditional scrap collection system and emerging ones, including Tzu-chi. Across the industrial chain consisting of both public and private downstream, intermediary, and upstream collectors, recycling work is structured in four stages: collecting (from the public), sorting, baling, and resourcifying.

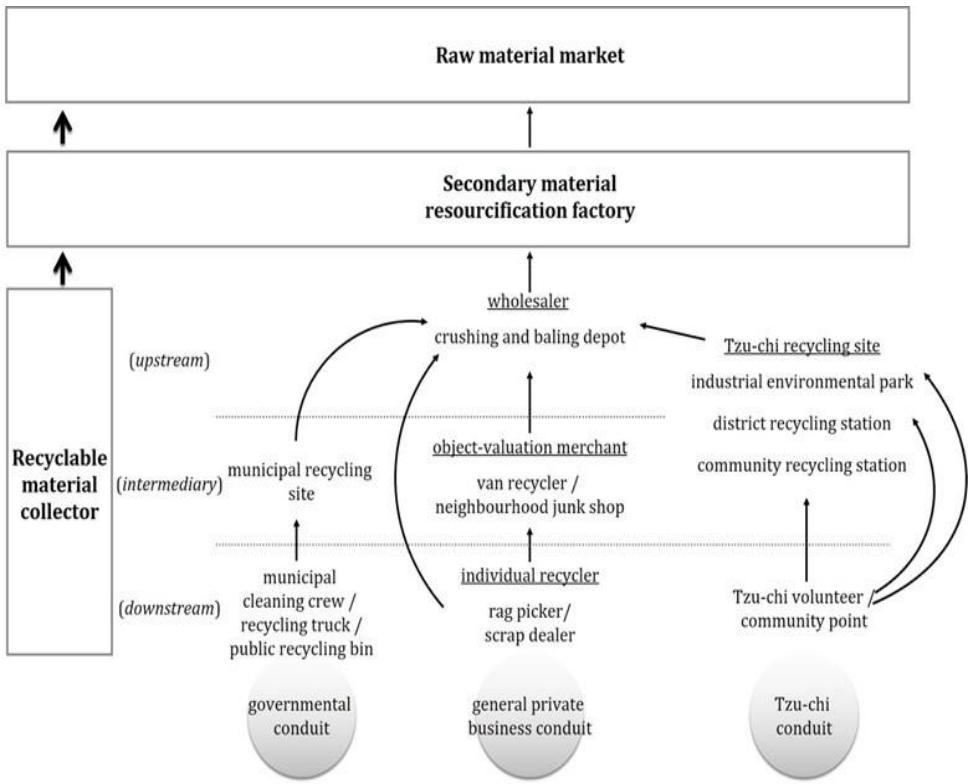

Figure 3.3 Key recycling collector groups and their material exchange relation (source: the author)

that another group of collectors engages in recycling due to their excessive tendency for object acquisition.

[51] According to TEPA statistics, the private sector collected a significant proportion of recycling, some 84% of total recycling volumes since 2008, compared to 50% in 2000.

[52] huishou shang

Figure 3.3 is a sketch of the key recycling collector groups. The figure provides a comparative account among actors from three types of recycling collection conduits: the local government, general private business, and Tzu-chi. While the details of the Tzu-chi recycling system are discussed in the next section of this chapter, Figure 3.3 mainly provides an industrial background of the commodity chain of the resource recovery of the Taiwanese recycling system to locate Tzu-chi in the system and in relation to other main actors.

The first round of domestic recycling collections is conducted by the *downstream* collectors or placed at collecting points. In the governmental conduit, these are primarily the cleaning crews of local governments and public recycling bins; in the general private conduit, the downstream collectors are generally two types of individual recyclers: rag pickers (拾荒者[53]) and scrap dealers (販仔[54]), such as cart recyclers, contracted cleaners, or residential community recycling rooms; in the Tzu-chi conduit, they are Tzu-chi recycling volunteers and community collecting points.

Recyclable materials assembled by downstream collectors and at collecting points are sent to the intermediary section, where the sorting process takes place. In the governmental conduit, the main sorting takes place at local governmental recycling sites. In the general private conduit, the intermediary section, as the *middlemen* of the recycling business, is often referred to as 'object-valuation merchants' (估物商[55]), a working title used in the traditional scrap collection system, including van recyclers and neighbourhood junk shops. In the Tzu-chi conduit, sorting and classifying work happen inside a variety of Tzu-chi recycling sites, including smaller-scale ones like community recycling stations, medium-scale district stations, and the larger-scale environmental industrial parks.

Finally, there are the *upstream* 'wholesalers' (盤商[56]): the crushing-baling recycling depot, which is in charge of stowing specific waste material items, such as paper, glass, and plastic. In principle, all the recyclable items travelling through the governmental, private business, and Tzu-chi conduits are ultimately conveyed to different privately owned crushing-baling depots before being transporting to 'resourcification' factories to be converted into secondary materials.

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53 shi huang zhe
54 fan zi
55 gu wu shang
56 pan shang

Figure 3.4 Municipal recycling truck
(photo by the author, 2016)

Figure 3.5 Scrap dealer (cart recycler)
(photo by the author, 2016)

Figure 3.6 Community recycling room
(photo by the author, 2014)

Figure 3.7 Van recycle
(photo by the author, 2014)

Figure 3.8 Neighbourhood junk shop
(photo by the author, 2015)

Figure 3.9 Crushing-baling depot
(photo by the author, 2014)

So far, this description shows that recycling has a long history and a well-formed industrial network in Taiwan, and it highlights the parallel stand of the Tzu-chi

recycling processing chain in the current industrial scheme. Similar to how sorted rubbish travels through the commodity chain of private businesses—from rag pickers to scrap dealers, to middlemen or 'object valuation merchants', and to wholesalers at depots—in the Tzu-chi conduits, most discarded materials travel through a chain of volunteering sites: individual volunteers, community points, collection vans, and environmental stations. Three additional notes should be added to the simplified version of the recycling industry presented in Figure 3.3. First, it is possible for the public to give their recyclable materials directly to the intermediary collectors of private businesses. For example, residents sell their recyclables at neighbourhood junkshops; schools hire van recyclers to collect sorted materials. Second, some resourcification factories have their own collecting systems that are independent of the private business chains sketched above. Third, few Tzu-chi larger recycling sites have a storage capacity comparable to that of a crushing-baling depot. In those cases, resourcification factories collect specific items directly from Tzu-chi sites without going through wholesalers.

From the perspective of the secondary material market, the downstream and some intermediary collector groups of the government, private businesses and Tzu-chi are in principle competitors with one and another, as they are different points of entry to the industrial recycling chain. They not only compete over the clients of upstream wholesaler to whom they sell recyclable materials, but also the material suppliers to become the divestment conduit the public chooses. They also compete over the 'ideal' recyclable materials, those with higher monetary value, such as copper; those with a more stable market demand, such as paper; and those that are easier to collect and transport, such as PET bottles in comparison with glass. The competitive nature of the material market once led to a public debate in Taiwan regarding to whom the public should give or donate their disposed materials (see Chapter Five). However, different collector groups can also develop into a more collaborative working relationship. For instance, local governments have asked Tzu-chi recycling communities to assist with local governmental collections, material auctioning, and public education.[57] Another example is that, when a van recycler could not find wholesalers to sell the plastic materials collected from schools, he contacted Tzu-chi recycling volunteers for

[57] Tzu-chi Almanac 2015, "ciji daidong qingjing yuantou pingdong jumin xiangxie xiangying" 慈濟帶動清淨源頭 屏東居民相偕響應, 222-225.

suggestions and later had the Tzu-chi community collect the materials instead because of that Tzu-chi recycling site's storage capacity (see Chapter Six).

In short, the interdependencies of different collector groups and their competition form an entrenched infrastructure through which recyclable materials travel. Tzu-chi, as one of the exemplary organisations in the private sector, does not depart from the set-up of the local recycling networks but rather actively participates in the system.

4. Tzu-chi Recycling Programme

After situating Tzu-chi in terms of Taiwan's recycling system, this section enters into the world of Tzu-chi recycling itself. By examining the institutional management of the recycling programme, it asks how the programme is coordinated and operated; who manages it and performs the work? Further, how is the programme situated in the Tzu-chi organisational structure?

The Tzu-chi recycling programme is officially a part of Tzu-chi organisation's environmental protection mission (環保志業[58]). Registered as one of the four subordinate projects of the Tzu-chi charity mission and its foundation (see Chapters Seven and Eight), the environmental protection mission of Tzu-chi has several projects.[59] In his doctoral dissertation on the Taiwanese Buddhist environmentalist movement, Lin Yih-ren (1999) has identified three projects of the Tzu-chi environmental mission: recycling, tree planting, and public space cleaning. In addition to Lin's list, until around 2010, Tzu-chi volunteers, often those in the recycling programme, sold reclaimed and recovered discards at Tzu-chi associated shops, the xifu wu (惜福屋), which means 'cherished blessing shop'. Additionally, the organisation has become more engaged in advocating vegetarianism and more general environmental education in recent years. Despite the presence of different environment-related projects, the Tzu-chi environmental protection mission mostly revolves around recycling. This is illustrated by the synecdoche of referring to recycling as *zuo huanbao* (做環保), meaning 'carrying out environmental protection' in both the institutional discourse and vernacular narratives.

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[58] huan bao zhi ye

[59] In addition to environmental protection, the other three subordinate projects of Tzu-chi's charity mission are international relief, bone marrow donation, and community volunteering, In addition to Tzu-chi's charity mission, the other three major missions are medical care, education, and culture. See Chapter Seven for further discussion.

The Tzu-chi recycling programme differs from the Tzu-chi organisation's other major missions of medicine, education, and culture, which have independent missionary institutes with hired professional operators working outside the Tzu-chi headquarters, the Tzu-chi Charity Foundation (慈濟慈善基金會[60]; see Chapter Seven). Instead, the management and operation of the Tzu-chi recycling programme depend on local volunteers. The only employed associates of Tzu-chi recycling are the administrative team at the religious division of the Charity Foundation. Moreover, rather than being institutionally owned, the majority of the recycling stations are located in private spaces offered by Tzu-chi followers or members. In other words, Tzu-chi's community recycling is largely locally initiated, managed, and operated. However, the local recycling communities are closely coordinated by both the administrative task force as well as volunteers at local level with those of the other Tzu-chi missions and institutions through the Tzu-chi laity system and the missionary management of the charity foundation.

For a more systematic understanding of the Tzu-chi recycling programme, the remainder of this section is organised into five parts: volunteer types, recycling sites, material categories, the administrative task force, and institutional partners. Some of the discussion covered here corresponds to the content of other chapters, but it is included here to serve as a point of entry to sketch the general organisational background.

4.1 Recycling Volunteers and Cadres

The operational work of recycling—collecting, sorting, dismantling, packing, and selling discarded materials—and the site management and volunteer recruitment are performed by Tzu-chi volunteers. Different kinds of Tzu-chi volunteers engage in the organisation's recycling works with different task assignments. The task division, however, is not clear-cut, while the differentiation of the recycling volunteers is more related to their affiliation with the Tzu-chi organisation as a whole. To explain the different types of Tzu-chi recycling volunteers, it is necessary to first briefly introduce the types of Tzu-chi volunteers.

There are three types of Tzu-chi volunteer: commissioners, certified community volunteers, and uncertified community volunteers. First, *commissioners,* which consist of (female) commissioners (委員) and (male) compassion faith corps (慈

[60] Ciji cishan jijinhui

誠[61]), are the religious followers and the primary, most devoted agents of Tzu-chi.[62] To become a Tzu-chi certified commissioner, an individual must follow a two-year training course designed to ensure that the trainee experiences the work of Tzu-chi in a total of eight missionary projects, including conducting home visits and volunteering in schools and at recycling stations. In addition to the organisational missionary activities, commissioners attend local Tzu-chi congregations, where regular social events and Buddhism-based self-improvement classes are held. In addition to the training process, the primary requirement to become a certified Tzu-chi commissioner is to abide by Tzu-chi's 10 commandments. The commandments consist of two parts: the first five follow the basic lay Buddhist precepts: no killing, stealing, adultery, lying, or alcohol. The remaining five emphasise the importance of complying with the societal rules and forbid addictive behaviours such as smoking, opportunistic investments such as gambling, and, interestingly, political participation, such as involvement in protest activities. [63]

The commissioner has three uniforms: one formal, consisting of a traditional Chinese *qipao* for female commissioners and a Western suit for male commissioners; one casual, consisting of a blue polo shirt and white trousers; and one working, consisting of a grey polo shirt and white trousers (figure 3.10). The hired staff members of the Tzu-chi Charity Foundation are all commissioners. Within the organisation, the commissioners are the group that is most likely to refer to themselves and each other as *cijiren* (慈濟人), meaning a Tzu-chi person. To a great extent, c*ijiren* is, if not an optimal abstract based on the image of the organisation's founder and leader Cheng-yen, an embodiment of the leader's philanthropic teachings and inspirations incorporated into one's religious beliefs through secular engagement and concrete actions. Tzu-chi commissioners are coordinated through the Tzu-chi laity system, the 'Four Dharma, Four Sects, Four in One ' (四法四門四合一;[64] hereafter 'Four-in-One'). The 'four' in the 'Four-in-

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[61] ci cheng

[62] The different titles for female and male commissioners are due to male practitioners not being admitted until 1990. To avoid complications, hereafter, I use the term 'commissioners' to refer to both female commissioners and members of the male compassion faith corps.

[63] No smoking, drugs, or betel nuts; no gambling or opportunistic investments; must show filial piety, be soft-spoken and have a gentle expression; must abide by traffic regulations; must not participate in political activities or march in protests (不抽煙、不吸毒、不嚼檳榔, 不賭博、不投機取巧，孝順父母、調和聲色，遵守交通規則，不參與政治活動、示威遊行 liu: bu chouyan, bu xidu, bu jiao binlang; qi: bu d bo, bu touji quqia; ba: xiaoshun fumu, diaohe shengse; jiu: zunshou jiaotong guize; shi: bu canyu zhengzhi huodong, shiwei youxing).

[64] Si fa si men si he yi

One' system refers to the four hierarchical group categories, namely Unity (合心), Harmony (和氣), Mutual Love (互愛), and Joint Effort (協力[65]), from the centre to the periphery. Similar to the official governmental administrative units of county/city, district, township, and neighbourhood, under the Four-in-One system, all Tzu-chi commissioners are geographically allocated to 11 Unity groups across Taiwan, each Unity group is divided into several Harmony groups, and so on.

The second type of Tzu-chi volunteers is *certified community volunteers*. Volunteers who are not commissioners yet who complete the service training or meet the requirements of a specific missionary project receive official recognition as a qualified missionary volunteer from the related department. Not all Tzu-chi missions have a scheme for non-commissioned volunteer certification. According to my understanding, this category is specific to the Tzu-chi recycling programme and hospital volunteering.

Finally, the final category of Tzu-chi volunteer is the uncertified community volunteer. In my writing, I refer to this category as the 'walk-in' volunteers because the organisation defines this group in the broadest sense as anyone from the public who recognises Tzu-chi thinking and has assisted Tzu-chi and who may participate temporarily or irregularly. For example, in principle, anyone who brings recyclables to a Tzu-chi station and separates the materials according to the Tzu-chi recycling scheme would be recognised as a Tzu-chi recycling volunteer.

Similar to the general categorisation of Tzu-chi volunteers, there are also three categories of Tzu-chi recycling volunteers: commissioners, certified recycling volunteers, and uncertified walk-in volunteers.

[65] Hexin, Heqi, Huai, and Xieli.

Figure 3.10 Tzu-chi volunteers and their uniforms (source:Tzu-chi official website[66]; Da-ai Technology official website[67;68])

In local congregations, there is a functional sub-unit 'recycling group' which makes up the largest share of Tzu-chi commissioners working at the recycling sites. These recycling commissioners are generally given the title 'environmental admin' (環保幹事[69]) in the group category to which they belong in Tzu-chi's hierarchical laity system. In particular, the environmental admins in the Unity and Harmony groups are referred to as the 'environmental cadres' (環保幹部[70]). The

66 Tzu-chi Foundation 慈濟基金會, 'ciji zhifu' 慈濟制服, Tzu-chi official website, 18 October 2017, https://www.tzuchi.org.tw/about-us/%E6%85%88%E6%BF%9F%E5%BF%97%E5%B7%A5/%E6%85%88%E6%BF%9F%E5%88%B6%E6%9C%8D (accessed 17 September 2019).

67 Da-ai Technology 大愛感恩科技, 'DA.AI Eco Polo Gray Shirt', Da-ai Technology official website, https://newshop.daait.com/goodDetail.htm?id=8a8195944ecbf439014ed890a3e60145 (accessed 17 September 2019).

68 Da-ai Technology 大愛感恩科技, 'xinjiapo ciji zhigong fangyi fuwu guanhuai wennuan yihu xintian' 新加坡慈濟志工防疫服務關懷 溫暖醫護心田', Da-ai Technology official website, 23 September 2020 https://www.tcnews.com.tw/news/item/5699.html (accessed 17 November 2020).

69 huanbao ganshi

70 huanbao ganbu

Unity environmental cadres tend to consist of senior recycling volunteers. They act both as the path of communication from Cheng-yen and the foundation's environmental team to the volunteer recycling laity and as project consultants for the local recycling stations. The Harmony environmental cadres are the executive force behind project planning, human resource management, people coordination, and the administrative management of the recycling sites. The jurisdiction of the Harmony environmental cadres is not standardised but rather depends on the number and scale of the recycling sites in the area. In addition to the institutional environmental cadres, each Tzu-chi recycling site often has its own local 'station chief', the figure in charge of local and trivial matters and is not necessarily a Tzu-chi commissioner.

Nevertheless, not all commissioners who work at the recycling sites are members of the 'recycling group', nor they are environmental administration or cadres. At a few of the Tzu-chi recycling sites that I observed, the local congregation arranges shifts in order to ensure that the general commissioners regularly participate in the recycling programme. Moreover, not all the commissioners who volunteer at recycling sites work on recycling. One significant functional sub-unit of commissioners that appears regularly at recycling sites consists of the catering volunteers, who prepare free lunches for the recycling volunteers.

Although it is common to find the image of Tzu-chi recycling volunteers represented by commissioners (see Chapter Four), to my knowledge, the non-commissioned community volunteers actually represent a larger portion of the labour force of Tzu-chi recycling.[71] In contrast with the commissioners, who participate in various Tzu-chi activities, the recycling community volunteers, certified or not, rarely engage in Tzu-chi activities other than recycling. The figure found in the Tzu-chi almanac, provided earlier at the beginning of Chapter One, suggests that nearly 90,000 people have volunteered for Tzu-chi recycling. However, this number indicates the certified community volunteers and excludes

[71] By the time I finished my fieldwork in 2018, there were no statistics to indicate the proportion of commissioned and non-commissioned volunteers in each recycling site and the Tzu-chi recycling community as a whole. This is mainly due to the ambiguous way in which the organisation recognises who counts as a Tzu-chi community volunteer. Moreover, all Tzu-chi recycling sites are open to the public to volunteer without requiring a fixed commitment or registration. People can walk in and out any time. Although without statistical support, the suggestion that non-commissioned volunteers are the mainstay of Tzu-chi recycling's human capital is made based on my own observation as well as the impressions given by the members of the environmental administrative team and several cadres from the recycling sites in the areas of Yilan, Taipei, and Kaohsiung.

the commissioners who participate in recycling activities. Moreover, the number is a total amount accumulated since the 1990s, including those who have stopped volunteering or since passed away. The national survey of Tzu-chi recycling in 2014 indicates that about 33,000 non-commissioned but certified volunteers currently work at stations across the country. These certified recycling community volunteers are mostly women and elderly people (Table 3.1). Eighty per cent of the total certified community recycling volunteers is female. Nearly 60% of the volunteers are above the age of 65, with the majority in the age group of 55 to 79 years old. Because of their age, the commissioners and administrators sometimes refer to these community recycling volunteers as 'elderly Bodhisattvas' (老菩薩[72]).

Table 3.1 Age distribution of Tzu-chi certified recycling community volunteers (table made by the author; source: Tzu-chi Foundation[73])

age	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90+
%	0	0	2	2	6	18	29	26	14	2

A walk-in volunteer must meet four conditions to become a certified recycling volunteer. The title is granted to those who (1) have spent one year volunteering at the environmental mission (recycling programme); (2) have performed at least eight recycling engagements on the site; (3) have participated in the annual event held for the non-commissioned volunteers, the Environmental Volunteer Improvement Day (環保志工精進日[74]); and (4) abide by the 10 commandments of Tzu-chi. The qualified volunteers whom the local environmental cadres recommend receive the Tzu-chi grey uniform, 'gong xiu fu' (共修服), and the title of the certified environmental volunteer from the monastics of the Merit Society headquarters at the Environmental Volunteer Improvement Day event before the end of the year. The certification and the institutional ritual represent an appreciative gesture from the organisation, officially recognising the dedication

[72] lao pusa

[73] Tzu-chi Foundation, '2018 ciji huanbao tongji (xiu)' 慈濟環保統計(修; unpublished document, 17 September 2019), PowerPoint file.

[74] huanbao zhigong jing jin ri

and qualification of these non-commissioner volunteers. The implied significance of such an endorsement, however, is more personal than institutional. According to the staff of the environmental team, for some community volunteers, the likelihood of acquiring the 'desired' identity of Tzu-chi commissioner is low, given the required time and engagement in all eight missionary tasks. However, I must note that not all community volunteers share the desire to become a Tzu-chi commissioner. Some regular volunteers at the recycling station considered the status of a community volunteer to be 'better' than that of a commissioner (see Chapter Four). According to Tzu-chi's statistics, about 13% of the total of 33,537 certified recycling volunteers later become Tzu-chi commissioners.[75]

4.2 Recycling Sites

Tzu-chi recycling volunteers assemble and collect discarded materials at the 'community recycling points' (社區回收點[76]), which are locations outside Tzu-chi associated properties, such as office buildings or shops, before transporting them to Tzu-chi's recycling sites, the 'environmental protection stations' (環保站[77]). By the end of 2018, there was a total of 8,536 community points and 279 Tzu-chi environmental stations across Taiwan. While Chapter Six discusses the recycling collection works and the community points, this section examines the Tzu-chi environmental stations, where the dismantling and sorting works mainly take place.

Tzu-chi's environmental stations vary in scale and configuration. The official category 'environmental stations' includes three types of recycling sites: the community stations (e.g., the Wuxin environmental station in Taipei), the district stations (e.g., the Dong-gang environmental station in Yilan), and the environmental parks (e.g., the Neihu environmental park in Taipei; see Figure 3.11-3.14). The indicators that determine a station's category include the sources and quantities of the processed waste materials, the recycling trucks and labour force available, whether there is storage space or 'proper' bookkeeping, and the size of the property.

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75 Tzu-chi Foundation, '2018 ciji huanbao tongji (xiu)' 慈濟環保統計(修; unpublished document, 17 September 2019), PowerPoint file.

76 shequ huishou dian

77 huanbao zhan

Figure 3. 11 Tzu-chi community environmental station (photo by the author, 2016)

Figure 3. 12 Tzu-chi district environmental station (photo by the author, 2016)

Figure 3.13 Tzu-chi environmental park (photo by the author, 2018)

Figure 3.14 Sorted PET bottles in a Tzu-ch district station (photo by the author, 2016)

Because recycling bases are mostly initiated locally, the majority of Tzu-chi recycling sites are not owned by the organisation. Particularly during the grass-roots phase of formation of the Tzu-chi recycling programme, there was little institutional intervention, and local residents or Tzu-chi associates often offered their trucks or land for recycling purposes. Only 50 out of the 279 Tzu-chi environmental stations are located on land owned by the Tzu-chi Foundation. These organisation-owned stations have often been developed into larger district stations, to which local congregational halls, the Jingsi Tang (靜思堂), relocate. The dependence on local spontaneity and social relationships, however, can lead to recurring problems with property ownership and usership, for example, because the previous owner of the property passed away, the social connections between the volunteers and donors eroded, or the capacity of the site cannot cope

with the number of volunteers or volume of recyclables. In response to this, and also in the context of the overarching formalisation and institutionalisation of the programme, the headquarters increasingly develop recycling sites on the organisation's own properties. For example, newly built Tzu-chi properties often incorporate a recycling site, or the organisation rents non-public-use properties from the government.

Inside the recycling sites, the spatial configuration is organised and clear, whether in smaller-sized community stations, district educational stations, or the large environmental parks. A twofold logic underlies the spatial configuration of Tzu-chi recycling sites. The first is in relation to the material categorisation. In one of Tzu-chi's capacious environmental education parks at Hualian, for example, the premises are divided into several compartments, where large board signs hang on the wall and indicate each zone's 'speciality'. There are zones for 'glass bottles', 'plastic bags', 'iron', 'aluminium', 'bicycles', 'dismantling', 'repair', and more.

Moreover, the spatial classification of Tzu-chi recycling sites is often based on logistical considerations and in relation to the amount of effort required in recycling work. Compared to sorting metal cans, for instance, recycling household appliances or repairing clothes demands much more time and labour. Therefore, dismantling and repairing zones are often found in the corners farthest away from the entrance. The spatial arrangement of the long, narrow space of smaller-sized Wu-xin station in Taipei clearly demonstrates this principle of spatial classification. Walking from the front patio to the back of the building, visitors first pass piles of colour-sorted glass bottles, then come to the area where soft and hard plastic containers and metal cans are separated. In the middle, volunteers sort wastepaper into several categories. At the back corner is the stationary work-top for dismantling. The work-top is a place where volunteers dissemble compacted appliances, such as the motors of electronic devices, to retrieve the components that have the most monetary value, such as copper magnet wires. Undoubtedly, a seat at the work-top station is a symbol of authority for skilled and senior volunteers.

4.3 Material Classification

The primary waste material categories that Tzu-chi recycles are the following: 'soft' plastic,[78] 'hard' plastic,[79] PET plastic bottles,[80] glass bottles, metal cans, paper, batteries, light bulbs, textiles, electronic appliances, and metal scraps. In order to help the volunteers memorise the categories of the most commonly recycled items, a commissioner has summarised the classifications into 10 categories and created the mnemonic phrase of the 'pithy 10-finger environmental formula' (環保十指口訣[81]). The mnemonic phrase consists of abbreviations and homophonous words for recycling items: ping, ping, guan, guan, zhi, dian, yi, san, wu, qi (瓶瓶罐罐紙電一三五七). The poster of the 'pithy 10-finger environmental formula', which displays samples, is often found on the walls of Tzu-chi recycling stations, and the phrase is widely used in organisational environmental education activities (Figure 3.15). According to the commissioner who handed me a flyer with the phrase and related graphic at an environmental event, the 'trick' to memorising the recycling categories is to use procedural memory, and once the volunteers 'move their fingers'. they can quickly recall the items.[82]

However, the 'pithy 10-finger environmental formula' categories only indicate the most common recycled items, not the full list. Rather than having a comprehensive list of all the materials and products that every Tzu-chi station recycles, the recognition and classification of waste in Tzu-chi is bound and spurred by the social context, labour capacity, and the local network of each station. Is Styrofoam cushioning rubbish or recyclable? To which category should rain-coats be assigned? Does Tzu-chi accept bulky items such as office partition panels? There is no unified answer. Every Tzu-chi recycling community has its own system, which could vary across time and often depends on human and material resources inside each recycling site and on the surrounding environment outside. What to recycle and how to do so not only depend on how the

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78 The category 'soft plastic' is a term commonly used in Taiwanese recycling businesses to include plastic items such as polypropylene (PP), polyvinyl chloride (PVC) and low-density polyethylene (LDPE). The material items made from those plastics are usually bendable, hence the name 'soft'.

79 In contrast to 'soft plastic', 'hard plastic' includes items made from acrylonitrile butadiene styrene (ABS), polystyrene (PS), high-density polyethylene (HDPE), which are less easily folded.

80 polyethylene terephthalate bottles

81 huanbao shizhi koujue

82 Interview with commissioner Ms. Chen at the Earth Day event (April 16, 2016).

commander-in-chief and volunteers of each site 'feel,' but also the extent to which the volunteers are skilled and equipped. It depends on what waste the neighbourhood brings the recycling community, which again depends on the social networks of the recycling community members. The classifications also differ according to whether there is surplus holding space at the station, and whether the volunteers can find downstream recycling wholesaler buyers. The constant price fluctuations in the secondary material market can add another layer to the changeable situation. For instance, the number of recycling wholesalers in the Taipei region that are willing to purchase waste soft plastics between 2016 and 2018 dropped significantly due to the significant price drop in this material. As a result, in some smaller-sized Tzu-chi recycling stations, soft-plastic became 'half-recycled', meaning that while volunteers still collected the items from the general public and sorted them, the waste material items were transported to nearby, larger stations with surplus storage space to 'sit and wait' until the market could accommodate them again. In other words, waste classification in Tzu-chi is not determined externally and objectively; it is socially and locally embedded.

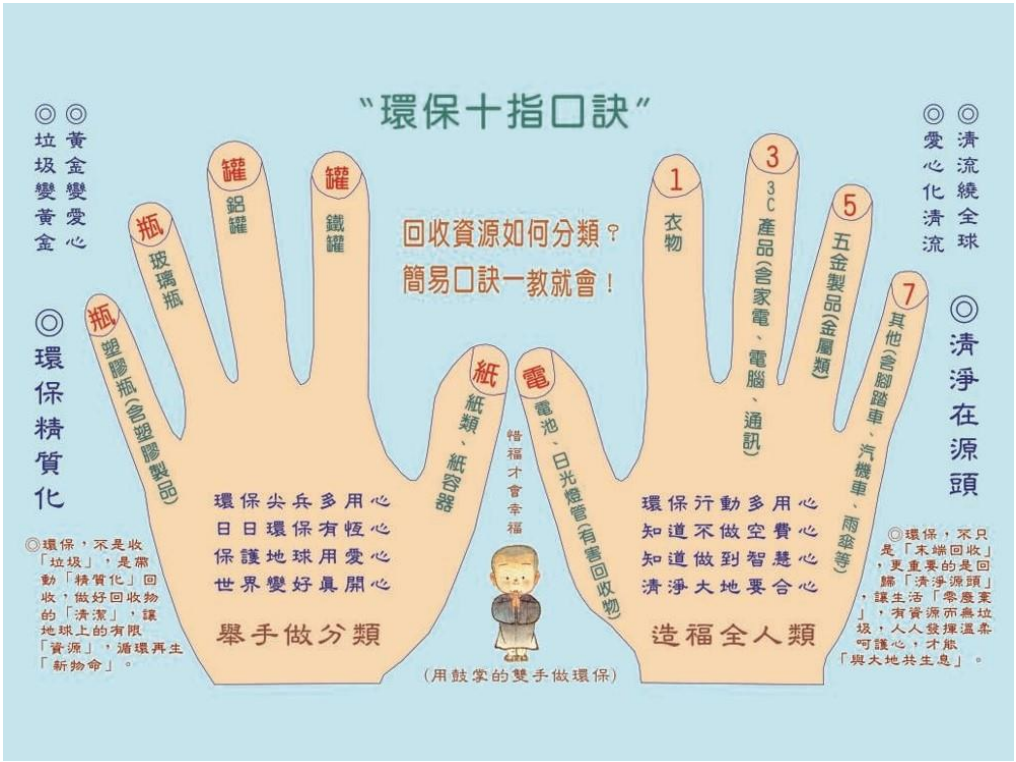

Figure 3. 15 A poster of the 'pithy ten-finger environmental formula'

4.4 Administrative Task Force

The administrative tasks of the Tzu-chi recycling programme are mainly coordinated by the Environmental Protection Promotion Team (環境保護推廣組,[83] hereafter, the environmental team) at the religion division of the Tzu-chi headquarters. Stationed in the Tzu-chi Charity Foundation in Hualien, the primary work of the environmental team includes registering and coordinating environmental volunteers and cadres, organising annual events, and institutionalising recycling site management, as well as processing and archiving information. Before 2009, the administrative task force consisted of one person. It was not until 2010, two decades after Tzu-chi's engagement in community recycling began, that the current head of the environmental team, who was a member of the Tzu-chi International Humanitarian Aid Association (人援會[84]) at the time, was given charge of the recycling programme. Soon, the team was expanded to seven people, its current size.

The establishment and operation of the environmental team, to a large extent, illustrates the process of institutionalisation seen in Tzu-chi recycling. In his 50s, the environmental team leader introduced himself using his English name when we first met. He frequently referred to his previous work experience in an international electronics conglomerate, and he saw the team's tasks as works of rationalisation and systematisation. Two of the primary tasks initiated were, first, risk management, such as arranging insurance for the recycling sites, and second, systematic assessment: updating the obsolete information of recycling volunteers, facilities, and spaces.[85] Along with the formation of the environmental team, the task force conducted a national survey in two stages, in 2011 and 2015, which updated volunteer information and recycling site statuses. The survey was part of an attempt to institutionalise and build a digital management information system. In 2018, the team launched a preliminary version of the cloud database of Tzu-chi recycling, which digitally documented material and financial flows, the background information of certified missionary volunteers, the recycling site equipment available, application forms, the groups visiting the Tzu-chi recycling stations, and other information.

Moreover, the environmental team coordinates the recycling programme's grand events, particularly the annual event, the Volunteer Improvement Day, which is

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[83] huanjing baohu tuiguang zu

[84] ren yuan hui

[85] Interview with the Tzu-chi Environmental Protection Team in Hualian (22 January 2018).

held twice a year for non-commissioned recycling volunteers. The team also facilitates regular meetings of the local environmental cadres in each region, the bi-monthly meeting of the Unity and Harmony environmental admins. However, the environmental team is not in charge of organising the activities. Instead, the local cadres perform the main operation tasks, while the environmental team determines the annual policy and event theme and assists with the coordination. In the annual events and the cadre meetings I attended, the local cadres were the main presenters and reported the recent developments, plans, and incidents of the local recycling communities; they also shared recycling tips and gave personal testimonies. In short, rather than being the central focus of volunteer action, the environmental team plays the role of mediator and develops an adaptive system of communication between the headquarters and the bourgeoning local volunteers.

It would be hasty to conclude that the environmental team staff members at the headquarters are the delegates of Tzu-chi recycling and have the power to manage and regulate dispersed local recycling communities because of their position in the hierarchical labour division between management and operations. Based on my observation, the power relationship between the headquarters team and the local volunteers is dynamic and equivocal. This is partially because the local communities were self-operated and had a high level of autonomy throughout the Tzu-chi recycling movement, and the headquarters has only had a corresponding office for the last decade. Furthermore, to a large extent, the delicate relationship reflects the seniority culture of Tzu-chi. In Tzu-chi, seniority, meaning the privileged position earned by more experience as a Tzu-chi volunteer, is the key indicator of one's social rank in the hierarchy. This indicator usually correlates with a volunteer's age. The senior members who participate in Tzu-chi recycling tend to be environmental cadres in the hierarchical group category of Unity in the Four-in-One laity system. In contrast to senior and elderly volunteers, the staff of the environmental administrative task force tends to be aged between 40 and 50 and have fewer years of Tzu-chi involvement. Their institutional position as official representatives, in this context, does not necessarily translate into authority. In an interview with the environmental team staff members, after providing numerous examples of how they adjure the local volunteers to adapt and consider new policies such as surveys, recycling more plastic bags, or documenting volunteers' health check-ups, the staff described their primarily role as offering technical and emotional support to the volunteers. Even though, so far, the discussion seems to suggest that the recycling volunteers

are on the higher end of the power spectrum, this is not always the case. For the volunteers, the environmental team staff embodies the 'people who work with Cheng-yen' and who share a certain amount of the religious authority of the leader through their close contact, that is, by being physically near her. This, in addition to their professional background and knowledge of technology, ensures a degree of trust and respect from the volunteers.

4.5 Institutional Partners

Even though the Tzu-chi recycling programme does not have its own independent missionary affiliate, it works closely with Tzu-chi's listed company, Da-ai Technology (大愛感恩科技[86]). Da-ai Technology was founded in 2008 by five members of the Tzu-chi commissioner titled group, the Tzu-chi International Humanitarian Aid Association (TIHAA). Formed by entrepreneurs from various industries, the TIHAA is considered one of Tzu-chi's most prestigious groups and often elicits an admiring, respectful tone when mentioned because of its high status because of both the political-economic backgrounds of its members and their innovative endeavours. The role of the TIHAA in Tzu-chi resembles a research and development department in that the members develop technological designs, for instance for 'emergency housing' (急難簡易屋[87]) or portable catering trucks (行動餐車[88]), and administrative systems, such as the international logistics system used to deliver goods to support Tzu-chi's disaster relief activities.

Collaborating closely with the TIHAA and the Environmental Protection Team, Da-ai Technology is one example of the TIHAA's achievements and capacity. The listed company, which donates 100% of its profits to the Tzu-chi Charity Foundation, is in charge of the manufacturing of various 'green' products from the PET bottles recycled at the Tzu-chi recycling sites. However, instead of manufacturing the products themselves, Da-ai Technology is responsible for the technological development of secondary material applications and has a management office dedicated to marketing and environmental education. The PET bottles Tzu-chi volunteers recycle and process are collected by the various resourcification factories Da-ai contracts across the country. These factories then produce blankets, clothes, stationery, suitcases, shoes, and so on using the

86 da ai ganen keji
87 jinan jianyi wu
88 xingdong canche

recycled material. The recycled products—like other Tzu-chi merchandise, such as instant food and books—are often delivered as part of Tzu-chi's disaster relief efforts or sold in Da-ai Technology stands in several department stores or at Tzu-chi's chain of bookshops and cafés.

5. Concluding Remarks

This chapter elucidates Tzu-chi recycling's institutional management and operation scheme and locates it in Taiwan's recycling landscape. The Tzu-chi recycling movement is rooted in Taiwan's pre-existing tradition of scrap collection and its business network, which transformed into a recycling movement and industrial commodity chain under the national waste-management policy in the period of the 1990s and 2000s. In other words, the preceding recycling culture and the thriving industry help explain why Tzu-chi recycling developed so rapidly even in its early stages. Furthermore, the chapter reveals that, although Tzu-chi's religious background and volunteering operation represent an unusual case in the political-economic recycling system, the particularity of Tzu-chi recycling includes its similarity and embeddedness in the system. Structurally and in terms of scope, it is comparable to the private business and the governmental recycling collection system; like them, Tzu-chi recycling consists of two phases of waste works, from assembly to sorting and then to auction, which require transportation and storage across a chain of volunteering sites.

As one of the Tzu-chi organisation's eight missionary projects, the Tzu-chi recycling programme is not a product of top-down organisational development. Instead, Tzu-chi recycling is largely initiated, organised, managed, and operated by the recycling volunteers at a local level. Waste materials are collected from designated local community points and transported to and stored at Tzu-chi recycling sites of different scales, and the majority is privately owned by local residents. The Tzu-chi recycling volunteers, who are primarily elderly and female, and the community volunteers, not the Tzu-chi commissioners, categorise and auction off waste materials based on each base's local capacity and networks. However, the local recycling communities are not independent of the organisational headquarters or from one and another. Instead, they are closely coordinated through Tzu-chi's institutionalised managing and laity systems. Along with the establishment of the administrative team in the headquarters, the Tzu-chi programme has undergone a gradual process of institutionalisation over

the last decade through the development of an information management and communication system.

Overall, this chapter highlights the mixture of Tzu-chi recycling's differences and similarity with other recycling actors, which not only contribute to but also reflect the multi-faceted nature of Taiwan's recycling. These embedded particularities make Tzu-chi recycling a thought-provoking case-study. They provide developmental and organisational contexts for analysing Tzu-chi recycling, and these aspects are taken up in the following chapters in terms of the social roles and cultural meanings of waste works and how recycling remakes Taiwanese society.