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# Integration of the informal sector into the implementation of the Extended Producer Responsibility scheme for plastic packaging



enda

## Abbreviations

CITENCO: City Environment Company

DONRE: Department of Natural Resources and Environment

ENDA: Environment and Development Action in Viet Nam

ES: Environmental sanitation

EPR: Extended Producer Responsibility

HCMC: Ho Chi Minh City

HI: Health insurance

IRD: French Research Institute for Sustainable Development

IWCs: Independent Waste Collectors

LEP: Law of Environmental Protection

MONRE: Ministry of Natural Resources and Environment

PE: Polyethylene; LDPE: Low Density Polyethylene; HDPE: High Density Polyethylene;

PET: Polyethylene terephthalate

PP: Polypropylene

PRO: Producer Responsibility Organization

PS: Polystyrene

PVC: PolyVinyl Chloride

SI: Social insurance

VND: Vietnam Dong, Vietnamese currency

WSAS: Waste sorting at source

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## I) Introduction

### A) Rationale

Global plastic pollution has already caused serious consequences for the environment and the oceans, as well as influenced several economic and social issues. An estimated 11 million tons of plastic are leakage into the world's oceans every year<sup>1</sup>. Globally, 32% of packaging waste is being disposed of into the environment<sup>2</sup>.

Over the past decades, Vietnam has witnessed rapid urbanization and economic development. These trends have contributed to the change in production and consumption patterns as well as the increase in sources of waste. The 2018 report of World Bank predicts that, from 2018 to 2030, domestic waste in Vietnam will continue to increase from 1.31 to 1.72 kg per capita per day in urban areas and from 0.86 to 1.13 kg per capita per day in rural areas. It is estimated that the composition of domestic solid waste varies from place to place. In general, the total annual amount of waste doubled in the last 15 years and is forecast to increase from 27 million tons in 2018 to 54 million tons in 2030. Plastic and nylon make up for about 3.4 to 10.6%, paper and cardboard account for 3.3 to 6.6%, metals for 1.4 to 4.9%, and 0.5 to 2.0% is the proportion of glass. Organic waste (50.2 to 68.9%) and non-biodegradable waste (inert substance) (14.9 to 28.2%) account for the largest proportion.<sup>3</sup> According to the reports of World Wildlife Fund (WWF), Vietnamese households used about 1.2 million tons of plastic packaging in 2016 (436 000 tons of PET bottles and 40 000 tons of other types of plastic bottles, 332 000 tons of plastic bags and cellophane, 202 000 tons of plastic cups, cans and other types of packs, 214 000 tons of other types of plastic packaging).<sup>4</sup>

In recent years, Vietnam has made great efforts in environmental protection and waste management, especially regarding plastic waste. Vietnam has issued many important legislations such as: National Strategy for General Management of Solid Waste to 2025 with vision towards 2050; Directive No. 33/CT-TTg of the Prime Minister on strengthening management, reuse, recycling, disposal and reduction of plastic waste; Decision No. 1316/QD-TTg of the Prime Minister approving the scheme for strengthening management of plastic waste in Vietnam; The National Action Plan on Sustainable Consumption and Production for the Period of 2021-2030, and other action plans on reducing plastic waste of Ministries and local authorities. The 2020 Law on Environmental Protection also has specific provisions on Extended Producer Responsibility (EPR) and the reduction, reuse, recycling, and disposal of plastic waste.

### B) Research context

The pilot project 'Enhancing plastic packaging collection, sorting and recycling', implemented by the Institut de Recherche pour le Development (IRD) and the Hanoi Architectural University (HAU), is funded by the 'Rethinking Plastics – Circular Economy Solutions to Marine Litter'

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<sup>1</sup> Lau, Winnie WY, et al. "Evaluating scenarios toward zero plastic pollution." *Science* 369.6510 (2020): 1455-1461.

<sup>2</sup> Neufeld, F. Stassen, R. Sheppard, T. Gilman, Eds., *The New Plastics Economy: Rethinking the Future of Plastics* (World Economic Forum, 2016)

<sup>3</sup> World Bank (2018) Solid and industrial hazardous waste management assessment – Options and action area to implement the national strategy.

<sup>4</sup> WWF (2020) Plastic packaging in Southeast Asia and China. Page 7.

[https://d2ouvy59p0dq6k.cloudfront.net/downloads/wwf\\_plastic\\_packaging\\_in\\_se\\_asia\\_2020\\_v8\\_0214\\_nal.pdf](https://d2ouvy59p0dq6k.cloudfront.net/downloads/wwf_plastic_packaging_in_se_asia_2020_v8_0214_nal.pdf)

project of the European Union and the German Federal Ministry for Economic Cooperation and Development (BMZ). 'Rethinking Plastics' is implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and Expertise France.

The pilot project aims to increase the collection, sorting and recycling of plastic packaging in Ho Chi Minh City, Vietnam, to reduce its environmental leakage. To reach this objective, it works on determining how much and what kind of plastic is collected, how and by whom it is transferred and processed or when it is leaked into the environment. Finally, it assesses if and how the plastic waste is recycled and what would be needed to enhance recycling. In addition, the project investigates how segregation at household level can be improved. A better cooperation between all stakeholders will enhance the understanding of the plastic value chain and related data. Involved stakeholders therefore include producers and consumers, as well as collectors, businesses, transporters of packaging and recyclers. With these data and experiences, the pilot project can contribute knowledge about suitable options for a legal framework for Extended Producer Responsibility (EPR) for packaging, which is currently being developed by the Ministry of Natural Resources and Environment in Vietnam.

To fulfil all the activities of the pilot project, IRD contracted with ENDA to elaborate and conduct social surveys along the post consumers plastic packaging value chain (including consumers, domestic and recyclable aggregators, transporters, recyclers) in order to identify and report in HCMC on the gaps and constraints to integrate the informal recyclable aggregators to the future EPR system.

### **C) Research Objectives**

- To update about the current status of domestic waste management in HCMC
- To provide updated information on the work of the informal sector in HCMC
- To propose an integration approach for informal workers into the future EPR scheme in Vietnam.

### **D) Subject and research method**

There are three groups of research subjects: (1) aggregators, (2) independent waste collectors, and (3) street waste pickers ("ve chai"). Those groups have been surveyed in four districts of HCMC: Binh Thanh District, District 4, Nha Be District, and Thu Duc City:

- Direct interviews with 32 aggregators, including:
  - + Binh Thanh: 14
  - + District 4: 06
  - + Nha Be: 09
  - + Thu Duc City: 03
- In-depth discussions with two groups of independent waste collectors (12 participants)
- Direct interviews with five street waste pickers and two focus group discussions (total 14 participants)

To obtain the required information, surveys including IWCs for direct interview together with in-depth interviews, were prepared with the aim to interview the above mentioned aggregators, independent waste collectors, and street waste pickers. The survey focuses on the two following key issues<sup>5</sup>:

- Sociological investigation of the informal sector:
  - All packaging waste mentioned in the EPR decree must be collected
  - Readiness of infrastructure for sorting packaging waste
  - Packaging waste disposed of into the environment, causing pollution
  - Documentation and monitoring of waste management activities
  - Ensuring high safety and welfare standards for informal sector workers according to the EPR scheme
  - Ensuring transparency in management of cash flows and implementation by individual/unit.
- Recommendations for integrating the informal sector into the EPR scheme for packaging:
  - Analysis of the basic information, current status and future plans of the informal sector (focusing on the aggregators)
  - Current situation of solid waste management system related to informal sector. Identifying the difficulties, causes and possible solutions regarding the management of the informal sector by HCMC's Districts
  - Government's support for informal sector
  - Impacts of relevant programs and policies of the State and City on the informal sector
  - Recommendations for effective integration of the informal sector into the EPR scheme.

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<sup>5</sup> according to IRD's term of references.

## II) Current status of solid waste management in HCMC and the role of the informal sector

### A) Domestic solid waste management in HCMC

#### 1. Technical solid waste management

The technical solid waste management system in HCMC currently consists of three main stages: waste collection at source, transportation, and treatment (Figure 1). The Decision No. 09/2021/QĐ-UBND, Art 5 stipulates that Individuals, households, and domestic solid waste generators shall sort at-source domestic solid waste into 2 following groups, reusable and recyclable waste (i.e. including plastic packaging) and remaining waste. However, the collection and transportation of these two groups waste are done together.

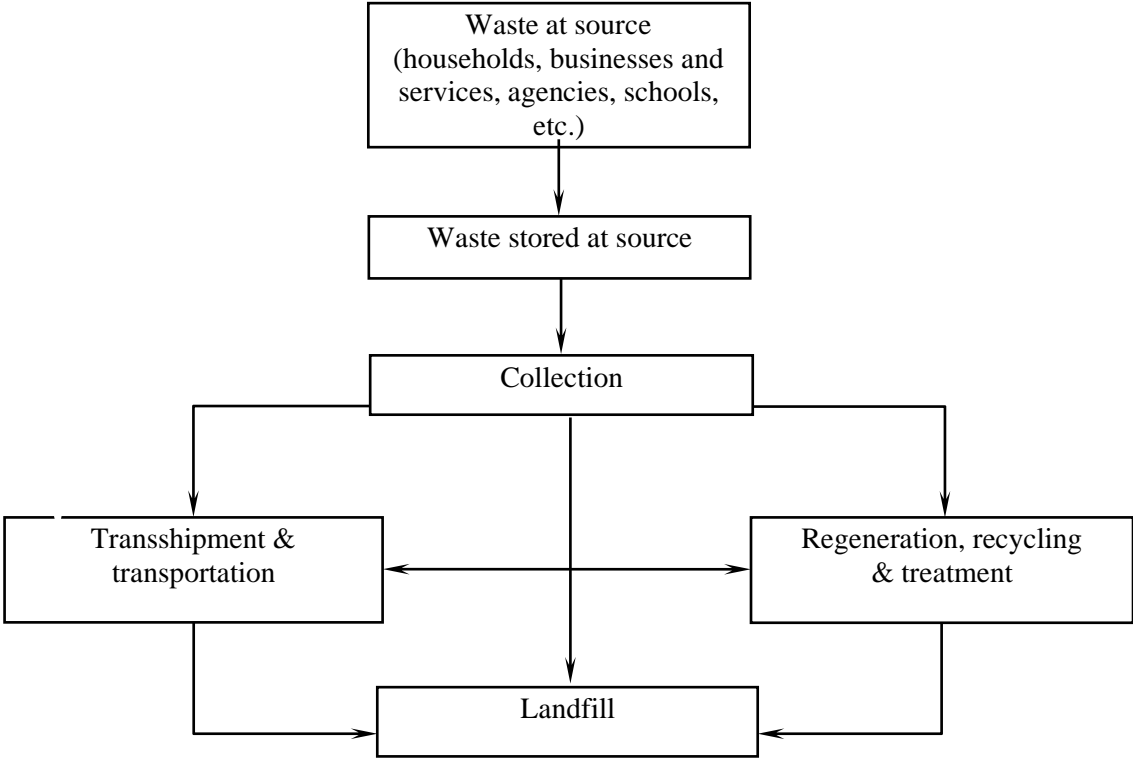


Figure 1: General diagram of the technical management system for domestic solid waste in HCMC (Source: HCMC DONRE).

In HCMC, domestic solid waste is currently collected by two main labor forces: public collectors (district public service companies) and independent collectors (freelance waste collectors, some of whom have joined cooperatives and unions). All expenses incurring from waste collection activities are paid to waste collectors by waste source owners (self-financed). Waste transportation is carried out by the City Environment Company, Workers and Farmers' Cooperative and district public service companies, financed by the City budgets. Currently, solid waste treatment mainly means sanitary landfilling methods performed by the City Environment Company and funded by the allocated public budget. In addition, some other businesses, such as Vietstar Company, Vietnam Waste Solutions, and Tam Sinh Nghia are implementing methods of converting waste into compost.



## 2. Public governance of solid waste management

The current state of public governance for solid waste management in HCMC is shown in the Figure 2:

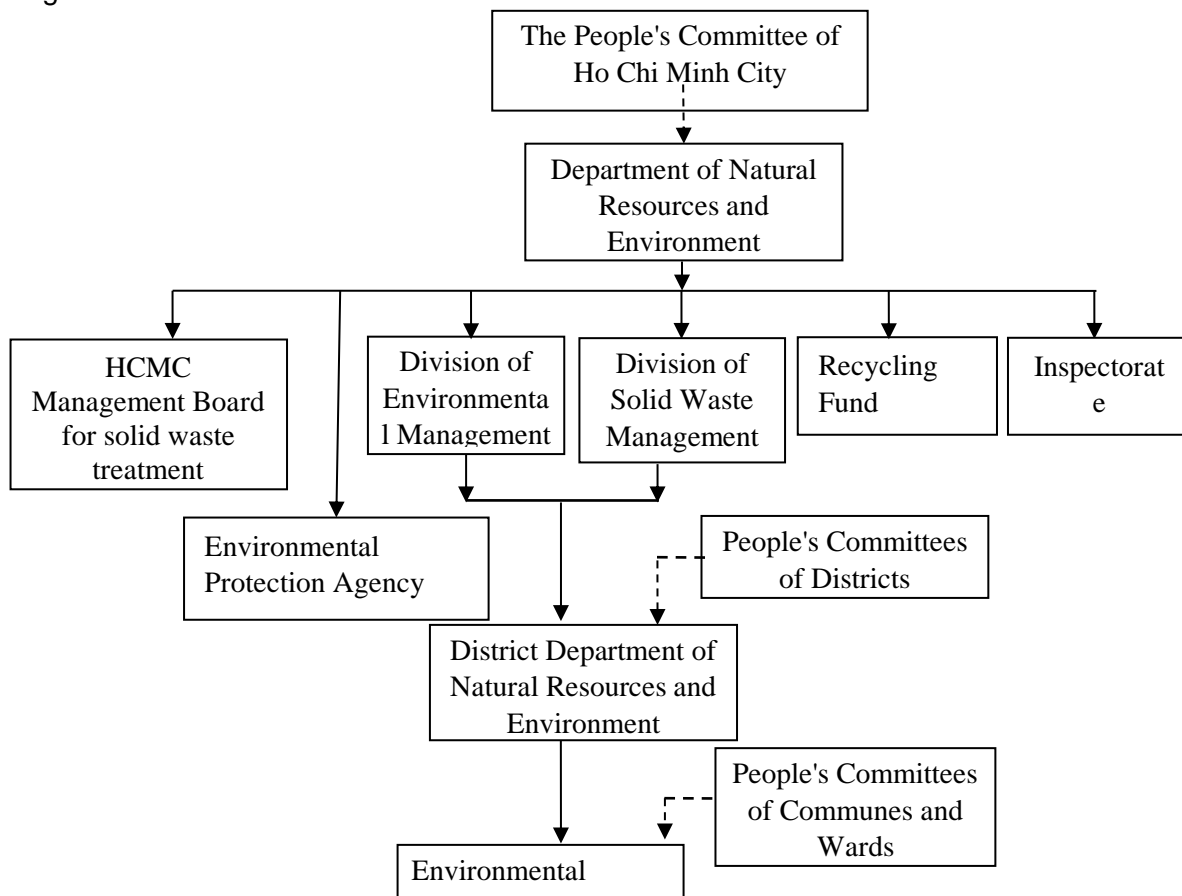


Figure 2: Diagram of the public management system for solid waste in HCMC (Source: HCMC, DONRE)

The Department of Natural Resources and Environment (DONRE) is primarily responsible to the People's Committee of the City and the Ministry of Natural Resources and Environment MONRE for environmental management in general and solid waste management in particular. The People's Committee of the City is consulted on solid waste management issues by the Division of Solid Waste Management - a specialized division of the DONRE.

The People's Committees of Districts are the local authorities responsible for environmental issues in their own districts. The People's Committees of Districts initiate and direct the implementation of regulations and programs in their areas. The District Department of Natural Resources and Environment are the main advisors for the People's Committees of Districts to follow the City's policies, responsible for proposing environmental solutions in general and solid waste solutions in particular, depending on the characteristics of each district.

For the People's Committees of Wards and Communes, there are two documents that stipulate its responsibility for managing the activities of independent waste collectors: the People's Committee of the City issued Decision No. 5424/QĐ-UB-QLĐT dated October 15, 1998 on the management of independent waste collectors (hereinafter referred to as Decision No. 5424), and the Department of Transport published the Guideline No. 24/HD-GT-PC dated March 31, 1999 on the organization and operations of independent waste collectors. Specifically, a group of independent waste collectors is established by the Decision of the People's Committee of a Ward or a Commune and is under the direction of such People's Committee in all aspects. Groups of independent waste collectors are only allowed to work in areas assigned by the local

authorities and are controlled by them. According to the regulations, the People's Committees of Wards and Communes shall direct the independent waste collectors in all aspects and must persuade and encourage freelancers to join the local groups of waste collectors.

## B) The informal waste sector in HCMC

In HCMC, informal waste collectors mostly do the work of waste collection and sorting, including:

- i. **Independent waste collectors** (about 4,200 people; Figure 3)<sup>6</sup> who collect waste at households in small streets/alleys/remote areas, then separate the recyclable material for selling from the rest (mostly organic waste and dirty plastic bags) and store it for transport at temporary transit stations (managed by CITENCO Urban Environment Company) or meeting points (managed by the Wards) where CITENCO picks up the waste and transports it to landfills for disposal. More specifically, independent waste collectors play a very important role in the solid waste management system in Ho Chi Minh City, as they collect 60-65% of the City's waste, and segregate large amounts of waste as input to the recycling system. For plastic waste alone, an independent waste collector collects from 13 to 16kg daily for recycling. It is difficult to determine the time of formation of the independent waste collectors, but it can be indicated that they emerged from the need of improving environmental sanitation during the City's development. From the start, this labor force predominantly included immigrants from neighboring cities and provinces who have low educational qualifications and no access to the official social security system. Most of them have no permanent residence registration or KT3 temporary residence registration in HCMC. They are exposed to unsafe working conditions and their income from waste collection is low.



Figure 3: Independent waste collectors in HCMC.

- ii. **Street waste pickers:** There were more than 2,000 people<sup>7</sup> working as street waste pickers in HCMC before the COVID-19 pandemic (Figure 4). They collect recyclables on the streets and from public garbage bins, and buy them from households, business establishments, schools, etc. The recyclables are then resold to local aggregators on a daily basis. The same as IWCs and aggregators, street waste pickers are informal waste collectors who do not take part in any social security programs.

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<sup>6</sup> Enda Vietnam - Report of the year 2018

<sup>7</sup> Enda Vietnam - Report of the year 2018



Figure 4: Street waste pickers in HCMC.

iii. **Aggregators:** they purchase recyclables from the two workforces mentioned above and directly from the households or business and production establishments in the city, resort the material and re-sell the recyclables to recycling companies and establishments (Figure 5). In 2011, HCMC had about 1,800 aggregators<sup>8</sup>. However, due to the serious & complicated COVID-19 pandemic since 2020 and the fact that most aggregators operate without business licenses, there is a sharp decrease in the number of aggregators. Although there is no official statistics, it is estimated that the number of aggregators has reduced by 30-35% in comparison with that in the 2011 survey. From the 32 aggregators participating in this research, 100% have no business license and their labor force neither has any employment contract nor joins any social security program.



Figure 5: Aggregators in HCMC.

### III) Enabling and challenging factors during the survey

#### A) Enabling factors

- The close cooperation between Enda Vietnam (consultant) and IRD/ Rethinking Plastics project (consultant hiring party) helped to solve arising issues easily and to mutually support each other;
- Enda Vietnam is very experienced in the environmental sector, especially in solid waste management in HCMC. The organization started working in the field of environmental

<sup>8</sup> Enda Vietnam - Report of the year 2018

protection and paying attention to the informal sector in the solid waste management system of HCMC in 2006.

- Due to a close and long-term working relationship with and good understanding of the informal sector, the communication with waste workers for the collection of data was eased.
- Enda Vietnam has a long-term cooperation and working relationship with the HCMC Department of Natural Resources and Environment as well as other local authorities working in the City's solid waste management system, especially urban environment companies of the Districts and the City.
- The staff and volunteers conducting the survey had experience in working with the solid waste and informal sector.

## **B) Challenging factors**

- The survey took place when HCMC suffered severe waves of COVID-19. On the first days of the survey, authorities imposed curfews across HCMC, all services were closed including the waste aggregators. Not until October 2021, authorities started to loosen curfew restrictions and a few aggregators re-opened their businesses. After November 2021, the situation gradually returned to normal. Due to this issue, it took a lot of time to collect sufficient information and data from aggregators as required. With some aggregators, the interview was conducted three times to get complete information.
- As Enda Vietnam's staff and volunteers directly surveyed and interviewed aggregators, IWCs, and street waste pickers during the complicated developments of the pandemic, it was mandatory to provide them with proper and costly protective equipment to ensure safety and prevent risks of spreading the disease.
- Because all of the surveyed aggregators in particular and aggregators in HCMC in general operate without business licenses, they were afraid to provide information to the survey team. The team made commitments not to disclose any personal information of the aggregators in order to avoid the report affecting their business in the future. They receive a lot of reminders and warnings from the local authorities and therefore face a high risk of losing their business in the future.
- Due to the complex developments of COVID-19 in HCMC and the fear of catching or spreading the disease of both interviewers and interviewees, Enda Vietnam faced some difficulties in making contact with the informal workers.

## IV) Main findings

From the survey conducted, the main findings are listed as below to ease their readiness:

1. **100% of the surveyed aggregators** in HCMC **have no business license**. Thus, the aggregators do not purchase single-use plastic bags or other single-use plastic products (LPDE & PS) to optimize space for storage and avoid fire accidents.

*Most surveyed aggregators have operated their business for 5 to 10 years (20 aggregators), for more than 10 years (7), and for 2 to 5 year (5)*

2. Figure 6). In the inner city, aggregators with an area of 100-200 m<sup>2</sup> account for 47% and those with an area of 200-400 m<sup>2</sup> make up 34% (Figure 7a). Only the aggregators in old Thu Duc District (now Thu Duc City) have an area of more than 400 m<sup>2</sup>. As a consequence, **lack of space** is an obstacle during the procurement of used packaging, especially single-use packaging waste. According to the survey results, 59% of the aggregators have enough space for segregating recyclables, especially high-valued plastic waste (Figure 7b).



Figure 6: operating time of surveyed aggregators in years.

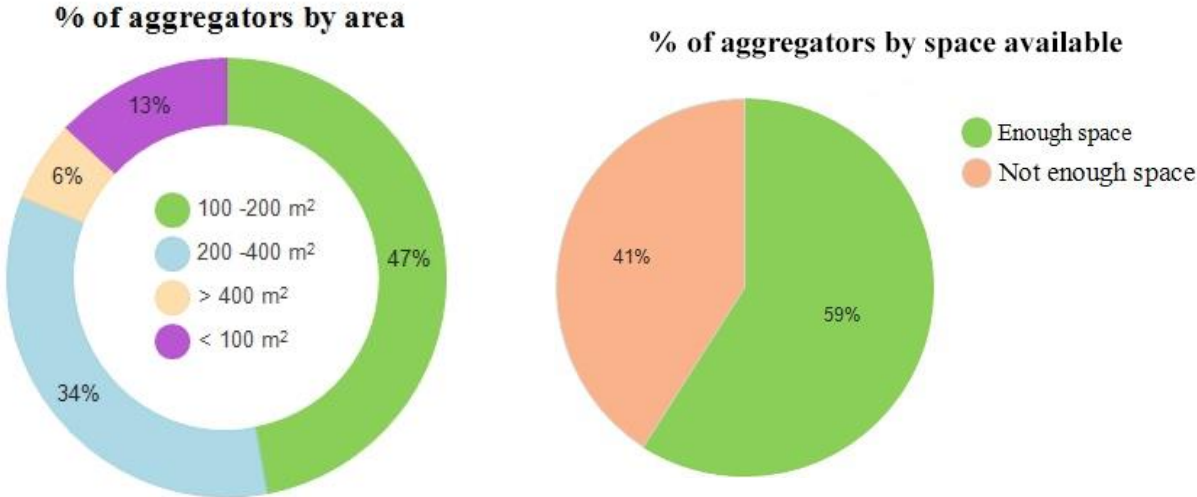


Figure 7: a) surface area of surveyed aggregators; b) percentage of aggregators surveyed approving their space availability

3. According to the survey results, **100% of the workers in the aggregators**, including the owners, **have no employment contract and do not participate in any social security programs** (social insurance, health insurance, labor insurance, etc.) of HCMC. 76% of the workers are **female** and 24% are male (Figure 8). 85% are **immigrants** working in HCMC.

**% Gender of workers in the aggregators**

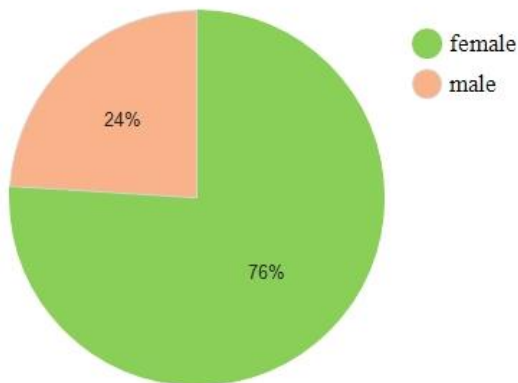


Figure 8: Workers gender at aggregators.

4. **Aggregators receive waste from IWCs (52%), street waste pickers (43%), and households (5%)** (Figure 9). During the survey, aggregators' operations faced many difficulties, mainly due to the closure during the social distancing according to the curfews (four months) and a decline in collected waste because IWCs and street waste pickers were in fear of the disease (Figure 10). Besides, operating without business license also cause many troubles to the aggregators.

**Source of waste purchased by the aggregators**

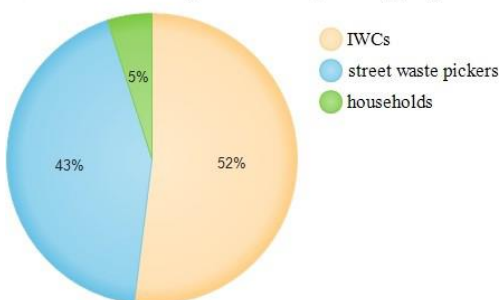


Figure 9: source of waste purchased by aggregators.

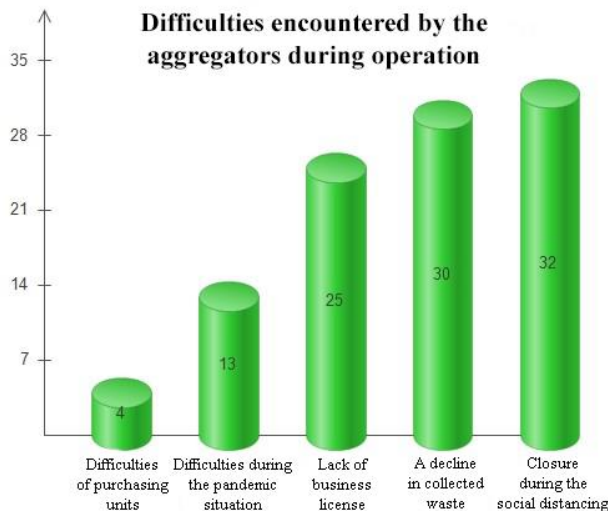


Figure 10: difficulties encountered by the aggregators during operation.

5. Regarding the composition of plastic waste purchased by the aggregators, **PET accounted for the most with 33%, followed by HDPE: 26%**, PP: 2%, PS: 1%, LDPE: 1%, PS: 1% and other types of plastic waste: 33%. Other types of plastic waste here refer to broken plastic pots or chairs, helmets, slippers or, in other words, hard plastic. It can be seen that there is a huge disparity in comparison with generated plastic waste data from households (PET: 8%, LDPE: 61%, HDPE: 6%, PP, PVC, PS & other plastic: 8%). Thus, a large amount of single-used plastic products (LDPE, PS) are disposed of into the environment through landfills or rivers and canals (Figure 11).

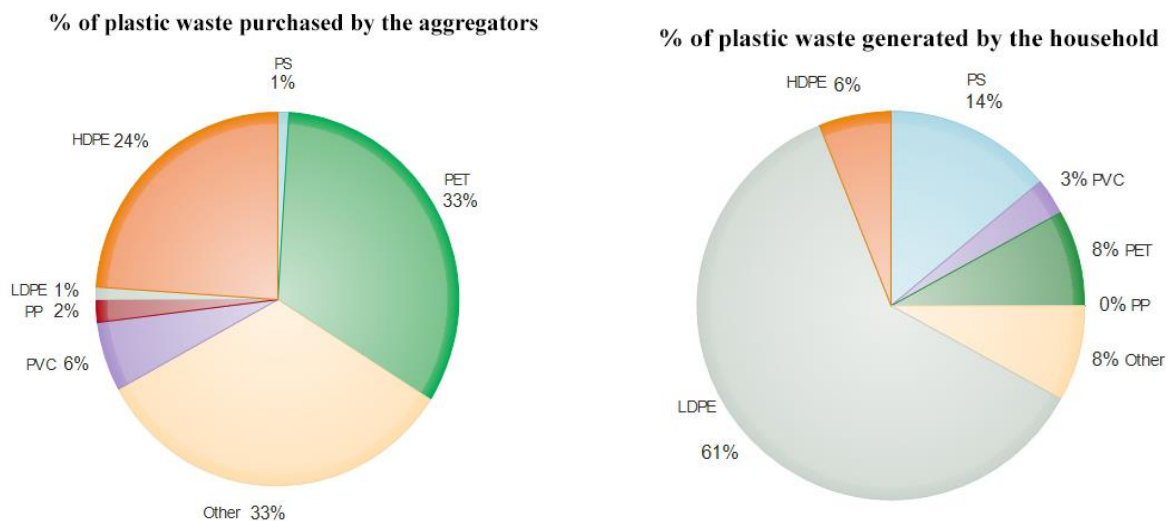


Figure 11: percentage of plastic waste a)-left: generated by households; b-right: purchased by aggregators.

6. Although HCMC has gradually reopened economic activities after the pandemic and aggregators have come back to work, there is a **decline in the amount of recyclables** gathered by the aggregators, especially plastic waste. According to the survey data, 91% of the aggregators reduced the amount of waste collected (Figure 12). **Due to the severe developments of COVID-19, 30% of street waste pickers decided to return to their**

**native places** and ICWs refused to pick up too many recyclable plastic waste because they were afraid of risks caused by the COVID-19 virus. Only 9% of the aggregators responded that their amount of procured recyclables increased. As several other aggregators closed their businesses, these 9% benefited from a great number of IWCs and street waste pickers that chose to sell their waste to them. During this period, 31% of aggregators collected 201 to 300kg of plastic waste per day, 31% of the aggregators collected 301 to 400kg per day, 19% of aggregators collected 401 to 500kg per day, 6% of aggregators collected 501 to 600kg per day, and 10% of aggregators collected over 600kg per day (Figure 13). This number is lower than before when there was no pandemic. After buying waste from the above mentioned sources, aggregators re-sort the waste and re-sell it to recycling companies or other establishments (aggregators refused to provide specific information to surveyors because they consider it a trade secret).

**% increase and decrease in purchased plastic waste by aggregators during the pandemic**

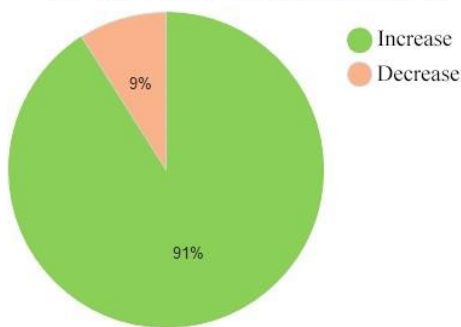


Figure 12: evolution of quantity of plastic waste purchased by aggregators during the covid-19 pandemic.

**% of plastic purchased by the aggregators/day**

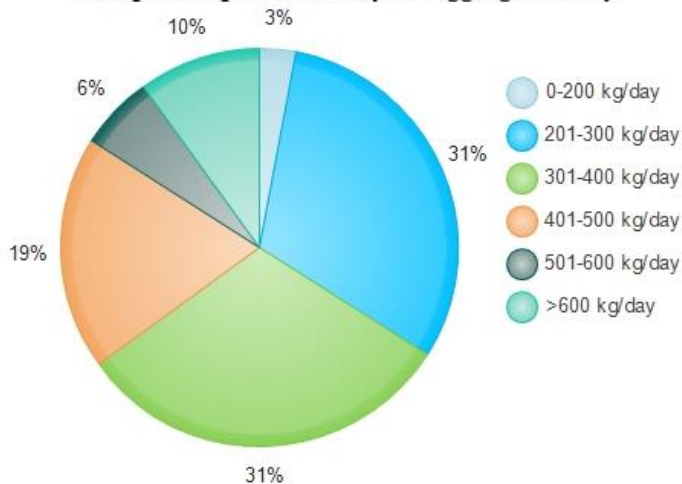


Figure 13: daily quantity of plastic purchased by aggregators surveye.

7. **100% of the aggregators** participating in the survey had **no business plan and financial statements** and they only learn from their experience acquired to date. Every day, they spend a certain amount to buy collected waste and store it for one to two days. The waste is then packed up and sold to recycling companies or larger aggregators for profit. To



improve their qualifications and skills for being able to elaborate a proper business plan and financial statements, they need training and capacity building.

8. **Waste segregation at source (WSAS):** When interviewed, 78% of the street waste pickers and ICWs had attended past WSAS training and were well informed about WSAS (Figure 14). The remaining 22% did not attend the training due to their failure in time arrangement even though the local authorities did a lot of communication regarding WSAS trainings. 56% of the training participants thought that the training was very effective, the remaining 44% deem it to be ineffective (Figure 14). The reason is that aggregators only care about scraps or recyclables, not organic and inorganic waste. Moreover, HCMC's solid waste collection and transportation infrastructure is not synchronized, thus, the efficiency of WSAS is low. Furthermore, even if a household has already segregated its waste, independent waste collectors or workers of City Environment Companies would still put them together for collection and transportation.



Figure 14: a-left) percentage of aggregators trained to WSAS and b- right) effectiveness of this training.

9. **Extended Producer Responsibility (EPR):** The surveyed informal sector workers including aggregators, representatives of IWCs and street waste pickers know nothing about EPR although they play an important role in EPR implementation and waste recycling, which includes final collection, segregation and providing inputs to recycling facilities. The collaboration with the informal sector requires a long-term plan.

10. **100% of the aggregators earn profits** from their waste business, which helps to improve living conditions of the owners, employees, IWCs, and street waste pickers.

11. When asked, **84% of the aggregators** said that they **don't need to be supported** by getting recycling bins in their facilities (Figure 15). Recycle bins take up too much space and are not convenient for them (Figure 16). 97% of the aggregators believe that there is no need for designated space in the neighbourhood to collect recyclables due to the specific mechanism of HCMC (e.g. the fact that IWCs/ street waste pickers collect/purchase recycles directly from households). Additional space would alter the current processes and bring disadvantages to their business.

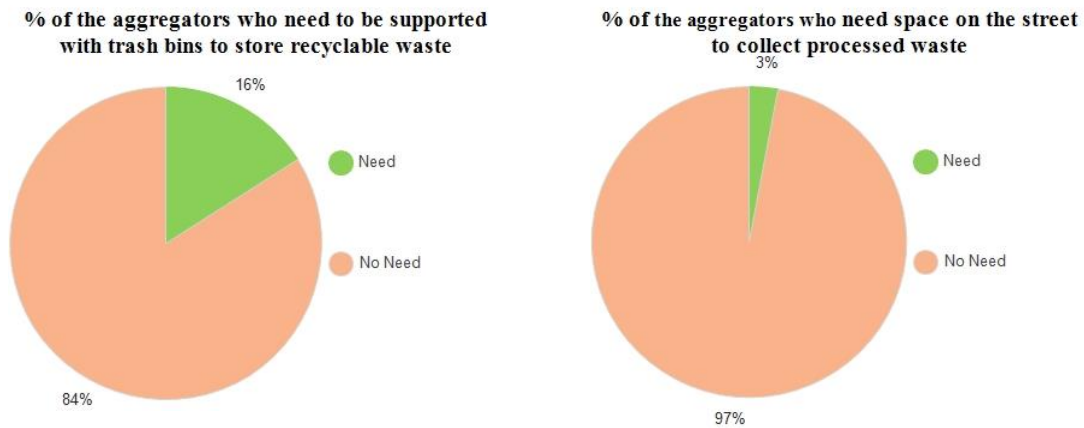


Figure 15: percentage of aggregators a-left: needed support with trash bins; b-right) space on the streets.



Figure 16: Place where recyclable waste is collected before and after sorting.

12. All the aggregators participating in the survey **did not agree to sign a contract with a recycling business**. The reason given was that they don't like to be tied to anyone and are more familiar with working as a freelancer. They are afraid that they would be bound to an entity or price-squeezed by these businesses and that if the market price is higher than the price they agreed with the recycler, they wouldn't be able to compete. This issue needs to be addressed during the EPR implementation.

## **V) Challenges for the informal sector in solid waste management and the future EPR scheme in Vietnam**

### **A) In Law of Environmental Protection**

The 2020 Law on Environmental Protection replacing the 2014 Law on Environmental Protection was passed by the National Assembly and came into effect on January 1, 2020. With this new Law on Environmental Protection, the Vietnamese Government introduces the approach of Extended Producer Responsibility as well as regulations on waste segregation and several other policies to encourage a more centralized and professional waste collection, recycling, and treatment.

First of all, it is necessary to understand that EPR in waste management is a regulatory tool based on the polluter-pays principle. Accordingly, producer's responsibility in respect to their products extends to the post-consumer stage, ensuring that the product is collected, segregated, and treated or recycled at the end of its life cycle (OCDE 2016). The EPR regulation has been successfully imposed in many countries around the world, bringing many benefits to the society. For example, a stable fund to collect and recycle used products and packaging materials is established, thanks to which the collection and recycling of products and packaging materials is more efficient in both quantity and quality, creating a cleaner environment as the amount of waste disposed of into the environment is reduced. Also, the EPR regulation contributes to an increased income for waste recycling and treatment facilities among others.

In Vietnam, EPR is a measure prescribed by law since 2005 and is gradually brought to completion in the 2020 Law on Environmental Protection.

Recycling responsibility of producers and/or importing organizations or individuals according to Article 54 of the 2020 Law on Environmental Protection is a new development compared to the 2014 Law on Environmental Protection: It clearly stipulates the mechanism for implementing this responsibility as follows: "Organizations and individuals that produce and/or import products and packaging materials with recycling value shall implement the recycling according to the required recycling rates and specifications" and may choose to undertake their responsibilities by: (1) Directly recycling the products and/or packaging materials; or (2) Financially contributing to the Viet Nam Environmental Protection Fund to support the recycling of products and/or packaging materials.

### **B) EPR regulation – Opportunities and challenges for the informal sector in Vietnam in general and in HCMC in particular**

The application of EPR regulations in Vietnam will mainly depend on (1) waste segregation by the people, households, businessmen, traders, and consumers; (2) waste collection by street waste pickers, domestic waste collection by IWCs, waste collection businesses, city environment companies, public service companies, etc.; (3) recycling facilities (craft villages, recycling companies), and (4) the state's organization to enforce the laws and the people's compliance to the regulations.

The application of the EPR regulations bares many opportunities for the aggregators in Vietnam (growth in income, improvement in working conditions and living standards, health

protection) and aggregators will play a significant role as the amounts and purchase price of waste and recyclables is likely to increase when producers and importers are required to collect these items.

According to new regulations in the 2020 Law on Environmental Protection, the Provincial People's Committee is the body in charge of solid waste collection (including recyclables and other waste) through a fee collection mechanism, which is based on the amount of waste generated. It is expected that the waste will be put into plastic bags with different colors decided by the Provincial People's Committees. It is distinguishable between bags for 1kg, 2kg, 3kg, 5kg, and so on. Solid waste collectors shall only collect waste contained in these bags. This should motivate people to separate recyclable material from general waste and sell it to street waste pickers. Only unsellable waste is put in these bags for transportation to gathering sites within a certain time frame.

It is easy to see that EPR regulations will create a competition between aggregators and other collection units. In addition, with the policy of promoting the development of a circular economy, imposing EPR regulations and segregating waste by volume, there will be a rapid emergence of large-scale, professional waste collection and recycling agencies.

Thus, when the flow of recyclables becomes more relevant and their price is likely to increase, aggregators' access to sources of waste will no longer be as easy as it is today. Aggregators will compete with each other and with other professional collectors (maybe urban/city environment companies or professional waste collection and treatment companies) in the waste collection phase.

The EPR regulations will either promote the creation of professional recycling companies, which directly compete with recycling facilities at the craft villages, or lead to the acquisition or merger of recycling facilities into more professional and stronger facilities.

Moreover, the EPR regulations will require recycling facilities to meet the following standards to participate in the EPR scheme and receive payment from producers and importers for recycling:

- Having a legal status, presenting functions and capabilities to operate as a recycling facility as prescribed by law.
- Having an environmental permit that covers recycling activities as prescribed by law.

## **VI) Conclusions and recommendations for integrating the informal sector, especially the aggregators, into the future EPR scheme in Vietnam**

### **A) Shortcomings in the solid waste management**

The current status of domestic waste collection in HCMC shows that there has been a strong participation of the whole society and a large proportion of non-state and independent waste collectors (60-65%) who are entirely financed by waste source owners. However, for the large number of freelance and independent waste collectors, even though they have joined district

environmental sanitation cooperatives, many shortcomings have arisen. Recently, the City's authorities and functional agencies have proposed many schemes to manage this workforce, but up to now, several difficulties still exist and need to be addressed. In addition to IWCs, street waste pickers and aggregators are also important collectors playing a crucial role in waste management, especially for plastic waste. Yet, these collectors still operate freely and independently, causing difficulties in general waste management. 100% of current surveyed aggregators in HCMC have no business license (before 2018 it was estimated that 30% of the aggregators had business licenses) as local authorities are concerned about possible fire outbreaks and explosions, harm to the urban beauty, and interrupted city traffic due to the aggregators. This has a huge impact on waste collection, especially single-use plastic which requires investment on space availability by the aggregators.

***Recommendation: To have effective waste management solutions and a functioning EPR implementation, it is necessary to reach agreements on the following points:***

- Define the crucial role of the informal sector including IWCs, street waste pickers, and aggregators in the City's waste collection and recycling system and in the future EPR scheme to ensure effective waste management solutions.
- Identify synchronous and unified solutions in solid waste management and manage the entire waste collection and recycling workforce, including not only the non-public but also the public workers.
- Conduct research to find a way to formalize the trade operated by aggregators with recyclables. As a result, there should be an appropriate and open scheme for aggregators to register for their business licenses. This way, the EPR scheme will work effectively. Moreover, it would help the authorities to sustainably improve livelihoods and reduce urban poverty.
- Introduce modern initiatives that aim to improve working conditions and the environmental impact of the informal sector, and include the informal sector into the EPR scheme as their integration is related to social, labor, health, economic and other issues.
- Hire specialized human resources for the management of domestic waste collection and recycling at the Wards and Communes as they play an important role in the public waste sector.

## **B) Lack of knowledge about the concept of EPR**

In our survey with the informal sector, 100% of interviewees had no knowledge or understanding of the concept of EPR although they play a crucial role in the implementation of the EPR scheme.

Aggregators operate unsystematically, independently and without mutual support. Although IWCs participate in cooperatives, these cooperatives have low working efficiency, do not provide timely support to their members, and do not have a strong voice to the local authorities and in the community.

***Recommendation: It is necessary to have a detailed plan on training, raising awareness among the informal sector and the community about EPR and establishing appropriate organizations for them. Specifically:***

In the first stage of EPR implementation, it should take at least two years of training and awareness raising to explain to the informal workers what EPR is, how they will participate in these schemes and coordinate with producers and consumers. They will not be able to operate as freely and independently as before.

EPR is an opportunity and a challenge for the informal sector, especially the aggregators. On this account, it is essential to develop the aggregators' capability, put them into organizational models such as cooperatives, mutual-aid groups, or unions like the women's union so that they can operate more and more effectively and professionally and develop towards companies or social enterprises (formal sector) in the near future. Specifically, it is essential to:

- Conduct different ***pilot programs to support and develop organizational models*** with suitable methods and assistance. Prioritize to maintain, strengthen and develop pilot cooperatives that are stably operating and have business plans similar to “real” cooperatives. Coordinate with current projects and programs to pilot and organize experience sharing activities. Afterwards, summarize the achieved experiences and results to develop and amend specific policies, and replicate the successful models.
- Provide technical support to ***develop conversational and communication capability*** between the informal sector's organizations, the authorities, waste source owners, and producers to ensure the quality of waste collection and recycling services and the representation of interests of all stakeholders.
- Provide technical support to ***develop managing capability*** for every model. Particularly, the mutual-aid groups and cooperative models for aggregators need to focus on improving business skills and management capability for these workers, including: developing business and operational plans to increase and diversify revenue sources, keeping monitoring & management records, preparing accountable and transparent financial statements, establishing a contingency fund for mutual support when necessary.
- Establish private recycling companies: At the moment, there is an increasing demand to get access to big customers, eligible big aggregators are in need of establishing private companies. In keeping with the policy of privatizing the services of waste collection at source, the People's Committees should encourage big aggregators to contribute their capital to establish companies with appropriate equipment and hire small and former aggregator owners as their employees (with employment contracts and social insurance).

### **C) Informal sector faces several risks whereas it fails to get access to social protection programs**

As recyclables collection requires no qualification and capital, it is a job opportunity for immigrant workers in HCMC. Nevertheless, due to the low income and low accumulation, they easily fall into difficult situations when uncertainties of life happen. These workers often face many different risk factors associated with waste collection but they are not paying attention to and have little knowledge about risk prevention. They have no risk prevention and handling measures. When they suffer a health issue or economic shock, they easily fall into poverty. Waste collection is a hazardous work due to daily exposure to pollution sources. Yet, IWCs receive no hazard pay unlike workers of public services companies. Due to their specific work

with long working schedules and few days off (only one or two days off a year), waste collectors face difficulties in arranging time for rest, self-care, health check-ups and participation in organizations, meetings, community and social activities. This is a factor that greatly affects the social integration of waste collectors. At present, there is not enough support to improve IWCs' working conditions. Existing policies have many shortcomings and have not focused on an easier way of providing assistance to IWCs.

Most workers of the informal sector do not have access to social security and social welfare policies. To them, the only "welfare" they are enjoying is the support from NGOs, especially Enda Vietnam. The city has many policies and solutions to take care of poor, disadvantaged, and low-income citizens (program of poverty reduction and wealth growth; loans and 100% free health insurance for members of poor households; 50% free health insurance for members of near-poor households; business loans; loans and support to change homemade three-wheeler vehicle for legal vehicle; exemption and reduction of school fees for children from poor and near-poor households; etc.). However, all of these policies fail to "reach" the informal sector operating in the domestic solid waste management system as they have no permanent or temporary residence registration.

According to our review of current social security policies being implemented in Ho Chi Minh City, we find that almost all current social security programs and policies (health insurance, social insurance, social assurance, social allowance, access to basic social services, etc.) are implemented based on a household (taking the place of residence as the basis), or based on a workplace. The findings show that the informal sector is ineligible for these services (because they neither have household registration nor long-term temporary residence registration nor workplace). The informal sector enjoys a low health insurance coverage (only 5%, excluding Enda Vietnam's support). 100% of these workers do not participate in social insurance. With the current income, these collectors face difficulties in paying 100% of health insurance and social insurance premium.

Most workers of the informal sector have not yet received any social security programs, from either formal or informal sources. The survey results show that all Wards participating in the discussion confirm that there is no social security scheme for this workforce.

***For that reason, in order to effectively integrate the informal sector into the EPR scheme, it is necessary to ensure an easier social security access for this workforce.***

From the point of view of the research team, interventions and support for the informal sector should focus on facilitating access for this workforce to social security programs and benefits. Accessibility includes both organizational and personal capability such as understanding, knowledge and financial capability to participate in social security regimes. Material support such as providing labor protection equipment, working equipment, and so on is also important for this workforce but it only solves immediate needs. Capability building is a strategic solution. In this regard, the research team proposes the following recommendations:

- Develop and implement a policy advocacy campaign to encourage the City Health Insurance to cover health insurance based on organizations (for example, cooperatives, mutual-aid groups). The policy advocacy campaign needs the participation of Department of Labor, Invalids and Social Affairs, Department of Natural Resources and Environment, and sponsoring organizations. It is also necessary to attract the attention and participation of the People's Council of the City. In the short

term, it is possible to request the Social Security to pilot this in some districts based on cooperatives.

- On the other hand, improve the communication and raise the informal sector's awareness of participating in health and social security. In the first period, when their awareness is low or they are not familiar with purchasing health insurance, State or donors can partially support health insurance premium by group lending (maybe through mutual-aid groups), revolving credit, and partial loan.
- Communication, guidance, and information provision regarding risks and risk management are important issues to be considered.
- Pilot contingency fund model: The informal sector has a clear difference in income and economic circumstances. It's crucial to perform target screening and direct interventions to the most vulnerable groups, for example, the elders, hired workers, local waste collectors who are under very difficult circumstances, low-income people, and women. For these groups, it is advisable to pilot the contingency fund model. In principle, the fund is formed by members' contributions, but at the very beginning, it needs a partial financial support from the project to encourage contributions. The contingency fund is used as a source of assistance in case of emergency (loan or give-away for special cases, support amount or loan amount and eligibility are decided by the members). This is a form of helping "the most needed" people among those under difficult circumstances to overcome risks and prevent themselves from falling into poverty.
- Issue regulations on health care, labor protection, and health insurance for workers of the informal sector. It is necessary to impose regulations on health care and labor protection equipment for this workforce because of the hazardous nature of their work, pollution in their workplace and the long-term impacts on their health. The provision of labor insurance and health insurance for employees is a mandatory requirement for the management units and agencies and is implemented through funding obtained from: management fee deducted monthly to Wards/Cooperatives; the remaining funding can be supported by the state budget/ or from support of local agencies and organizations; and it is possible to encourage the informal sector to contribute to the funds themselves after helping them see the practical benefits of these schemes.



Appendix

APPENDIX I: SURVEY QUESTIONNAIRES : AGGREGATORS

No:.....

**A. GENERAL INFORMATION**

Aggregator’s names:.....  
 Representative:..... Sex:.....Age:.....  
 Address:.....  
 Phone’s number:.....  
 Business’s license:.....

**B. CONTENT OF SURVEY**

**1. How long has your aggregator operated?**

- 1-2 years
- 2-5 years
- 5-10 years
- >10 years

**2. Area of aggregator?**

Area: .....m<sup>2</sup>

**3. Is there enough space in aggregator for waste separation?**

- Yes
- No
- Others: .....

**How many persons work in aggregator?**

Number of persons:.....Males:.....Females: .....

**5 Do you have contract or social protection (social & health insurances) for aggregator’s workers?**

- Yes
- No
- Others .....

**6. Resources of recycles?**

	Customers		Percentages (%)
	Fixed customers	Passing customers	
Street waste pickers			.....%
Households			.....%
Companies/ offices/supermarkets...			.....%
Independent waste collectors			.....%
Others:.....			.....%

**7. Situation of recycles collected in recently?**

- very well
- difficult
- Vere difficult
- Others:

Details:.....

**8. What kind of recycles collected in aggregator?**

- Metals (Iron, aluminum, copper, stainless steel, ...)
- Plastics (PET, HDPE, PE,PS, PVC, LDPE,...)
- Papers
- Glasses
- Others:.....

Notes:.....

**9. How many kilograms of plastics collected per day?**

Number of kg/day: .....

**10. Details of plastics collected, prices of purchasing and price of selling:**

- PET ( PETE): : .....kg/day  
Purchasing :.....Vnd/kg      Selling: .....Vnd/kg
- HDP (HDPE):: .....kg/day  
Purchasing :.....Vnd/kg      Selling: .....Vnd/kg
- PVC:.....kg/ngày  
Purchasing :.....Vnd/kg      Selling: .....Vnd/kg
- LDPE: .....kg/day  
Purchasing :.....Vnd/kg      Selling: .....Vnd/kg
- PP: : .....kg/day  
Purchasing :.....Vnd/kg      Selling: .....Vnd/kg
- PS: .....kg/day  
Purchasing :.....Vnd/kg      Selling: .....Vnd/kg
- Other plastics:.....  
Purchasing :.....Vnd/kg      Selling: .....Vnd/kg

**10. Knowledge on waste separation & EPR?**

Do you participate on waste separation training courses? details .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, Is it useful for you? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you know or understanding of EPR? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you have enough space for waste separation? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you need to have donation of waste bin for recycles? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is it necessary to have space at ward/villages to collect recycles? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you have profits from selling recycles or doing waste separation? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you agree to sing contract with recycles collection companies/ units to have benefits from their services? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do recycled wasted collection mixed with others> .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No

**11. Do your aggregator recycle plastics to other products?**

- Yes     No     Others .....

**12. Outputs for recycles collected from aggregator?**

- Sell for larger aggregators
- Sell for recycling companies
- Sell for big companies for export
- Others .....

**13. Does your aggregator have difficulties in recent time?**

- Yes     No     Others.....

If “Yes” What it is:

- Inputs for aggregator

- Output for aggregator
- Legal documents ( business licenses)

Details: .....

**14. Do you have difficulties during Covis-19 pandemic outbreak?**

- Yes
- No

Others:.....

**15. During Covis-19 pandemic, does the quantity of plastics collected changes?**

- Increased in comparison with before ( no covid-19)
- No changes.
- Reduces in comparison with before
- Others .....

Reasons:.....

...

**16. Does your aggregator have annual business plan or reports?**

- Yes
- No

**17. Does your aggregator have monitoring plan for solid waste management?**

- Yes
- No
- Others .....

**C. OTHER SUGGESTIONS/ IDEAS:**

## APPENDIX II SURVEY QUESTIONNAIRES: IWCs and Street Waste Pickers

No:.....

### A. GENERAL INFORMATION

Full name:..... Sex:.....Age.....

Address:.....

Phone:.....

### B. CONTENT OF SURVEY

#### 1. How many years you work in this area?

1-2 years

2-5 years

5-10 years

>10 years

#### 2. Do you sign contracts or join in social protection program ( insurances programs)?

Yes

No

Others: .....

#### 3. Do you join in Cooperatives or others organizations for waste collection?

Yes

No

Others:.....

#### 4. How does the situation of recycles purchased/ picked up in recently?

Advantages

Disadvantages

Many disadvantages

Others

Details:.....

#### 5. What kind of recycles do you pick/ collected?

#### 8. What kind of recycles collected in aggregator?

Metals (Iron, aluminum, copper, stainless steel, ...)

Plastics (PET, HDPE, PE,PS, PVC, LDPE,...)

Papers

Glasses

Others:.....

Notes:.....

#### 6. How many kilograms of plastics you collect per day?

.....kg/day

#### 7. Details of plastics collected, prices of purchasing and price of selling:

PET ( PETE): : .....kg/day

Purchasing :.....Vnd/kg      Selling: .....Vnd/kg

HDP (HDPE):: .....kg/day

Purchasing :.....Vnd/kg      Selling: .....Vnd/kg

PVC:.....kg/ngày

Purchasing :.....Vnd/kg      Selling: .....Vnd/kg

LDPE: .....kg/day

Purchasing :.....Vnd/kg      Selling: .....Vnd/kg

PP: : .....kg/day

Purchasing :.....Vnd/kg      Selling: .....Vnd/kg

PS: .....kg/day

Purchasing :.....Vnd/kg      Selling: .....Vnd/kg

Other plastics:.....

Purchasing :.....Vnd/kg      Selling: .....Vnd/kg

#### 8. Knowledge on waste separation & EPR?

Do you participate on waste separation training courses? details .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If yes, Is it useful for you? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you know or understanding of EPR? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you have enough space for waste separation? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you need to have donation of waste bin for recycles? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is it necessary to have space at ward/villages to collect recycles? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you have profits from selling recycles or doing waste separation? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you agree to sing contract with recycles collection companies/ units to have benefits from their services? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do recycled wasted collection mixed with others> .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No

**Other ideas/ suggestions**

**9. During Covis-19 pandemic, do the quantity of plastics collected change?**

- Increased in comparison with before ( no covid-19)
  - No changes.
  - Reduces in comparison with before
  - Others .....
- Reasons:.....

**10. Do you get difficulties during Covid -19 pandemic time?**

- Yes
  - No
- Details:

-

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