



The legal, policy and institutional frameworks governing marine plastics in Viet Nam



ENVIRONMENTAL LAW PROGRAMME



The legal, policy and institutional frameworks governing marine plastics in Viet Nam

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Abbreviations

ASEAN	Association of Southeast Asian Nations
DONRE	Department of Natural Resources and Environment
EIA	Environmental Impact Assessment
EPR	Extended Producer Responsibility
GDP	Gross Domestic Product
GoV	Government of Viet Nam
GT	Gross tonnage
INTERPOL	International Criminal Police Organization
ISO	International Organization for Standardization
IUCN	International Union for Conservation of Nature
Lao PDR	Lao People's Democratic Republic
MARD	Ministry of Agriculture and Rural Development
MARPOL	International Convention for Prevention of Pollution from Ships
MOC	Ministry of Construction
MOF	Ministry of Finance
MOH	Ministry of Health
MOIT	Ministry of Industry and Trade
MONRE	Ministry of Natural Resources and Environment
PRO	Packaging Recycling Organisation
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
VND	Viet Nam Dong (national currency of Viet Nam)

Summary

Heavily impacted by war and then embargoed by the United States of America, in 1986 Viet Nam, with its comprehensive socio-economic reform programme (known as Đổi Mới), achieved one of the world's fastest economic growths and development. The Gross Domestic Product (GDP) has increased seventeen-fold while the population grew by 1.5 between 1985 and 2018. Domestic waste generation has expanded faster than the local infrastructure and management capacities. As a result of added pressure from international waste flows, Viet Nam is struggling to deal with both domestic and international plastic waste. Viet Nam is among the top four countries with the most plastics polluting the oceans due to its mismanagement and leakages.

Although national legislation and policies and corresponding implementing institutions were put in place to control and prevent pollution of the marine environment, none of the existing laws and policies explicitly address marine plastic pollution in Viet Nam. In practice, the informal sector is playing a key role in plastic collection and recycling, but it is not recognised by law. The challenges posed by both the existing legal frameworks and their implementation are discussed in this report.

1 National background

Observation of legislation and policies related to marine plastics management reveals that the legal system has not considered plastic waste as a significant threat despite the extent of leakage into the environment. Plastic waste is managed like any other solid waste, whose competence is fragmented between a number of authorities. As a consequence, a reliable and comparable data available among authorities is absent which causes difficulty for any evidence-based interventions. Additionally, in Viet Nam, laws only define the general frameworks while the guiding regulations issued by governmental agencies and ministries play a crucial role in implementation.

Domestically, the consumption proportional to gross domestic product per capita increased six times after Đổi Mới (“Renovation”) in a country of nearly 100 million inhabitants creates a huge pressure on solid waste management.¹ The switch from a centrally planned subsidized economy between 1975 and 1986, with a closed-door policy and market and distribution fully controlled by the State, to opening for foreign investments and liberalizing trade, has led to dramatic changes in the availability of goods in Viet Nam.² Together with economic growth, consumption of goods has developed strongly in Viet Nam after a long time of the inaccessibility of such goods. The local infrastructure and management capacities cannot keep up with the increasing rate of waste creation, which has doubled in less than 15 years.³ Solid waste pollution is becoming one of the most critical environmental issues in Viet Nam, with increasing objections and roadblocks from local people living near landfills.⁴

However, the waste management and governance system did not adapt to the socio-economic changes. As one of very few socialist countries in the world, the “polluter pays principle” and free market services are only applied through a very low fees mechanism which is also unsuitable for private sector participation (see Section 5.2). Also, at least 80% of the costs of domestic waste management is financed by the Government of Viet Nam (GoV).⁵ The financial deficiency in solid waste investment is one of the key challenges in organising domestic solid waste management as well as implementing and enforcing the related environmental protection regulations at local levels. Between 15-16% of total solid waste in

¹ Gross Domestic Product per capita has increased from US\$423 in 1986 to US\$2,567 in 2018. World Bank (2019) *GDP per capita (current US\$) - Vietnam*. Available at <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=VN> (accessed on 30 March 2020); Đổi Mới (literally ‘make a change’) was introduced by the Communist Party of Vietnam at its Sixth National Party Congress in December 1986. This is a comprehensive socio-economic reform program which combined government planning with free-market incentives, recognised and encouraged private business participation in freeing markets and integrated Vietnam into the world economy.

² The Government of the Socialist Republic of Vietnam Government Portal. *Vietnam economy overview*. Available at <http://www.chinhphu.vn/portal/page/portal/English/TheSocialistRepublicOfVietnam/AboutVietnam/AboutVietnamDetail?categoryId=10000103&articleId=10000554> (accessed 18 February, 2020); Hansen, A. (2017). Consuming doi moi: Development and middle class consumption in Vietnam. *Journal of Social Sciences and Humanities* 3(2):171-186.

³ Van Den Berg, K. and Duong, T.C. (2018). *Solid and industrial hazardous waste management assessment*. International Bank for Reconstruction and Development and The World Bank.

⁴ Bộ tài nguyên và Môi trường. (2015). *Báo cáo hiện trạng môi trường quốc gia giai đoạn 2011 – 2015*; Lê Quân (24 December 2019). *Xe chở rác vào bãi rác Nam Sơn lại bị người dân chặn lần thứ 6*. Available at <https://thanhnien.vn/thoi-su/xe-cho-rac-vao-bai-rac-nam-son-lai-bi-nguoi-dan-chan-lan-thu-6-1163066.html> (accessed 13 March 2020).

⁵ Van Den Berg, K. and Duong, T.C. (2018). *Solid and industrial hazardous waste management assessment*. International Bank for Reconstruction and Development and The World Bank.

urban areas and between 45-60% in the rural areas is not collected.⁶ Plastic waste can account for up to 10% of total garbage generation every day in Ho Chi Minh City.⁷

With a network of thousands of waste collectors, the recyclable waste is collected directly from households, trash bins or landfills and then partly recycled in craft villages (see Section 5.3).⁸ A circular economy in solid waste management has been created by the informal sectors, which creates livelihood opportunities and complements the operation of the formal sector – but without any subsidies.⁹ However, the leakages and pollution in this circularity are considerable, especially in craft villages.¹⁰ Craft villages are also well known as “laundry hubs” of the illicit plastic waste being imported into Viet Nam.¹¹

On the other hand, the plastic industry - the second highest growth industry in Viet Nam with a revenue of USD 15.6 billion in 2018 - has to import 85% of plastic raw/input materials because domestic sources do not meet production demand in terms of uniformity of quantity and quality.¹² This creates a paradox with the need for import for production while the domestic sources are not available for use due to improper waste segregation at their sources. The growth rate of the industry seems to be closely related to the amount of imported materials. From 2013 to 2017, Viet Nam’s plastic industry imported scrap plastics at an average of 91,400 tonnes/year, ranking Viet Nam fourth amongst the 10 countries of the Association of Southeast Asian Nations (ASEAN).¹³ After China’s foreign waste import ban took effect in early 2018, Viet Nam became the world’s second largest importer of plastics waste.¹⁴ While the GoV still struggles with managing its own domestic waste, the flow of international plastic waste definitely contributes to the rate of mismanagement and leakage to

⁶ *Thông báo của Văn phòng Chính phủ : Kết luận của Thủ tướng Chính phủ Nguyễn Xuân Phúc tại Hội nghị trực tuyến toàn quốc về tăng cường kiểm soát ô nhiễm và bảo vệ môi trường* (268a/TB-VPCP, 31 August 2016).

⁷ Bộ Tài nguyên và Môi trường (2018). *Chương 2: Chất thải rắn, Báo cáo hiện trạng môi trường quốc gia năm 2017 Chuyên đề “Quản lý chất thải”*. Hanoi.

⁸ In Hanoi only, there are at least 10,000 waste collectors. Nguyen Thai Huyen, Nguyen Thi Hai Yen and Le Thi Thao Trang (2019). *The territorial structure, establishment and operation of the scrap depot network in Hanoi*. Hanoi Architectural University’s seminar on “The dynamic of spontaneous waste collecting and recycling territories in Viet Nam: what is the future of the circular economy and the need for social responsibility?” in Hanoi on 12 December 2019; “*Craft villages*” in this report refer to a collective group of typical production and business produced by handicraft and cottage industry in communal level where the name of the products always includes the name of the village that creates them.

⁹ Boucher, J., Billard, G., Simeone, E. and Sousa, J. (2020). *The marine plastic footprint*. Gland, Switzerland: IUCN. viii+69 pp. Glossary where a definition of Circular economy can be found on page 6. The “informal” status in this report refers to the individuals, groups, or entities who participate spontaneously in recyclable waste collection and recycling to pursue the benefits firstly, not for waste collection and recycling purposes *per se*. The “informal” status also implies for those who are unregistered, unorganized, or legally registered their operations but using the unregistered and non-contractual labours.

¹⁰ Bộ Tài nguyên và Môi trường (2018). *Chương 2: Chất thải rắn, Báo cáo hiện trạng môi trường quốc gia năm 2017 Chuyên đề “Quản lý chất thải”*. Hanoi.

¹¹ Đức Sỹ (9 January 2018). *Rác nhập khẩu ồ ạt về làng tái chế nhựa Minh Khai ở Văn Lâm*. Available at <http://hungyentv.vn/moi-truong/rac-nhap-khau-o-at-ve-lang-tai-che-nhua-minh-khai-o-van-lam> (accessed 18 March 2020); Tuấn Nguyễn (9 July 2018). *Làng tỷ phú nhờ... rác*. Available at <https://www.google.com/amp/s/www.tienphong.vn/kinh-te/lang-ty-phu-nho-rac-1297879.amp.tpo> (accessed 18 March 2020).

¹² Vietnam Plastics Association. *Tổng quan ngành nhựa Việt Nam*. Available at <http://vpas.vn/gioi-thieu/tong-quan-nganh.html> (accessed 1 March 2019); Vietnam Industry Research and Consultancy (2018), *Vietnam Plastics Comprehensive Report Q2/2018*.

¹³ Xuân Long, Trần Vũ Nghi and Lê Thanh (3 April 2019). *Siết chặt nhập nguồn phế thải nhựa vô tội vạ*. Available at <https://tuoitre.vn/siet-chat-nhap-nguon-phe-thai-nhua-vo-toi-va-20190403074535505.htm> (accessed 12 December 2019).

¹⁴ Hook, L. and Reed, J. (25 October 2018). *Why the world’s recycling system stopped working*. Available at <https://www.ft.com/content/360e2524-d71a-11e8-a854-33d6f82e62f8> (accessed 18 May 2019).

the environment. Viet Nam is also named as one of the top four countries polluting the ocean the most with plastic waste and debris due to its mismanagement.¹⁵

2 International obligations

Viet Nam's "S"-shaped mainland and 3,260 km of coastline has become a two-parts sea and one-part land country with more than one million km² of exclusive economic zone. According to the "land dominates the sea" principle, Viet Nam has ratified a number of international conventions related to sea and marine activities.

Table 1: The international conventions related to plastic pollution ratified by Viet Nam

Agreement	Ratified	Implementing Legislation
UNCLOS	25 July 1994	<ul style="list-style-type: none"> • Law of the Sea of Viet Nam
MARPOL	29 May 1991	<ul style="list-style-type: none"> • National Technical Regulation on Marine Pollution Prevention System of Ships • Law on Environment Protection • Maritime Code of Viet Nam
Basel Convention	13 March 1995 (accession)	<ul style="list-style-type: none"> • Law on Environmental Protection
International Watercourses Convention	19 May 2014 (accession)	<ul style="list-style-type: none"> • Law on Water Resources
UN Fish Stock Agreement	18 December 2018 (accession)	<ul style="list-style-type: none"> • Law on Fisheries

It is also worth mentioning that Viet Nam signed the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin (the 1995 Mekong Agreement) on 5 April 1995.¹⁶ The Mekong River Commission established under this agreement is the only inter-governmental organisation working directly with the governments of Cambodia, Lao PDR, Thailand and Viet Nam to jointly manage the shared water resources and the sustainable development of the Mekong River.¹⁷ As the latest downstream country, Viet Nam has not only struggled with the water shortages but also the plastics pollution which threatens a dozen million people living in the Mekong delta – the largest agricultural hub accounting for 32% of national agricultural gross value-added and 41% of GDP in 2011 in the Mekong Delta region.¹⁸

¹⁵ Jambeck, J. *et al.* (2015). Plastic waste inputs from land into ocean. *Science* 347:768-771.

¹⁶ The Mekong River (also named Lancang river) runs 4,800 kilometers from the Tibetan Plateau through Myanmar, Thailand, Lao PDR, and Cambodia. It enters the South China Sea via a complex delta system in Vietnam; Ministry of Foreign Affairs of Vietnam (2015). *Tổng Quan Hệ Thống Điều Ước Quốc Tế Liên Quan Đến Quản Trị Nguồn Nước Và Những Vấn Đề Đặt Ra Trong Quá Trình Hội Nhập Quốc Tế.*

¹⁷ For more information, see the Mekong River Commission website. Available at <http://www.mrcmekong.org> (accessed 13 March 2020).

¹⁸ The World Bank (2016). *Transforming Vietnamese Agriculture: Gaining More from Less.* Vietnam Development Report. Washington, D.C. World Bank.

The Mekong River is one of the top 10 river systems carrying 93% of all rivers' plastic into our ocean.¹⁹ However, the implementation of transboundary water resources sharing and waste controls are still very challenging, especially when China and Myanmar - two upstream countries – are not members and as such do not have any obligation under the Mekong Agreement. The Mekong Agreement is the only regional agreement relevant to marine plastic pollution ratified by Viet Nam.

3 Relevant institutions and processes

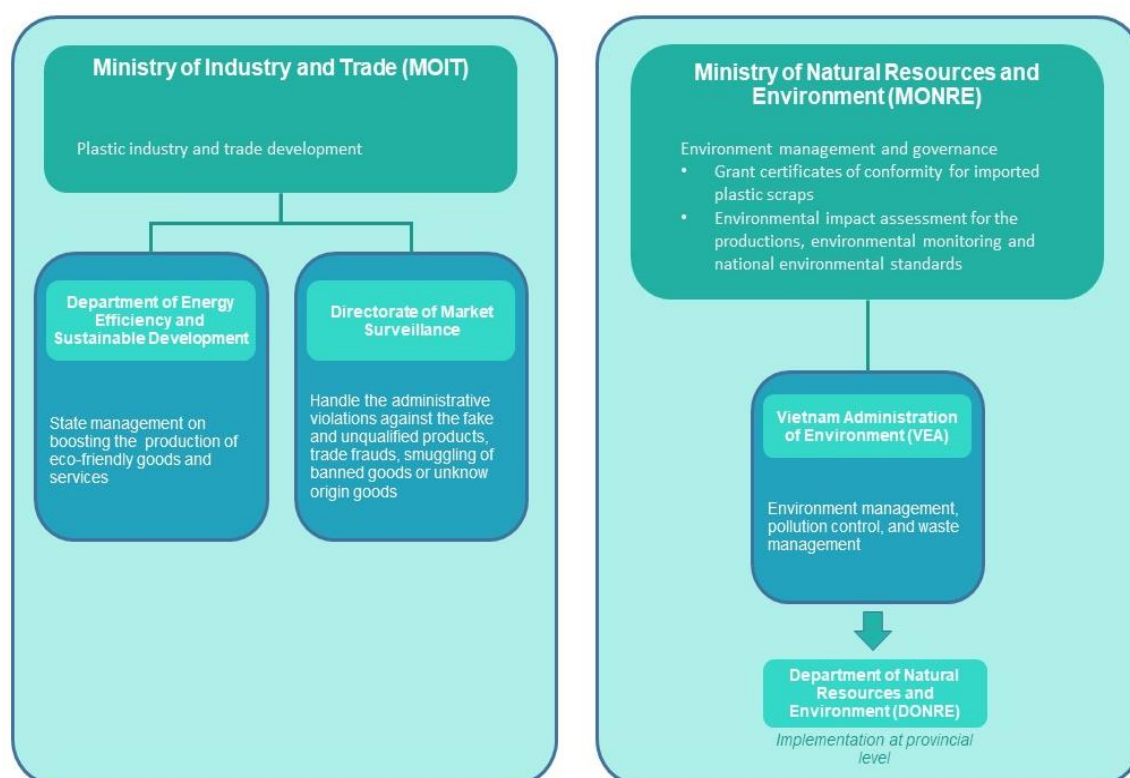
Due to the diversity of solid waste classification (including plastics), there are at least six ministries directly participating in waste management which are implemented by 3-tier local administrations, at provincial, district and commune levels. The conflict and overlap between the ministerial guidance in combination with local socio-economic contexts has led to limited implementation of legislations and policies. In response to this situation, in early 2019 the GoV demanded the restructuring of solid waste management systems by unifying the state management into the Ministry of Natural Resources and Environment (MONRE).²⁰ However, the transition is ongoing as it requires time to amend the legal framework on competence of all relevant Ministries and reorganise the respective human resources.

Viet Nam does not give any special consideration to plastics by law except for certain regulations on plastic bags since 2010 (see Section 4.2). Plastics are not addressed through a lifecycle approach in the legal framework as it mostly focuses on production, importation of scrap for production and waste management. In each stage, a number of institutions are involved as shown in Figure 1 below for the production stage and Figure 2 for the waste management stage.

¹⁹ Schmidt, C., Krauth, T. and Wagner, S. (2017). Export of Plastic Debris by Rivers into the Sea. *Environmental Science and Technology* 51(21):12246-12253.

²⁰ Nghị Quyết Phiên Họp Chính Phủ Thường Kỳ Tháng 01 Năm 2019 (09/NQ-CP, 3 February 2019).

Figure 1: Plastic production institutional framework



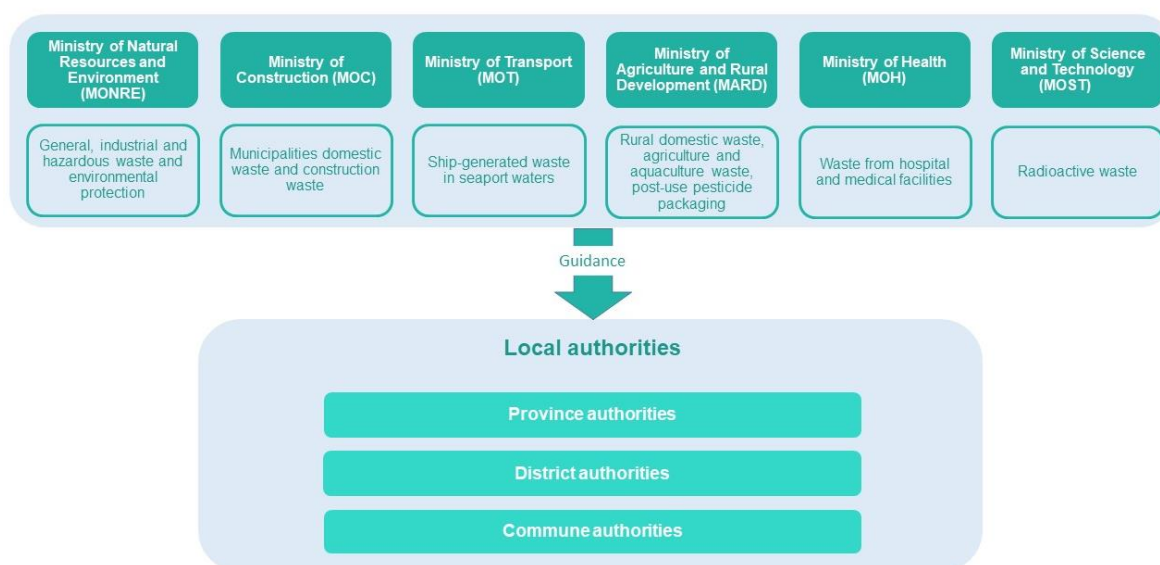
Plastic scrap is the most controversial and challenging issue for the GoV to control due to the complexity of types and its recyclability, and balancing between the need of domestic production and control high volumes of scrap and waste from the international market (see Section 4.4 and Section 5.4). Scrap refers to materials that are collected, classified and selected from discarded materials and products during the manufacturing or consumption process, which can be then reused as materials for another manufacturing process. While MONRE considers scrap as a waste that can be reused, the Ministry of Industry and Trade (MOIT) and producers consider it as a raw material.²¹ As such, MONRE requires that imported plastic scrap meets the national technical regulations on environment detailing technical standards for scrap.²² A certificate of conformity to environmental protection regulations for scrap import for production purposes must be granted by MONRE.²³ But importing activities are implemented and monitored by the General Department of Viet Nam Customs under the Ministry of Finance (MOF) through their customs procedures.

²¹ Scrap is a kind of waste, according to definitions of waste and scrap. As such, *Wastes* refer to a kind of materials emitted from activities such as manufacturing, trading, service, daily activities and others while *Scrap* refers to materials that are collected, classified and selected from discarded materials and products during the manufacturing or consumption process, which can be then reused as materials for another manufacturing process. *Luật Bảo vệ Môi trường* (55/2014/QH13, 23 June 2014). Art. 3; Scrap is considered as a raw material and analysed in the same category of plastic raw materials which include both virgin plastic and scraps in the Customs data and Vietnam Plastics Association data.

²² *Quy Chuẩn Kỹ Thuật Quốc Gia Về Môi Trường Đối Với Phế Liệu Nhựa Nhập Khẩu Làm Nguyên Liệu Sản Xuất* (QCVN 32:2018/BTNMT, 14 September 2018).

²³ *Ibid.*; *Nghị Định Sửa Đổi, Bổ Sung Một Số Điều Của Các Nghị Định Quy Định Chi Tiết, Hướng Dẫn Thi Hành Luật Bảo Vệ Môi Trường* (40/2019/ND-CP, 13 May 2019). Sections 28-34, Article 3.

Figure 2: Solid waste management institutional framework

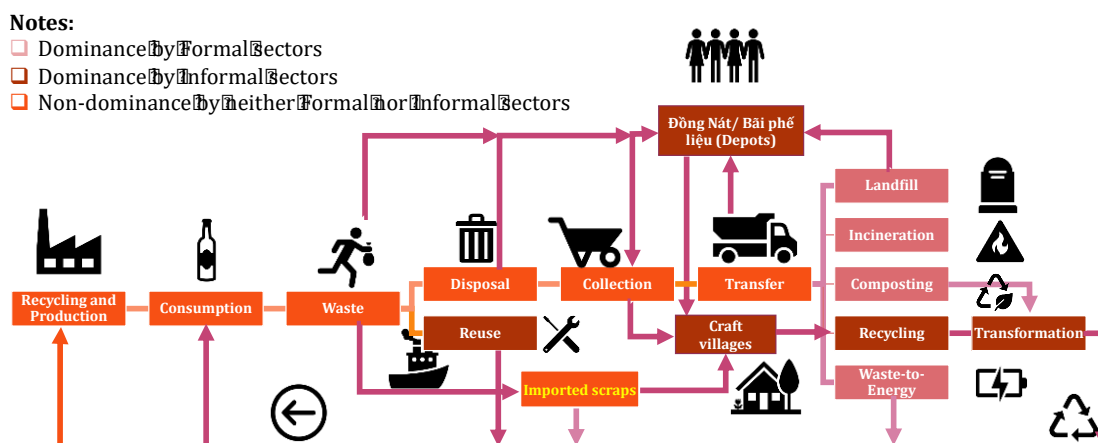


The fragmentation of management regulations and corresponding institutions at national level has created a diverse implementation at the local level, as well as a space for participation and development of the informal sector in solid waste management in Viet Nam. The infographic in Figure 3 below describes the coexistence of formal and informal networks in the plastic value chain in Viet Nam.²⁴ The informal network participates in almost all stages of the plastic lifecycle through waste collection, segregation, transportation, recycling, production and trade. A network of thousands of waste pickers, itinerant buyers, scrap collectors (known as “*Đồ*ng Nát” in Vietnamese) collect and/or buy the recyclable plastic waste from households and other sources such as offices, restaurants, hotels, malls, or other infrastructures, which is then gathered in scrap depots (known as “*Bãi phế liệu*” in Viet Nameese) before being transported partly to plastics craft villages for recycling.²⁵ Recycling craft villages play an important role in closing the loop of the plastics life cycle. The informal networks of *Đồ*ng Nát – *Bãi phế liệu* – Craft villages have created a plastic circular economy, from a downcycling perspective, while the formal network deals with plastic waste from a linear perspective. However, besides the environmental pollution and labour issues, this circularity runs only with the valuable wastes (see Section 5.3).

²⁴ Boucher, J., Billard, G., Simeone, E. and Sousa, J. (2020). *The marine plastic footprint*. Gland, Switzerland: IUCN. viii+69 pp. Glossary where a definition of Plastic value chain can be found on page 6.

²⁵ There are an estimated 10,000 *Đồ*ng Nát working in Hanoi only. Nguyen Thai Huyen, Nguyen Thi Hai Yen and Le Thi Thao Trang (2019). *The territorial structure, establishment and operation of the scrap depot network in Hanoi*. Hanoi Architectural University’s seminar on “The dynamic of spontaneous waste collecting and recycling territories in Viet Nam: what is the future of the circular economy and the need for social responsibility?” in Hanoi on 12 December 2019.

Figure 3: A hybrid economic model of plastic life-cycle management in Viet Nam



4 Legal frameworks

4.1 Overarching law and strategy

Laws and strategies in Viet Nam set out the general frameworks and orientations which need further guidance from sectoral Governmental agencies and Ministries for their implementation by enacting regulations detailing how the framework can be implemented. The more institutions participate in solid waste management, the more guiding regulations are developed, thereby creating a complex legal system with conflicts and overlaps (see Section 5.1). The fragmented institutions lead to the absence of a holistic approach to the management of solid waste, including plastics, incorporation of both the domestic issues and scrap imports whereby authority and responsibility are well demarcated. Legal analysis and its implementations show an interesting picture of parallel legal and *de facto* frameworks in plastics life cycle management in Viet Nam.

The lifecycle management is not integrated into the legal system, not even in the recent *National Action Plan on Marine Plastic Debris Management*, which was approved by the Prime Minister on 4 December 2019. The measures mostly emphasise downstream management by a voluntary stop on single-use plastics in tourist areas, cleaning the beach, and increasing the plastic waste management in sea-based activities and coastal areas.²⁶ The proposed Extended Producer Responsibility (EPR) policies in the draft version dated April 2019 proposed a strong link to the life-cycle approach but in last are not considered as priorities in the approved National Action Plan. However, MONRE have signed the Memorandum of Understanding with a Packaging Recycling Organisation (PRO) in Viet Nam to collaborate in developing EPR schemes for the packaging sectors with Dow Chemical Vietnam LLC, SCG Group and Unilever Vietnam International Co. Ltd to establish Public – Private Collaboration to build a circular economy in plastic waste management.²⁷ EPR for packaging, including

²⁶ Quyết Định Về Việc Ban Hành Kế Hoạch Hành Động Quốc Gia Về Quản Lý Rác Thải Nhựa Đại Dương Đến Năm 2030 (1746/QĐ-TTg, 4 December 2019).

²⁷ Packaging Recycling Organisation Vietnam formed in June 2019 as a social enterprise with external Advisory Board made up of 12 founding members including La Vie Co., Ltd.; Nestlé Vietnam Co., Ltd.; Suntory Pepsico Vietnam Beverage Co., Ltd.; Coca-Cola Vietnam Co., Ltd.; Nutifood J.S Co.; TH Group; Tetra Pak Viet Nam J.S

plastic packaging, is also addressed by the draft Law on Environmental Protection. Instead of being a concrete response by the Viet Nam Government to its ranking as one of the world's top marine plastic litter producers, the National Action Plan once again emphasises the poor collaboration and fragmented management amongst the relevant ministries, or even amongst agencies and departments within a Ministry.

4.2 Production

Like other industries, manufacturers are required to proceed to an environmental impact assessment (EIA) or an environmental protection plan (simple-EIA) for plastic products based on their capacities, the volume of wastewater or emission discharged, or the kind of material used (virgin resin or scrap).²⁸ In some cases, besides the EIA, manufacturers need to pass the inspection procedure and get the certification of completion of environment protection works (post-EIA management) to ensure the real environmental capacities before its official operation. There are no compulsory industrial product standards relating to plastic products except the national technical regulation for plastic containers and packing in direct contact with food set by the Ministry of Health (MOH) for public health safety.²⁹ Plastics manufacturers can self-declare their products' standard conformity to a registered certifying organisation to get certificates before selling them in markets. There is no regulation for a compulsory ratio of recycled plastics use in new products.

Producing eco-friendly products can receive a number of incentives and support from the GoV. They include (i) incentives for investment capital from the Viet Nam Environment Protection Fund, the Viet Nam Development Bank, or other credit institutions;³⁰ (ii) preferential enterprise income tax for new projects (enterprise income tax rate of 10% for 15 years or tax exemption for 4 years and 50% tax reduction for the next 9 years); (iii) exemption or 50% reduction export tax for environment-friendly products or products made from waste recycling and treatment.³¹ The actual expenditures of enterprises in promotion of eco-products, awareness raising or support for waste segregation at sources, supplying tools for waste collection, etc. are tax deductible.³²

These incentives apply to some technologies for manufacturing or producing certain polymer materials through high technologies or high-tech products such as bio-degradable polymers, superabsorbent polymers, polymer composite materials. These are encouraged according to

Co.; FrieslandCampina Vietnam Co., Ltd.; URC Vietnam Company Limited; HCMC City Union of Trading Cooperative (Saigon Co.op); An Nam Group; and Far Eastern Polytex (Vietnam) Ltd.

²⁸ *Nghị Định Sửa Đổi, Bổ Sung Một Số Điều Của Các Nghị Định Quy Định Chi Tiết, Hướng Dẫn Thi Hành Luật Bảo Vệ Môi Trường* (40/2019/ND-CP, 13 May 2019). Appendix II (thresholds for whether EIA, simple-EIA and post-EIA applies).

²⁹ *Quy Chuẩn Kỹ Thuật Quốc Gia Về An Toàn Vệ Sinh Đối Với Bao Bì, Dụng Cụ Bằng Nhựa Tổng Hợp Tiếp Xúc Trực Tiếp Với Thực Phẩm* (QCVN 12-1:2011/BYT, 30 August 2011).

³⁰ *Thông tư Hướng dẫn việc cho vay với lãi suất ưu đãi, hỗ trợ lãi suất sau đầu tư từ Quỹ Bảo vệ môi trường Việt Nam* (03/2017/TT-BTNMT, 21 March 2017).

³¹ *Thông Tư Quy Định Miễn, Giảm Thuế Xuất Khẩu Đối Với Sản Phẩm Thân Thiện Với Môi Trường; Sản Phẩm Từ Hoạt Động Tái Chế, Xử Lý Chất Thải Quy Định Tại Nghị Định 19/2015/NĐ-CP Hướng Dẫn Luật Bảo Vệ Môi Trường* (128/2016/TT-BTC, 9 August 2016); *Thông Tư Quy Định Trình Tự, Thủ Tục, Chứng Nhận Nhãn Sinh Thái Cho Sản Phẩm Thân Thiện Với Môi Trường* (41/2013/TT-BTNMT, 2 December 2013). The environment-friendly products are certificated Viet Nam Green Label (Nhãn xanh Việt Nam).

³² *Thông Tư Hướng Dẫn Chính Sách Thuế Thu Nhập Doanh Nghiệp Đối Với Hoạt Động Bảo Vệ Môi Trường Quy Định Tại Nghị Định Số 19/2015/NĐ-CP Ngày 14/02/2015 Của Chính Phủ Quy Định Chi Tiết Thi Hành Một Số Điều Của Luật Bảo Vệ Môi Trường* (212/2015/TT-BTC, 31 December 2015).

the Law on high technologies.³³ The manufacturers certificated as high-tech enterprises will receive the highest incentives on land use and taxes.³⁴

Producers of plastic bags have to pay an environmental protection tax at a rate of VND 50,000 per kilogram (around US\$2.2) which is the highest allowable rate in the Law on Environmental Protection Tax.³⁵ The plastic bags that satisfy the eco-friendly criteria and are recognised by the MONRE are subject to a tax exemption.³⁶ It is worth mentioning that these criteria of eco-friendly plastic bags are non-eco-friendly in practice because they are not completely biodegradable but break into pieces in the environment. Pre-packaging of goods or T- shape baseless plastic bags are not subject to this tax exemption according to the definition of taxable bags.³⁷

4.3 Retail and consumer use

There is no regulation on plastics retailing or ban on the use of single-use plastics. Consumers have the responsibility of segregating their post-use products as a part of waste management.³⁸ A fine ranging from VND 15 to 20 million shall be imposed for failing to segregate domestic solid waste in accordance with these regulations.³⁹ Plastics are not on the list of products subject to the take-back requirement – a current EPR scheme in Viet Nam – regulated by the Prime Minister.⁴⁰

Fishermen are forbidden to throw fishing gear into natural water sources, except in the case of *force majeure*.⁴¹ The illegal discarding of fishing gear or the failure to mark fishing gear shall be imposed with a fine ranging from VND 2 to 5 million.⁴² Remarkably, the use of material polluting the environment in an aquaculture cage infrastructure will be penalized with a fine of

³³ Quyết Định Phê Duyệt Danh Mục Công Nghệ Cao Được Ưu Tiên Đầu Tư Phát Triển Và Danh Mục Sản Phẩm Công Nghệ Cao Được Khuyến Khích Phát Triển (66/2014/QĐ-TTg; 25 November 2014). List No. 49 and 50 Appendix I and No. 102 Appendix II.

³⁴ Quyết Định Quy Định Tiêu Chí Xác Định Doanh Nghiệp Công Nghệ Cao (19/2015/QĐ-TTg, 15 June 2015). Văn Bản Hợp Nhất Thông Tư Hướng Dẫn Thực Hiện Ưu Đãi Đầu Tư Quy Định Tại Luật Đầu Tư Và Nghị Định 118/2015/NĐ-CP Hướng Dẫn Luật Đầu Tư (34/VBHN-BTC, 26 June 2019). As such, enterprise income tax rate of 10% for 15 years or tax exemption for 4 years and 50% tax reduction for the next 9 years; exemption import tax for fixed assets, exemption or 50% reduction of non-agricultural land use tax based on particular investment location, capital investment, and number of employees.

³⁵ Luật Thuế Bảo vệ Môi trường (57/2010/QH12, 15 November 2010); Nghị Quyết Về Biểu Thuế Bảo Vệ Môi Trường Do Ủy Ban Thường Vụ Quốc Hội Ban Hành (579/2018/UBTVQH14, 26 September 2018).

³⁶ Environmentally friendly plastics bags must have a thickness over than 30 µm and a size bigger than 20 cm, or decompose at least 60% in two years; the content of heavy metals must not exceed the permitted maximum; and producers must fully obey the environmental protection provisions. Thông Tư Quy Định Tiêu Chí, Trình Tự, Thủ Tục Công Nhận Túi Ni Lông Thân Thiện Với Môi Trường (07/2012/TT-BTNMT, 04 July 2012). Art. 8.

³⁷ The taxable nylon bags (plastic bags) are the thin bags and packages in form of bags (with an opening, base, body, and that can contain products) made of high-density polyethylene resin (HDPE), low density polyethylene (LDPE), or linear low-density polyethylene resin (LLDPE), except for pre-packages of goods and nylon bags that satisfy the eco-friendly criteria as prescribed by the Ministry of Natural Resources and Environment. Nghị Định Sửa Đổi Khoản 3 Điều 2 Nghị Định 67/2011/NĐ-CP Hướng Dẫn Luật Thuế Bảo Vệ Môi Trường (69/2012/NĐ-CP, 14 September 2012). Art. 1.

³⁸ Nghị Định Về Quản Lý Chất Thải Và Phế Liệu (38/2015/NĐ-CP, 24 April 2015). Art. 15

³⁹ Nghị Định Quy Định Về Xử Phạt Vi Phạm Hành Chính Trong Lĩnh Vực Bảo Vệ Môi Trường (155/2016/NĐ-CP, 18 November 2016). Art. 20.4.

⁴⁰ Quyết Định Quy Định Về Thu Hồi, Xử Lý Sản Phẩm Thải Bỏ (16/2015/QĐ-TTg, 22 May 2015).

⁴¹ Luật Thủy sản (18/2017/QH14, 21 November 2017). Art. 7.

⁴² Nghị Định Quy Định Xử Phạt Vi Phạm Hành Chính Trong Lĩnh Vực Thủy Sản (42/2019/NĐ-CP, 16 May 2019). Clause 2, Art. 27.

VND 10 to 20 million.⁴³ The Department of Agriculture and Rural Development in Quang Ninh province is developing the provincial technical regulations for materials used for buoyant frames in aquaculture floating farms – the first kind of this regulation in Viet Nam – to control the use of polystyrene. It means that the use of polystyrene in aquaculture operations – mostly found in the clean-up campaign organised by IUCN in Ha Long – can be seen as a violation if they are not managed properly.⁴⁴

4.4 Trade, transport and import

Like scrap, plastics are managed based on their sources. There is no regulation for domestic plastic scrap but some on importing scrap. The GoV allows the import of seven kinds of plastic scrap for production materials as long as they meet the national technical regulation on environment.⁴⁵ The use of imported scrap is subject to a certificate of conformity granted by MONRE, the approval of EIA report and certification of completion of environment protection works, or a license for hazardous waste treatment which specifies the use of imported scrap as production materials. Importers also have to deposit between 15% and 20% of the total value of imported scrap shipments based on the volume of import.⁴⁶ From 1 January 2025, importing volumes must not exceed 80% of the design production capacity and the import of scraps for pre-processing only (such as recycled plastic pellets) and resale will be prohibited.⁴⁷

4.5 End of life (including recycling, waste management and clean-up)

Both EIA and post-EIA procedures apply to waste treatment and recycling facilities.⁴⁸ Recycling and treatment facility owners also need to set up an environment management system in accordance with Viet Nam's Standard TCVN ISO 14001.⁴⁹ The investment in recycling and solid waste management is considered as environmental protection activities. Therefore, they also received incentives and support similar to the production of eco-friendly products mentioned in section 4.2. Waste-to-energy investments are supported by an electricity price mechanism with a purchase price higher than other sources of energy.⁵⁰

Solid waste (including plastics) management is fragmented due to its classification by different criteria such as form, characteristics, generated sources or locations which link to different

⁴³ *Ibid.* Art. 17.

⁴⁴ IUCN (2017). *Rapid survey on the use of polystyrene in floating farms in Cat Ba archipelago, Hai Phong, September 7-8, 2016.*

⁴⁵ Seven kinds of plastic scraps include: plastics of polyethylene (PE) (HS code of 3915.10.10 and 3915.10.90); plastics of polystyrene (PS) (HS code of 3915.20.10 and 3915.20.90); plastics polyvinyl chloride (PVC) (HS code of 3915.30.10 and 3915.30.90) and other plastics (HS code of 3915.90.00). *Quyết Định Về Danh Mục Phế Liệu Được Phép Nhập Khẩu Từ Nước Ngoài Làm Nguyên Liệu Sản Xuất (73/2014/QĐ-TTg, 19 December 2014)*. Appendix (No. 4-10); *Quy Chuẩn Kỹ Thuật Quốc Gia Về Môi Trường Đối Với Phế Liệu Nhựa Nhập Khẩu Làm Nguyên Liệu Sản Xuất (QCVN 32:2018/BTNMT, 14 September 2018)*.

⁴⁶ *Nghị Định Sửa Đổi, Bổ Sung Một Số Điều Của Các Nghị Định Quy Định Chi Tiết, Hướng Dẫn Thi Hành Luật Bảo Vệ Môi Trường (40/2019/ND-CP, 13 May 2019)*. Section 31, Art. 3.

⁴⁷ *Ibid.* Section 29, Art. 3.

⁴⁸ *Ibid.* Appendix II.

⁴⁹ *Ibid.* Section 18, Art. 2 and Appendix (Section I) (Appendix II(a)).

⁵⁰ *Thông Tư Quy Định Về Phát Triển Dự Án Và Hợp Đồng Mua Bán Điện Mẫu Áp Dụng Cho Các Dự Án Phát Điện Sử Dụng Chất Thải Rắn (32/2015/TT-BCT, 8 October 2015)*. The purchase price for power generation projects by direct burning of solid waste at 2,114 VND/kWh (equivalent to 10.05 US cents/kWh) and for power generation projects by combustion gas collected from the solid waste landfill at 1,532 VND/kWh (equivalent to 7.28 US cents/kWh) and can be adjusted according to the fluctuation of exchange rate of VND/USD.

institutional competences and responsibilities.⁵¹ Due to this fragmentation, there is neither legislation nor a competent authority directly managing marine plastics, nor a responsible entity for its pollution in Viet Nam. Six Ministries directly manage solid waste by their own legal frameworks and processes depending on their classification (see Figure 2). The management of the major types of plastics is detailed below.

As a hazardous solid waste, plastics are managed by MONRE at the central level and the Department of Natural Resources and Environment (DONRE) at the local level. A system of registration, licenses, classification codes, and technical requirements follows the waste management process through classification, storage, transit, transportation, pre-processing, reuse, recycling, co-treatment, treatment, and recovery of energy.⁵² However, these regulations only apply to the industrial sector, while the hazardous waste used by households is still disposed of in the non-hazardous domestic waste system. Similarly, medical waste used by households also pour on the domestic waste system while waste from the hospital and medical facilities are handled as hazardous waste except for the non-hazardous biomedical waste and infectious waste but treated to meet national technical regulations on the environment can be recycled.⁵³ Post-use pesticide packaging is also hazardous waste but applies responsibilities differently based on waste generators. The agricultural companies self-responsible their waste while households or farmers are responsible for segregation only that requires them to dispose of the post-use pesticide packaging in certain tanks built by the communal People's committees who are responsible pay for transportation and treatment.⁵⁴ For non-hazardous/ conventional industrial solid waste, the waste generators can contract with proper treatment facilities who are permitted to reuse in production, make the construction materials or waste co-treatment; and annual report to DONRE.⁵⁵

As waste from sea-based activities, plastics waste from ships is managed by the national technical regulation on the marine pollution prevention system of ships, but only applies to ships of 12 m or more in length or oil tankers of 400 GT or more and ships certified to carry 15 persons or more in Viet Nam.⁵⁶ The waste reception from ships in seaport waters is implemented by local waste management service providers.⁵⁷ However, in case of Tuan Chau port, there are neither appropriate port equipment (waste storage and treatment) nor environmental management plans in place to handle the waste from ships and boat cruises in

⁵¹ *Nghị Định Về Quản Lý Chất Thải Và Phế Liệu* (38/2015/ND-CP, 24 April 2015).

⁵² *Thông Tư Về Quản Lý Chất Thải Nguy Hại* (36/2015/TT-BTNMT, 30 June 2015).

⁵³ *Thông Tư Liên Tịch Quy Định Về Quản Lý Chất Thải Y Tế* (58/2015/TTLT-BYT-BTNMT, 31 December 2015); *Quy Chuẩn Kỹ Thuật Quốc Gia Về Thiết Bị Hấp Chất Thải Y Tế Lấy Nhiễm* (QCVN 55:2013/BTNMT, 31 December 2013)

⁵⁴ *Thông Tư Liên Tịch Hướng Dẫn Thu Gom, Vận Chuyển Và Xử Lý Bao Gói Thuốc Bảo Vệ Thực Vật Sau Sử Dụng* (05/2016/TTLT-BNNPTNT-BTNMT; 16 May 2016).

⁵⁵ *Nghị Định Sửa Đổi, Bổ Sung Một Số Điều Của Các Nghị Định Quy Định Chi Tiết, Hướng Dẫn Thi Hành Luật Bảo Vệ Môi Trường* (40/2019/ND-CP, 13 May 2019). Section 13 and 14, Art.1.

⁵⁶ *Thông Tư Quy Định Về Danh Mục Giấy Chứng Nhận Và Tài Liệu Của Tàu Biển, Tàu Biển Công Vụ, Tàu Ngầm, Tàu Lặn, Kho Chứa Nổ, Giàn Di Động Việt Nam* (41/2016/TT-BGTVT, 16 December 2016). Appendix I(part. 2)(No. 7,8,9).

⁵⁷ *Thông Tư Quy Định Về Quản Lý Thu Gom Và Xử Lý Chất Thải Từ Tàu Thuyền Trong Vùng Nước Cảng Biển* (41/2017/TT-BGTVT, 14 November 2017).

Ha Long Bay.⁵⁸ Viet Nam still needs more investment on the infrastructure of Port Reception Facilities to fulfil its obligation under MARPOL.⁵⁹

Finally, as a domestic solid waste, plastics are managed by local administrations but differ between urban and rural areas. The Ministry of Construction (MOC) is in charge of waste management in municipalities, while in rural areas the Ministry of Agriculture and Rural Development (MARD) currently manages it as a part of their program for new rural development. In urban areas, these waste services are managed at the municipal level while in rural areas they are managed by each commune or each household.⁶⁰ Rural residents are encouraged to bury biodegradable organic waste at household areas in a sanitary way, and some communes provide financial support for incinerating solid waste at home.⁶¹ State-owned enterprises such as URENCO or CITENCO and its subsidiaries often provide waste services in urban areas. In rural areas, the cooperatives (known as “Hợp tác xã” in Viet Nameese) are operators at communal level. These operators supply part or full services of solid waste management including collection, transportation and treatments including landfill, incineration, composting, recycling and waste-to-energy. Due to low cost, landfill is the most popular nationwide. Only 40-50% in rural and 85.5% in municipalities of domestic solid waste is collected, in which landfill accounts for 77.5%. However, only 31% of the 660 landfill sites in urban areas meet environmental quality standards.⁶² In rural areas, MARD have been warned by the GoV for their guidance, which caused serious environmental pollution in the dispersed landfills at communal level.⁶³

5 Gaps and challenges

5.1 The implementation and enforcement challenges of a fragmented solid waste management framework

The fragmented management leads to the absence of a comprehensive overview and inclusive interventions for solid waste management issues in Viet Nam. The more authorities are involved in management, the more different regulations guided on the reports, data collections, and methodologies. As a consequence, there is no reliable and comparable data available among authorities supporting an evidence-based holistic approach of solid waste

⁵⁸ Regis (2016). *Ha Long Bay boat waste collection and treatment*. Gland, Switzerland: IUCN, 16pp.

⁵⁹ Bui, D.H., Tran, Y. and Ngo, K.D. (2019). Waste management from ships at Vietnam seaports. *IOP Conference Series: Earth and Environmental Science* 315(5).

⁶⁰ Chu Hồng Châu (28 April 2016). *Đề xuất sửa đổi tiêu chí 17 về môi trường*. Available at <http://hoionongdan.org.vn/sitepages/news/58/43278/de-xuat-sua-doi-tieu-chi-17-ve-moi-truong> (accessed 1 March 2019).

⁶¹ *Thông Tư Hướng Dẫn Triển Khai Một Số Hoạt Động Bảo Vệ Môi Trường Trong Chương Trình Mục Tiêu Quốc Gia Về Xây Dựng Nông Thôn Mới Giai Đoạn 2010 - 2020* (55/2014/TT-BNNPTNT, 31 December 2014). Art. 7.2; In 2017, Bể Triều commune (Hoà An district, Cao Bằng province) has supported VND 1.6 million per household to build the incinerator for domestic waste treatment; Ngọc Dung (30 June 2018). *Thực hiện tiêu chí môi trường trong xây dựng nông thôn mới còn nhiều khó khăn*. Available at <http://baocaobang.vn/Xay-dung-nong-thon-moi/Thuc-hien-tieu-chi-moi-truong-trong-xay-dung-nong-thon-moi-con-nhieu-kho-khan/63937.bcb> (accessed 1 March 2019).

⁶² Báo Tài nguyên và Môi trường (19 March 2019). *Hội thảo định hướng phát triển công nghệ xử lý chất thải rắn Việt Nam*. Available at <https://baotainguyenvmoitruong.vn/moi-truong/dinh-huong-phat-trien-cong-nghe-xu-ly-chat-thai-ran-viet-nam> (accessed 30 May 2019).

⁶³ *Công Văn Về Quản Lý Chất Thải Rắn Khu Vực Nông Thôn Do Văn Phòng Chính Phủ Ban Hành*. (3964/VPCP-KGVX, 2 May 2018).

management. Data insufficiency also challenges the efforts to determine the efficacy of so-called leveraged interventions to address marine plastics despite strong political will.

The overlaps and conflicts between the competences and management regulations are one of the biggest challenges for its implementation. Although any activities that violate environmental protections regulations are either crimes or administrative violations, enforcement is limited. Among 100,673 criminal cases available in open data from the People's Supreme Court, there is no environmental crime related to waste recorded yet.⁶⁴ The illegal discharge of waste or import of waste into Viet Nam's territory shall be considered as crimes based on the volume and hazardous characteristics of related illicit wastes.⁶⁵ The administrative sanctions are the lowest thresholds.

Based on the administrative organisational structure, four levels of competency can impose administrative penalties.⁶⁶ The chairman of the People's Committee at each level has the competence to give the highest penalty.⁶⁷ If the fine is higher than these caps, the higher levels will be the competent authorities for handling the violations. For the same acts of administrative violation, the fines for organisations are double those of fines for individuals. The specific competent authorities are defined by regulations on the imposition of administrative penalties by each violation and sector. Due to diverse classification and fragmented management competence, different administrative fines by different agencies can be imposed for the same violation. For example, discharging rubbish into water sources or into public places will be fined a range of VND 200,000-500,000 under health regulations or VND 3-7 million under environmental protection regulations.⁶⁸ It means the same violation can result in two legal consequences and handling by two different administrative competences (commune or district level). The communal administrations, those who directly detect and deal with waste violations, might not have enough power to impose administrative fines, while the higher authorities can be flooded. As the case of Ho Chi Minh City with its 9-million residents, authorities recently pronounced widely on media on the application of a fine of VND 15 – 20 million for waste segregation violation but soon turns out to be ineffective in practice due to lack of resources for enforcement.

The violations and applicable regulations also confuse the implementers and enforcers themselves. For instance, the illegal discharge of construction wastes can be seen as an environmental protection offence, a transportation offence, or a violation of the regulation on construction.⁶⁹ The repeated administrative offence is a basis for stricter administrative

⁶⁴ Based on the data available on 12 September 2020.

⁶⁵ *Luật sửa đổi một số điều của Bộ luật Hình sự* (12/2017/QH14, 20 June 2017). Art. 235, 239.

⁶⁶ There are 4 administrative levels: the national, provincial, district and communal levels and their respective caps are as followed: in commune-level the highest fines is VND 5 millions (around US\$225), in district level it is VND 50 millions (or US\$2,225) and in provincial and national levels it is VND 1 billion (around US\$44,800). *Luật Xử Lý Vi Phạm Hành Chính* (15/2012/QH13, 20 June 2012). Chapter II.

⁶⁷ Vietnam's local administration is organised at three levels: provincial, district and commune. The local administrations consist of People's Councils and People's Committees. Therefore, the People's Committee at a local administration level is the local state administrative body. *For more information, see Vietnam Law and Legal Forum magazine, Vietnam News Agency. Current local administration system in Vietnam.* Available at <http://vietnamlawmagazine.vn/current-local-administration-system-in-vietnam-6058.html> (accessed 30 May 2019).

⁶⁸ *Nghị Định Quy Định Về Xử Phạt Vi Phạm Hành Chính Trong Lĩnh Vực Bảo Vệ Môi Trường* (155/2016/ND-CP, 18 November 2016); *Nghị Định Quy Định Xử Phạt Vi Phạm Hành Chính Trong Lĩnh Vực Y Tế* (176/2013/ND-CP, 14 November 2013).

⁶⁹ *Công Văn Hướng Dẫn Xử Lý Vi Phạm Hành Chính Trong Quản Lý Chất Thải Rắn Xây Dựng Do Bộ Xây Dựng Ban Hành.* (12/BXD-TTr, 17 July 2018).

penalties or the application of penal or administrative liabilities. But Viet Nam does not have a national database on administrative violations to track repeated offences. All these conflicts and loopholes create a space not only for the discretion of competent authorities in applying the sanctions but also for legitimate corruption in enforcers, weakening the rule of law and impacting the effectiveness of law enforcement in Viet Nam.

5.2 The unsustainable financial mechanism for domestic solid waste management

Although classified differently, some other kind of solid wastes such as household's infrastructures waste, household's hazardous wastes, or medical wastes from clinics still pour into the domestic solid waste system, increasing the pressures on these systems. Unsustainable financing is one of the key challenges in organising the domestic solid waste management scheme and its environmental protection. Very low fees are paid by households and other waste generators and at least 80% of the deficient costs are financed by the GoV, therefore the "polluter pays" principle is not properly applied.⁷⁰ As such, waste generators' responsibilities are not engaged while local authorities bear the burden of both the costs of solid waste management operations and pollutions.

In Hanoi, the current costs per tonne of waste management services are estimated to be US\$ 39 per tonne while the average service prices collected per household is only US\$ 9.7 per tonne.⁷¹ Hanoi People's Committee sets out the services prices at VND 6,000 (around US\$0.25) per person and per month in urban areas and double service prices in rural areas, which only redeems a part of waste collection, transportation and fees for treatment.⁷² These service prices are less than 0.5% of the average household disposable income, lower than the internationally recognised benchmarks of 1% - 1.5%.⁷³

On the other hand, to avoid the abuse of subsidiaries, MOC gives the technical guidance to determine the norms of investment and solid waste management services, which the provincial People's Committee can reference to build their own prices.⁷⁴ These service prices are also used for public bidding when the service suppliers are searching for tenders. Due to the financial deficiency, the costs of landfilling of US\$4 per tonne are below the costs required in properly engineered landfills and are more representative of the costs of open dumping.⁷⁵

⁷⁰ Van Den Berg, K. and Duong, T.C. (2018). *Solid and industrial hazardous waste management assessment*. International Bank for Reconstruction and Development and The World Bank.

⁷¹ *Ibid.* The real total cost of waste management includes US\$ 24 for collection, US\$ 11 for transport and US\$ 4 for landfilling. The collected fee of US\$ 9.7 per tonne calculated from the average fee of VND 26,500 per household per month and 1.46 tonnes of waste generated per household per year, which comprised of VND 172,600/ton (US\$ 7.6/tonne) for collection and VND 46,030/tonne (US\$ 2/tonne) for transport.

⁷² *Quyết Định Về Giá Dịch Vụ Thu Gom, Vận Chuyển Rác Thái Sinh Hoạt; Giá Dịch Vụ Vệ Sinh Môi Trường Đối Với Chất Thải Rắn Công Nghiệp Thông Thường Trên Địa Bàn Thành Phố Hà Nội.* (54/2016/QĐ-UBND, 31 December 2016); *Quyết Định Sửa Đổi Quyết Định Số 54/2016/QĐ-UBND Ngày 31/12/2016 của UBND Thành Phố* (26/2018/QĐ-UBND, 2 November 2018).

⁷³ Based on the modest assumptions of 4 people per household with only one person generating income and given the national average salary of VND 4,845,000/month, the affordable fee at norm of 1%-1.5% would be approx. VND 48,450-72,675 per month/household.

⁷⁴ *Quyết Định Công Bố Suất Vốn Đầu Tư Xây Dựng Và Mức Chi Phí Xử Lý Chất Thải Rắn Sinh Hoạt* (1354/QĐ-BXD, 29 December 2017).

⁷⁵ Van Den Berg, K. and Duong, T.C. (2018). *Solid and industrial hazardous waste management assessment*. International Bank for Reconstruction and Development and The World Bank.

These figures explain the dominance of landfilling, the cheapest option in waste treatment system but also responsible for the pollution in landfill sites.

The low service prices and the high dependence on the State's subsidies make it unsuitable for private sector participation in a lucrative market of nearly 100 million residents. Additionally, the complexity of the current waste collection system of formal and informal networks causes difficulty in organizing and integrating transport activities. As a case of Hanoi city, the solid waste management prices in 2018 are the same as its previous fees in 2016.⁷⁶ As a consequence, the lack of funds for collection and disposal infrastructure investment results in the failure of waste segregation due to an incompatibility between existing collection and treatment facilities with the processing of separated waste.⁷⁷ This gap also implies failure in composting, recycling, or waste-to-energy.

5.3 The role of the informal sector not recognised by the law

The informal sector with its win-win approach has created a symbiotic relationship in sharing the burden of solid waste management. The formal waste collectors partly sell their collected recyclable wastes to the informal sector. In Hanoi, the informal sector voluntarily supports the formal waste collectors to access recyclable waste directly from household sources.⁷⁸ The network of more than 4,000 independent waste collectors (known as “lực lượng thu gom rác dân lập” in Viet Nameese), working in 2,141 private waste collection groups registered in 24 districts, collect about 70% of the municipal solid waste in Ho Chi Minh City and the surroundings.⁷⁹ In connection with a network of more than 10,000 “Đồng nát”, 799 “Bãi phế liệu” separate approximately 2.500 tonnes of scrap, accounting for 30% of total solid waste generated in Hanoi daily, for recycling.⁸⁰

By their dynamic operations, the informal sector has *de facto* created the waste segregation system of valuable waste and non-valuable waste. Directly incentivized by cash together with a convenient service at home, which none of the current formal services can provide, the informal sector significantly influences the behaviour in waste segregation.⁸¹ Although some

⁷⁶ Quyết Định Ban Hành Giá Dịch Vụ Thu Gom, Vận Chuyển Rác Thái Sinh Hoạt; Giá Dịch Vụ Vệ Sinh Môi Trường Đối Với Chất Thải Rắn Công Nghiệp Thông Thường Trên Địa Bàn Thành Phố Hà Nội (54/2016/QĐ-UBND, 31 December 2016); Quyết Định Sửa Đổi Quyết Định Số 54/2016/QĐ-UBND Ngày 31/12/2016 của UBND Thành Phố (26/2018/QĐ-UBND, 2 November 2018).

⁷⁷ Nguyen Leroy, L. M. and Vuong Chi, C. (2016). *Solid Waste Typology and Management in Hanoi*.

⁷⁸ Anonymous interviews with 2 formal collectors and 10 Đồng Nát in Dong Da district, Hanoi city, September-December 2019.

⁷⁹ Quy Chế Về Tổ Chức Và Hoạt Động Của Lực Lượng Làm Dịch Vụ Thu Gom Rác Dân Lập Trên Địa Bàn Thành Phố (5424/1998/QĐ-UB-QLDT, 15 October 1998). “Lực Lượng Thu Gom Rác Dân Lập” or Cooperatives and Syndicates of Independent Waste Collectors have to register their operation in the People's Committee at the district level. However, the registration only applies to the owners of waste collection services while the employees who directly conduct the waste collection are not registered or contracted. Schneider, P., Anh, L. H., Wagner, J., Reichenbach, J. and Hebner, A. (2017). Solid waste management in Ho Chi Minh City, Vietnam: Moving towards a circular economy?. *Sustainability* 9(2):286.

⁸⁰ Nguyen Thai Huyen, Nguyen Thi Hai Yen and Le Thi Thao Trang (2019). *The territorial structure, establishment and operation of the scrap depot network in Hanoi*. Hanoi Architectural University's seminar on “The dynamic of spontaneous waste collecting and recycling territories in Viet Nam: what is the future of the circular economy and the need for social responsibility?” in Hanoi on 12 December 2019.

⁸¹ A random survey of 212 households in 4 districts of Ho Chi Minh city in April 2016 revealed 64% of total households sorting waste at home for scrap sales, with less than 1% changing their behavior because of understanding the meaning of waste segregation or listening to the communication. Nguyễn Kim Thanh (2016).

districts in Ho Chi Minh city also encourage the waste segregation at home but it is limited to a small scale due to the lack of proper waste collection equipment. The informal waste collectors still are the most effective actors in recyclable plastic waste management in Viet Nam.

There are some disadvantages to the informal networks such as heavy pollution, “laundry” of illicit plastics waste and scrap, or tax evasion, especially in the recycling craft villages. Some hazardous medical wastes which contain blood, liquids, etc. are sold to the scrap depots or craft villages. This situation in several hospitals has been exposed by the media.⁸² The national material flow in the plastics sector showed a negative balance of 2.1 million tonnes between inputs and outputs.⁸³ Even when the waste volume was reduced, the balance remained negative: this can only be explained by improper registration and reporting of the import and export of plastic scraps and recycled resin, as well as estimation of the recycled scrap ratio within the country.⁸⁴ Due to trade relations among other informal sectors and in flea and traditional markets, the input–output tracks can be evaded in the accounting records. Moreover, if producers register as household businesses (a small proprietorship run by family members), they only pay a lump-sum tax according to their revenue based on their own declarations. As such, the amount of environmental protection tax for plastic bags collected from domestic uses decreased from VND 56 billion in 2016 to VND 54 billion in 2017 despite the increase of plastic bags use in Viet Nam annually.⁸⁵ A substantial number of plastic bags are produced by household businesses in plastic recycling craft villages.⁸⁶

Due to both advantages and disadvantages, the role of the informal sector is rarely recognised by local administrations. In Ho Chi Minh city, in response to the fast urbanization, the City People’s Committee partly recognize the registered Cooperatives and Syndicates of Independent Waste Collectors (known as “Lực lượng thu gom rác dân lập”) since 1998 which create the challenges of managing the complicated waste business networks and the complex social issues of immigrants.⁸⁷ By new regulation in 2019, city administration requires them to improve their collection services to meet with the requirements of the formal services.⁸⁸ This means more investment for equipment, vehicles, environmental protection measures and safety guards for labours but the small private groups hardly can meet these regulations

Mô hình thí điểm quản lý chất thải rắn theo hướng sử dụng nguồn tài nguyên bền vững. Solid waste management in Asia workshop in August 2016.

⁸² Hà An and Hạnh Hương (5 May 2014). *Trần lan mua bán rác thải y tế nguy hại*. Available at <https://thanhvien.vn/suc-khoe/tran-lan-mua-ban-rac-thai-y-te-nguy-hai-342070.html> (accessed 13 March 2020); Trần Ngọc (5 August 2019). *Kinh hoàng tuôn rác thải lây nhiễm trong bệnh viện ra ngoài*. Available at <https://plo.vn/suc-khoe/kinh-hoang-tuon-rac-thai-lay-nhiem-trong-benh-vien-ra-ngoai-849985.html> (accessed 13 March 2020).

⁸³ Vietnam Business Council for Sustainable Development (2019). *Vietnam materials marketplace*. pp.18-29.

⁸⁴ *Ibid.*

⁸⁵ daidoanket.vn (18 April 2019). *Tăng thuế bảo vệ môi trường với túi nilon*. Available at <http://tapchitaichinh.vn/su-kien-noi-bat/tang-thue-bao-ve-moi-truong-voi-tui-nilon-305665.html> (accessed 20 December 2019).

⁸⁶ Đức Sỹ (6 August 2019). *Thất thu 3-5 tỉ đồng tiền thuế bảo vệ môi trường mỗi ngày ở làng nghề sản xuất túi nilon Minh Khai*. Available at <http://hungyentv.vn/kinh-te/that-thu-3-5-ti-dong-tien-thue-bao-ve-moi-truong-moi-ngay-o-lang-nghe-san-xuat-tui-nilon-minh-khai> (accessed 13 March 2020).

⁸⁷ Ngọc Hiền (7-8 November 2017). *Đời... rác - Kỳ 4: Những cuộc đời quanh xe rác*. Available at <https://tuoitre.vn/doi-rac-ky-4-nhung-cuoc-doi-quanh-xe-rac-20171107112744642.htm>; *Đời...rác - Kỳ 5: Chủ đường rác là ai?* Available at <https://tuoitre.vn/doi-rac-ky-5-chu-duong-rac-la-ai-20171108100428322.htm> (accessed on 01 March 2019).

⁸⁸ *Quyết Định Quy Định Về Quản Lý Chất Thải Rắn Sinh Hoạt Trên Địa Bàn Thành Phố Hồ Chí Minh* (12/2019/QĐ-UBND, 17 May 2019).

without proper support. There are some incentives and supports for investment in solid waste management as mentioned above, but they are often out of reach for the informal sector, which is not recognised so not eligible to apply. In Hanoi, the city administration prefers the enterprises with technology and financial capacities to participate in solid waste management, rather than the existing vibrant informal networks.

5.4 The impacts of international plastic wastes flow into Viet Nam

Taking advantage of an imported scrap exception and the poor management capacity of customs inspection (sample assessments are carried out only in case of doubts), plastic wastes flow into Viet Nam. Two of the country's biggest ports – Tan Cang-Cai Mep International and Tan Cang-Cat Lai – have reportedly become overwhelmed with plastic and paper scrap since the China ban came into force.⁸⁹ For example, on September 6, 2018 there were 15,442 containers of imported scraps stored at ports, in which 158 importers, accounting for 58% of total importers, did not have a certificate of conformity and can be considered as the waste smugglers.⁹⁰ The deposit, from 15% to 20% of the total value of imported scrap shipments, only applies before customs clearance instead of when landing at a port. The imported waste is then stuck in ports due to the lack of recipients as well as deposits to handle them properly. Technical regulations on environment for imported scrap were introduced in September 2018 following their consideration as products and goods capable of posing a risk.⁹¹ This restriction has been delayed due to forceful objection and lobbying by the Viet Nam Plastics Association on March 8, 2019.⁹² The GoV faces the dilemma of either supporting the development of the large plastics industry or becoming a global trash bin of imported scrap.

In response to this situation, the GoV supported businesses to clear the scrap jammed in ports and prosecuted the illegal import activities. From the end of 2018 to June 2019, the Customs sector prosecuted seven enterprises for illegal import of scrap.⁹³ MONRE has tightened the granting of a certificate of conformity for importers who are direct producers, not resellers, and strengthened the inspection of technical environment quality standards of imported scrap. A roadmap for reducing the volume of imported scrap has been set.⁹⁴ Notwithstanding, the general plastic raw material importation, including plastic scrap, in the first six months of 2019 increased to 2.98 million tonnes, 12.1% more than in the same period in 2018, especially from

⁸⁹ Clarke, K.S. and Howard, E. (2018). *US plastic waste is causing environmental problems at home and abroad*. Available at <https://unearted.greenpeace.org/2018/10/05/plastic-waste-china-ban-united-states-america/> (accessed 13 March 2020).

⁹⁰ Lam Hạnh (7 October 2018). *Nhập khẩu phế liệu không đầy đủ giấy tờ sẽ bị xử lý như hành vi buôn lậu*. Available at <https://baophapluat.vn/kinh-te/nhap-khau-phe-lieu-khong-day-du-giay-to-se-bi-xu-ly-nhu-hanh-vi-buon-lau-416412.html> (accessed 30 May 2019).

⁹¹ *Thông Tư Ban Hành Quy Chuẩn Kỹ Thuật Quốc Gia Về Môi Trường* (08/2018/TT-BTNMT, 14 September 2018). Art. 2.

⁹² The Vietnam Plastic Association brought up their concerns to the GoV. *Thông Báo Kết Luận Của Phó Thủ Tướng Trịnh Đình Dũng Tại Cuộc Họp Về Một Số Chính Sách Liên Quan Đến Nhập Khẩu Nhựa Phế Liệu* (405/TB-VPCP, 18 October 2018); *Thông Tư Quy Định Ngưng Hiệu Lực Thi Hành Một Số Quy Định Của Thông Tư Số 08/2018/TT-BTNMT Ngày 14 Tháng 9 Năm 2018 Và Thông Tư Số 09/2018/TT-BTNMT Ngày 14 Tháng 9 Năm 2018 Của Bộ Trưởng Bộ Tài Nguyên Và Môi Trường Ban Hành Quy Chuẩn Kỹ Thuật Quốc Gia Về Môi Trường* (01/2019/TT-BTNMT, 8 March 2019).

⁹³ Tuoi Tre News (25 June 2019). *Thêm một doanh nghiệp nhập khẩu phế liệu bị khởi tố*. Available at <https://tuoiitre.vn/them-mot-doanh-nghiep-nhap-khau-phe-lieu-bi-khoi-to-20190625202932809.htm> (accessed 3 August 2019).

⁹⁴ *Nghị Định Sửa Đổi, Bổ Sung Một Số Điều Của Các Nghị Định Quy Định Chi Tiết, Hướng Dẫn Thi Hành Luật Bảo Vệ Môi Trường* (40/2019/ND-CP, 13 May 2019).

the US with an increase of 354%.⁹⁵ Hai Phong Customs reported plastic scrap clearance in this port in the first half of 2019 rose by 443%.⁹⁶ Ho Chi Minh Customs also discovered the fraud of plastic waste in plastic pallets.⁹⁷ The uncontrolled materials flow laundered by the craft villages makes the management of imported scrap more challenging for the GoV.

The International Criminal Police Organization (INTERPOL) listed Viet Nam as an importing country involved in waste trafficking crime cases while Europe appeared at the core of waste crime networks, with most cases of illegal waste shipments (77%) originating in this region.⁹⁸

Even though certain streams of plastic waste are now regulated under the Basel Convention, the chemical pollution released from the manufacture of plastics, and the identity and quantity of hazardous chemical substances contained in plastic products, whether they are intentionally added (such as plasticizers and solvents) or non-intentionally produced (such as impurities and by-products), are critical challenges due to an overwhelming lack of transparency.⁹⁹ The Basel Ban Amendment still has some exemptions which can be used for illegal waste trafficking.¹⁰⁰ It also needs a common understanding of legal definitions and technical guidance to distinguish between used products, scrap, and clean waste, which can help to control the international shipments both at import and export customs inspections in practice. The import and export flows of the plastic waste crisis should be considered with an internationally coordinated enforcement response, in which the developed countries need to be more responsible for controlling their waste at source and combating the organised criminal networks.

⁹⁵ Thủy Chung (6 August 2019). *Thị trường nhập khẩu nguyên liệu nhựa 6 tháng đầu năm 2019*. Available at <http://vinanet.com.vn/thuong-mai-cha/thi-truong-nhap-khau-nguyen-lieu-nhua-6-thang-dau-nam-2019-715525.html> (accessed 10 August 2019).

⁹⁶ Bùi Trung Dũng (12 July 2019). *Tháo gỡ khó khăn cho doanh nghiệp nhập khẩu phế liệu làm nguyên liệu đầu vào cho sản xuất trong 6 tháng đầu năm 2019*. Customs Department of Hai Phong city. Available at <https://hpcustoms.gov.vn/p-CHQ/d-6830/21631/thao-go-kho-khan-cho-doanh-nghiep-nhap-khau-phe-li> (accessed 20 August 2019).

⁹⁷ Customs Department of Ho Chi Minh City (7 August 2019). *Buộc tái xuất lô phế liệu nhập khẩu không đạt chất lượng*. Available at <http://www.haiquan.hochiminhcity.gov.vn/buoc-tai-xuat-lo-phe-lieu-nhap-khau-khong-dat-chat-luong.aspx> (accessed 20 September 2019).

⁹⁸ INTERPOL's Operation 30 Days of Action was the largest global enforcement operation ever led against waste crime, with the participation of police, customs, border and environmental agencies from 43 countries from every region of the world, running from 1 to 30 June 2017. This campaign had uncovered 664 cases of criminal and administrative waste violations, of which 423 cases of waste shipments (3 cases were unspecified) involving 84 countries and territories worldwide and over 1.5 million tonnes of illicit wastes. INTERPOL (2017). Operation 30 Days of Action - Final report, 2017/1393/OEC/ILM/ENS/FPI.

⁹⁹ Due to non-member status of Vietnam to BASEL Ban Amendment, it is not legally binding to Vietnam yet. After the Ban Amendment entered into force on 5 December 2019, a number of exporting Parties had not ratified the Ban Amendment, and they can keep exporting to Vietnam. BASEL Convention. Art. 17; However the Plastic Waste Amendment in Annexes II, VIII and IX to the Convention will become effective as of 1 January 2021 because Vietnam did not submit a notification of non-acceptance on expiry within the six months from the date of the circulation of the communication by the depositary. BASEL Convention. Art. 18(3), 18(2)(c); Khan, S.A. (2019). Basel Convention Parties Take Global Lead on Mitigating Plastic Pollution. ASIL Insights 23(7).

¹⁰⁰ Basel Action Network (2019). The Norwegian Amendments: Implications for Recyclers.



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