

National Plastic Action Partnerships [NPAP]

A Multistakeholder Approach to Addressing
Plastic Pollution in Developing Countries



National Plastic Action Partnerships (NPAP):

A Multistakeholder Approach to Addressing Plastic Pollution in Developing Countries

This study was conducted for the World Economic Forum (WEF) by the Center for Global Commons at the University of Tokyo (CGC) and the Institute for Global Environmental Strategies (IGES)

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Foreword

Plastics permeate every part of our daily lives, and have brought to us significant convenience. However, in recent years, the dumping and leakage of plastics into the ocean and the resulting impacts on the environment and human health have created major global crises. The plastic value chain is complex, capacities of source countries are sometimes lacking, and local conditions are diverse, all of which present vast challenges to addressing plastic. Within this context, several international initiatives have emerged, one of which is Global Plastics Action Partnership (GPAP).

GPAP, launched at the World Economic Forum in 2018, has a unique, two-tier structure comprising a Global Platform and National Action Platforms for individual countries, and is expected to provide unique benefits to participating countries. Countries can learn lessons from each other and benefit from the global knowledge on the global platform, while retaining their individual internal structures, which are tailored to local conditions in terms of capacity levels, governance structures and value chains.

Another unique feature of GPAP-NPAP is its ability to bring multiple stakeholders under one platform. Governments, both national and sub-national, the private sector, international and national NGOs, local communities and citizens are expected to work together under the national strategy to address the plastic issue. Within the business sector, various players exist in the plastics value chain, some of which are found in developed countries, as well as recycling and waste management industries.

The overarching aim of launching GPAP-NPAP was to assist individual countries in addressing the plastic challenge. This 'snapshot' assessment was conducted to evaluate if initial expectations have been met, what aspects are effective, and where improvements are needed. While only four years have passed since its launch and it would be premature to carry out a more comprehensive project assessment at this point, it was considered useful to provide this snapshot assessment at an early stage with the hopes that more countries can be encouraged to adopt the GPAP-NPAP framework as a result. In summary, this assessment reports on its generally positive findings and provides suggestions for a way forward, such as the need for each NPAP to include diverse local actors.



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Foreword

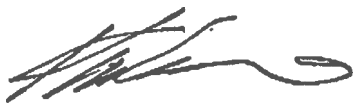
The problem of unmanaged plastic waste and its leakage into the ocean has entered the mainstream discourse on environmental protection and needs our immediate attention. Managing plastic pollution requires downstream efforts, such as waste management systems, and upstream efforts such implementation of 3R (Reduce, Reuse and Recycle) and circular economy policies.

While downstream measures such as waste management infrastructure exist in developed countries, the situation is very different in developing countries. Developing countries face additional challenges to address the issue: they lack capacity, such as financial, technical, managerial capacity, which is especially true in Asia and Africa. Developing countries have requested support for capacity building efforts – financial and technical resources – to manage plastic waste from the Intergovernmental Negotiating Committee (INC) on Plastic Pollution.

Global stakeholders, including developed country governments and multinational companies, can help fill the capacity gap, and they have started engaging with national governments in developing countries. Yet their efforts need to be co-ordinated, and in particular, they must meet both local and national needs, which requires engagement, consultation and working with different stakeholders.

In this regard, the Global Plastic Action Partnership, hosted by the World Economic Forum, has formed individual National Plastic Action Partnerships in several countries with the aim of encouraging systemic change and reducing plastic pollution and marine plastic litter. This report covers their approach and operations in Ghana, Indonesia, and Vietnam.

It is my hope that this report will help highlight the importance of MSPs such as NPAP and disseminate information to support the INC process. This report describes NPAP's MSP approach and can serve as an important resource for other MSPs and as a basis for discussion on the role of MSP in guiding business-government-community collaborative models for plastic waste management at the INCs.



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List of Abbreviations

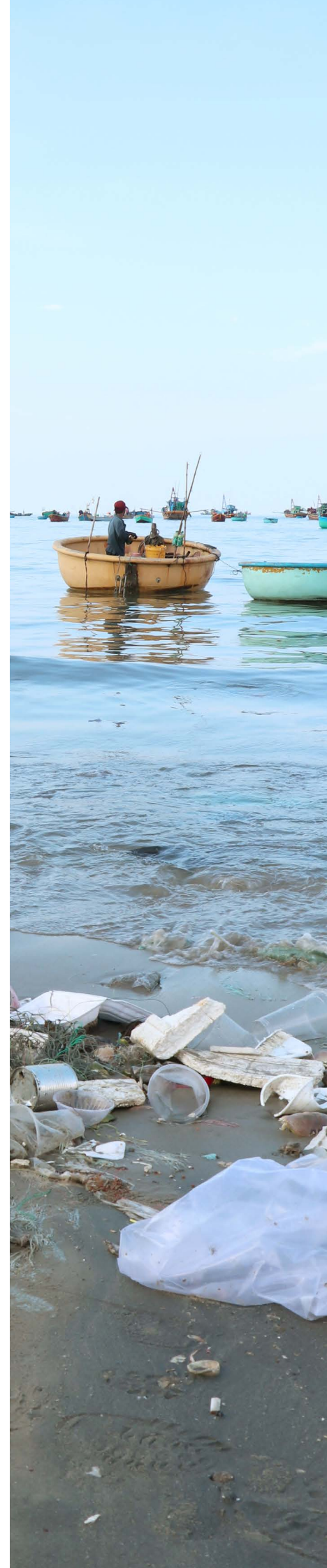
| | |
|-----------------|---|
| BRIN | Indonesian Institute of Sciences |
| CE | Circular Economy |
| CMMAI | Coordinating Ministry of Maritime Affairs and Investment |
| CSIRO | Commonwealth Scientific and Industrial Research Organisation |
| EPR | Extended Producer Responsibility |
| GPAP | The Global Plastic Action Partnership |
| ISPONRE | Institute of Strategy and Policy on Natural Resources and Environment |
| IWCs | Informal Waste Collectors |
| LB | Leadership Board |
| LEP 2020 | Law on Environmental Protection 2020 |
| MESTI | Ministry of Environment, Science, Technology & Innovation |
| MOEF | Ministry of Environment and Forestry |
| MOHA | Ministry of Home Affairs |
| MONRE | Ministry of Natural Resources and Environment |
| MOPWH | Ministry of Public Work and Housing |
| MSP | Multi-Stakeholder Partnerships |
| MSW | Municipal Solid Waste |
| NPAP | National Plastic Action Partnership |
| NSMD | Non-State Market-Driven |
| OECD | Organization for Economic Co-Operation and Development |
| OJK | Financial Services Authority |
| PACE | Platform for Accelerating Circular Economy |
| PET | Polyethylene Terephthalate |
| PPP | Public Private Partnerships |
| PRO | Producer Responsibility Organisations |
| RDF | Refuse-Derived Fuel |
| SCS | Systems Change Scenario |
| SDGs | Sustainable Development Goals |
| SME | Small-Scale Enterprises |
| SMV | Special Mission Vehicles |
| TF | Task Force |
| TPS | Temporary Collection Points |
| TPS 3Rs | Temporary Collection Points Mini-MRFs (Materials Recovery Facilities) |
| UNEA | United Nations Environment Assembly |
| VCCI | Vietnam Chamber of Commerce and Industry |
| WEF | World Economic Forum |
| WtE | Waste to Energy Plants |
| WWF | World Wildlife Fund |

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Summary and Introduction to the Report

In this report, we describe the challenges of plastic pollution and the need for Multi-Stakeholder Partnerships (MSP) and describe an emerging MSP process called GPAP and its sister NPAP counterparts in developing countries. We focus on three developing countries, Ghana, Indonesia, and Vietnam as NPAP have started operations in these three countries.

Plastic waste management is a critical issue in developing countries, the countries lack technical and financial capacity. The grand challenges of environmental pollution are complex, uncertain, and evaluative, and measures to address the issue are likewise very complex. Therefore, to prevent plastic pollution, diverse perspectives must be aligned, shared goals must be established, a timeline must be agreed on, and new financial flows to solve the problem must be generated.

Multi-stakeholder processes that involve governments, businesses and communities have been proposed to accelerate change and bring about effective systems to manage plastic waste. The GPAP, hosted by World Economic Forum (WEF), is a multistakeholder platform to replace the current 'take-make-waste' model with a closed-loop circular economy approach to reduce the impacts of plastic pollution in developing countries. NPAPs are national level secretariats of GPAP that work with national governments, businesses and communities at the national level and take care of the day-to-day operations. WEF has partnered with SYSTEMIQ, and makes use of their models. SYSTEMIQ is a company that handles modelling and is focussed on driving sustainability and systems change.

In this report we cover the NPAP processes unfolding in Indonesia, Ghana and Vietnam to understand and describe the role of NPAP in planning strategies and facilitating the MSP process to improve plastic waste management in developing countries, based on the following considerations:

(1) In the three pilot countries, what are NPAP's planned approaches and strategies in supporting and promoting practical and systematic action, and encouraging narratives to transition to a circular economy for plastics?

(2) How can the NPAP approach help deliver the collaborative outcomes in mitigating plastic pollution?

To provide a description and understanding of the NPAP process, we present and develop a conceptual framework based on an academic literature review on MSP as a way to understand the complex reality and various factors that influence the MSP process. We then review primary resources – NPAP and government documents – to understand and describe the NPAP process with the help of the conceptual framework.

NPAP aligns divergent interests of various stakeholders such as perspectives, targets, priorities, and timeline of all stakeholders, thereby trying to engineer change. The unique approach of the GPAP and NPAP to address these complex and difficult challenges is that it brings stakeholders with divergent interests together by:

(1) Providing a forum for stakeholders to collaborate through a multi-layered mechanism that brings together international and national stakeholders without diminishing the role of the national governments;

(2) Bridging the knowledge gap in developing countries through the use of 'system change scenarios' derived from internationally recognised models (built by SYSTEMIQ), the sharing of knowledge among various stakeholders, and supporting the development of data-based policy making in pilot countries; and

(3) Facilitating proactive action and social experimentation by participants through the participatory architecture through creation of the five Task Forces (TF) and action agenda for systems change.

The report is structured as follows. In section 2, we cover the research questions of this study and introduce the conceptual framework used in the study. From sections 3 to 5, we discuss the specific case study, and finally, in section 6, we present the analysis and emphasise the importance of GPAP and NPAP projects, and elaborate the way forward for the multistakeholder platform.



SECTION

1

The Context of Plastics Pollution

Authors: Vivek Anand Asokan and Takashi Ohtani

1.1 Introduction–Global Plastic Pollution

Plastics are ubiquitous: they are used everywhere in our economy. Due to their properties, such as light weight, strength, water resistance, shock resistance, malleability, chemical resistance and resistance to photodegradation, the use of plastics has been associated with lower material and energy use, as well as health and safety benefits (Andrady & Neal, 2009). However, in recent years, the dumping of plastics on land and leakage of plastics into the ocean and the resulting impact on biodiversity have become significant problems.

The articles by Jambeck et al. (2015) focused on plastic pollution, which at the time was still an ‘emerging challenge’ and emphasised the importance of waste management to stop plastic leakage into the ocean, especially in developing countries that lack waste management infrastructure. The latest research shows the presence of plastic particles in marine sediments (De-la-Torre, 2020), air (Schymanski et al., 2021), biota (or gut contents) (Ugwu et al., 2021), and even human blood (Leslie et al., 2022). Today, environmental pollution due to poor plastic waste management is widely recognised as one of the major transboundary environmental challenges.

In its Global Plastic Outlook, the Organization for

Economic Co-operation and Development (OECD) estimates that plastic consumption will continue to increase until 2060, even under an ambitious scenario to cut plastic usage (OECD, 2022). Hence, measures are urgently needed to stop the ever-increasing amounts of plastic from entering the environment and the ocean. It is widely recognised that much of the plastic leaked into the ocean is caused by mismanagement on land, and the shift to a circular economy is expected to offer promise as a solution to plastic pollution. Gruber et al. (2022) recommend upstream measures, including product eco-design, increased producer and retailer responsibility, stricter government policies, and consumer behaviour changes to stem plastics leakage to the environment and ocean. And naturally, downstream measures such as waste management and waste sorting are equally important.

Although a variety of good practices have already emerged around the world, the role of capacity building and support are critical to implementing the above measures in developing countries. The plastic value chain has several stakeholders – national and international – and there exists a significant state capacity deficit in developing countries that makes it difficult to implement solutions that can work, and accentuates the problem.

Indeed, it is due to the rate of growth of plastics that developing countries require capacity support, as in

some areas they are one of the major contributors to plastic pollution from land-based sources to the ocean.

On the other hand, in recent years, in various environmental fields, MSPs, mainly consisting of non-state actors such as international NGOs and multinational corporations, are increasingly taking on such capacity support. Therefore, this report focuses on describing the roles played by NPAPs in the three countries to address plastic pollution.

1.2 Emerging Global Plastic Pollution Governance

The roles of non-state actors such as NGOs and corporations are rapidly becoming more important in relation to complex social issues, such as plastic pollution and other environmental problems, where it is sometimes difficult to reach consensus among nations and within nations. Such actors complement and support the functions of national bodies in the form of MSPs by designing standards and new norms, raising consumer awareness, and facilitating the building of international and domestic consensus. Cashore (2008) calls this evolving process a NSMD governance system'. For example, the PACE, a global collaboration platform now hosted by the World Resource Institute, has set the goal of doubling circularity in 10 years, and in the plastics sector, they have launched 'The Circular Economy Action Agenda for Plastics'. The action agenda identifies 10 priority actions required to achieve plastics circularity, working with public and private partners on project promotion and advocacy activities.

At the international level, consensus is rising on mitigating plastic pollution. For example, in 2018, the Ocean Plastics Charter was adopted by all G7 members except for Japan and the US. In 2019, the Osaka Blue Ocean Vision was adopted by the G20 members with a call 'to reduce the additional pollution by marine plastic litter to zero by 2050' (Hotta et al., 2021). Furthermore, and most importantly, at United Nations Environment Assembly (UNEA) 5.2 in 2022, governments agreed to begin negotiations to create a legally binding instrument on plastic pollution (End Plastic Pollution: Towards an International Legally Binding Instrument, 2022). In this resolution, the roles of multi-stakeholder partnerships and international cooperation, especially regarding knowledge, are emphasised as important

elements in solving the plastics problem.

On the other hand, as the OECD's Global Plastics Outlook points out, the role of technical and financial support to developing countries is crucial to solving plastic pollution. In doing so, it is necessary to identify key issues and priorities for national and regional efforts, considering the different institutional aspects, capacities, and interests of developing countries. The NPAPs discussed in this report are MSPs that address this challenge.

1.3 Plastic Value Chain and Capacity Challenges in Developing Countries

Recent research has highlighted that plastic pollution is a major problem in developing countries and that it contributes to global marine plastics pollution (Jambeck et al., 2015; Meijer et al., 2021). Here, we elaborate on the plastic value chain and capacity challenges for developing countries.

There are various players in the plastics value chain: the plastics industry itself; companies producing goods used in diverse sectors such as construction, textiles, agriculture, automotive, and electronics; and the chemical industry that manufactures plastics. The plastic value chain is global, several stakeholders operate outside of national jurisdictions, plastics are exported or imported at various stages of the plastic value chain.

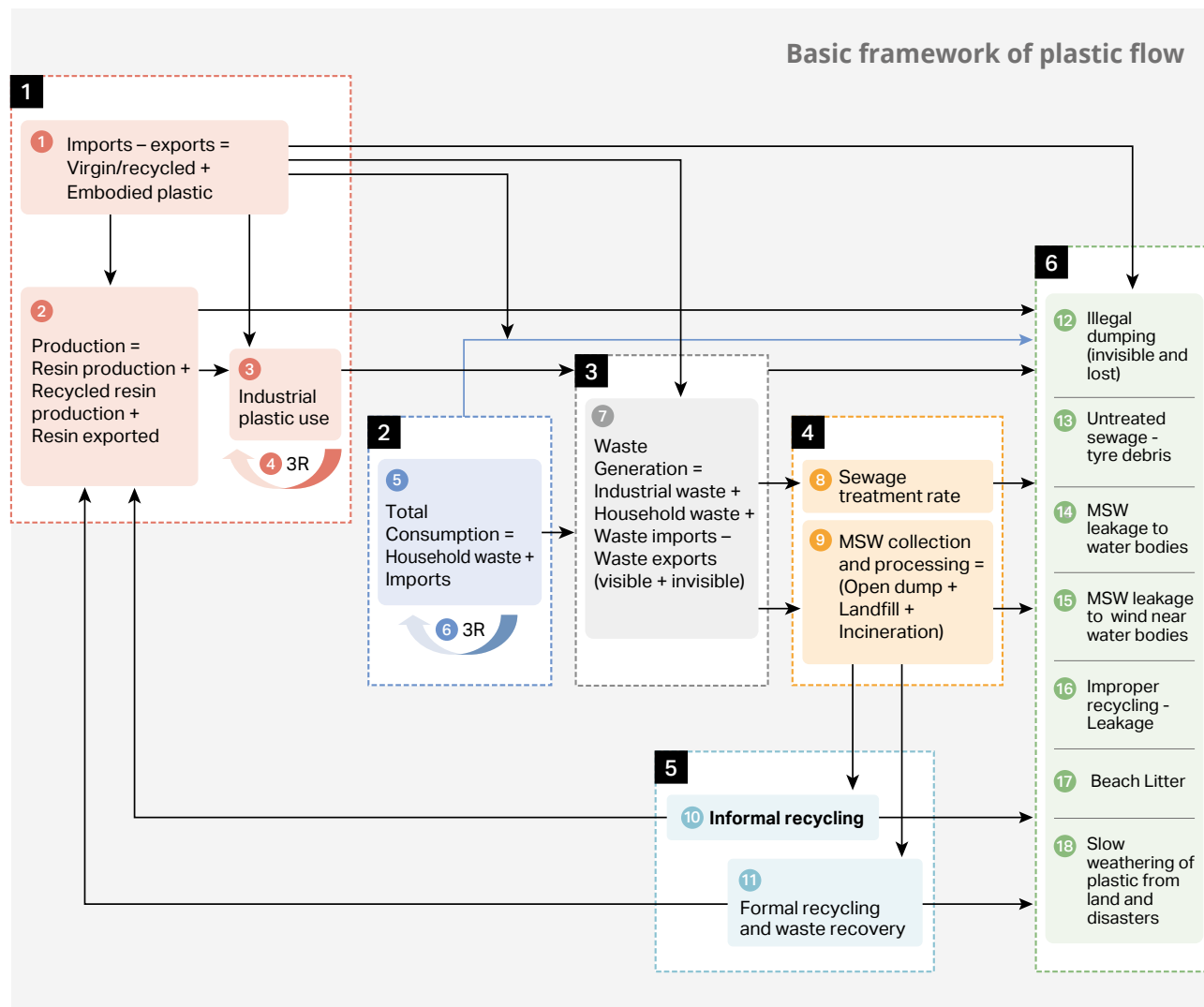
Once plastics are disposed of, waste material is collected and recycled to varying degrees by local governments. Additionally, in areas where EPR regulations are in effect, plastics are also recycled by PRO. Such organisations are obligated by government regulation to oversee collection and recycling. In some instances, they can be private companies, government-mandated institutions such as local community organisations or based on PPP models, and those who organise the recycling and waste management services are regarded as a PROs.

Therefore, the challenge lies in the collection and assimilation of data in each subcategory from the wide range of stakeholders, as these data are crucial for downstream users (i.e., those collecting the waste and processing it).

The plastic value chain is complex with many stakeholders in the process, as described, and requires complex capacities. Sobir (2019) elaborated on the

capacities lacking in many developing countries, as follows:

Figure 1: Plastic Value Chain



Source: Authors

- Policy and legislative capacity, i.e., the capacity gaps in preparing national plans, sector-based policies/strategies, local planning, etc.
- Institutional capacity, i.e., the capacity to coordinate and implement through sectoral and hierarchal collaborations
- Monitoring and reporting capacity, which refers to identifying local targets and indicators, and the potential to collect data and maintain information systems
- Human resource and leadership capacity, which refers to the availability of both technical and managerial human resources
- Financing capacity, which refers to financing capacities for resource mobilization and strengthened public finance processes
- Information and technological capacity, which relate to information, knowledge sharing, technology, and innovation to accelerate implementation

Such challenges exist in many developing countries, and overcoming them is difficult due to the diversity of the plastics value chain stakeholders and related complexities due to economic and political challenges. Furthermore, the waste management and recycling sector is not economically profitable, and is considered

'dirty', which hinders private sector and community participation in the waste management sector. In developing countries, the waste management and recycling activities are entirely based on market activities. Since the cost of recycling and waste management is high, only the most profitable and expensive items are recycled via informal waste management system. In comparison, in developed countries the market is regulated via EPR mechanisms that prioritise recycling over waste management, and sometimes recycling is more economically feasible than waste management.

At the same time, as noted above, as governments lack capacity and waste management services are not widely available, the situation remains in a stalemate. To overcome this situation, developing countries must 1) build action plans, 2) coordinate with horizontal and vertical stakeholders, 3) set targets, 4) develop human resources for execution, 5) raise financial resources, and 6) develop information and knowledge. As many developing countries do not possess such complex capabilities, this is why MSPs could support capacity building in such countries.

1.4 MSPs to Solve Grand Challenges

Sustainability-related challenges are 'grand challenges' that are complex, uncertain, and evaluative (Ferraro et al., 2015; Gehman et al., 2022); they are complex problems 'involving multiple domains, multiple locations, and multiple time frames'. The challenges are uncertain, as the outcomes are risky and we (humans) lack the knowledge to quantify all the risks. The challenges are evaluative, as they are understood differently by different stakeholders. Global plastic pollution is such a challenge and involves many actors in diverse geographic regions, and such actors evaluate the risks differently, producing a range of outcomes. As described in Section 1.2, as the plastic value chain involves many stakeholders, collaboration of such stakeholders has the potential to cut through the complexity of the plastic pollution issue.

The importance of MSP is also reflected in the Sustainable Development Goals (SDGs) as Goal 17 (capacity building (17.9) and MSPs (17.16 and 17.17)), which is titled 'Strengthen the means of implementation and revitalise the global partnership

for sustainable development' and focuses on increasing the achievement of the rest of the SDGs. This goal directs our attention to MSP as an effective governance mechanism (Maltais, Aaron et al., 2018).

Multi-stakeholder partnerships are instruments for leveraging capacities beyond the state level, using the power of the private sector and nongovernmental organizations. The 'Addis Ababa Action Agenda' touches on the importance of the financial sector as an enabler for achieving Agenda 2030, including the SDGs, and points to the importance of multi-stakeholder partnerships to facilitate the mobilization of funds from the private sector (Addis Ababa Action Agenda : Financing for Sustainable Development Office, n.d.).

An advantage of multi-stakeholder partnerships is that they pool resources, thus theoretically allowing each partner to fully demonstrate its strengths. A comprehensive literature review on MSPs can be found in section 2. The Global Plastic Action Partnerships highlighted in this report also intends to serve as catalysts for financing to mitigate plastic pollution.

1.5 Global Plastic Action Partnership

There are many MSPs addressing a range of environmental and social problems, and in this section we highlight the salient features of GPAP and NPAP, which is the national body and is based on the GPAP approach.

The GPAP, hosted by World Economic Forum, is a multistakeholder platform to replace the current take-make-waste model with a closed-loop circular economy approach to reduce the impacts of plastic pollution. NPAPs are the national level secretariat of GPAP that work with national governments, businesses and communities at the national level and handle the day-to-day operations of the MSP.

GPAP itself was launched in 2018 at the World Economic Forum's Sustainable Development Impact Summit. GPAP works closely with SYSTEMIQ and WEF, in the sense that WEF steers GPAP, and the models used therefor are based on those developed by SYSTEMIQ. SYSTEMIQ as an entity was started up by ex-McKinsey consultants, and receives support from several companies, such as Unilever, Nestlé, Danone,

BNP Paribas, The Coca-Cola Company, Salesforce, BlackRock, EDF, Microsoft and The Climate Group. SYSTEMIQ is a company that focuses on system change to create better economies and drive sustainability.

The GPAP approach is based on the SYSTEMIQ modelling and approach (which was also developed with Pew charitable trust), and WEF has developed an approach for theory of change using the GPAP-NPAP model. The systems change scenario (SCS) developed by SYSTEMIQ is aimed at reducing “annual land-based plastic leakage into the ocean by about 80% (82 ±13%) below projected business- as-usual (BAU) levels by 2040, while delivering on other societal, economic, and environmental objectives”. GPAP champions the cause of building an integrated public-private partnership to find solutions to plastic pollution, and the platform brings together policymakers, businesses, and civil society. The initiative’s objectives are to convene a range of stakeholders in targeted countries to create context-specific roadmaps and support financing in order to move away from the existing system surrounding plastic pollution through using SYSTEMIQ’s modelling and approach.

The NPAP is the national counterpart of the GPAP that is responsible for the implementation of the project and is hosted by a local stakeholder. They serve as the secretariat of the national stakeholder platform working with national governments and other partners. GPAP selects a local consultant as NPAP secretariat and closely works with them. GPAP provides them guidelines and support – logistical, financial, managerial – to develop an MSP and also shares the information regarding SCS modelling data on plastic flows nationally, developed with support of SYSTEMIQ. The WEF (via GPAP), SYSTEMIQ, and the local consultant (NPAP secretariat) use their network for liaison and expansion of the network by engaging the national governments and other stakeholders. The GPAP platforms provides space to NPAP secretariats to chart their own pathway based on their unique national context in consultation with the national governments. This information is discussed in more detail in the individual studies in sections 3, 4 and 5.

The NPAP approach is built at the national level, and the governance structure is determined on a national level. The NPAP platform comprises stakeholders across the plastic value chain, such as policymakers,

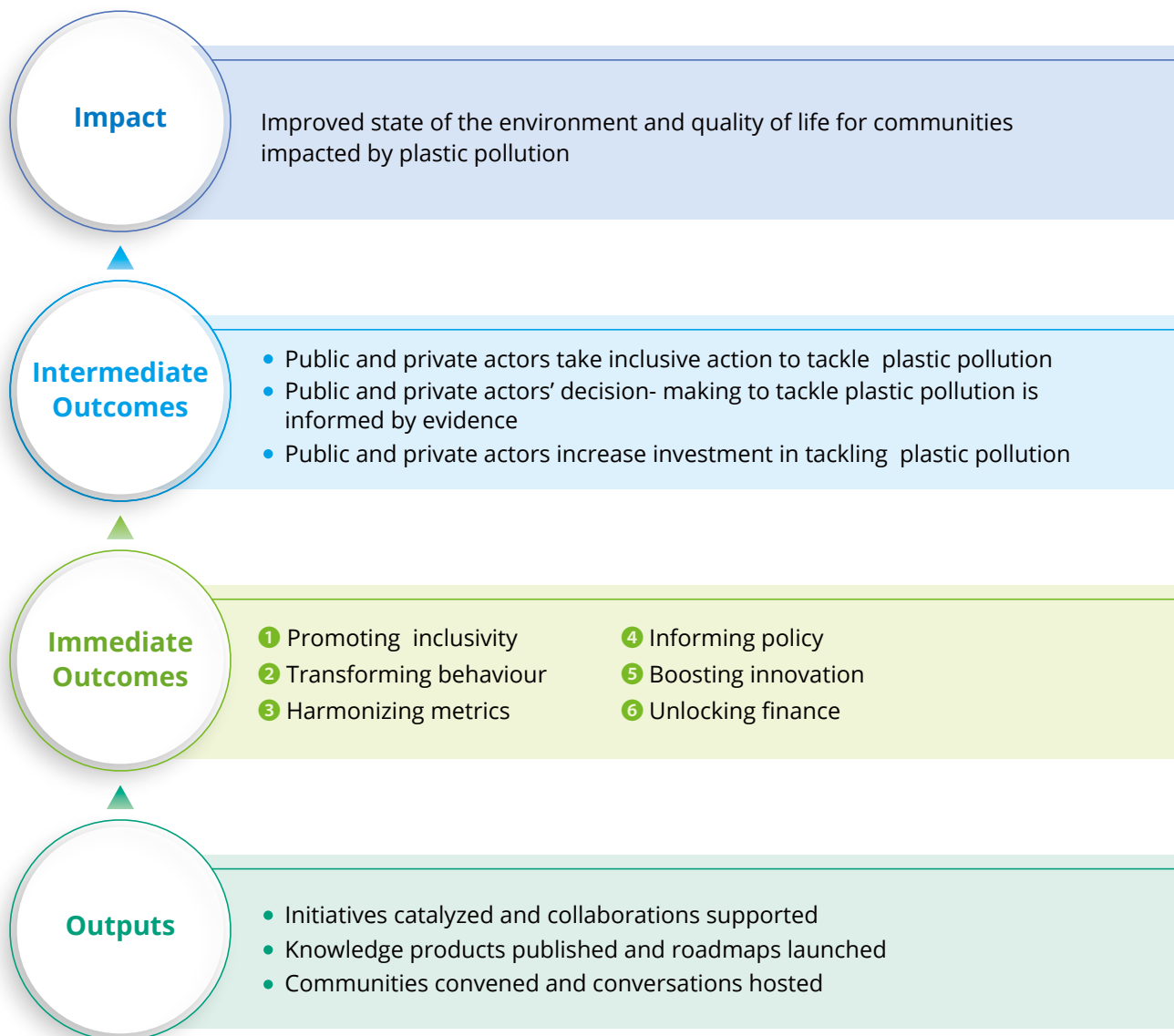
manufacturers, recyclers, and civil society. The NPAP is divided into a steering board, an advisory board, different task forces, and the NPAP secretariat. GPAP, through NPAPs, wishes to create impacts in the following domains: behaviour change, financing, policy, innovation, and metrics to build capacities in developing countries. We discuss the stepwise global GPAP process in this section, and the NPAP approaches in three countries are individually covered in the case study sections.

The first step taken by an NPAP involves engaging with national governments and creating various national committees in five domains. The second step taken by an NPAP involves setting ambitious goals and targets using the models developed by the Pew Charitable Trusts and SYSTEMIQ. Then, throughout the five domains, the national committees develop roadmaps to attain the ambitious targets through an inclusive approach; one example being including gender issues as part of the roadmaps. The final and most important step involves accelerating the use of financial investment to achieve the ambitious goals and targets of mitigating plastic pollution.

The final intended outcome of the GPAP is to improve the state of the environment and quality of life of people. The intermediate outcome of the projects is for public and private actors to tackle plastic pollution through evidence-based dialogue and increasing investment. The immediate outcome of the GPAP process is establishing the taskforces driven by publication of outputs, such as road maps. These processes, from outputs to outcomes to impacts, are part of the GPAP impact ladder, and are presented in the [Figure 2](#).

In this report, three countries are covered as case studies: Ghana, Indonesia, and Vietnam. These three countries are facing the challenge of plastic pollution and have an operational NPAP secretariat. Vietnam and Indonesia have been identified as top-10 contributing countries facing plastic pollution (Jambeck et al., 2015; Meijer et al., 2021), and in Ghana, plastic waste management is increasingly becoming a significant challenge with increasing amounts of plastic being generated (Musah et al., 2021). These three countries were also early partners in the GPAP since its inception.

Figure 2: GPAP impact ladder





SECTION

2 Background and Data Analysis

Author: Vivek Anand Asokan

2.1 Theoretical Background

The plastic value chain involves many stakeholders and has a fragmented institutional structure that hinders coordinated action. To deal with these challenges, NPAP has engaged stakeholders from the upstream to downstream; producers to consumers; and private sector to public sector, and in this report we describe how NPAP actions are intended to support the stakeholder collaboration process.

In this section, we discuss how the NPAP framework can overcome plastic pollution issues. Therefore, in the three case study countries, it is essential to understand the role of the MSP and how NPAP can steer plastic pollution abatement practices. In this regard, we aimed to discover what successes have resulted, what shortfalls are present, and what learnings and takeaways from NPAPs can be carried forward to other NPAPs and other multistakeholder processes.

To describe NPAP support for creating and developing the multi-stakeholder approach, we specifically intend to provide an understanding and description of the role of the NPAPs in supporting the stakeholder collaboration process, which involves planning strategies and facilitating MSP processes. We present the rationale behind and describe the NPAP process, as follows. As noted by Adner (2017) and Jacobides et al. (2018), organisations involved in MSP processes have

various agendas, and a focal firm as a central actor aligns the various actors towards a common direction. In the present context, NPAP secretariats act as central actors to support the MSPs. Towards this goal, to understand the challenges faced by central actors, we develop and employ a conceptual framework.

Ravitch et al. (2023) note that as the actual reality is more complex than any theory can attempt to reflect, a conceptual framework that can account for this complexity yet avoid gross oversimplification is needed. They also note that a conceptual framework is an 'argument' and not simply an assortment of ideas, and needs to be pieced together from theoretical and empirical studies. Therefore the framework employed in this study attempts to shed light on the complexity of operating an MSP process by a central actor.

This conceptual framework was developed from extant academic literature on MSPs and orchestrators (central actors) that describe the enabling process of the central actor. We posit that the National Plastic Action Partnership secretariat acts as an orchestrator (central actor), and use the literature on MSPs and orchestration process for this study. The term 'enabling process' is used instead of 'orchestration process' in the report to avoid miscommunication of this academic term and make it simpler for a non-academic audience.

We elaborate on the motivation and research questions for this study in section 2.2. In section 2.3, we explain the conceptual framework used in the study. This study describes the role of the central actor, NPAP, and narrates the importance of the central actor in aligning several pathways such as perspectives, targets, priorities, and timeline of all stakeholders. We focus on the role of the central actor in the multi-stakeholder partnership and are interested to describe the mechanism – how the NPAP mechanism is intended to work and has worked in three countries. Finally, the framework is applied to the cases and discussed in section 6, and in next three sections (3, 4 and 5), we cover the activities of the NPAP platforms in Ghana, Indonesia, and Vietnam.

2.2 Motivation and Research Questions

The central actor faces the challenges of co-operating with the actors and implementing practical actions with them. These actions necessitate resources and knowledge, and the support of the stakeholders. For this study, we used the following questions to describe the NPAP process:

- (1) In the three pilot countries, what are the NPAP planned approaches and strategies in supporting and promoting practical and systematic action, and encouraging narratives to transition to a circular economy for plastics?
- (2) From the perspective of SDG 17, how can the NPAP approach help deliver the collaborative outcomes in mitigating plastic pollution?

The data collection framework implemented in the study involved a literature review of policy in three countries, a review of NPAP documents and, importantly, interviews with NPAP participants.

2.3 Review of literature

In this section, we first define the multi-stakeholder process based on academic literature. We then refer to the role of the central actors (orchestrator) in the MSP process. The identified literature allows us to understand 1) the role of MSP process and 2) role of central actor, and allows us to answer the core issue of the report – understand and describe the NPAP process.

The literature emphasises the importance of central actors as one of the crucial actors in the success or failure of the MSP, and provides insight into the role of NPAP in planning strategies and facilitating the MSP process. It also notes the important of a central actor in aligning several pathways such as perspectives, targets, priorities, and timeline of all stakeholders in an MSP. We posit this characteristic as an important attribute to understand and describe the role of the central actor in NPAP.

Multi-stakeholder Partnerships and their Strengths

Biermann et al. (2007) stated that the success of MSPs lies in creating regulations or addressing regulatory deficits and enabling effective implementation when governmental initiative is absent; and to widen the participation of stakeholders beyond powerful states. Schäferhoff et al. (2009) define MSPs as an “institutionalised partnership between public, private, and civil society actors to advance the provision of social goods embodied in the SDGs”. Hemmati et al. (2002) note the difference between multi-stakeholder partnerships and PPPs, and explain that PPPs are enforceable contracts that a public agency takes out with usually a private company, and MSPs are voluntary agreements between different stakeholders. Hemmati et al. (2002) define MSPs as “a process of decision-making, consensus building, or equivalent communication among three or more stakeholders with equal representation”.

Bäckstrand et al. (2012), in a review, mentions that earlier research focussed on the typology of MSP partnerships, and case studies on empirical justification that focussed on the presence and legitimacy of MSPs. After the need for and legitimacy of MSPs were established, expectations placed on MSPs to provide value is growing (Widerberg & Stripple, 2016), and stakeholders are seeking more evidence and studies on the performance of MSPs. Both public and private sectors have been enthusiastic about MSPs, and researchers such as Pattberg and Widerberg (2016) and Chan et al. (2018) note instances of MSPs supporting actions aimed at overcoming sustainable development challenges, though such scholarship is currently limited. This report is intended to fill this knowledge gap.

— *Central Actors as Linchpin*

'Central actors as linchpin' could be seen as a tautological statement; however, here, we wish to emphasise that the literature suggests that central actors are indeed the most crucial actor in ensuring the success of an MSP. Orchestration (i.e., the enabling process) is defined as the process of assembling and developing an inter-organizational network (Paquin & Howard-Grenville, 2013). Chan and Amling (2019) used the orchestration process developed by Abbott et al. (2016), and suggest that orchestration is a process in which the central actor influences the target actor through partnerships and sectoral networks. By definition, it is clear that central actors such as NPAP play a crucial role in the assembly, organisation and guidance of networks. In MSPs, actors from various sectors collaborate to create solutions and products. Reypens et al. (2021) describe that while each actor has different interests, in an MSP, the stakeholders need to agree to collaborate on a specific problem and find solutions. The network is therefore created by the central actor by combining the 'resources, perspectives, and expertise' of all the stakeholders of the network (Ferraro et al., 2015; Levén et al., 2014). Central actors play a crucial role in mobilising and coordinating with various members (Dhanasai & Parkhe, 2006) and by providing the resources needed to support participation of stakeholders and facilitate discussion among them (Aarikka-Stenroos et al., 2017; Ritala et al., 2009).

The success or failure of an MSP process depends on establishing the legitimacy of the MSP process, which is of utmost importance as various stakeholders should feel confident about the process (Paquin & Howard-Grenville, 2013). Therefore, creating innovative outcomes at the early stages is necessary to secure the interest of stakeholders. If contracts are enforced, these networks are easy to manage; however, when participation is voluntary and stakeholder interests are unique and sometimes divergent, securing the commitment of stakeholders can be challenging. In such environments, the role of the central actor is even more critical. Harris Gleckman (2018) notes that some of the challenges in the MSP process could lie in the arbitrary selection of stakeholders and arbitrary processes carried out by central actors. He explains further the operational challenges such as creating trust among participants, developing shared goals, managing internal power imbalances and

accommodating diverse institutional working styles that need to be overcome. Central actors should therefore be as participatory as possible to overcome such challenges and create realistic expectations about the process.

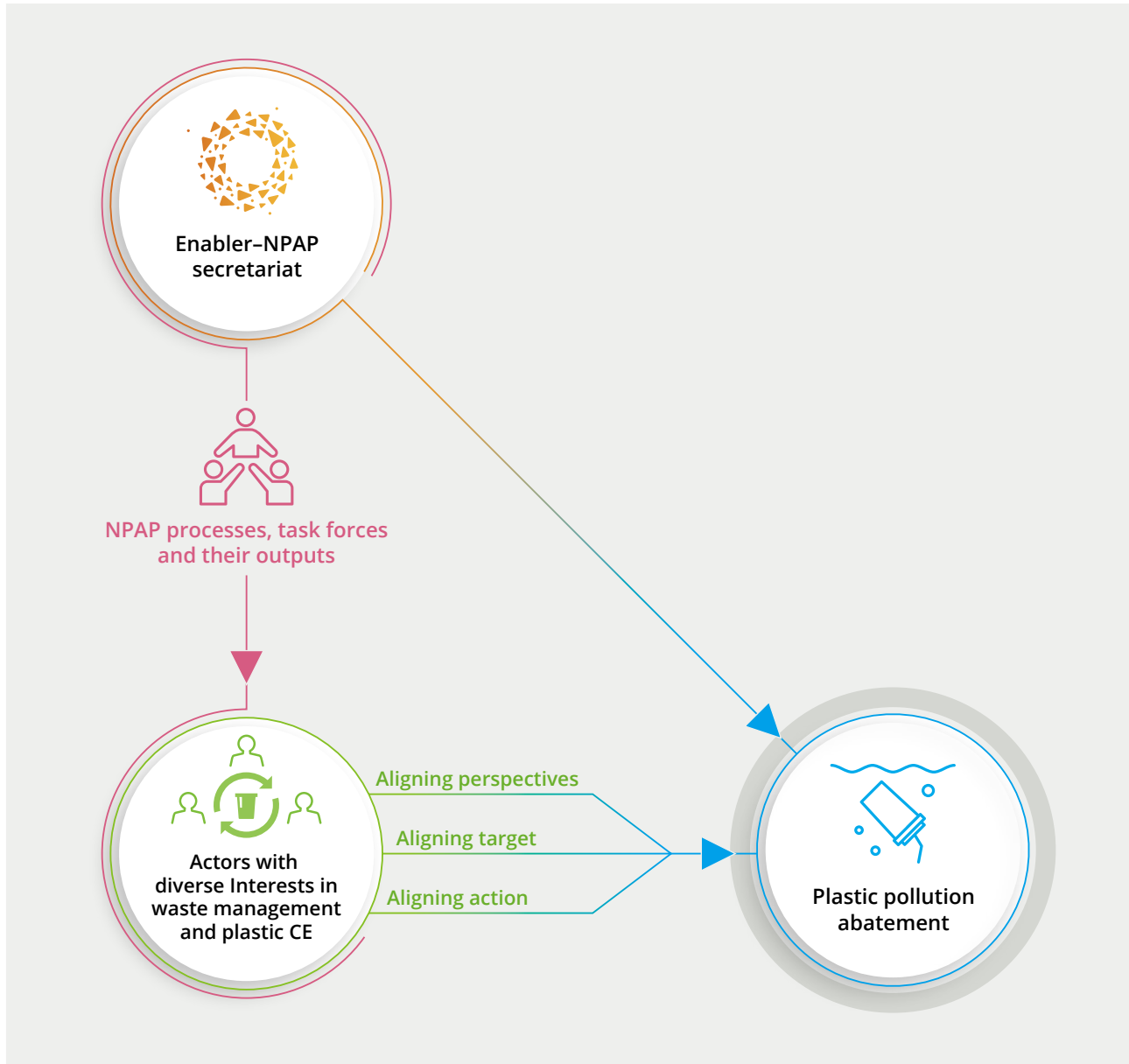
— *What can central actors do?*

Henry and Möllering (2022) mention that the responsibilities of MSPs are unbalanced, as the central actors work to tight deadlines, while other stakeholders might not share the same sense of urgency. Therefore, central actors need to influence the network actors through various means and raise the level of commitment with the stakeholders (Henry & Möllering, 2022). With this aim in mind, central actors could, for example, develop strategic visions for stakeholders and create avenues for resource exchange, and mobilise value by facilitating knowledge and resource exchanges (Aarikka-Stenroos et al., 2017; Dhanasai & Parkhe, 2006; Ritala et al., 2009).

The concept of 'central actors' has been much discussed in the context of global environmental processes, such as climate change (Abbott et al., 2016; Chan & Amling, 2019). Paquin and Howard-Grenville (2013) highlight some critical questions related to the activities of central actors, such as regarding how central actors can build and assemble networks; how they can accumulate resources and expertise as the network develops; and what the dilemmas are and how the values can be demonstrated. We refer to these questions in section 6 and provide answers to them to elaborate on the role of NPAP as central actor.

Literature on how central actors raise stakeholder commitment toward MSP is scarce; Henry and Möllering (2022) propose the use of 'fictional road-mapping', i.e., triggering exchange and timelines as means to solicit member commitment to the MSP process. In comparison to direct control, target-setting is an indirect means to plan and administer a multistakeholder process (Bird et al., 2005; Carter et al., 1995; Stafford Beer, n.d.). Furthermore, we propose that creating commitment among stakeholders involves aligning targets, timelines, perspectives, and technical expertise, which is presented in **Figure 3**.

Hemmati (2002) notes MSPs should only complement the existing governance system and not be a substitute. In the next three sections we cover the country cases

Figure 3: Role of central actor in aligning perspectives, targets, and action

using the framework we developed in this section and explore in detail the current activities of the NPAPs and the role of the central actor in mitigating plastic pollution.

2.4 Limitations of this Study

In this study we describe the approach of the NPAP: In the three country cases, the NPAPs are in differing stages of implementation, as the implementation strategies of NPAP secretariats differ and are not comparable. Furthermore, due to Covid-19, the study

was conducted by four separate teams and their interpretations therefore differ, thus the interpretation of researchers for different country cases may act as a limitation toward generalisation and comparison, due to the contextual nature of the case countries. Further, responses were not received from all stakeholders due to personal circumstances, which limited the availability of contextual insight. In light of these limitations, while the study findings may not be directly relevant for other regions, they can be shared as examples of good practices with local stakeholders to aid discussion, consultation and experimentation.



SECTION

3

Ghana

Author: Abubakari Ahmed

3.1 Introduction

In Ghana, improper waste disposal, together with the lack of adequate collection, separation and treatment of plastic waste, represent significant challenges to the waste management sector (Debrah et al., 2021; Miezah et al., 2015)). In addition, the state's waste management infrastructure and services cannot keep pace with the amounts of waste generated (Amoah & Kosoe, 2014; Douti et al., 2017). Therefore, as part of an international response to the menace of plastic pollution and management, the NPAP was established as a multi-stakeholder platform to mitigate plastic pollution.

In 2019, Ghana became the first African country to join GPAP. Subsequently, the Ghana NPAP was established, which offers a national platform for multi-stakeholder cooperation, facilitating initiatives and funding to scale-up and accelerate in-country partnerships that address plastic waste and pollution while contributing to the nation's progress towards achieving many of the Sustainable Development Goals.

This section discusses the NPAP's activities of engaging with the stakeholders, to generate narratives for effective public-private partnerships that can facilitate practical actions to reduce plastic pollution in Ghana. To achieve this, data were collected with the assistance of the NPAP Secretariat in Ghana.

3.2 Waste Management Context

National Background

In Ghana, the national average Municipal Solid Waste (MSW) generation rate was estimated to be 0.47 kg/cap/day in 2015, with plastic accounting for 14% of total MSW generated (Miezah et al., 2015). Aside from population growth, major challenges in the sector include issues of peoples' attitudes, poor planning, weak regulatory framework and governance, low technology adoption, the absence of policy incentives and limited appropriate marketing strategies for recycled plastics (Amoah & Kosoe, 2014; Debrah et al., 2021; Lissah et al., 2021; Ministry of Environment, Science, Technology and Innovation, 2019; Quartey et al., 2015). The confluence of these factors was an increase in the national average MSW generation rate to 0.50 kg/cap/day in 2020 (Global Plastic Action Partnership, 2021). It is estimated that in 2030 and 2040, the national average MSW generation rates will reach 0.54 and 0.59 kg/cap/day, respectively (Global Plastic Action Partnership, 2021). Plastics travel through several channels (i.e., both formal and informal) before arriving at their final destination. As a result, 49% of plastic waste is collected, of which 9.5% is recycled.

The introduction of the 2019 National Plastics Waste Management Policy clarified both national

efforts and institutional arrangements for plastic waste management. As a result, the Policy is seen as representing a renewed commitment of the government of Ghana and establishes a framework for the sustainable management of plastics.

Prior to NPAP, in terms of the institutional arrangements for plastic waste management, the roles and interests of 18 public sector organisations, academia, civil society organisations, conventional authorities, development partners and the private sector had been outlined by the government (Ministry of Environment, Science, Technology and Innovation, 2019). However, although the 2019 Policy mentioned above also defined such roles, it failed to delineate the interrelationships regarding flows of information, resources, decision making and implementation, which made it difficult to understand how overlapping roles, interests and power interplays are managed and addressed across different scales (i.e., from local to national) in the current policy.

Local Government Context

At the local level, cities and towns in Ghana can be grouped into four archetypes, namely mega (n=24), medium (n=87), rural (n=84) and remote (n=65). **Table 1** shows the average MSW generation rates of these city types (kg/cap/day) prior to Ghana NPAP. As can be seen, megacities in Ghana generate more plastic waste, which is attributed to the increasing populations and higher plastic consumption.

Table 1: City type and related waste generation rate

| Archetype | Averaged MSW generation rate (kg/cap/day) |
|-----------|---|
| Mega | 0.73 |
| Medium | 0.40 |
| Rural | 0.28 |
| Remote | 0.28 |

Source: (Miezah et al., 2015)

Plastic waste, therefore, has social, economic and environmental impacts at the local level, thereby shaping the sustainability trajectories of mega, medium and small cities in different ways. For example, studies in Ghana have reported that the choking of drains and gutters causes water stagnation, thereby leading to breeding habitats for mosquitoes (Kombiok & Naa Jaaga, 2022; Odonkor & Sallar, 2021). This was the main cause of a cholera outbreak in 2014 in Ghana, in which over 243 people died (Dzotsi et al., 2016; Kanhai et al., 2021). In terms of environmental impacts, studies in Ghana have reported issues of marine pollution, impacts on fisheries, freshwater, and environmental quality (Kanhai et al., 2021; Musah et al., 2021). In terms of economic impacts, plastic pollution at the local level increases government expenditure on managing waste (Otoo & Danquah, 2021).



3.3 NPAP Activities

Ghana NPAP is the leading national convener of actions, initiatives and stakeholders. It is chaired by the Ministry of Environment, Science, Technology and Innovation (MESTI), which also hosts the secretariat. As a convener, the NPAP secretariat started by inviting all stakeholders to join NPAP. Through this, NPAP brought together stakeholders from public, private, non-governmental organisation, academia and international development agencies

NPAP's TF are multi-stakeholder groups of technical specialists from government, academia, the private sector and civil society. The task forces operate in the fields of behaviour, finance, policy, innovation and inclusion, as shown in **Table 2 and 3**. Steps are far advanced to operationalise the other two TFs, namely Innovation and Metric.

Since 2019, according to the NPAP Secretariat, significant outcomes have been achieved, which are described below:

Table 2: Membership of Task Forces by stakeholder group (NPAP Ghana secretariat interviews)

| Task force | Public sector | Private sector | Non-governmental organisation | International organisations | Academia |
|-------------|---------------|----------------|-------------------------------|-----------------------------|----------|
| Policy | 12 | 15 | 3 | 6 | - |
| Inclusion | 2 | 5 | 10 | 1 | 1 |
| Behaviour | 2 | 5 | 10 | 2 | - |
| Finance | 5 | 12 | 1 | 8 | - |
| Metric* | - | - | - | - | - |
| Innovation* | - | - | - | - | - |

*Membership is yet to be formed.

Table 3: Activities of NPAP (NPAP Ghana secretariat interviews)

| Impact ¹ | Achievements |
|---------------------------------|---|
| Informing policy (TF) | Prepared action roadmaps |
| | Prepared scoping and baseline study of plastic waste pollution in Ghana |
| Promoting inclusivity (TF) | Published report on gender analysis |
| | Developed an Intersectional Gender Equality Strategy |
| | Built capacity of NPAP members on gender mainstreaming |
| | Started organising informal workers into cooperatives |
| Changing Behaviour (TF) | Initiated a national database of informal waste pickers, collectors and recyclers |
| | Started discussions to conduct a baseline analysis of Behaviour |
| | Identified local case examples and leadership approaches to behaviour change |
| Unlocking finance (TF) | Developed a finance roadmap and mapped investable projects, and financial organisations as well as their interests and barriers |
| Harmonising metrics (no TF yet) | Rollout of Plastic Action Initiative Tracker by NPAP |
| Boosting innovation (no TF yet) | NPAP initiated the mapping of different innovations and identified gaps and barriers to their adoption |

¹ Immediate Outcomes' based on the GPAP impact ladder

According to the interviews, it was learnt that members of the task forces influence the plastic value chain in different ways, as follows:

As catalyst for coordinated action to scale solutions

Examples of forming multi-stakeholder groups of technical specialists from the government, academia, the private sector and civil society span the following thematic areas:

- A TF on inclusion was developed to support the country's efforts to develop a national database of informal waste pickers, collectors and recyclers, develop stakeholder guidelines for informal sector integration, and conduct capacity building for informal actors and capacity building training for the NPAP platform members.
- A TF on financing was developed to support the development of the financing roadmap, support the country's efforts to implement an EPR Scheme and build the capacity of the local financial sector to support the financing projects to address plastic pollution.
- A TF on Behaviour Change was developed to support Ghana's efforts to develop a Citizen Engagement Strategy and the rollout of Stakeholder Citizen Engagement Campaigns.
- A Policy TF was developed to support the country's efforts to implement an EPR scheme, gradually phase out problematic and unnecessary plastics and develop standards for recycled plastics.

Convening communities and curating conversations

All interviewees indicated that the main form of support provided by Ghana NPAP is in the platform it created for sharing ideas, data, knowledge and innovation through a series of meetings and engagements. From the interviews, it was found that members of the task forces have made use of data and structures from NPAP for other related initiatives. For example, an interview with a government representative revealed that it relies on the structure of the task force platform for other stakeholder consultations rather than starting afresh to create a new platform for plastic waste management.

“NPAP has already established structures and working groups with members from various sectors. Any time the Ministry wants to engage stakeholders in the plastic sectors, we rely on the NPAP membership and platform rather than starting from ground zero.”

[Interview, a government representative, April 2022]

“I think the first thing is that NPAP has created a platform that has helped us stop doing things in isolation.”

[Interview, a private sector representative, April 2022]

“The most important support we get from the platform is connecting with other actors within the space, including other development partners and the big brands that work in the space. It is the space that is provided for us to be able to interact, to share ideas and to co-design solutions together.”

[Interview, an intergovernmental organization representative, May 2022]

Generating Insights and Action Roadmaps

In terms of contributing to NPAP, all the interviewees indicated that they did so through reviewing baseline reports, roadmaps and action plans. Other ways members contributed include attending meetings to share ideas and make decisions. As noted by one respondent:

“I was one of the reviewers, and I provided significant inputs in the development of the roadmap. I provided feedback for multiple drafts, and I was also referenced in a few of the pages of the document.”

[Interview, a sector representative, April 2022]

3.4 Current Achievements and Status

Achievements of the NPAP activities are as follows:

- Enabled a national platform for multi-stakeholder collaboration and engagement among organisations across the plastic value chain.
- Set up a Steering Board made up of senior leaders from the public sector, private sector and civil society chaired by the Minister of Environment, Science, Technology, and Innovation which guides the strategic direction of the NPAP.

- Organised several cross-sectoral engagement sessions for stakeholders to exchange knowledge and insights towards addressing plastic pollution, one of which was a series of country-level dialogues on the Global Plastics Treaty.
- Developed a baseline report on plastic waste flows in Ghana.
- Conducted a scenario analysis, based on SYSTEMIQ modelling, that provides projections of population growth and plastic consumption from 2021 to 2040 and forecasts the future state of plastics.
- Developed and published the National Action Roadmap on plastic waste pollution, which provides a clear set of actions to eradicate plastic pollution in the marine environment and other water bodies by 2040 to deliver on Ghana's ambitious goals.
- Developed a Gender Baseline Analysis of the Plastics and Plastics Waste Sectors to understand the gender roles, barriers, and impacts across the plastics value chain on gender inclusion and women's empowerment.
- Developed and published the Intersectional Gender Equality Strategy, envisioned to provide a framework that guides gender mainstreaming in all of NPAP's work.
- Developed and published the NPAP Ghana Financing Roadmap for plastic pollution, which provides a set of recommendations aimed at attracting capital investment to fill the existing financing gap in the plastics value chain and enable Ghana to achieve a radical reduction in plastic pollution by 2040.
- Developed the prototype of the Plastic Action Initiative Tracker.

3.5 Way Forward and Conclusion

The challenges can be grouped into two areas: plastic waste management and Ghana NPAP operations. Regarding the challenges in plastic waste management, most interviewees stated that significant barriers are the lack of waste separation and dedicated funding for plastic waste management in Ghana. Despite the

national plastics management policy, plastic separation in households and public dump sites is limited.

Aside from the lack of waste separation, no financial resources are made available for plastic waste management. However, the lack of a dedicated funding mechanism remains a major challenge, as noted by the following comment:

“I think the main challenge with the platform is funding from the government's side. Currently, there is no specific budget allocation for plastics by the Ministry.”

[Interview, a government representative, April 2022]

Another challenge is how to engage the informal sector, and the absence of regulatory frameworks and business models for informal waste pickers makes this a major challenge for NPAP. One respondent noted that:

“It is important to have certain standards for how companies engage informal workers. Every SME in Ghana works with the informal sector in some way, be it as a supplier, or for security or as a peer or whatever, so we believe that there should be some kind of standard for how people engage the informal sector.”

[Interview, a non-governmental organisation sector representative, April 2022]

NPAP has made significant steps in operationalising some task forces, developing other task forces and launching an action plan, baseline study, financial road map and gender analysis report. In addition, these products have started to shape innovations of some corporations and the government is increasingly using NPAP teams and committees for similar related initiatives. However, many more actors are unaware of NPAP and its activities in Ghana beyond its members. Random discussions with several SMEs revealed that many are unaware of NPAP and how they can be involved or contribute, especially as most are not operating in the digital space of technology. Therefore, new narratives are needed to catalyse and upscale NPAP activities in Ghana, including government leadership, inclusion of informal businesses, more extensive involvement of SMEs. Ghana's NPAP should expand its membership beyond international partners and big corporations to unlock funds, as businesses prefer investing in potentially profitable businesses.

Better information sharing mechanisms and a new business model for the informal sector for pricing and selling plastics should also be developed. The following are therefore strongly recommended:

- Sustainable funding: Despite the rolling out of the financing roadmap, the actual funding secured for NPAP activities and plastic waste management in Ghana is limited. Dedicated funding for NPAP and plastic waste management is imperative for reducing plastic pollution.
- Informal sector: The plastic waste management sector is mainly informal, and although many informal associations are found within NPAP, the lack of organised associations makes bringing more informal sector actors onboard

a challenge. Steps should therefore be taken to organise informal actors. Aside from the lack of organisation of these actors, the language barrier and other factors could make them less likely to be critical actors of NPAP. For full engagement in this sector, NPAP inclusive task force members must communicate through local/regional languages in addition to the official language (English) of the state to reach a wider non-English and regional language speaking audience.

- Finally, it is imperative to raise awareness of NPAP and GPAP activities in Ghana. Currently, beyond Accra and Kumasi, people and small businesses within the plastic value chain are unaware of NPAP and how they can support its activities.





SECTION

4

Indonesia*

Authors: Muchamad Muchtar, Budhi Setiawan, Vivek Anand Asokan, and Premakumara Jagath Dickella Gamaralage

4.1 Introduction

Indonesia was the first country to join the Global Plastic Action Partnership, which officially launched the Indonesia National Plastic Action Partnership (NPAP) on March 11, 2019. The launch was co-organised by the Coordinating Ministry of Maritime Affairs and Investment (CMMAI) together with Ministry of Environment and Forestry and Ministry of Industry. This section presents the progress achieved since its establishment.

4.2 Waste Management Context

National Background

The NPAP SCS model, developed by SYSTEMIQ, estimates that Indonesia generated 6.8 million tonnes per year of plastics based on the contents of its MSW in 2017. Of the total, only around 20% was managed, 10% was recycled, and 9% was potentially leaked into the sea, lakes, and rivers, ending up as marine debris (Global Plastic Action Partnership, 2020).

Since 2001, Indonesia has undergone a period of major political reorganization, in which many central government authorities' responsibilities were

decentralised to local governments. The Regional Government Act 23/2014 classifies waste management as a mandatory sector under concurrent government affairs of central and local government. The central government provides policy direction, strategies, targets, as well as technical and financial assistances **Table 4**. The Ministry of Public Work and Housing (MOPWH) is responsible for planning and creating infrastructure, and the Ministry of Environment and Forestry (MOEF) is responsible for all operational issues including pollution control.

Local Government Context

Local governments play the leading role as both main service provider and local regulator in waste management processes; Law No. 18/2008 and Government Regulation No. 81/2012 mandate local governments to promote the 3R approach and circular economy by engaging the public and private sector, including the plastic waste producers through EPR.

Under such arrangements, the local government is obligated to develop facilities for temporary collection points (TPS). The 3R-based waste processing facilities (TPS 3Rs are mini-MRFs (Materials Recovery Facilities)) and landfills are supported by MOPWH and MOEF. Within Indonesia's 12 megacities, the GOI promotes

* In this section, the abbreviations correspond and are based on official language of the country - Bahasa Indonesia

Table 4: List of regulations related to solid and plastic wastes management

| No. | Regulation | Main substance |
|-----|--|--|
| 1. | Presidential Decree No. 97/2017 on National Policy & Strategy on Household Waste and Household-like Waste Management (JAKSTRANAS) (<i>Presidential Decree No. 97 of 2017 Concerning National Policies and Strategies for Management of Household Waste and Household-like Waste</i> , 2017) | JAKSTRANAS sets a national target of 30% waste reduction, and 70% proper handling of waste by 2025 to achieve the goal of '2025 Clean-from-Waste Indonesia' (<i>Indonesia Bersih Sampah 2025</i>) |
| 2. | Presidential Regulation No. 83/2018 on Action Plan on Marine Plastic Debris 2018–2025 (<i>Presidential Decree No. 83 of 2018 on Action Plan on Marine Plastic Debris 2018–2025</i> , 2018) | Sets a national target of 70% reduction of marine plastic litter by 2025 and provides institutional arrangements. GOI appoints a National Coordination Team consisting of 18 ministries and state agencies to coordinate Action Plan implementation. |
| 3. | Ministry of Environment and Forestry Regulation No. 75/2019 on Roadmap of Plastic Waste Reduction by Producers, including EPR (<i>Ministerial Regulation of Environment and Forestry No. 75 of 2019 on Roadmap of Plastic Waste Reduction by Producers, Including EPR</i> , 2019) | Requirement for producers to manage plastic waste from their packaging and goods production. |

improvement of the landfill system, and progressively moves from open dumping to controlled or sanitary landfills and then to WtE, RDF, and biodigesters.

For the business sector, the regulation mandates producers in the manufacturing, food and beverage service sector, and retail sector to plan and implement the 3R principle for plastic waste generated from their products and/or packaging. Recently, a few businesses have been building recycling plants with a combined design capacity of 25,000 tonnes per year of food-grade certified recycled PET.

Nevertheless, an NPAP analysis shows that medium-sized and rural cities have greater challenges where about 72% of wastes were mismanaged. The NPAP analysis divided the Indonesian region into four archetypes – megacity, medium-sized city, rural city, and remote area – which cover 514 cities/regencies across Indonesia. Major challenges in the medium-sized and rural cities were the lack of proper infrastructure and lower collection rates compared to megacities, which is assumed to be a cause of plastic leakage to water bodies and the ocean.

Local budgets are the main source of financing, which are primarily earmarked for operational expenses, while the contribution of waste retribution² fee revenue is still limited. Further, local and state budget allocations for establishing required infrastructure and to support local recycling are relatively low, averaging only 2.5% of the total municipal budget compared to the ideal of 5% (Hoornweg & Bhada-Tata, 2012).

The process of primary collection of waste and transportation to intermediate collection points (TPS in Bahasa Indonesia) is one of the challenges in waste management, and is usually organised quasi-independently by community organizations/ neighbourhood associations (RT/RW in Bahasa Indonesia) or by area management associations for commercial areas using a fee-based system to finance operational costs. These arrangements result in disparate approaches for worker arrangements, collection frequency, disposal patterns and payment structures (World Bank, 2019). Moreover, in areas outside the aforementioned areas, which by law come under the responsibility of local government, waste largely remains unmanaged.

² The retribution fee is a funding source for local government and is imposed on individuals, households, businesses, or institutions to manage and disposal of waste

4.3 NPAP Activities

The NPAP has succeeded to align and expand from a government-led initiative to embrace other related stakeholders. The existing government-led initiative on reducing marine debris litter has a National Coordination Team, consisting of 18 ministries led by the CMMAI, and a national target of 70% reduction by 2025 from 2018. The Steering Board members of NPAP are representatives from Indonesian ministries, embassies of foreign countries and international organizations, multinational and national private sectors, and civil society. Further, Task Force co-chairs were strategically selected from government and non-government institutions. The roles of the Task Forces are explained individually below.

A

Informing Policy: The Policy Task Force aims at, among others, identifying and sharing best-in-class policy approaches from local, national, and global practices for potential replication in cities, as well as identifying key barriers to policy implementation.

For example, MOEF's Roadmap for Waste Reduction by Producers' (EPR scheme in Indonesia) target and timeline (to be achieved by 2030) represented a challenging policy implementation issue, particularly for the private sector (*Ministerial Regulation of Environment and Forestry No. 75 of 2019 on Roadmap of Plastic Waste Reduction by Producers, Including EPR, 2019*). In detail, the private sector and industrial association voiced concerns over the transition period in respect of changes to their value chain and markets, since these would incur time, cost, resources, and capacity building. In response, the Policy Task Force facilitated by mediating between the differing perspectives and interests of the government and private sector, which led to an agreeable target and timeline being reached for EPR, which could then be reflected in the Policy Roadmap.³

A further example is the discussions held between the Ministry of Home Affairs (MOHA) and some local governments on policy options and calculation of the solid waste retribution fee⁴,

which were convened by the SYSTEMIQ. In most cities, the retribution fee of residential areas for local governments is currently zero, as it is quasi-independently collected through community or neighbourhood management. In the discussions, SYSTEMIQ provided best practices from its projects in three cities of East Java and Bali Provinces that become policy inputs for MOHA, which are being formulated into a technical guidance for city governments.⁵

B

Promoting Inclusivity: Indonesia NPAP seeks to promote inclusivity by addressing concerns of the informal sector waste pickers and also addressing gender issues (NPAP Secretariat, Indonesia, 2021). While waste pickers make a large contribution in terms of plastic waste collection (representing about 15% of the total waste) from residential and intermediate stations, they experience the lowest level of welfare in the value chain. NPAP engaged with one of the waste picker organisations and facilitated matchmaking with a private sector organisation on developing an app for informal sector waste pickers.

On the gender issue, the NPAP Secretariat is currently drafting a general guideline. The draft covers eight key gender issues, including health, wage gaps, lack of gender aggregated data, and low women representation in the waste management sector. The NPAP Secretariat is also developing a gender data framework which includes the key performance indicators and sex aggregated data of NPAP members.

C

Changing Behaviour: The NPAP's Behaviour Change Roadmap identifies priority actions by promoting formal and non-formal education initiatives and increasing public awareness. The Behaviour Change Task Force collaborates with (1) the Innovation Task Force to leverage matchmaking opportunities between members to find alternative solutions and (2) the Policy Task Force to outline policy options on new business models.

As one of the most populous Muslim countries, the engagement of religious organisations is one of the

³ Interview with representative of the World Bank (2022)

⁴ The retribution fee is a funding source for local government and is imposed on individuals, households, businesses, or institutions to manage and disposal of waste

⁵ Interview with representative of SYSTEMIQ (2022)

key strategic approaches. The Behaviour Change Task Force has engaged the two largest Islamic-based organisations (with an estimated combined membership of more than 100 million) to be members, and one of the organisations serves as the co-chair of this task force.

D

Harmonising metrics: In the first year of NPAP's establishment, the team comprising SYSTEMIQ and Pew Charitable Trusts team shared insights and knowledge resulting from their study at the global level, and developed a study on Indonesia. SCS modelling tools were employed to develop the baseline and projection scenarios based on priorities of Indonesian governments, the National Action Plan on Marine Plastic Debris, JAKSTRANAS, and the Roadmap for Waste Reduction by Producers (EPR scheme in Indonesia). The modelling team received inputs and insights from the Indonesia NPAP Steering Board, NPAP Expert Panel, Indonesian government and other stakeholders in formulating an action plan, titled "Radically Reducing Plastic Pollution in Indonesia: A Multistakeholder Action Plan". The process helped to foster an agreeable target and timeline.

Following its establishment, the Metric Task Force sought to formulate and clarify an agreed baseline and indicators for monitoring the achievements of the NPAP. The metric focus areas are plastic usage, recycling, and collection, and data is to be tracked from 2017, which is set as the baseline, to 2025. The TF involves several academics and is working to align reports from the Indonesian Institute of Sciences (BRIN in Bahasa Indonesia), the World Bank and Indonesia government database (MOEF and MOPWH databases), and are coordinated by LIPI and Commonwealth Scientific and Industrial Research Organisation (CSIRO) with the support of SYSTEMIQ (Nurhati & Cordova, 2020).

E

Boosting Innovation: The Innovation Task Force, in cooperation with the Financial and Behaviour Change task forces seeks to identify and facilitate member matchmaking and collaboration to align technical and/or financial capacities (such as those of research and/or financial institutions) with those with most

impactful solutions, such as start-ups, social entrepreneurs, and civil society.

F

Unlocking Finance: The NPAP Action Plan estimates that Indonesia requires capital investments of about 18 billion USD to shift from a business-as-usual scenario to a SCS scenario, which is explained in section 1.5, involving measures aimed at effective solid waste management and recycling between 2017 and 2040 (the calculation includes non-plastic waste). This entails an estimated 1 billion USD increase in operational financing for solid waste management systems every year by 2040. In addition to government funding, the Financing Roadmap projected that revenues from private investment into the circular economy sector could grow rapidly to 10 billion USD (rough estimate) per year by 2040. The Financing Task Force, in cooperation with the Innovation and Policy task forces is working towards (a) incubating and scaling up innovations, (b) enabling capital investments in the after-use (waste and recycling system), and (c) closing operational financing gaps for city-level waste collection and recycling systems.

4.4 Current Achievements and Status

NPAP's Multistakeholder Action Plan sets a shared target to reduce marine plastic leakage by 70% by 2025, while enhancing ambition toward near-zero plastic pollution by 2040 through transitioning toward a circular economy. It is expected that these actions will avoid the leakage of 16 million tonnes of plastic waste into waterbodies and the ocean (2017–2040). According to the latest monitoring data by the CMMAI, the Indonesian government claims that plastic waste has been reduced by 28.5% between 2018–2021.⁶

Increased commitments and financing: Over the last 1–3 years, the Financing Roadmap has identified growing commitments from international development partners. For domestic financing, the NPAP supports the local government to optimise the huge waste retribution fee potentials, which is in line with the policy formulation being promoted by Ministry of Home Affairs (MOHA). PT SMI, as one of the Special

⁶ Interview with the NPAP'

Mission Vehicles (SMV) of the Ministry of Finance, will finance public infrastructure projects and has expanded their portfolio to finance local government projects, including waste management infrastructure.

Increased Investment and Infrastructure: Rates of solid waste sorting (11%) and recycling (11–13%) in Indonesia were considered low, according to data from MOEF in 2019. Recent developments, however, have seen an increasing trend of plastic waste management initiatives – “downstream” and “upstream” – that have been implemented by the government, private sector, social enterprises, and community. This growing trend mainly results from the positive effects of MOEF’s regulation on EPR, promulgated in 2019.

Establishment of large facilities for recycling infrastructure for PET beverage bottles recycling and innovative social entrepreneurs following a profit model is one of the conspicuous recent trends.

Socio-economic Benefits: The NPAP Multistakeholder Action Plan is also projected to accelerate positive outcomes that are related to the SDGs, including creating more than 150,000 jobs by 2025, curbing 20 million tonnes of CO₂e emissions per year, and improving health through cleaner air and reduced flooding. The monitoring and evaluation of achievements, however, is still underway as the NPAP Secretariat is establishing an NPAP Dashboard to monitor and evaluate progress towards achieving the plastic waste reduction target, which is designed to compile and collate the activities and commitments of all NPAP members.

4.5 Way Forward and Conclusion

In addition to the promising progress as described above, major challenges are yet to be overcome that have been identified during the interviews and from primary sources such as GPAP, NPAP and government documents. The following are key and immediate challenges that the NPAP needs to engage with.

Coordination and communication

The coordination and communication of NPAP members concerns two areas: (a) inter-government institutions at the national and local government level, and (b) internal NPAP organisation. The coordination and communication amongst the ministries involves two aspects: division of roles and public financing. Currently, the CMMIA plays a leading role in the NPAP as well as acting as the coordinator of the government-led National Coordination Team. According to the interviews, however, the related ministries still find divisional roles in the NPAP a matter of confusion. NPAP and CMMIA therefore need to strengthen engagement of the relevant ministries.

Role and M&E mechanism

The role of the NPAP in increasing their knowledge, building the network and connecting with global policy issue and actors is acknowledged by the members. However, the actions undertaken by NPAP since establishment of the Action Plan and Roadmaps have been rather slow, hampered especially by the Covid-19 pandemic.

Financing

As outlined in the Financing Roadmap, the availability of a pipeline of investible opportunities that are sufficient to meet investor demand is one of the key challenges. Required therefore is the acceleration of public financing implementation, via a retribution fee or subsidy by the local government, and promotion of capital investment and capital expenditure by the private sector, in order to promote the solid waste management and recycling sector.

In this regard, the NPAP facilitated discussions with the Financial Services Authority (OJK in Bahasa Indonesia) to enable solid waste management and recycling investment to be a bankable business. The OJK has recently launched Sustainable Finance and Green Taxonomy, which provides guidance for the financial services institutions to promote and prioritise the financing of more green businesses toward sustainable financing in Indonesia.



Prof. Agamutu Pariatamby in Bali at an integrated waste management facility (Tempat Pengolahan Sampah Terpadu, TPST) during the ERIA expert working group meeting. We thank him for allowing us to use his photo.



SECTION

5 Vietnam

Authors: Do Thi Thu Trang, Hoang Minh Giang, Vivek Anand Asokan, and Ngoc-Bao Pham

5.1 Introduction

Viet Nam ranks among the top five countries globally that send plastic waste into the ocean (Jambeck et al., 2015). It is also one of the top 20 plastic exporters and currently exports to more than 55 countries and territories globally, with a plastic industry growth rate of 16–18% annually (Central Intelligence Agency, n.d.; International Trade Centre, n.d.). About 83% of plastic products in Viet Nam were produced from resin and 17% from recycled plastic scraps. Most inputs for manufacturing plastic, including resin and recycled scraps, are imported in Viet Nam (VCCI, 2019).

Reducing plastic pollution is becoming an urgent issue in Viet Nam, particularly in the context of promoting green growth and sustainable development. Further, plastic pollution is currently considered a key priority towards achieving a circular economy in Viet Nam, following the global trend. Therefore, there is a demand for SCS articulated by SYSTEMIQ to reform the country's plastic economy and plastic waste recycling and management system.

In 2019, the Government of Viet Nam initiated a collaboration with the GPAP to launch a National Plastic Action Partnership (referred as NPAP Viet Nam) in Viet Nam to take urgent and unprecedented action on plastic leakage. On 23 December 2020, the Government of Viet Nam and WEF successfully

launched NPAP Viet Nam. This section provides information on NPAP Viet Nam activities.

This section of the report is divided into five main sections: section 5.1 introduces the establishment of NPAP Viet Nam as well as the objectives of the report; section 5.2 reviews the waste management context with a focus on plastic waste issues in Viet Nam; section 5.3 discusses the key activities of NPAP Viet Nam and stakeholders; and section 5.4 highlights the challenges facing Vietnam's plastic waste management in the years to come. A conclusion and future directions are given in section 5.5.

5.2 Waste management context

National background

Rapid economic development has led to significant increases in municipal solid waste generation and increased the complexity of waste composition. According to National State of Environment Report 2019 on Solid Waste, waste generation in Vietnam is approximately 65,000 tonnes per day, of which 55% of waste is generated in urban areas and 45% in countryside areas. The collection rate is still quite low in rural areas (about 66%), whereas in urban areas it is about 92%. Most of the waste collected was landfilled (71%) and the rest was incinerated (13%) or composted

(16%) (Ministry of Natural Resources and Environment, Vietnam, 2020).

Regarding plastic waste management in Viet Nam, 72% of plastic waste is mismanaged, and a huge proportion of mismanaged plastic waste leaks into the ocean (EA and Quantis, n.d.). High plastic waste leakage also results from unsustainable collection, recycling, and treatment systems. Local governments are struggling with collecting, transporting, treating, and disposing of growing solid waste streams. Therefore, improving SWM would help Viet Nam realise a circular economy. However, recycling is rarely a part of the formal waste management system provided by local government, which instead relies heavily on market forces to incentivise Informal Waste Collectors (IWCs) for collection and aggregation.

Local background

While Viet Nam has strong political commitment from the central government to mitigate plastic waste, various challenges remain at the local level:

- Low collection coverage and efficiency, especially in rural areas is still a significant source of plastic waste leakage into the ocean. In general, current collection systems in the provinces are labour intensive and inefficient due to lack of technology, lack of financial resources, and poor collection infrastructure. In addition, waste collected is disposed of at open or non-engineered dumpsites instead of sanitary or engineered landfills, thus improvements to the current waste management system to implement waste separation at source, and increase reuse and recycling represent a huge challenge.
- Waste recycling is still limited and mainly carried out by the informal sector. However, due to the lack of regulations and policy incentives, the informal sector is currently considered an environmental polluter rather than a contributor to material recycling. Further, they have received little attention and support from authorities and society.
- The private sector has not found it attractive to participate in SWM due to reasons including uncertainties over the legal framework of PPP and lack of reliable data on the recycling market.
- The lack of transparency in recycled plastic product market means potential players in the secondary raw materials are discouraged from participating.
- The lack of human resources, specifically experts and staff with extensive knowledge of SWM not only at the local level but also at the national level. In addition, waste separation at the source is ineffective due to a lack of awareness among residents.

5.3 NPAP Activities

NPAP Viet Nam provides a platform that convenes national leaders to drive the transition to a circular plastics economy. Following the Viet Nam NPAP launch in 2020, the MONRE Minister, Tran Hong Ha issued Decision No. 2268/QD-BTNMT on 19 November, 2021 to establish the NPAP Leadership Board (LB). The LB was established with the aim of advising the MONRE on policies, solutions and strategic orientations in order to 1) support the development and implementation of a circular economy, 2) reduce plastic waste pollution in Viet Nam, 3) promote cooperation and mobilise resources from domestic and foreign organizations and individuals, and 4) implement plans, programmes and projects to reduce plastic waste pollution.

The Leadership Board consists of 35 members who are senior leaders of ministries, international development organizations, leading businesses and associations, who will now jointly coordinate the strategic direction of NPAP to tackle plastic pollution in Viet Nam. Establishment of the Leadership Board is strong evidence of the government's commitment to promoting public-private partnerships in transforming the economy and the improving quality of the environment.

NPAP's concerted actions across many tasks and projects with relevant stakeholders collectively contribute toward national policy development in the plastics sector. Key representatives of the projects mainly come from the Vietnam Environment Administration, line ministries and businesses to ensure coordinated action. According to the interviewees, The major activities are covered in **Table 5.**

“ NPAP supported our institutes’ research activities which are in their programme. During the previous two years of new Law and Decree preparation, they provided much support for us in terms of experts, financial support, research results, reports, and road map... We look forward to ongoing comprehensive cooperation in the future. ”

Interview, representative of a research institute

Table 5: Task forces and activities (compiled by authors from NPAP documents)

| Task forces | Tasks and Projects |
|---------------------|---|
| Promote Inclusivity | Research on “Gender equality and social inclusion in plastic waste management in Viet Nam”; data collection and consultations were carried out from November 2021 to April 2022 in Hanoi, Ha Tinh, and Thua Thien Hue to obtain information about knowledge, attitudes, and practices of consumers of plastic products. |
| Inform Policy | Organise policy dialogues, conferences and workshops to plan strategies and mobilise the resources to support effective implementation of plastic waste management and treatment options, and accelerate achievement of a circular economy in Viet Nam. |
| | Launch the NPAP National Roadmap Report on Plastic Pollution Mitigation. |
| | Contribute to development of legal regulations and technical standards on waste management and environmental protection at domestic solid waste treatment facilities. |
| | Coordinate and support the implementation of research, surveys, assessments and propose solutions to promote circular economic models, public-private partnerships, and business models with the participation of associations, organizations, and enterprises. |
| | Research and suggest environmental regulations for recycled products, plastic bags and non-biodegradable plastic packaging. |
| Unlock financing | Coordinate and support the implementation of research, proposing environmental regulations on recycled products, goods containing microplastics and plastic bags, and non-biodegradable plastic packaging. The specific tasks include: (1) survey and assessment of microplastics in products and goods; and (2) proposing regulations on proportion of recycled plastic in products and goods. |
| | The main tasks are: (1) assess, report and propose directions to strengthen the management and coordination of budgets and (2) mobilise resources to strengthen plastic waste management and implement circular economy for the plastic industry. |
| Transform Behaviour | Emphasise the need for participation and implementation of waste segregation at households in accordance to the Law on Environmental Protection in 2020 and other policies. |
| | Implement and accelerate communication programmes and campaigns to raise awareness and support behavior change on sustainable consumption and production. |
| Boost Innovation | Increase visibility of innovations, create opportunities for high-potential innovators to connect with those who can scale their innovations. |
| Harmonise Metrics | Coordinate and support the investigation, evaluation and building of a database system for formulating periodical reports on plastic waste. |
| | Develop a national environmental report on the theme of plastics. |



5.4 Current Achievements and Status

After more than a year since its implementation, achievements have included (1) the promotion of Viet Nam's initiatives on combating plastic pollution to the international community at the World Summit on Sustainable Development; (2) efforts to finalise the National Action Roadmap on Plastic-Loss Reduction in Viet Nam; (3) research on gender equality and social inclusion in plastic waste management; (4) support for consultations with the government to finalise current policies on accelerating plastic waste governance; and (5) assisting the Viet Nam government to build a plastic analysis platform and a national data system on marine plastic waste. Some of the more notable achievements are summarised below.

Drive the delivery of baseline assessments, plastic waste flow analyses, and action roadmaps

The Viet Nam NPAP Action Roadmap for Radical Reduction of Plastic Pollution - 3rd edition shows that if aggressive yet realistic SCS is implemented, mismanaged waste will decrease from 42% in 2018 to 9% by 2030 and consequently, plastic leakage into waterways will drop by 43% (NPAP Secretariat,

Vietnam, 2022). The significantly more aggressive targets of the ambitious SCS enable a 75% reduction in plastic leakage into waterways from 2018 levels, which is in line with the National Action Plan for Management of Marine Plastic Litter by 2030. The interventions will require a broad policy framework that identifies the responsibilities and specific actions for each of the interventions.

Accelerating policy development and Government commitments

Technical assistance for boosting regulations on CE framework and EPR scheme:

Through the project "Mitigating marine plastic litter in Viet Nam", NPAP has cooperated with and supported the national government agencies in the development of regulatory approaches and guiding documents to implement priority policies. They include strengthening plastic waste and marine plastic debris management, including an effective EPR scheme, CE framework, and regulations to reduce the production, importation and consumption of single-use plastic products and non-biodegradable plastic bags.

Policy dialogue and consultation on Decree on CE:

With reference to the criteria, roadmap and incentive mechanism for the plastic and packaging sector, on September 24, 2021, NPAP collaborated with Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE) and World Wildlife Fund (WWF-Vietnam) and organised a policy dialogue and online consultation on the topic of “Circular economy regulation under the draft Decree and recommendation for the plastic and packaging sector”. This provided a timely supplement to the draft Decree and related documents on the circular economy as regulated in the Law on Environmental Protection in 2020, with detailed proposals for the plastic and packaging sector (WWF, 2021).

Support for the drafting of Decree detailing some articles of the Law on Environmental Protection 2020 (LEP 2020), that focussed on the CE regulations - plastics and packaging sectors, plastic waste management, EPR and circular economy development and such like. As a result, the Vietnam National Assembly promulgated Decree No. 08/2022/ND-CP

under the LEP, that integrates content and policy tools to support the application of CE and EPR.

Supporting MONRE to implement the action plan to strengthen plastic waste management:

NPAP has been proactively contributing to the process of policy development, which resulted in NPAP being exclusively named as the official initiative in support of MONRE implementing the action plan to strengthen plastic waste management under Decision 2436/QĐ-BTNMT, newly issued on 13 December, 2021. This decision indicates the government's determination to follow through on the national strategy.

Private Sector Involvement

There has been a notable rise in actions taken to tackle plastic pollution by various stakeholders, which is a highly positive sign. Various initiatives are resulting in many different platforms targeting the same objective. Due to its scale and composition of LB members, NPAP can therefore play an important role in policy orientation.

“The most effective contribution of NPAP is possibly policy improvement, as most of their LB members are V.I.Ps. In addition, the participation of foreign representatives (most are from developed countries) provides benefits in sharing information and experiences of plastic waste management with policy makers who are also members of NPAP LB. For example, the ambassador can share new policies and experiences in tackling plastic pollution. NPAP also has the ability to approach various financial resources to support other activities and MSPs.”

Interview, an Embassy official

5.5 Way Ahead and conclusion

NPAP has contributed significantly to the development of plastic waste management activities in Viet Nam, especially in informing policy and transforming behaviour task forces. The policy measures include the new law of environmental protection with EPR and CE regulations, as well as setting national targets defined in the national strategy on integrated waste management to reduce landfill rates. Implementing these and other measures, including the elimination

of single-use plastic in supermarkets and commercial centres represents a big challenge for central and local governments. Obtaining buy-in across consumers, businesses and leaders at national and local levels is necessary to enable the success of these policies. Sustainable solutions and interventions tackling marine plastic waste pollution and waste management will be more effective when combined with complementary behaviour change by consumers and strong political support by legislators and enforcers.



SECTION

6

GPAP Approach: Task Forces to Roadmaps to Action

Author: Vivek Anand Asokan

6.1 Introduction

We investigated in this report the role of the NPAP in addressing plastic pollution in developing countries. The NPAP process is composed of several thematic 'tracks', such as changing behaviour, promoting inclusivity, harmonising metrics (knowledge), policy development, boosting innovation, and unlocking finance. Based on the conceptual framework developed in section 2, we wish to describe the role played by the central actor to align several pathways such as perspectives, targets, priorities, and timeline of all stakeholders.

The NPAP secretariat acts as a central actor in the MSP and we intended to answer the following questions based on our study in the three pilot countries:

- (1) In the three pilot countries, what are the NPAP planned approaches and strategies in supporting and promoting practical and systematic action, and encouraging narratives to transition to a circular economy for plastics?
- (2) From the perspective of SDG 17, how can the NPAP approach help deliver the collaborative outcomes in mitigating plastic pollution?

In this section, by answering these questions, we explain how and why NPAP activities are important in enabling the multiple stakeholder process, i.e., by

initiating task forces to bring stakeholders together, building roadmaps with stakeholders (as participants), and facilitating increased commitment to action through SCS as espoused by SYSTEMIQ modelling.

The major findings of this analysis relate to NPAP support for existing national policy processes, such as EPR, as well as support for stakeholders in aligning perspectives, target setting, and actions, as highlighted in the conceptual framework. We further identify some challenges in the NPAP process and highlight the importance of the two-pronged approach of NPAPs that includes both international and domestic stakeholders to overcome the challenges.

We summarise the NPAP approach by answering the specific questions posed by Paquin and Howard-Grenville (2013) in section 6.2. The main findings are covered in section 6.3, the current challenges are discussed in section 6.4, and the conclusions of the current studies are presented in the final section, 6.5.

6.2 Summary of the NPAP approach

Regarding answers to the specific questions posed by Paquin and Howard-Grenville (2013) related to the role of MSPs, these are provided below, as well as further details of the role of the two-pronged process and its implications for the future. The major characteristics of

NPAPs are summarised in **Table 6**.

Table 6: Summary of the NPAP approach

| | |
|----------------------|--|
| Issue | Focus on plastic pollution |
| Participants | Multinational Companies, National Government, Local Companies, and non-governmental stakeholders |
| Approach to solution | Global and National Approach; Bring diverse stakeholders together |
| Implementation | System Change through private financing |

(1) How does the NPAP build and assemble the network?

The strength of NPAP lies in its two-pronged framework that combines the strengths of global stakeholders, i.e., knowledge and finance, with those of the national stakeholders, i.e., implementation and inclusion. Initially, national stakeholders are the 'large players' – ministries of national governments, large companies, and NGOs. However, direct engagement with the 'smaller players', such as local governments and the informal sector, will require further investment and sharing of resources in the two-pronged process. Furthermore, the smaller players need to find a voice while working with the larger players. It is therefore necessary to take concrete action and further strengthen the inclusiveness mandate of the NPAP process.

(2) How does NPAP accumulate resources and expertise as the network develops?

The NPAP secretariat is thinly staffed and needs to source regular financial funding from global and national stakeholders in the long term, and might require the support of GPAP and national governments. Currently, the resources of the international actors influence the general functioning and orientation of the GPAP, and NPAP is trying to reorient the financing (from national and local stakeholders) while building a self-sufficient, yet open framework that domestic stakeholders can support. The two-pronged process supports this transformation and may require rebalancing of the composition due to the need

to increase the number of domestic stakeholders, while this increase must be balanced and fit with the inclusive nature of NPAP.

(3) What are the dilemmas and how are the values demonstrated by the organisation?

In terms of the dilemmas, the waste management and recycling industry is currently not considered economically profitable. Regarding the values, the World Economic Forum, an international organisation, has a wealth of experience in managing and working with public and private partners. Additionally, the platform supports experimentation, and successful solutions can be scaled nationally and to other regions of the NPAP platform. Therefore, the platform can balance the various interests of stakeholders as long as the NPAP remains committed to a participatory architecture and implementation.

6.3 Major Findings

The main findings are divided into two categories, institutional mechanism and procedural mechanisms below.

Institutional Mechanism

Supporting National Governments and National Process

NPAP supports the conventional government-led process, in which the ministries of national governments head numerous NPAP TF committees. As such, NPAP actions become part of the mainstream policy process, and knowledge generated from NPAP activities, such as data from SCS modelling, is used to inform national action plans and other government-led policy processes. For example, in the contexts of Vietnam, Indonesia, and Ghana, the NPAP task forces are seen to increase discussions on EPR. Such engagement is positive as the implementation of EPR requires stakeholders buy-in across the plastic value chain to collaborate; the producers, consumers, and recyclers should be part of the process. Here, NPAP as a multi-stakeholder collaboration can facilitate collaboration and accelerate engagement between stakeholders.

Procedural Mechanisms

Explained below are the procedural mechanisms used by central actors to facilitate encounters, build interactions, design action plans and execute projects. These mechanisms help align the perspectives, targets, and timelines. According to the theory of robust actions, a participatory architecture (Gehman et al., 2022) is recommended, and the participatory structure of NPAP, as we explained enables to balance diverse interests and experiment before scaling.

NPAPs have developed TFs around five themes to enable collaboration and coordinate action – TFs help NPAP align the perspectives, set targets and timelines. The process is self-reinforcing as the central actors need to adjust their own perspectives, targets, and timelines, thus to support multi-stakeholder initiatives the aims of the NPAP will keep changing: each NPAP secretariat is also decentralised, allowing the central actor to adapt to such flexibility.

Perspectives

The plastic value chain has diverse stakeholders who view and understand the issue of plastic pollution differently in terms of its causes and solutions. For example, manufacturers, consumers, recyclers and workers have different worldviews and prefer different means to bring about change. Manufacturers consider the material properties of plastics that are used in their manufacturing process, such as product durability; consumers will focus on comfort and convenience; and recyclers are concerned about wastes with high recyclability. The workers of the informal waste sector are primarily concerned with economic opportunities and costs, such as social and health security. Governments are in a unique position, too, as they oversee governance. In theory, given this diversity of interests, it is pertinent that MSP stakeholders are derived from all sections of society, and that the MSPs are balanced and inclusive.

Individual TFs are targeted at specific issues and stakeholders. For example, the task force (TF) on behavioural change targets consumers; the TF on boosting innovation works with innovators and business stakeholders; and the TF on inclusion emphasises social issues and includes stakeholders that are left out of the current governance and

engagement process. Each of these processes aims to change the perspective on plastic pollution depending on the specific stakeholder concerned. Our study shows that The TFs facilitate discussion among stakeholders that leads to the sharing of knowledge, which is crucial to developing a common understanding among stakeholders.

Target setting

The setting of targets and working towards them have been a hallmark of management, and our study shows that NPAP facilitates linking the knowledge obtained from global plastic consumption and waste models to policy road maps and national action plans by working with the various national ministries. Science-based statistical modelling, such as the SYSTEMIQ SCS model estimates future plastic waste generation, and the resulting estimates from the scenario model are provided to policymakers, who previously lacked such information for planning. As the stakeholders participate in TF (harmonising data), the modelling process is further linked with official national data collection processes. The exchange between international and domestic stakeholders results in an improved national data collection process and knowledge sharing.

Action

The role of NPAP is to broker an agreement that aligns policy action with financial commitment and investment. Aligning perspectives and targeting setting is a critical element in formulating agreements on implementation between different partners. NPAP supports the EPR processes, where the NPAP stakeholders can offer their expertise/best practices from elsewhere to support implementation of EPR processes. Further, NPAP can develop financial instruments and solutions such as blended finance to support the implementation processes.

6.4 Recommendations to strengthen NPAP operations

In this section we provide suggestions to strengthen NPAP operations to support and facilitate practical and systematic action.

Creating inter-ministerial coordination at the national level

While NPAP's structure has enabled successful collaborations with ministries of the national governments, the NPAP is also trying to create means for inter-ministerial coordination at the national level.

Involvement of local governments

As the focus of NPAP's framework is moving towards action, this would also require the participation of local governments. The NPAPs can connect local governments with international stakeholders such as banks, city governments, and multinational companies who can share knowledge, best practices and finance directly.

Involvement of the informal sector

The presence of informal sectors is ubiquitous in developing countries, and NPAP can serve as or create a bridging organisation. Studies have suggested that the involvement of bridging organisations, i.e., those that interface between formal institutions, such as local governments and companies, and informal institutions, such as self-managed waste pickers or independent waste and recycling establishments (Williams et al., 2013). NPAP can play a direct role in creating waste management cooperatives, i.e., jointly owned enterprises among informal stakeholders, and can add impetus to such organisations by infusing finance, skills, and technology.

Financial bankability

The main aim of the NPAP process is to increase the private sector role in the waste management and recycling process, which involves augmenting the governance process without diminishing the role of the governments. The role of finance is crucial; while waste management and recycling projects are considered not financially viable, blended finance using subsidies, loans, and grants from public and private companies could be combined. As NPAP activities have led to creation of a roadmap for finance through engagement of international and national stakeholders, it is desirable to use such roadmaps (outputs) to scale up the public and private finance (intermediate outcomes) to reduce plastic pollution, as embraced in GPAP impact ladder strategy.

Under this scheme, part of the financing can be used to support the implementation of the EPR system, and the financial task force can share the knowledge and also support the governance process in developing countries and operationalise EPR, in the form of grants or loans, until the EPR systems become financially viable.

6.5 Conclusion: Central Actor as a Linchpin and Future Recommendations

In this section, we describe the critical elements of the NPAP process in supporting and promoting SCS, and encouraging narratives to transition to a circular economy. The NPAP platform implements a two-pronged process: a global and a national process. This setup has inherent strengths to deal with the challenges we discussed in the previous section.

GPAP, a global MSP, has a wealth of international project management experience and modelling experience on plastic consumption and waste, and as knowledge and financial networks are not available to developing countries, such networks are highly desired by partners in developing countries. The national NPAP secretariat is funded by GPAP, and NPAPs are central actors and do not replace other stakeholders. Rather, they facilitate interaction of domestic and international stakeholders and support the national policy process. As mentioned previously, since not all stakeholders in the plastic value chain are based within relevant national jurisdictions, the aspect of coordination between NPAP-GPAP is considered worthwhile and valuable in supporting national government coordination, as well as coordination with stakeholders in other countries.

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