

National Waste Management and Pollution Control Strategy

2016-2020

FINAL MONITORING AND EVALUATION REPORT



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Department of Environment Protection and Conservation,
Ministry of Climate Change Adaptation, Meteorology, Geo-
Hazards, Environment, Energy and Disaster Management

JICA Expert Team, J-PRISM II



National Waste Management and Pollution Control Strategy 2016-2020 Final Monitoring and Evaluation Report

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Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries

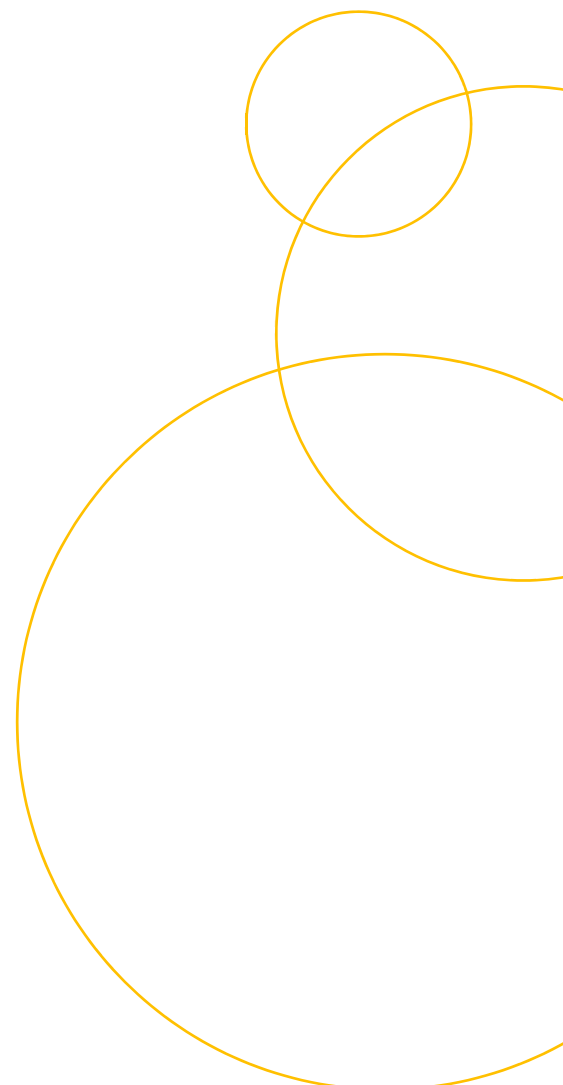


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Waste management and pollution control are the priority for the Vanuatu government to help protect and conserve the natural environment for its today and tomorrow's generation's safety and success. Through this monitoring process, the achievements for five years as well as the remaining issues are recognized for future planning and practices, which should be followed by the next NWMPCS after 2021.

All contributions and support received are gratefully acknowledged and warmly appreciated.



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1 Background

1.1 Current Situation of Solid Waste Management and Pollution Control in Vanuatu

Vanuatu is experiencing rapid economic growth, but at the same time, there are concerns about increased waste generation and environmental pollution. The Department of Environment Protection and Conservation (DEPC) under the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Environment, Energy and Disaster Management oversees waste management and pollution control efforts in Vanuatu. Regarding waste management, based on the Waste Management Act No. 24 that was endorsed in June 2014, the provincial governments and municipalities are the responsible entities for waste management in their land under the supervision of DEPC. Thus, they are mandated to submit an annual plan to DEPC every year.

As of 2015, however, the Port Vila City Council (PVCC) and the Luganville Municipal Council (LMC) were the only local governments to have their waste management plans, and the situation is not much improved even in 2020. The problem is that there are gaps in waste management capacity among local governments, while there is the necessity to enhance the capacity for integrated waste management nationwide. In addition, there are also gaps between urban and rural areas regarding waste management systems, such as waste collection, intermediate treatment and final disposal. Waste collection services are provided mainly in urban areas, and in rural areas, inappropriate treatment such as open burning and illegal dumping are commonly practiced. PVCC and Shefa province dump wastes at the Bouffa landfill site that is the control dumping site. While there are 48 ha for Bouffa landfill site in total, the current disposal area (Cell-1) is only 1 ha and it is almost full. The extension construction work is the urgent matter to PVCC. LMC and Lenakel/Tafea also have their own designated dumping sites but due to the remaining capacity of dumping sites and the land ownership problem, they need to find new places for landfilling.

Pre-paid garbage bag system is featured as one of the good practices among the Pacific Island Countries (PICs), which is called “Yellow Bag” in PVCC, “Red Bag” in LMC and “White Bag” in Malampa. On the other hand, activities on 3Rs (Reduce Reuse and Recycle) in Vanuatu are limited because of the small volume of recyclables as well as the geographical characteristics of small islands. Major recycling items in a private market are metals and electrical appliances. The reuse system of grass bottles initiated by the private company is also settled in Port Vila and Luganville. At a community level, NGOs and community-based organizations promote recycling activities on a small scale by community initiative to collect plastics, cans, scrap steel etc. It is remarkable that Vanuatu is the first country in PICs to endorse the plastic bans (Phase-1 and Phase-2) in 2018 and 2019.

The National Waste Management and Pollution Control Strategy (NWMPCS) 2016-2020 is the first strategy for DEPC with the comprehensive and detailed implementation plan in waste management and pollution control in Vanuatu. It is essential to practice the Plan-Do-Check-Action (PDCA) cycle to realize the strategy. This final monitoring and evaluation report aims to address the achievements in the past five years and challenges for the

future at the same time to be a basis for designing the next term of the NWMPCS toward protecting a beautiful environment in Vanuatu.

1.2 Outline of NWMPCS 2016-2020

a. Vision and Goals

Vanuatu, like many of its Pacific island neighbors, is undergoing a period of rapid social and economic development, but at the same time, Vanuatu’s environment and public health have to be preserved and managed properly. NWMPCS have to be formulated to ensure that Vanuatu’s environment and public health are not adversely affected by the ongoing economic development.

The NWMPCS2016-2020 has the following vision and overall goal:

Vision: A clean healthy environment leads to productive sustainable development. Therefore our vision is *“towards clean sustainable environment”*.

Overall Goal: An environmentally sustainable Vanuatu, in which all types of wastes generated are reduced, collected, reused, recycled and treated by environmentally sound technologies suited to local conditions and waste going to landfill is minimized to the lowest possible amount.

Overall goal can be broken down into the following seven strategic goals as shown in Table 1.

Table 1 Strategic Goals of NWMPCS2016-2020

Strategic Goals	Description
1. Policy, Legislation and Enforcement	The two laws, Pollution Control Act No. 10 of 2013 and Waste Management Act No. 24 of 2014 addresses the roles and responsibilities for different agencies and the general public, as well as identify appropriate fines and penalties to ensure management of waste and pollutants to the receiving environment is controlled.
2. Sustainable Financing	Maximize donor financing and national budget financing and partnership to improve waste management, while working towards a system of 100 percent sustainable financing for waste management and pollution control from internal sources and potential revenue streams such as the Container Deposit Legislation scheme over the long term.
3. Capacity Development	Improve institutional capacity in the lead waste management entities i.e. DEPC, Provincial centers and municipalities for waste management and pollution control.
4. Waste Minimization	Better awareness of waste minimization techniques, including source separation among all Ni-Vanuatu. Incentives created to encourage waste minimization, reuse and recycling to strengthen existing activities and mechanisms established and strengthened to control importation and production of problematic items and ease exportation of the recyclable materials through revision of relevant tax laws.
5. Integrated Waste Management	Effective and efficient collection service implemented for the main urban and provincial centers. Environmentally sound and technologically-appropriate disposal facilities for solid waste, hazardous wastes and liquid wastes.
6. National Coordination	Stronger cooperation and collaboration among the responsible agencies for the management of the different types of wastes, and between the agencies, NGOs and private companies for education and awareness. Members of the present J-PRISM Counterpart team may be recruited to the proposed National Waste Management and Pollution Control Committee. Waste and Pollutants management in terms of funding resources should be seen as a high priority by

Strategic Goals	Description
	all levels of government. Increase the budgetary allocation to DEPC for national Waste management and environmental protection activities.
7. Public Awareness	Develop a Waste and Pollution public awareness plan; the persons in charge, media to be used, budget, messages and implementation plan. Identify specific waste and pollution management responsibilities to be entrusted to the communities and prepare the implementation plan. Establish cooperation and partnerships with the private sector on public awareness.

Source: National Waste Management and Pollution Control Strategy (NWMPCS) 2016-2020

b. Contribution to Regional and International Goals to be achieved

With regards to the Pacific Region, the Regional Waste Management and Pollution Control Strategy 2016-2025 “Cleaner Pacific 2025” is the primary guide for all Pacific Island Countries and Territories (PICTs) and the NWMPCS is aligned along with this. To achieve vision and goals in the NWMPCS, the implementing entities, including the DEPC and local government authorities (provincial governments and municipal councils), adhere to guiding principles/values that is set in line with the Cleaner Pacific 2025 strategy.

Internationally, the Sustainable Development Goals, in particular Goals 11 and 12 for waste management and Goals 13, 14 and 15 for pollution control and ozone layer protection are the high-level drivers behind the NWMPCS.

SDG 11) Make cities and human settlements inclusive, safe, resilient and sustainable;

SDG 12) Ensure sustainable consumption and production patterns;

SDG 13) Take urgent action to combat climate change and its impacts;

SDG 14) Conserve and sustainably use the oceans, seas and marine resources for sustainable development;

SDG 15) Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

There is a strong belief in Vanuatu that many small changes at a local level can and will have a global impact over time.

1.3 Implementation of NWMPCS 2016-2020

a. Scope and Responsibility for Implementation of NWMPCS 2016-2020

DEPC is responsible for implementing, monitoring and evaluation of NWMPCS 2016-2020 by coordinating with the provincial governments, municipalities and other key stakeholders. Specifically, the environmental protection division of DEPC is in charge of put it into practice in line with enforcement of three related acts, namely 1) the waste management act, 2) the pollution act, 3) the ozone layer protection act, as shown in Fig. 1.

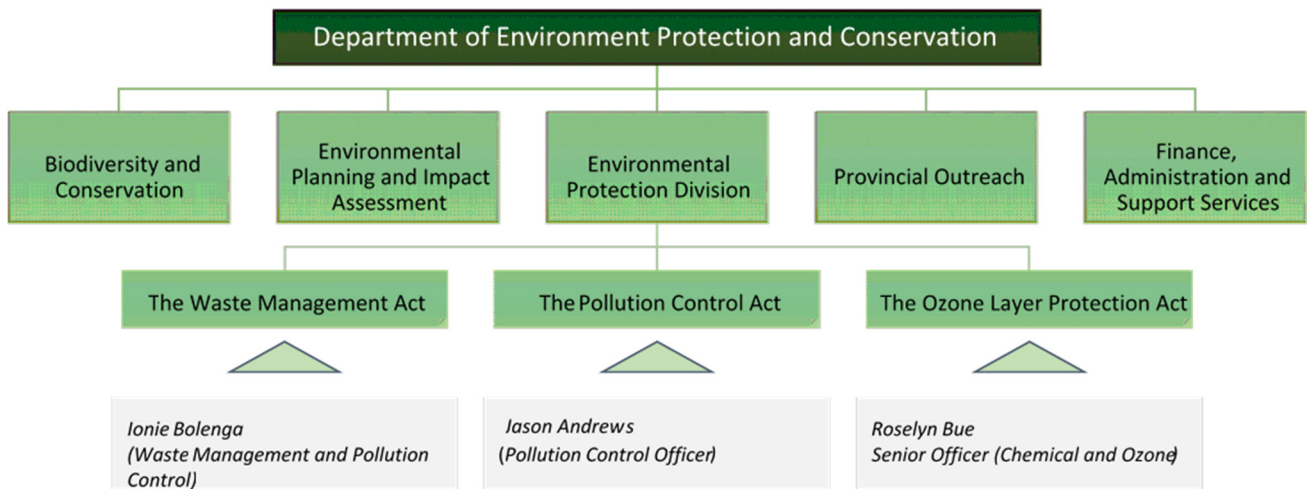


Fig. 1 Monitoring and Evaluation System and Structure

b. Implementation Plan and Targets of NWMPCS 2016-2020

The implementation plan of NWMPCS 2016-2020 identifies 43 targets with indicators to evaluate the achievements of 9 objectives under 7 thematic areas. These targets can be categorized into three fields, which are waste management, pollution control and ozone layer protection. The field of waste management has 24 targets and the field of pollution control and ozone layer protection has 19 targets. The full contents of the implementation plan is shown in Appendix-1 (waste management) and Appendix-2 (pollution control and ozone layer protection).

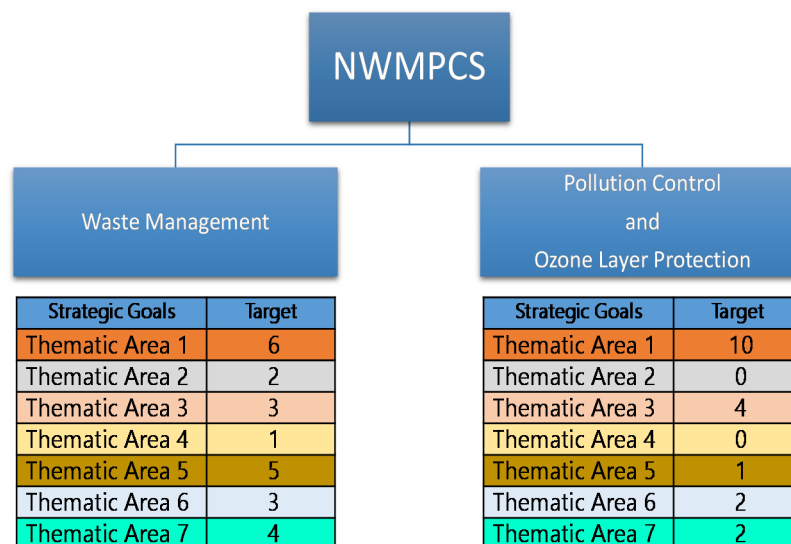


Fig. 2 Two Pillars of NWMPCS and Targets by Thematic Area

With aim to realize the goals of the NWMPCS, DEPC and the Japanese government decided to implement the Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in

the Pacific Island Countries Phase II (J-PRISM II) and set a project output as ***“Institutional capacity of DEPC to implement NWMPCS is enhanced with the cooperation of the Working Group”*** at the First Joint Coordinating Committee (JCC) meeting in February 2018. After that, DEPC took the initiative on the project and Working Group (WG) was formulated in June 2018 to study and review the progress of the NWMPCS.

c. Working Group for Implementation of NWMPCS 2016-2020

WG is the main body of implementing and monitoring of the NWMPCS 2016-2020. The initial members of WG were DEPC, PVCC and LMC. The concept note of WG was agreed in May 2018 and WG was officially launched in June 2018. The main purpose of establishing the WG is to ***“build the cooperation relationship between counterpart (C/P) organizations in order to ensure sustainability of implementing of NWMPCS.”*** Considering high social mobility in human resources that is one of common problems among PICTs, mutual support in sharing knowledge and experiences inside the WG is effective to keep on implementing the NWMPCS sustainably.

The basic policy of the WG is to put the strategy into practice with the PDCA cycle based on the implementation plan of NWMPCS2016-2020. WG was consisted of three activities, i.e. i) fieldwork, ii) discussion and iii) monitoring/reporting in accordance with the seven thematic areas of NWMPCS. At early stage, WG studied and reviewed the implementation plan of NWMPCS, and collected the existing data for better understanding of the baseline of NWMPCS. After that, WG was operated in the process of creating, approving and implementing an annual activity plan based on the progress monitoring results of the NWMPCS in a last year. This cycle aims to urge the self-reliance of DEPC to implement the NWMPCS after completion of the donors’ support.

d. Priority Activity of Working Group in 2019 and 2020

The following four priority activities that has been implemented with WG were adopted in the second JCC meeting held on the 29th day of October, 2018 and these priority activities were adopted continuously in the third JCC meeting held on the 24th day of February, 2020.

- i. Dissemination of annual Solid Waste Management (SWM) planning and monitoring system in provincial and municipal government councils (Thematic 1, NWMPCS).
- ii. Detailed design of a Container Deposit Scheme (CDS) for its initial setup (Thematic 2, NWMPCS)
- iii. Development and endorsement of a waste minimization plan (Thematic 4, NWMPCS)
- iv. Promotion of Clean School Programme by identifying one school in each province as an environment model school and environment ambassador (Thematic 7, NWMPCS)

e. Working Group Meeting Records

For the discussion on the current status and issues on the progress of the NWMPCS2016-2020, eight meetings were held in total from 2018 to 2020. Agenda and members of each meeting are shown in Table 2.

Table 2 NWMPCS Working Group Meeting Records

Title	Schedule	Agenda	Members
Pre-WG	30 th May 2018	• Discussion on Concept paper of Working Group	DEPC, PVCC, JET
Pre-WG	7 th June 2018	• Discussion on Concept paper of Working Group	LMC, JET
1 st WG	14 th June 2018	• Approval of Concept paper of Working Group	DEPC, PVCC, JET
2 nd WG	14 th August 2018	• Progress monitoring of WG activities in accordance with the concept paper	DEPC, PVCC, JET
3 rd WG	6 th March 2019	• CDS preliminary survey kick-off workshop • Presentation of SWM activities in Lenakel, Tafea and Malampa • Progress monitoring of priority activities	DEPC, PVCC, LMC, Lenakel, Tafea, Malampa, JICA, JET
4 th WG	20 th March 2019	• CDS preliminary survey final workshop • Progress monitoring of priority activities	DEPC, PVCC, LMC, JET, Samoa Recycling Association
5 th WG	6 th June 2019	• SWM planning in PVCC and Shefa province • Progress monitoring of priority activities	DEPC, PVCC, LMC, JET
6 th WG	27 th September 2019	• Progress monitoring of priority activities • Preparation of an annual monitoring report of NWMPCS	DEPC, PVCC, LMC, JET
7 th WG	24 th February 2020	• Overall monitoring results of NWMPCS 2016-2020 (forecast) • Approval of priority activities in 2020	DEPC, PVCC, LMC, Shefa, JET

Note: DEPC: Department of Environmental Protection and Conservation, JET: JICA Expert Team, JICA: Japan International Cooperation Agency, LMC: Luganville Municipal Council, PVCC: Port Vila City Council

f. National Waste Management and Pollution Control Coordinating Committee

National waste management and pollution control coordinating committee, composed of major stakeholders such as municipal councils, governmental organizations, NGOs and chamber of commerce, was intended to be formulated to promote participatory management of NWMPCS. WG was initially designed to be a core of the national coordinating committee to be extended. However, due to COVID-19 spread, the progress was delayed and the national coordinating committee was not organized during this strategic period from 2016 to 2020. It is expected to be organized in the next term of the NWMPCS.

2 Monitoring Results of NWMPCS 2016-2020

2.1 Scope of Monitoring and Evaluation in This Report

The NWMPCS2016-2020 aims to realize “Vision” and “Overall goal” ultimately by implementing the “Activities”. The progress can be monitored by evaluating whether or not the “Targets” of each “Activities” are achieved with identified “Indicators.” Although there is no clear definition in the NWMPCS2016-2020, “Vision” and “Overall goal” are categorized as the long-term plan and they are evaluated after 10-20 years in general. On the other hand, target period of NWMPCS2016-2020 is five years. Therefore, this monitoring and evaluation report focuses on evaluating achievement rate of targets of each activity. Besides, based on the evaluation results, recommendations for the next NWMPCS are considered.

2.2 Monitoring Method

a. Monitoring and Evaluation Cycle

NWMPCS is monitored and evaluated along with the following step. The monitoring and evaluation cycle is a continuous process of planning, monitoring (collecting data) and evaluation (analyzing data) in order to determine how well Vanuatu, through the NWMPCS, is reaching expected results. Annual report shall be developed by provinces and municipalities in line with the Waste Management Act No.24 of 2014.



Fig. 3 Monitoring and Evaluation Cycle

b. Monitoring and Evaluation Method

As above-mentioned, the Waste Management Act No. 24 of 2014 mandates provincial and municipal governments to report their waste management status annually and submit their annual waste management plan to DEPC. Such a national-local communication is quite important for proper monitoring of NWMPCS. Besides, the current status of waste management plan in each local government are shown in Table 3. Otherwise, the achievement rates were evaluated based on the assessment results by the DEPC staff.

Table 3 Status of Waste Management Plan in the Local Governments in Vanuatu

Local Governments	Population*	Status of SWM plan (as of December 2020)
Provincial Governments		
Torba Province	10,707	Draft SWM plan (2016-2020) is in preparation.
Sanma Province	36,995	SWM plan (2020-2024) that was developed in collaboration with Luganville municipal council is endorsed.
Penama Province	32,534	SWM plan was drafted before volcano incidents. Currently, residents move from

Local Governments	Population*	Status of SWM plan (as of December 2020)
		Ambae to Pentecost. Thus, SWM plan should be renewed.
Malampa Province	40,928	There is no SWM plan. DEPC has a plan to support developing a SWM plan.
Shefa Province	97,602	Draft SWM plan (2017-2020) is in the approval process.
Tafea Province	37,050	SWM plan (2017-2020) is drafted in collaboration with Lenakel municipal council.
Municipal Councils		
Port Vila Municipal Council	53,682	SWM plan (2019) is endorsed, which includes action plan for three years (2019-2021). The SWM plan (2021-2030) is in the approval process.
Luganville Municipal Council	17,189	SWM plan (2020-2024) that was developed in collaboration with Sanma province is endorsed.
Lenakel Municipal Council	6,438**	SWM plan (2017-2020) is drafted in collaboration with Tafea province.

* Source: VNSO"2016 Post Pam Mini Census Report, Vol 1", population of Shefa province excludes Port Vila and population of Sanma province excludes Luganville.

** Source: Lenakel: SWM plan of Tafea province and Lenakel municipal council (2017-2020), Population of Tafea province excludes Lenakel.

*** Population growth rate of "1.7603%" is adopted based on the Mini-census 2016.

c. Measuring Performance

Progress of NWMPCS is monitored by targets. Monitoring score of each target is evaluated with the following criteria:

[Scoring Criteria for Measuring Performance]

Achieved	1 point
In excellent progress	0.75points
In medium progress	0.5 points
In some progress	0.25points
No progress	0 point

The total percentage of the progress is calculated by means of the following formula:

$$\frac{\text{total monitoring score in each thematic area}}{\text{total number of targets in each thematic area}} \times 100$$

2.3 Summary of Achievement in Each Thematic Area

Major Achievements of NWMPCS 2016-2020

Significant achievements during the target period are as follows:

- The single-use plastic ban (phase-1 & phase-2) was endorsed from 2018**
- The Council of Ministers (COM) decision for introducing Container Deposit Scheme (CDS) in principle was made and the CDS is in detail design phase.**
- A series of awareness activities were initiated by DEPC**

Thematic Area 1 - Policy, Legislation and Enforcement

- Three order has been gazetted under the waste management Act No. 24 of 2014 on 1st February 2018
 - 1) Plastic ban regulations;
 - 2) Licensing of private waste operator; and
 - 3) Littering.
- Appointment letter was served to police service commission, provincial government council, and municipal council to enforce the waste management regulation order No. 10 of 2018.
- The COM has endorsed the first phase of the ban on single-use plastic from 1st July 2018. The ban stipulates the prohibition of manufacturing of certain waste items;
 - 1) disposal containers;
 - 2) single use plastic bags; and
 - 3) plastic straws
- The COM has endorsed the second phase of the ban on single-use plastic items in Vanuatu, which is effective from 1st December 2019. The following seven items are added to the three items banned in the first phase;
 - 1) Nylon mesh nets and Styrofoam trays for fruits & vegetables packaging;
 - 2) Plastic cutleries- knives, spoons, forks;
 - 3) Plastic plates;
 - 4) Plastic cups;
 - 5) Plastic stirrers commonly used in cafeterias;
 - 6) Plastic egg cartons or trays; and
 - 7) Plastic (artificial) flowers those commonly used for salusalu and for funeral purposes.
- A Vanuatu National Plastic Strategy 2020-2030 and its implementation plan 2020-2025 were drafted.
- A SWM planning form was renewed for annual monitoring of SWM in provincial and municipal governments in line with the Waste Management Act No.24 of 2014. Existing SWM plans were reviewed and the form was simplified in consideration of the capacity of SWM planning in provincial and municipal governments. The form was approved by the DEPC director and distributed through the Department of Local Authorities (DLA) in November 2019. It is also made open to the public through DEPC's website.¹
- Provincial governments that have completed their Waste Management Plans (WMPs), have implemented 20% of their required actions.
- Licensing system for Private Waste Operators (PWO) started in 2018 and 11 companies and organizations

¹ "Waste Management Planning Form" renewed by DEPC can be downloaded from the following link <https://environment.gov.vu/index.php/forms-and-fees/waste-and-pollution>

register the license as of September 2019. However, only 2 companies and organizations submitted an annual report, although the annual report is mandatory to be submitted for renewal of the license annually, and majority of PWO licenses were not renewed as per the agreed renewal date as stated in the licenses. Enforcement of the regulation should be strengthened thoroughly next year.

- A draft landfill guideline has been developed and sent for technical review but not yet endorsed by the Director of DEPC. It is required to accelerate the approval process of the guideline to obey the new proposal of landfill site to fit the conditions under EIA process after 2020.
- A workshop of the Disaster Waste Management (DWM) was held in November 2019 supported by J-PRISM II, SPREP and Canada Fund for Local Initiatives (CFLI). The regional DWM guideline is in progress. The second workshop of DWM was held in March 2020. Based on the training, the national DWM guidelines have been developed.
- The VAT act has been revised to facilitate the recycling of scrap metal but this has not yet been endorsed by the Director of DEPC.

Thematic Area 2 - Sustainable Financing

- Informal private public relationships have been developed through the establishment of the Vanuatu Recyclers and Waste Management Association (VRWMA) that was set up in 2019 comprising business, industry, recyclers and civil society organizations.
- Pre-feasibility study for introducing CDS was conducted in March 2019. The study proposed a Managing Agency (MA) model to sustain the CDS in Vanuatu in consideration of local beverage producers, and concluded that Vanuatu had a potential to introduce CDS.
- Based on the results of the pre-feasibility study, introduction of CDS with the Managing Agency (MA) model in principle was proposed to the COM, to request funding from donors to develop the detailed design of the scheme and to convene a working group to this end, and approved on 30th October 2019.
- Base on the COM decision, a CDS technical working group was established in December 2019. The detailed design planning is ongoing to realize CDS in Vanuatu harmonized with the results of stakeholders' consultation through the WG.

Thematic Area 3 - Capacity Development

- About 25% of authorized enforcement officers has been trained by the DEPC to enforce the waste management regulations.
- DEPC has organized two training workshops. One was to train the appointed police officers, plus 12 municipal wardens and the second was for the training of the provincial compliance officers, planners and the area secretaries within different areas of Shefa Province.
- Eight additional enforcement offices have been requested.

- Throughout 2021, a team comprising DEPC, Wan Smol Bag (WSB) Theatre, Sanma Province and Luganville Municipal Council have been undertaking Training of Trainers (TOT) on waste management, pollution control and clean production.

Thematic Area 4 - Waste Minimization

- The waste minimization plan has been drafted based on a discussion of WG to identify the feasible options for waste minimization in Vanuatu.
- The draft waste minimization plan is undergoing nationwide consultation.

Thematic Area 5 - Integrated Waste Management

- Waste collection service is provided in Port Vila, Luganville, Lenakel, Shefa, Sanma and Malampa. Torba, Penama and Tafea will be consulted after 2021.
- Recycle Corp is the only recycle company who has a license of PWO with approved treatment and storage facility in Port Vila and Luganville.
- EIA for a new dumping site in Lenakel Municipal Council and Tafea Province was implemented. DEPC is seeking a financial support for construction of landfill site. LMC submitted a proposal to extend and improve a current dumping site into a sanitary landfill site for the Asian Development Bank (ADB) as a part of Luganville Urban Development Project.

Thematic Area 6 - National Coordination

- The dump sites at Efate, Luganville and Lenakel have been visited by DEPC and assessed. In Sola Island (Torba) a Preliminary Environmental Assessment was undertaken on the proposed dumpsite location. Penama Province has not progressed in indicating a dumpsite.
- A Memorandum of Understandings (MoU) with Mamas Laef has been developed.

Thematic Area 7 - Public Awareness

- DEPC has achieved 100% of their awareness programme particularly on the solid waste management areas.
- An awareness team has been developed by the heads of division. The awareness team visited most of the secondary schools in the six provinces plus the three municipalities.
- Public awareness to councils, schools and communities was carried out at 45% of provinces and municipalities by the DEPC.
- Nine Environmental Champion Certificates were issued during World Clean-up Day 2020 to all registered and licensed PWOs.
- DEPC have purchased wheelie bins to be used at major public events (concerts, festivals, and national celebrations etc.) demonstrating the 3 bin systems to those in attendance, supported by waste surveys. These have been utilized for three major events in 2020.

2.4 Summary of Final Achievement

Summary of final monitoring results of the NWMPCS in the target year 2020 are shown in Table 4. Achievements of the NWMPCS finally reach 49% in 2020. Final achievements of targets associated with the solid waste management is 82% while the final achievements of the targets associated with the pollution control and ozone layer protection are 29%. For waste management, four priority activities implemented by the WG contributed great progress in each thematic area. By contrast, thematic area 5 in waste management and thematic area 1 of pollution control and ozone layer protection are the lowest achievements. There is no thematic area achieved 100%. Those remaining targets should be followed by the next NWMPCS. The details of monitoring results are shown in Attachment-1.

Table 4 Summary of Monitoring Results of NWMPCS 2016-2020

Thematic Area	Targets			Final Achievement in 2020		
	SWM	Pollution & Ozone	Total	SWM	Pollution & Ozone	Total
Thematic 1 - Policy, Legislation and Enforcement	6	10	16	5.25 (87%)	1 (10%)	6.25 (40%)
Thematic 2 - Sustainable Financing	2	0	2	1.5 (75%)	-	1.5 (75%)
Thematic 3 - Capacity Development	3	4	7	1.5 (50%)	2 (50%)	3.5 (50%)
Thematic 4 - Waste Minimization	1	0	1	0.75 (75%)	-	0.75 (75%)
Thematic 5 - Integrated Waste Management	5	1	6	1.25 (25%)	0 (0%)	1.25 (21%)
Thematic 6 - National Coordination	3	2	5	1.75 (58%)	1 (50%)	2.75 (55%)
Thematic 7 - Public Awareness	4	2	6	3.5 (87%)	1.5 (75%)	5 (83%)
TOTAL	24	19	43	15.5 (82%)	5.5 (29%)	21 (49%)

2.5 Stakeholders

Stakeholders for implementing the NWMPCS such as governmental organizations, business association and NGOs in Vanuatu are listed in the Appendix-1 of the NWMPCS2016-2020 (p.38). In addition, major international donors, which are not listed in the NWMPCS, and its activities and/or supports related to waste management and pollution control in Vanuatu are summarized in Table 5.

Table 5 International Donors Related to Waste Management and Pollution Control

Organization Name	Description of Support	Related Thematic Area
Asian Development Bank (ADB)	In August 2017, the "Port Vila Urban Development Project (PVUDP)" constructed a waste water treatment facility in Port Vila in collaboration with Australian Aid. ADB Vanuatu office opened in August 2018. "Luganville Urban Development Project" is ongoing.	Thematic 5
Agence Francaise de	AFD is in the stage of basic planning for establishing sustainable	Thematic 1

Organization Name	Description of Support	Related Thematic Area
Development (AFD)	waste collection and recovery system in Vanuatu.	
Australian Agency for International Development (AusAID)	Pacific Ocean Litter Project (POLP) is ongoing.	Thematic 5
Centre for Environment, Fisheries and Aquaculture Science (CEFAS)	CLiP (Commonwealth Litter Programme) was implemented under CCOA (Commonwealth Clean Oceans Alliance)	Thematic 1
Canadian International Development Agency (CIDA)	Workshop for disaster waste management through the CFLI (Canada fund for local initiatives)	Thematic 3
Department of Environment Food and Rural Affairs (DEFRA)	Support the projects in Vanuatu together with CLiP and DFID under CCOA (Commonwealth Clean Oceans Alliance)	Thematic 1
Department for International Development (DFID)	Support for developing National Plastic Strategy under CCOA (Commonwealth Clean Oceans Alliance)	Thematic 1
European Union (EU)	Pac Waste Plus supports introducing Container Deposit Scheme	Thematic 2
International Union for Conservation of Nature and Natural Resources (IUCN)	Workshop on marine waste was held in November 2019	Thematic 3
Japan International Cooperation Agency (JICA)	J-PRISM II (the Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in the Pacific Island Countries Phase II) is ongoing. Donating compactor and landfill equipment	Thematic 6
Local Government New Zealand (LGNZ)	Improvement of financial system in PVCC	Thematic 2
Pacific Region Infrastructure Facility (PRIF)	Landfill officer in PVCC participated in Waste Amount and Composition Survey (WACS) in the Tuvalu and Palau province	Thematic 3
Secretariat Of The Pacific Regional Environment Programme (SPREP)	Support for community based waste management	Thematic 6
UN Environment Programme (UNEP)	Institutional strengthening under the Basel, Rotterdam and Stockholm conventions, the Minamata Convention and the strategic approach to international chemicals management (SAICM).	Thematic 1
UN Women	Support for community based waste management	Thematic 6
University of Newcastle (UON)	Workshop for disaster waste management	Thematic 3
World Bank (WB)	Rural electrification project (stage II) is ongoing. WB also initially supported the construction of Bouffa landfill site	Thematic 5

3 Evaluation and Recommendation

3.1 Overall Evaluation for NWMPCS 2016-2020

The monitoring results show that the achievement rates are almost 50% and nearly half of the targets could not be reached to the target line that was set when the NWMPCS2016-2020 starts in 2016, even though a few targets reached to 100% progress. In particular, the institutional capacity for waste management has been steadily improved, as seen in the enactment of plastic bans, the development of disposal site guidelines, establishment of licensing system for PWO, etc. (Thematic Area 1), aggressive discussion on the introduction of CDS for sustainable finances (Thematic Area 2), and active promotion of environmental education and awareness program by DEPC. A waste minimization plan 2021-2025 also has been formulated and only remains enforcement (Thematic Area 4).

On the other hand, little progress has been made in capacity development for national and local governments (Thematic Area 3), and national and international coordination of stakeholders (Thematic Area 6). For these thematic areas, the activities is required to be accelerated in the next strategy implementation phase. The CDS, which is an economic incentive scheme for promotion of 3R + Return, is in the phase of detailed design and expected to be put into practice in the next strategy implementation phase as well. To take over the good practices, especially the monitoring system of the NWMPCS, in this strategic period, establishment of a platform as an implementation body for NMWPCS by expanding stakeholders and scope of the existing working group is recommended to enhance national solid waste management system.

In addition, new challenges are emerging outside the scope of NWMPCS. There are several issues that cannot be supported by the existing strategy, such as increasing donor supports, necessity of strengthening the waste management against the covid-19 pandemic, increasing social interest in marine plastic pollution and plastic recycling, etc. In the new strategy, targets for these new topics have to be set in addition to remaining tasks.

3.2 Findings

During this planning period for five years, several good practices were carried out as follows:

a. Mutual Cooperation between National and Local Governments through the NWMPCS WG

WG is the main body of implementing and monitoring of the NWMPCS2016-2020. Sharing knowledge and experiences inside the WG is effective to keep on implementing the NWMPCS sustainably.

b. Introducing the Container Deposit Scheme (CDS)

For establishing sustainable finance system to promote 3R+Return in Vanuatu, CDS can be a promising solution. Especially, it is the first country in the pacific region if the MA model is adopted. Vanuatu is the model country regarding the pre-paid garbage bag collection system and the plastic bans, which shows the potential of Vanuatu

leading the CDS in the Pacific region as well.

c. Promotion of Environmental Education/Awareness Activities

DEPC took initiative on the promotion of environmental education and has achieved 100% of their awareness programme particularly on the solid waste management areas. The awareness team visited most of the secondary schools in the six provinces plus the three municipalities. Clean School Program (CSP) can be considered as a nationwide program for scale-up the current awareness activities in a sustainable manner.

3.3 Remaining Tasks

Even there were remarkable progress and achievements for five years, half of the targets are still remaining as unachieved. The major remaining tasks that should be followed by the next NWMPCS are described as follows:

a. Annual Monitoring System of SWM Plan in Municipalities

To implement annual monitoring of SWM in provinces and municipalities in line with the Waste Management Act No.24 of 2014, the following action may be needed: 1) PSC (Public Service Commission) encourages province and municipalities to include SWM in job description of Secretary General (SG) and the SG can assign officers designated for developing SWM Plan in local governments.

b. Detail Design and Implementation of the CDS

Currently, CDS is in the phase of detailed design. Launch of the CDS is aimed at the year of 2021 but not determined yet because of the border restriction due to COVID-19 spread. Coordination among several donors is necessary.

c. Strengthening the Implementation Capacity in collaboration with PVCC

As the capital city in Vanuatu, PVCC is expected to lead the capacity development on waste management nationwide with DEPC and share the knowledge and experience to other provinces and municipalities based on the Solid Waste Management Plan 2021-2030.

d. Expansion of the Working Group

Establishment of platform as an implementation body for NWMPCS by expanding stakeholders and scope of the existing working group is recommended to enhance national solid waste management system.

3.4 Potential Priority Activities for the Next Terms of NWMPCS

The following topics are not covered in the current NWMPCS. However, they are notable in recent years globally and/or locally, which shall be considered when the next NWMPCS are formulated.

a. Marine Plastic Pollution

PICTs are vulnerable for marine pollution. Especially, marine plastic pollution gets well-known worldwide as one of the serious global environmental issues with the publication of "The New Plastics Economy: Rethinking the Future of Plastics (2016)" by the Ellen MacArthur Foundation. Vanuatu has a world-leading single use

plastic ban that came into effect in January 2018, banning non-biodegradable plastic, including single-use plastic bags and polystyrene containers. The ban is expected to contribute to the conservation from marine plastic pollution. On the other hand, diaper ban was excluded from the second phase of plastic ban.

b. Donors' Coordination

Currently, there are various donors who have an interest to support Vanuatu technically and financially on the marine plastic pollution as above-mentioned. Although it is a good opportunity to accelerate the implementation of the NWMPCS, on the other hand, it is also the fact that coordinating costs among several donors get a heavy burden on DEPC. Proper donor's coordination is the key for effective and efficient support on the environmental protection in Vanuatu.

c. Waste Management During and After COVID-19 Pandemic

Waste management is critical to human development and health, even though under the COVID-19 pandemic. Safe and strong waste management system has to be designed. Digital transformation is one of the keyword during and after COVID-19 pandemic as well.

3.5 Recommendations

It is highly recommended to develop the following NWMPCS targeting 2025 without delay for seamless improvement of solid waste management and pollution control in Vanuatu. The target year can be extended until 2030 by securing a proper monitoring and reviewing system during the target period in consideration of workload of development of the new strategy and also to keep the consistency of the national strategies. There are several remaining tasks in the current NWMPCS, in which there are even no progress associated with targets and activities. Potential priority activities are also identified for the next term of NWMPCS as above-mentioned. Meanwhile, it may as well set those tasks as strategic targets to be achieved as an interim plan until the new NWMPCS is endorsed.

4 Appendix

Appendix-1: Progress Monitoring Results of Each Target Related to Waste Management

[Legend] 1 point = achieved; 0.75 points = excellent progress; 0.5 points = medium progress; 0.25 points = some progress, 0 points = no progress.

Thematic area	Target	Progress			Final
		2017	2018	2019	2020
1. Policy, Legislation and Enforcement	1) By 2017, VAT Act is revised to facilitate recycling of scrap metal	No progress (0)	In progress (0.5)	In progress (0.5)	In progress (0.5)
	2) By 2018, landfill guidelines are developed and implemented	In progress (0.5)	Achieved (1)	In progress (0.75)	In progress (0.75)
	3) By 2019, Policy and procedures for managing disaster waste is developed and approved.	No progress (0)	In progress (0.5)	In progress (0.75)	Achieved (1)
	4) By 2020, 100% of provincial governments have a Waste Management Plan.	In progress (0.5)	In progress (0.5)	In progress (0.75)	In progress (0.75)
	5) By 2020, provincial governments have implemented 20% of their Waste Management Plans.	No progress (0)	In progress (0.5)	In progress (0.5)	Achieved (1)
	6) By 2020, Waste Regulations are in force and implemented	In progress (0.5)	Achieved (1)	Achieved (1)	Achieved (1)
	TOTAL (6)	1.5 points	4.0 points	4.25 points	<u>5.25 points</u>
Achievements (%)	25%	67%	70%	<u>87%</u>	
2. Sustainable Financing	1) By 2017, identify investment opportunities from bilateral, multilateral, international agencies for waste management and pollution control.	No progress (0)	No progress (0)	No progress (0)	In progress (0.5)
	2) By 2020, an incentive scheme is established under the Waste Management Act.	No progress (0)	No progress (0)	In progress (0.5)	Achieved (1)
	TOTAL (2)	0 points	0 points	0.5 points	<u>1.5 points</u>
	Achievements (%)	0%	0%	25%	<u>75%</u>
3. Capacity Development	1) By 2018, at least 20% capacity for enforcement of Waste Management and Pollution Control laws is enforced.	In progress (0.5)	Achieved (1)	Achieved (1)	Achieved (1)
	2) By 2019, a waste management training module is developed and available at the local institution.	No progress (0)	In progress (0.5)	In progress (0.5)	In progress (0.5)
	3) By 2020, a terms of reference is produced to assess the institutional capacity for DEPC and the councils waste management (in particular policy development and planning, funding and assessment, project cycle management)	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	TOTAL (3)	0.5 points	1.5 points	1.5 points	<u>1.5 points</u>
	Achievements (%)	16%	50%	50%	<u>50%</u>
4. Waste Minimization	1) By 2018, a waste minimization plan is developed and implemented. (Includes, 3Rs, Composting, characterization, source separation etc.)	No progress (0)	No progress (0)	In progress (0.5)	In progress (0.75)

Thematic area	Target	Progress			Final
		2017	2018	2019	2020
	TOTAL (1)	0 points	0 points	0.5 points	0.75 points
	Achievements (%)	0%	0%	50%	75%
5. Integrated Waste Management	1) By 2018, establish waste collection services in the provincial centers and municipal councils.	In progress (0.5)	In progress (0.5)	In progress (0.5)	In progress (0.75)
	2) By 2020, all provinces has at least 1 or 2 approved treatment and storage facility.	In progress (0.5)	In progress (0.5)	In progress (0.25)	In progress (0.25)
	3) By 2019, New Pollution Control equipment's installed for monitoring and compliance.	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	4) By 2019, install weighbridge at the Bouffa landfill for waste data and information.	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	5) By 2020, Luganville and Lenakel dumpsites are upgraded into landfills.	No progress (0)	No progress (0)	In progress (0.25)	In progress (0.25)
	TOTAL (5)	1.0 point	1.0 point	1.0 point	1.25 points
	Achievements (%)	20%	20%	20%	25%
6. National Coordination	1) By 2017, a national waste management and pollution control coordinating committee is established.	No progress (0)	No progress (0)	No progress (0)	Achieved (1)
	2) By 2018, develop an environmental monitoring program for closed dumpsites, existing dumpsites and landfills and other contaminated sites.	No progress (0)	No progress (0)	No progress (0)	In progress (0.75)
	3) By 2018, establish multi sectorial partnerships in Vanuatu (NGOs, local business community)	No progress (0)	In progress (0.5)	No progress (0)	No progress (0)
	TOTAL (3)	0 point	0.5 points	0 point	1.75 points
	Achievements (%)	0%	16%	0%	58%
7. Public Awareness	1) By 2017, improve awareness on the responsibilities of the designated waste management operators under the Waste Management Act No.24 of 2014.	In progress (0.5)	In progress (0.5)	In progress (0.5)	Achieved (1)
	2) By 2020, at least one school in each province is an environment model school and environment ambassador (Clean School Programme).	No progress (0)	In progress (0.5)	In progress (0.5)	Achieved (1)
	3) By 2018, develop a waste and pollution public awareness plan (Clean school and clean community programme)	No progress (0)	No progress (0)	No progress (0)	In progress (0.5)
	4) Ongoing annual Clean up Campaigns for communities, schools and provincial centers.	In progress (0.5)	Achieved (1)	In progress (0.5)	Achieved (1)
	TOTAL (4)	1.0 points	2.0 points	1.5 points	3.5 points
	Achievements (%)	25%	50%	37%	87%

Appendix-2: Progress Monitoring Results of Each Target Related to Pollution Control and Ozone Layer Protection

[Legend] 1 point = achieved; 0.75points = excellent progress; 0.5 points = medium progress; 0.25 points = some progress, 0 points = no progress.

Thematic area	Target	Progress			Final
		2017	2018	2019	2020
1. Policy, Legislation and Enforcement	1) By 2018, authorized officers are appointed to enforce the Pollution Control Act and the Waste Management Act	No progress (0)	No progress (0)	No progress (0)	Achieved (1)
	2) By 2018, the National Implementation Plan for POPs is updated and enforced.	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	3) By 2018, Waste Oil stewardship system is established and enforced	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	4) By 2020, there are six environmental guidelines in place	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	5) By 2020, at least two pollution guidelines/standards are in force.	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	6) By 2020, vehicle emissions standards are developed and included in annual roadworthy inspections	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	7) By 2020, a NATPLAN (as required under the International Convention for the Prevention of Pollution from Ships (MARPOL) is approved.	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	8) By 2018, amendments to the Public Health Act are gazetted.	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	9) By 2020, standards for sanitation systems are developed.	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	10) By 2020, at least two pollution guidelines/standards are in force	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	TOTAL (10)	0 points	0 points	0 points	1 point
Achievements (%)	0%	0%	0%	10%	
2. Sustainable Financing	- -	-	-	-	-
	TOTAL (0)	-	-	-	-
3. Capacity Development	1) By 2016, a Senior Chemical and Ozone Officer is appointed by PSC to enforce the Ozone Layer Protection (OLP) Act and Regulation	No progress (0)	Achieved (1)	Achieved (1)	Achieved (1)
	2) By 2016, a Pollution Control Officer is appointed by PSC to enforce the Pollution Control Act	No progress (0)	Achieved (1)	Achieved (1)	Achieved (1)
	3) Tools and opportunities provided by international conventions are used (e.g. funding opportunities, technology, partnerships etc.).	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	4) By 2020, 70% of environmental obligations within international conventions and treaties are incorporated into Corporate Plans	No progress (0)	No progress (0)	No progress (0)	No progress (0)
	TOTAL (4)	0 points	2 points	2 points	2 points
Achievements (%)	0%	50%	50%	50%	
4. Waste Minimization	- -	-	-	-	-
	TOTAL (0)	-	-	-	-
5. Integrated Waste Management	1) By 2019, New Pollution Control equipment's installed for monitoring and compliance.	No progress (0)	No progress (0)	No progress (0)	No progress (0)

Thematic area	Target	Progress			Final
		2017	2018	2019	2020
	TOTAL (1)	0 points	0 point	0 point	0 point
	Achievements (%)	0%	0%	0%	0%
6. National Coordination	1) By 2018, develop an environmental monitoring program for closed dumpsites, existing dumpsites and landfills and other contaminated sites.	No progress (0)	No progress (0)	No progress (0)	In progress (0.75)
	2) By 2018, establish multi sectorial partnerships in Vanuatu (NGOs, local business community)	No progress (0)	In progress (0.25)	In progress (0.25)	In progress (0.25)
	TOTAL (2)	0 points	0.25 points	0.25 points	1 point
	Achievements (%)	0%	12.5%	12.5%	50%
7. Public Awareness	1) By 2018, develop a waste and pollution public awareness plan (Clean school and clean community programme)	No progress (0)	No progress (0)	No progress (0)	In progress (0.5)
	2) Ongoing annual Clean up Campaigns for communities, schools and provincial centers.	In progress (0.5)	In progress (0.5)	In progress (0.5)	Achieved (1)
	TOTAL (2)	0.5 points	0.5 points	0.5 points	1.5 points
	Achievements (%)	25%	25%	25%	75%



Department of Environmental Protection and Conservation,
Ministry of Climate Change Adaptation, Meteorology and Geo-
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