

INDEPENDENT EVALUATION DIVISION
OFFICE OF EVALUATION AND INTERNAL OVERSIGHT

INDEPENDENT TERMINAL EVALUATION

Regional Asia

**Demonstration of BAT and BEP in open burning activities in
response to the Stockholm Convention on POPs**

UNIDO PROJECT ID: 150033
GEF ID: 5082



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Distr. GENERAL

ODG/EIO/IED/22/R.1

Jul 2022

Table of Contents

LIST OF ACRONYMS AND ABBREVIATIONS	iii
Executive Summary	iv
1. Introduction	8
1.1 Evaluation objectives and scope	8
1.2 Project Context	8
1.3 Overview of the Project	9
1.4 Theory of Change	11
1.5 Evaluation methodology	14
1.6 Limitations of the Evaluation	15
2. Project's contribution to Development Results - Effectiveness and Impact	15
2.1 Project's achieved results and overall effectiveness	15
1.1.1 Delivery of outputs.....	15
2.1.2 Achievement of outcomes and project objective.....	23
2.2. Progress towards impact.....	25
2.2.1. Behavioral changes	25
2.2.2. Broader adoption	30
2.2.3 Emergence of TOC intermediate states.....	31
3. Project's quality and performance	33
3.1. Design	33
3.2. Relevance	34
3.3 Efficiency	35
3.4. Sustainability	37
3.5. Gender mainstreaming	39
4. Performance of Partners	40
4.1. UNIDO.....	40
4.2. National counterparts	40
4.3. Donor.....	41
5. Factors facilitating or limiting the achievement of results	41
5.1. Monitoring & evaluation	41
5.2. Results-Based Management.....	42
5.3. Other factors	43

5.4. Overarching assessment and rating table.....	43
6. Conclusions, recommendations and lessons learned.....	45
6.1. Conclusions.....	45
6.2 Recommendations	45
6.3 Lessons learned.....	46
Annexes	Errore. Il segnalibro non è definito.
Annex 1: TOR of the evaluation	Errore. Il segnalibro non è definito.
Annex 2: List of documents consulted	Errore. Il segnalibro non è definito.
Annex 3: List of persons interviewed.....	Errore. Il segnalibro non è definito.
Annex 4: Evaluation framework.....	Errore. Il segnalibro non è definito.
Annex 5: Evaluation questionnaires.....	Errore. Il segnalibro non è definito.

LIST OF ACRONYMS AND ABBREVIATIONS

BAT	Best available techniques
BEP	Best environmental practices
BTOMR	Back-to-office-mission-report
DENR	Department of Environment and Natural Resources
ESM	Environmentally Sound Management
FSP	Full-size Project
GEF	Global Environment Facility
GHG	Greenhouse Gas
IA	Implementing Agency
ISID	Inclusive and Sustainable Industrial Development
LLWCC	Leap Lim Waste Collection Company
M&E	Monitoring and Evaluation
MONRE	Ministry of Natural Resources and Environment
MOE	Ministry of Environment
MOET	Ministry of Environment and Tourism
MSW	Municipal Solid Waste
MTE	Mid-term Evaluation
MTR	Mid-term Review
NCEM	Northern Center for Environmental Monitoring
NIP	National Implementation Plan
NPC	National Project Coordinator
NPD	National Project Director
NPM	National Project Manager
PCBs	Polychlorinated biphenyls
PCDD	Polychlorinated dibenzodioxins
PCDF	Polychlorinated dibenzofurans
PIF	Project Identification Form
PIR	Project Implementation Review
PM	Project Manager
PMU	Project Management Unit
POPs	Persistent Organic Pollutants
PPG	Project Preparatory Grant
PPH	Plastic Product Handicraft
PSC	Project Steering Committee
RC	Regional Coordinator
SC	Stockholm Convention
SWM	Solid Waste Management
TE	Terminal Evaluation
TOR	Terms of Reference
TOT	Training of Trainers
UNEP	United Nations Environment Program
UNIDO	United Nations Industrial Development Organization
U(P)-POPs	Unintentionally produced POPs
USD	US Dollar
VEA	Viet Nam Environment Administration
WM	Waste Management

Executive Summary

A. Introduction

The full-size project “*Demonstration of BAT and BEP in open burning activities in response to the Stockholm Convention on POPs*”, funded by the Global Environment Facility, was implemented from May 2015 to June 2022 by the United Nations Industrial Development Organization (UNIDO). The project was nationally executed by the Ministries of Environment of the participating countries.

The overall objective of the project was to create resource-efficient waste management systems to reduce U-POPs emissions through the introduction of BAT/BEP in open burning sources in the five participating countries. The evaluation covered the whole duration of the project.

B. Evaluation findings and conclusions

The in-depth evaluation included: a review of project documents; country visits to the Philippines and Viet Nam; and, using a participatory approach, interviews with project personnel, intended beneficiaries, project partners, and other stakeholders involved in the project. Field visits to the pilot project sites were also undertaken during the country visits. In addition, the evaluation remotely interviewed key project partners and stakeholders in Cambodia, Laos, and Mongolia using available apps. Based on the information available and the findings of the discussions held, the evaluation made the following conclusions:

Relevance: The project is highly relevant to national priorities of the participating countries, and was designed to assist countries in fulfilling their obligations towards the Stockholm Convention regarding emissions of persistent organic pollutants (POPs) listed in the Annex C of the convention. The project is aligned with GEF strategic priorities in the POPs focal area and with UNIDO’s priorities and mandates.

Effectiveness: All the stated project objectives have been achieved. The project has successfully built capacities in the participating countries through the implementation of BAT/BEP interventions at the demonstration sites. It also provided the countries with adequate training on solid waste management and BAT/BEP through high quality international consultants. There are already visible signs of impact at the project sites. Open burning has stopped completely and the local communities have started to adopt the segregation approach to manage their wastes. As mentioned in the theory of change, it is anticipated that the national authorities would promote the replication of the project-supported interventions at other locations across the countries. There is clear evidence that replication is already happening in the participating countries. In the long term, it is expected that releases of dioxins and furans from open burning sources would completely stop.

Efficiency: The project duration was originally designed for 5 years, but due to changes requested by the countries in project interventions and locations, it was extended to 6 ½ years. By taking corrective actions, and strongly supported by the local governments, which provided significant human and financial resources, the project was able to complete all activities and achieve results within the planned budget. The adoption of cost-effective measures, such as applying best options for procurement of goods and equipment or contracting service providers, contributed to cost effectiveness.

Sustainability: As no risks that may jeopardize the project benefits have been identified, the sustainability of project benefit is considered likely. The running costs of the materials recovery facilities (in Cambodia, Laos, and the Philippines), refurbished or improved by the project, and the newly constructed ash cell at the sanitary landfill in Mongolia, are already included in the annual budgets of the local governments or municipalities. All the countries have already started to enforce the legislation on open burning.

UNIDO Backstopping: The role of UNIDO was crucial for the project to meet their objectives. It has taken timely and critical actions, and provided technical backstopping by hiring high-quality international and national consultants, and implemented BAT/BEP interventions at the demonstration sites. Procurements of goods and services for the project were also done in a timely matter.

Cross-cutting issues:

The project made good effort to mainstream the gender dimension in project activities during implementation. A satisfactory involvement and participation of women is evident in all the countries.

Regarding M&E, the SMART indicators, proposed in the project results framework of the project document, were adequate to allow for proper monitoring and tracking of project results. All PSC meetings and other M&E activities were undertaken, and the relevant reports were submitted in a timely manner.

	Evaluation criteria	Rating
A	Impact (progress toward impact)	S
B	Project design	S
1	• Overall design	S
2	• Logframe	S
C	Project performance	S
1	• Relevance	HS
2	• Effectiveness	HS
3	• Efficiency	HS
4	• Sustainability of benefits	L
D	Cross-cutting performance criteria	
1	• Gender mainstreaming	S
2	• M&E: ✓ M&E design ✓ M&E implementation	S
3	• Results-based Management (RBM)	S
E	Performance of partners	
1	• UNIDO	HS
2	• National counterparts	HS
3	• Donor	S
F	Overall assessment	HS

C. Recommendations

To UNIDO
<p>1 The project has been successfully completed and all the stated objectives have been fully achieved. In particular, the project has been able to reduce dioxin emissions by more than 90% (about 40 gTEQ) at the project sites. However, this reduction represents only 5% of the overall problem of dioxin emission from open burning in the participating countries. UNIDO could take advantage of the good lessons learned from this project to develop a follow up initiative for further capacity building and promoting plastic recycling that would be relevant to the GEF Integrated Program on Circular Solutions to Plastic Pollution, and would further contribute to reduction of UPOPs and GHG</p>
<p>2 In addition to Recommendation 3 made below, UNIDO could consider establishing a knowledge hub (e.g. platform linked to UNIDO website) where the results, lessons, and good practices generated through all the initiatives that it implemented could be uploaded and shared to the international community.</p>
To UNIDO and the Philippines:
<p>3 The project has been very successful in producing tangible results, and impacts are already visible at the project sites. A regional website was developed where the project results, lessons, and good practices were reported and shared among the participating countries. Since May 2021, the site has not been operational as the agreement with the contractor that developed it as well as the licence lapsed. It was agreed that DENR of the Philippines would be responsible for its management and maintenance after project closure. It is recommended that UNIDO and DENR take the necessary actions for the reactivation of the site in order to promote and share the results that the project produced and the lessons that emerged to the other countries and regions, potential donors, the GEF, and the international community at large.</p>
To UNIDO and Viet Nam:
<p>4 Viet Nam is one of the four participating countries of the regional project <i>Reducing uses and releases of chemicals of concern, including POPs, in the textiles sector</i> (GEF ID 10523) that is being developed by UNEP. Although the project under evaluation has ended, UNIDO and VEA, Viet Nam should consider establishing a cooperation with the UNEP-led GEF regional initiative, in order to promote the project results that could be mutually beneficial.</p>
To national governments:
<p>5 The findings of the evaluation clearly indicate that the waste recycling sector has a great potential and offers very promising investment opportunities for the private sector. It is therefore recommended that the countries take advantage of the momentum gained thus far to promote the project results, and encourage the private sector to invest in this sector. The financial mechanisms and incentive systems put in place by the project can be used to attract potential investors.</p>
<p>6 Open burning has stopped in all the project sites, thanks to the good awareness-raising campaigns undertaken by the project. The relevant authorities are encouraged to carry out further awareness-raising activities targeting the whole population, and including agricultural wastes to ensure no open burning across the country.</p>

D. Lessons learned

Two key lessons emerged:

1. A very high sense of ownership was seen among the stakeholders, local governments, and partners of the project. Involving key project partners and stakeholders early in the implementation process would facilitate their support and ensure their commitment.
2. The Ministry of Environment of the participating countries were responsible to execute components 1 and 4 of the project. This modality of project execution worked very well as all the countries succeeded in completing all activities and delivering the outputs very satisfactorily. Furthermore, it allowed the establishment of a good cooperation between the central and local governments, which facilitated the mainstreaming of law enforcement on open burning as well as building capacity on SWM at provincial level.

1. Introduction

1.1 Evaluation objectives and scope

1. This terminal evaluation (TE) had two main objectives. The first was to assess the project's performance based on the criteria of relevance, effectiveness, efficiency, sustainability, and impact. The second was to develop a series of findings, lessons, and recommendations for enhancing the design of new projects and implementation of ongoing projects by UNIDO. The assessment included an analysis of the completion of project activities, delivery of outputs, occurrence of outcomes, and of risk management. The key question was whether the project has achieved or is likely to achieve the main objective "to create resource-efficient waste management to reduce unintentionally produced Persistent Organic Pollutants (U-POPs) emissions through the introduction of Best Available Techniques / Best Environmental Practices (BAT/BEP)" in Cambodia, Laos, Mongolia, the Philippines, and Viet Nam, the five participating countries of this regional project. This question was addressed by assessing the extent to which the project contributed to put in place the conditions necessary to build the capacity of the participating countries for the sound management of wastes through the strengthening of regulations on waste management and the introduction of BAT/BEP.

2. The purpose of this evaluation exercise was also to draw lessons and recommendations for UNIDO and the GEF that could help improve on the identification, design, and implementation of future similar projects. This terminal evaluation report likewise includes examples of good practices for other projects. The evaluation covered the whole duration of the project from 1 April 2015 to 30 June 2022.

1.2 Project Context

3. Article 5(a) of the Stockholm Convention (SC) on Persistent Organic Pollutants (POPs) states that each Party to the Convention shall develop an action plan, or a regional or sub-regional plan to reduce the total release of chemicals listed in Annex C, with the goal of continuing the minimization, and where feasible, elimination. The five participating countries, located in the East and South-East Asia (ESEA) region, have all signed and ratified the SC, and have also completed and submitted their National Implementation Plans to the Stockholm Convention Secretariat. The development of the NIPs revealed a number of issues that have emerged as priority threats/root causes and barriers to be addressed.

4. The introduction of BAT/BEP in the different source categories in Annex C of the Convention is the most important practical measure to continuing minimization of unintentionally-produced POPs (UP-POPs), or more specifically polychlorinated dibenzodioxins and polychlorinated dibenzofurans releases (PCDD/PCDF).

5. According to the project document, the inventories of the participating countries revealed that the open-burning activities sector was accountable for a total of about 1,118 g TEQ/year PCDD/PCDF releases into the environment, one of the leading sources of UP-POPs. According to the UN Environment toolkit for identification and quantification of dioxin and furan releases, this sector includes – various biomass burning activities (agricultural residue burning, sugarcane burning, forest fires, etc.), waste burning, accidental fires, and backyard trash burning. Release reduction from these diffuse sources requires coherent legislative and institutional capacity from the government side as well as significant investments and technical capacity from the private/public sector.

6. The open burning sector involves two distinct sub-sectors – waste burning and accidental fires and biomass burning. Participating countries have different baseline situations, mainly depending on their financial, economic, and socio-economic status. The disposal of municipal wastes and other types of wastes are usually carried out in open dump sites, and in some isolated cases, in dedicated landfills.

7. The NIPs on POPs of the five participating countries list, among others, open burning, as a priority area to be covered and implemented.

1.3 Overview of the Project

8. The project was funded through a GEF grant, amounting to USD 7,560,000 (and PPG Grant of USD 200,000), a UNIDO co-financing of USD 256,000 (in-kind), and a total counterparts' co-financing of USD 32,776,434 (cash and in-kind) which amount to a total project budget of USD 40,336,434.

9. The main objective of the project was to create resource-efficient waste management systems to reduce U-POPs emissions through the introduction of BAT/BEP in open burning sources. To achieve this objective, the project design proposed four components on legislation improvement, institutional strengthening, demonstration activities, and education and awareness, which were expected to achieve the following four Outcomes:

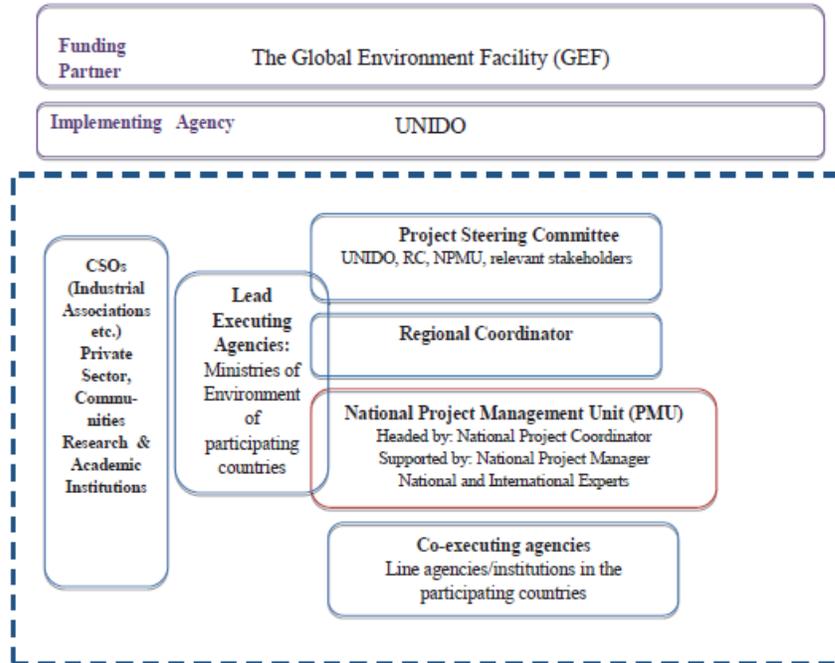
- Strengthened legislative capacity for introducing BAT/BEP in waste open burning source category;
- Enhanced institutional capacity to carry out BAT/BEP implementation;
- BAT/BEP implemented in open burning sources; and,
- Improved knowledge and understanding on BAT/BEP and on risks connected with U-POPs, GHG emissions, and other contaminants released through open burning.

10. With regard to implementation arrangements, UNIDO was the Implementing Agency (IA) for the project. The Ministry of Environment (MOE) of Cambodia, Ministry of Natural Resources and Environment (MONRE) of Lao PDR, Ministry of Environment and Tourism (MOET), Mongolia, Department of Environment and Natural Resources (DENR) of the Philippines, and Viet Nam Environment Administration (VEA) under the Ministry of Natural Resources and Environment (MONRE) of Viet Nam were the main national counterparts for project implementation.

11. A National Project Management Unit (PMU) was to be established in each country in the respective Ministry. A National Project Coordinator (NPC) was to be appointed by the respective Ministry to oversee the activities of the project, together with the National Project Manager (NPM), who was to be recruited on a part-time basis to manage and execute the day-to-day tasks of the project, and to formulate the national project workplan, based on the agreed regional workplan.

12. A Regional Coordinator (RC), who was to be under the supervision of UNIDO, was to be appointed from the recruited NPMs during the Inception Phase for the following tasks: to coordinate the day-to-day administration of the project, to coordinate timely inputs of different stakeholders, to coordinate the timely involvement of international experts, to plan and schedule the project meetings, and to supervise project-related publications.

13. A Project Steering Committee (PSC) was to be established comprising of UNIDO, the Regional Coordinator (RC), National Project Coordinators (NPC), National Project Managers (NPM), and other relevant stakeholders. The figure below summarizes the envisaged project implementation structure.



Source: CEO Endorsement document

Project factsheet

Project title	Demonstration of BAT and BEP in open burning activities in response to the Stockholm Convention on POPs
UNIDO ID	5082
GEF Project ID	150033
Country(ies)	Cambodia, Lao PDR, Mongolia, Philippines, Viet Nam
Project donor(s)	GEF-5
Project approval date/GEF CEO endorsement date	01-26-2015
Planned project start date (as indicated in project document/or GEF CEO endorsement document)	04-05-2015
Actual project start date (First PAD issuance date)	04-01-2015
Planned project completion date (as indicated in project document/or GEF CEO endorsement document)	04-30-2020
Actual project completion date (as indicated in UNIDO ERP system)	06-30-2022
Project duration: Planned:	5 years
Actual:	6.5 years
GEF Focal Areas and Operational Prog.	Chemicals and Wastes (Persistent Organic Pollutants)
Implementing agency(ies)	UNIDO, Department of Environment, Industrial Pollution Mitigation Division
Government coordinating agency	N/A
Executing Partners	Ministry of Environment (Cambodia), Ministry of Natural Resources and Environment (Lao PDR), Ministry of Environment and Green Development (Mongolia), Department of Environment and natural resources (Philippines), Viet Nam Environment Administration, Ministry of Natural Resources and Environment (Viet Nam), City of Kitakyushu, International Solid Wastes Association
Donor funding	GEF
UNIDO input (in kind, USD)	106,000 (cash) + 150,000 (in-kind)
Co-financing at CEO Endorsement, as applicable	\$ 32,776,434
Total project cost (USD), excluding support costs	\$ 7,560,000
Mid-term review date	October to December 2018
Planned terminal evaluation date	1 April – 30 June 2022

1.4 Theory of Change

14. As a GEF5 project, providing a theory of change (TOC), which is a methodology or management tool that explains the process of change by outlining causal linkages in the initiative (its shorter-term, intermediate, and longer-term outcomes) in the project document, was not a requirement. As per the terms of reference of this TE, the evaluation team developed a TOC (Figure 1), which was shared with the UNIDO PM and the UNIDO Evaluation Office during the inception phase.

15. The seven outputs as well as the four outcomes included in the TOC are those initially proposed in the project document. On the other hand, the evaluation team has proposed three intermediate states that indicate progress to longer-term impact. It is anticipated that once the

legislation has been strengthened, the relevant authorities in participating countries would take actions to prohibit open-burning practices and to promote sound waste management and recycling through establishment of financial mechanisms and incentive systems (Intermediate State 1). Once BAT/BEP has been implemented at the demonstration sites, it is expected that open burning will no longer occur at these sites; instead, the wastes would be soundly managed / recycled through application of BAT/BEP (Intermediate State 2). Finally, after the project, it is foreseen that the countries would continue to promote best alternatives to open burning and would facilitate the replication of BAT/BEP in other locations and municipalities (Intermediate 3). In the medium-to-long term, it is expected that the population and the environment in participating countries would be less exposed to U-POPs released from open burning (Impact statement).

16. Four key assumptions have been proposed in the TOC (Figure 1), and they relate to: the governments' commitment to strengthen / build national capacities for sound waste management using BAT/BEP; governments' support to the informal and private sectors involved in waste recycling industry through PPP arrangements and policies; the commitment of the governments to raise awareness targeting relevant populations and to promote best alternatives to open burning practices; and finally, the countries' commitment to enforce regulatory measures to discourage open burning practices. Three important drivers identified by the evaluation relate to: the project providing guidance for uPOP reduction and capacity building for BAT/BEP implementation; the project facilitating BAT/BEP implementation at the pilot sites; and, the project facilitating regional cooperation and information sharing on best alternatives to open burning.

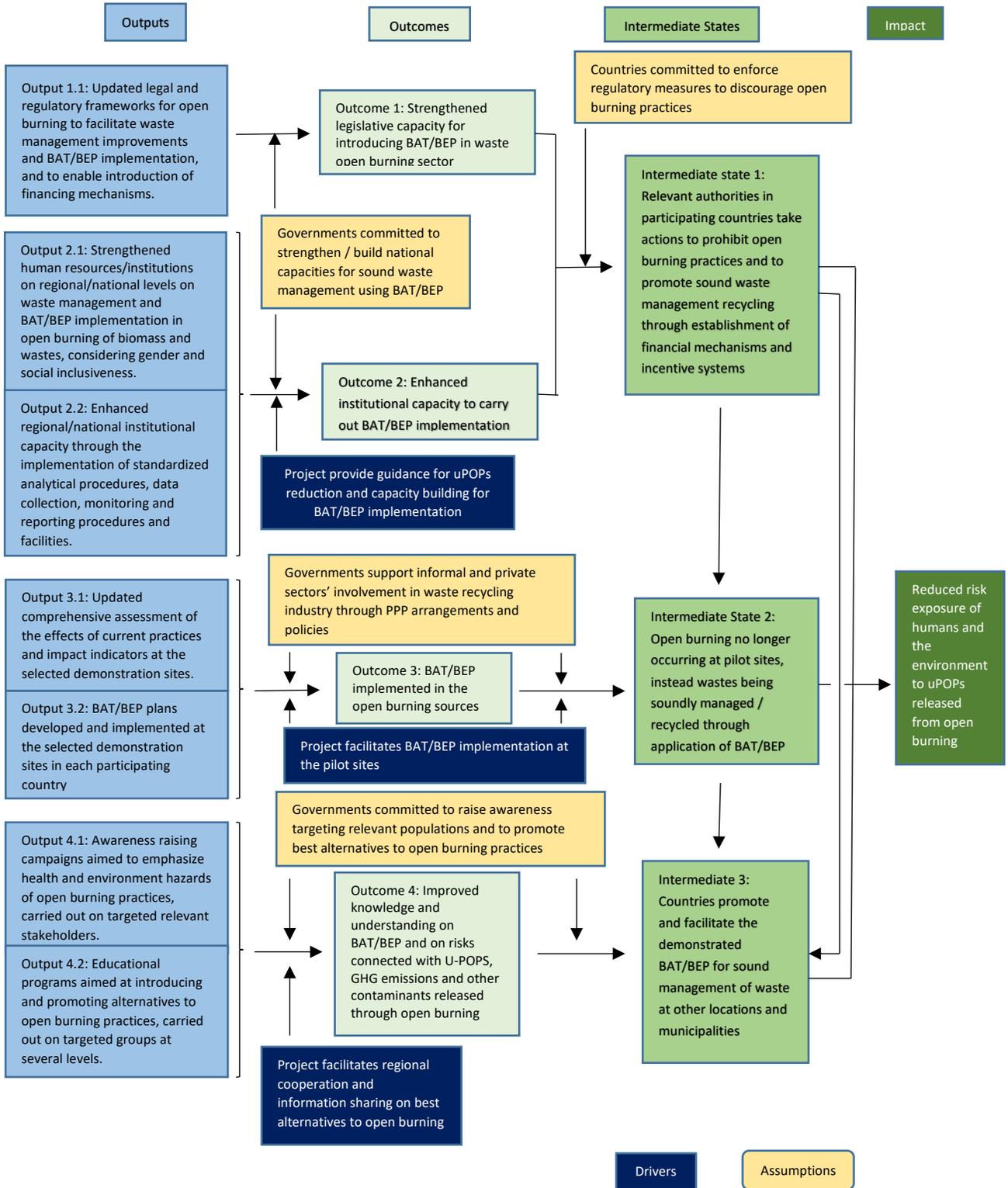


Figure 1: Theory of Change

I.5 Evaluation methodology

17. The TE was conducted in accordance with the UNIDO Evaluation Policy¹, the UNIDO Guidelines for the Technical Cooperation Project and Project Cycle², and UNIDO [Evaluation Manual](#). In addition, the GEF Guidelines for GEF Agencies in Conducting Terminal Evaluations, the GEF Monitoring and Evaluation Policy, and the GEF Minimum Fiduciary Standards for GEF Implementing and Executing Agencies were applied.

18. A participatory approach that sought to keep informed and consult all key stakeholders of the project was used throughout the evaluation process. Where appropriate, both quantitative and qualitative evaluation methods were used to determine project achievements against the expected outputs, outcomes, and impacts. The evaluation team consisted of Nee Sun Choong Kwet Yive, senior evaluation consultant (team leader), and Allan Villanueva, national evaluation consultant.

19. The evaluation was carried out from April to June 2022. As per the terms of reference for this TE, the evaluation team proposed a theory of change (TOC) (cf. Section 1.4) that was used to identify causal and transformational pathways from the project outputs to outcomes and longer-term impacts, drivers, and assumptions to achieve them. In particular, the evaluation assessed the extent to which the project contributed to put in place the conditions necessary to trigger the occurrence of the intermediate states, proposed in the TOC, to achieve the overall objective of the project.

20. A combination of methods was used to deliver evidence-based qualitative and quantitative information from various sources: desk studies, individual interviews, focus group meetings, and direct observation during country missions. The planning of the country visits and the persons to be selected for interviews were done in close consultation with the UNIDO Evaluation Office and the UNIDO Project Manager (PM). After taking into consideration the travel restrictions due to Covid19, it was agreed that the evaluation team would undertake field missions to Viet Nam and the Philippines, which took place on 23 – 26 May 2022 and 27 – 28 May 2022, respectively. During these missions, the evaluation team interviewed the key stakeholders, partners, and beneficiaries of the project, and conducted field visits at the pilot demonstration sites. The evaluation team also remotely interviewed all the key stakeholders of the three other participating countries (Cambodia, Laos, and Mongolia) as well as UNIDO, and the international consultants using available apps³. Prior to all the interviews (whether during missions or online), specific questionnaires⁴ were developed and emailed to all interviewees at least one week before the scheduled interview. They were requested to fill out these questionnaires and to email them back before the interview. In preparing for interviews and for the country visits, the evaluation team reviewed the extensive documentation provided by the UNIDO Project Manager, the regional project coordinator (RPC), the countries, and the consultants. These included the project documents, the independent midterm evaluation report, minutes of regional Project Steering Committee (PSC) meetings, annual and progress reports, Project Implementation Reports (PIR), awareness and training workshop reports, as well as technical reports of international and national

¹ UNIDO (2018). Director General's Bulletin: Evaluation Policy (UNIDO/DGB/2018/08)

² UNIDO (2006). Director-General's Administrative Instruction No. 17/Rev.1: Guidelines for the Technical Cooperation Programme and Project Cycle (DGAI.17/Rev.1, 24 August 2006)

³ Zoom, Skype, WhatsApp or Google Meet.

⁴ Annex 5 for set of questionnaires developed by the evaluation

experts. The full list of documents consulted and persons interviewed during the evaluation are given in Annexes 2 and 3, respectively.

21. The use of the theory of change approach, face-to-face as well as online interviews and desk review of the project documents allowed the evaluators to assess causality, explain why objectives were achieved or not, and to triangulate information.

1.6 Limitations of the Evaluation

22. No major limitations in terms of access to information was encountered. As aforementioned, a very substantive set of documentation was submitted to the evaluation team upon request (Annex 2). However, some of the stakeholders took time to respond to the evaluation team's request for interviews, and a few did not respond positively as they had very busy schedules. A few did not submit the filled-out questionnaire before the scheduled interview. Nevertheless, the evaluation team was able to obtain the required information during the interviews. The field mission in Viet Nam took place as scheduled, and was carried out by the evaluation team. For the mission in the Philippines, however, it was recommended that the team leader, based in Mauritius, would not participate as there might be unrest in the country due to the presidential election at the time of the mission. Thus, the field visits at the pilot sites and the interviews were carried out by the national evaluation consultant alone. He could travel without any difficulty to the demonstration sites in the cities of Koronadal and General Santos, where he met and discussed with the key stakeholders, partners, and beneficiaries of the project.

2. Project's contribution to Development Results - Effectiveness and Impact

2.1 Project's achieved results and overall effectiveness

23. Overall effectiveness is assessed on the extent to which the outputs have been successfully delivered and the outcomes achieved, and whether the objective of project has been met. To meet the objective of the project, twenty-nine activities were planned to deliver seven outputs that would contribute to four substantive outcomes. The assessment of the delivery of outputs as well as achievement of outcomes and project objective was based on whether their indicators proposed in the Project Results Framework (PRF)⁵ are available. The scale used for rating ranges from **Highly Satisfactory (HS)** to **Highly Unsatisfactory (HU)**⁶.

1.1.1 Delivery of outputs

24. The project has performed very satisfactorily in terms of delivery of outputs. As reported in Table 1, of the seven outputs, four have been rated **HS** and the three others **Satisfactory (S)**, respectively. The assessment, which is summarized below, was based on whether the target for indicators of the respective output has been achieved (Table 1). The outbreak of Covid19 at the beginning of 2020 affected mostly delivery for **Component 3**, as most activities were completed for the other components before the outbreak of the pandemic.

25. **Component 1**, whose focus was on legislation improvement, was designed to update national legal and regulatory frameworks for open burning in order to facilitate waste management improvements and BAT/BEP implementation, and to enable introduction of financing

⁵ Annex A of the project document

⁶ HS: highly satisfactory; S: satisfactory; MS: moderately satisfactory; MU: moderately unsatisfactory; U: unsatisfactory; and HU: highly unsatisfactory

mechanisms. Three of the four indicators for the output of this component have been fully achieved. The five countries have successfully updated their national regulations by including regulations on open burning (Indicator 1):

Cambodia:

- a. Technical Guidelines on Waste and Landfill Management Introducing BAT/BEP in Cambodia
- b. Solid Waste Management Including Mechanism Policy 2020-2030 to Reduce Open Burning in Cambodia

Laos:

- a. Article 38 of Environmental Protection Law, 2012 strengthened with widespread implementation of existing 3 Rs
- b. National Waste Management Strategy, the associated Action Plan for Waste Minimization and Recycling, and in the Framework for Sustainable Waste Management
- c. Co-regulatory instruments with industry, i.e., Circular Economy

Mongolia:

- a. Improvement of legal and regulatory frameworks for open burning to facilitate waste management improvements and BAT/BEP and to enable introduction of financing mechanisms
- b. Commissioning Act for permanent usage of the Landfill Cell for Ash Disposal and a Storage and Maintenance Facility
- c. Amendment of Law on Waste in Mongolia Approved and Ratified
- d. Assessment of the current status of implementation and achievement of NIP with proposed solutions for Sound Management of POPs

The Philippines:

- a. Passing of Resolution No. 1468 s 2021, meant to Strengthen the Enforcement of Republic Act (RA) 9003 or Ecological Solid Waste Management Act of 2000 on Open Burning of Municipal Solid Wastes Including Agricultural Wastes
- b. Stricter City ordinances on the use of plastic bags and segregated collection mandatory for barangays and private garbage collectors, on no segregation no collection policy.

Viet Nam:

- a. Law on Environment Protection (LEP) revised in 2020 for the enhancement of SWM practices
- b. Decree 08/2022/ND-CP included provisions on sound management of POPs, wastes and circular economy
- c. Circular 02/2022/TT-BTNMT included provisions on sound management of POPs and waste
- d. National Environmental Protection Strategy 2022, with provisions on waste segregation at source, increase reduction, collection, reuse and recycling of solid waste
- e. Amendment of the National technical regulation on industrial waste incinerators

- f. Developed technical guidance for environmental protection scheme for four types of craft villages
- g. Developed a draft national technical regulation on thresholds of POPs in articles, products, and equipment
- h. Draft Technical Guidelines in information disclosure and label of POPs
- i. Draft technical guidelines on retrieval and disposal of discarded products
- j. Draft regulation on (i) POPs exemption; (ii) common industrial solid waste management; and, (iii) hazardous waste management

26. All the five countries have put in place financing mechanisms and incentive systems in support of solid waste management (SWM) and BAT/BEP implementation (Indicator 2). For Indicator 3, an Integrated Solid Waste Management Toolkit to implement BAT/BEP on open burning was developed by an international expert and disseminated to key stakeholders of all the 5 countries. A software (WAPLA) for Solid Waste Management Plan Toolkit was also developed by the TU Wien⁷. In the context of **Component 2**, the countries were trained in using the SWM toolkit and WAPLA. During a coordination meeting between the UNIDO and the NPMs, it was considered that all countries already had “mature” policies on SWM in place. It was thus agreed that a regional training program (training of trainers) with 4 trainees per country (2 males, 2 females) on policies, regulations, and standards (Indicator 4) would not be undertaken. Although the regional training was not carried out, **Output 1.1** is nevertheless rated **Satisfactory**.

27. **Component 2** was designed for institutional strengthening to implement BAT/BEP in the participating countries. As reported in Table 1, the project has satisfactorily performed for this component; both outputs for this component have been rated **Satisfactory**. Under **Output 2.1**, the project platform (or website) <http://stopopenburning.org> (Indicator 1), which was developed by AECOM Philippines Consultants Corp., enabled the participating countries to share knowledge, best practices, and lessons learned. According to AECOM, since its launching in March 2017 and up to October 2020, the countries posted on the website a total of 26 articles as well as numerous photos and brochures. AECOM also reported that from May 2020 up to May 2021, 1,365 visitors logged in on the website, of which 94.6% were new visitors. The website was managed and maintained by AECOM up to the end of May 2021 (end date also of the licensing of the website) as per the terms of agreement of the contract. After that date, the website has been deactivated, and the materials of the website’s domain were submitted to UNIDO. Following a recommendation made by the MTE, it was agreed that the Department of Environment and Natural Resources (DENR) of the Philippines would be responsible to manage, maintain, and update the website after project closure. At the time of the evaluation, the website was not working. It is therefore recommended that project management and DENR take the necessary actions for the reactivation of the website so that the project results and lessons can be promoted and shared to other agencies, countries of other regions, donors, and the international community at large. All the five participating countries have also developed a national website⁸ dedicated to “stop open burning”, which is linked to the regional website. Under this output, two regional trainings were carried out successfully (Indicator 2). The first training of trainers (TOT) on Solid Waste Management (SWM) Toolkit was successfully conducted from 27 February – 1 March 2018, back to back with the 3rd Project Steering Committee (PSC) meeting, in Manila, the Philippines. Twenty

⁷ Vienna University of Technology

⁸ Cambodia: <http://www.stopopenburningcam.org/en>; Lao PDR: <http://www.stopopenburninglaos.org/>; Mongolia: <http://stopopenburningmn.org/eng/>; Philippines: <https://stopopenburningph.org/>; Viet Nam: <https://stopopenburningVietNam.org/en>

two participants (15 males and 7 females) from the five countries attended the workshop. According to feedback gathered after the workshop, in general, the participants found the workshop content to be complete, effective and informative, and made some suggestions such as inclusion of more technologies for solid waste processing for improvement. Due to Covid19, the second regional training on WAPLA was carried out online on 23 – 25 November 2020 and 1 – 2 December 2020. The workshop on education and training on application of financing mechanisms and incentive systems in support of BAT/BEP implementation (Indicator 3) was carried out in four of the five countries and cancelled in Viet Nam due to Covid19 (this activity was replaced by development of regulations on hazardous waste management supporting the implementation of the LEP 2020). A standardized methodology for site inventorying was developed by an international expert and adopted by all the five countries, which applied it satisfactorily to update their national inventories on type and number of disposal sites (Indicator 4).

28. For **Output 2.2**, while the targets for indicators 1, 3, and 4 were fully met, the target for indicator 2 was only partially achieved (Table 1). As documented, standardized methodologies were developed by an international expert and shared with all participating countries (Indicator 1). Similarly, a regional training of trainers (TOT) on POPs analysis and sampling was conducted on 20 – 30 November 2017 by the dioxin lab of the Northern Center for Environmental Monitoring (NCEM), Hanoi, Viet Nam (Indicator 3). The ten participants (6 males and 4 females) of the workshop from the five countries (two from each country) were highly satisfied with the training. A survey carried out by CERM a few weeks after the training revealed that eight of the ten participants, who responded to the questionnaire emailed to them, had shared or planned to share the achieved knowledge, the expertise gained, and the training materials received, to their colleagues. And four of them reported that they already have plans to apply the knowledge and expertise gained during the training for sampling and analysis of POPs. NCEM was identified in the region to carry out trainings on U-POPs monitoring (Indicator 4). According to available information, only Mongolia requested to supplement its laboratory with equipment as others had sufficient facilities. It was also pointed out that the additional equipment was procured from the restructured budget which Mongolia decided to use to strengthen its laboratory facilities. This explained why indicator 2 was not completely achieved and thus a **Satisfactory** rating was attributed to **Output 2.2**.

29. **Component 3**, whose focus was on demonstration activities, consisted of two outputs. NCEM was sub-contracted to carry out the activities for **Output 3.1**, which was to undertake an updated comprehensive assessment of the effects of current practices and impact indicators at the selected demonstration sites. Indicator 1 for this output was: *At least 5 sampling campaigns on each of the demonstration sites on ambient air, soil, and leachate collected and analyzed for U-POPs and related contaminants at each demonstration site aimed to assess the effects of current practices* (Table 1). However, taking into consideration the cost implication, the “verifiability” of the dioxin analysis at the sites (especially on the contribution of other factors), and that the effective impact in terms of dioxin decrease of the project interventions would not be reflected yet at the sites, it was agreed to carry out only one sampling exercise⁹ before the project interventions at each of the demonstration sites for all the matrices (air, water, soil, and ash), which would serve as baseline. It was also agreed that the dioxin reduction as well as carbon dioxide emission reduction would be calculated using emission factors rather than based on

⁹ Reported in the first PIR of 2016

actual analysis and monitoring. The evaluation finds this explanation to be very valid and considers that planning for 5 sampling campaigns was not cost-effective and unrealistic. In particular, considering that the BAT/BEP pilot demonstrations were completed in the last year of implementation, it would not have been feasible to plan the remaining four sampling campaigns at the project sites for monitoring. The only agreed sampling campaign to analyze for dioxins, mercury, and greenhouse gases was carried out in the five countries by NCEM during the period November 2019 and May 2020. For Cambodia, Laos, and Viet Nam, the collection of air, water, and soil samples were carried by NCEM teams between during 5 December 2019 – 8 February 2020. For Mongolia and the Philippines, due to Covid19 and travel restrictions, the collection samples was sub-contracted to a local laboratory, and the samples were then shipped to NCEM in May 2020 for analysis. As reported in Table 4, the target for indicator 2, which was to reduce CO₂ emissions by 20%, has been largely exceeded, i.e., 91% reduction. For this reason, **Output 3.1** has been rated **HS**.

30. The focus of **Output 3.2** was the implementation of BAT/BEP demonstration activities. However, following requests from national and local authorities, most of the project interventions as well as the project locations changed. As reported in Table 2, except for the intervention planned at the Saplast recycling plastic company in Laos, for the others, either interventions changed or the locations changed, and in some cases, both intervention and location changed. These changes caused delays in project execution at most of the demonstration sites. As evidenced in the Project Implementation Report (PIR) of 2019, except for the Philippines, in General Santos City, where the refurbishment of a Central Materials Recovery Facility (CMRF) was already completed, the other demonstration sites were lagging behind. It was for this reason that the MTE¹⁰ recommended a project extension to allow the completion of activities for this output. With the 18 months extension that was granted, integrated management plans have been developed and all the BAP/BEP interventions were completed in all countries (Indicator 1). The project could successfully procure and deliver all the equipment to the other demonstration sites. It is worthy to note that despite being contacted only in July 2020, Koronadal City was able to deliver within the timeframe of the agreement with DENR. However, due to a problem of electricity wiring, only the bottle crushers of all the equipment procured (one sorting conveyor, two bottle crushers, one plastic chair moulder machine and a generator set) for the MRF were operational. According to information gathered during the field mission, the MRF would be fully operational before the end of 2022, and it was anticipated that 60-70% of wastes generated in the city would be recycled. On the other hand, all the BAT/BEP interventions at the other demonstration sites were fully operational.

31. In terms of dioxin reduction (Indicator 2 for **Output 3.2**), the project has performed beyond expectation. While it anticipated a reduction of at least 90% in U-POPs emissions at the demonstration sites, which would amount to a total of 35,167.2 mgTEQ¹¹ not released to the environment annually, the actual achieved total dioxin reduction would amount to 41,126.60 mgTEQ per year once all the BAT/BEP interventions would be fully operational in the five countries (Table 3). It should be pointed out, however, that the interventions were different. For the increase in reused/recycled material (Indicator 3) and decrease in CO₂ reduction (Indicator 4), the project has exceeded the expected results (Table 4), 860% and 91% achieved against target values of 30% for both indicators, respectively. The % of increase in reused/recycled

¹⁰ The MTE was carried out during the period October – December 2018

¹¹ According to the table on page 26 of the project document

materials was based on the production capacity of the enterprises before and after the project interventions. As regards business created/upgraded (Indicator 5) and jobs created (Indicator 6), three businesses have been upgraded: Saplast in Laos, PPH plastic recycling company in Cambodia, and the plastic recycling facility in Viet Nam), and 70 jobs have been created in the five countries (Table 4). In view of these outstanding achievements, **Output 3.2** is rated **HS**.

32. **Component 4** relates to education and awareness. Two outputs were designed to achieve the outcome for this component. **Output 4.1** was related to awareness-raising campaigns aiming to emphasize health and environment hazards of open burning practices, and targeting relevant stakeholders. As mentioned under **Component 2**, a regional website as well as 5 national websites, promoting project results and achievements, have been satisfactorily developed (Indicator 1). All the countries have produced numerous information, education and communication (IEC) materials, including posters, brochures, leaflets, and videos both in English and local languages, as well as information on business opportunities and financing mechanisms in waste management sector (Indicator 2). Targeted awareness-raising campaigns were successfully implemented and delivered (Indicator 3) in all five countries. The highlight for these awareness-raising activities was the Photo and Poster Contest that was open to schools in the five countries. Two winners from each participating country were invited to the UNIDO HQ in Vienna for a regional contest, which took place on 20 September 2017. Indicator 4 (Table 1) for this output has been fully achieved, noting that the regional training part was fully covered during the regional workshop carried out under **Output 2.1**. Various materials and merchandise leaflets, posters, hats, shirts, pamphlets, brochures, booklets, eco & drawstring bags, umbrellas, mugs, hand fans, and colouring books were produced and distributed to the people / stakeholders attending the different events on awareness raising. Given the achievements accomplished, **Output 4.1** is rated **HS**.

33. **Output 4.2**, which concerned educational programs aiming to introduce and to promote alternatives to open burning practices, and targeting groups at several levels, has been successfully achieved. Training course on open burning and integrated waste management opportunities (Indicator 1) as well as specific training course targeting relevant stakeholders and businesses in the waste and recycling sectors (Indicator 2) have been successfully carried out in all the five participating countries. Similarly, all the countries have developed university curricula on U-POPs and BAT/BEPs (Indicator 3). For example, in Laos, since 2018, the department of engineering, National University of Laos, has already introduced UPOPs, and BAT/BEP in waste management in one module of its Industrial Engineering Program. The syllabus of this 38-hour module covers various topics including POPs and related compounds, open burning, the obligations of parties of Stockholm Convention on POPs, sources of POPs, and effects on human health, ecosystems and wildlife, and solid waste management in Laos. **Output 4.2** is rated **HS**.

34. To rate the achievement of outputs, the ratings have been converted to scores. Then the average score for all the outputs have been calculated and reconverted to a rating again (see Table 5). Based on this approach, **Delivery of outputs** is rated **Highly Satisfactory**.

Table 1: Delivery of outputs

Outputs	Target/Indicators	Comments	Rating
Output 1.1: Updated legal and regulatory frameworks for open burning to facilitate waste management	1. Inclusion of regulations aimed to discourage open burning in national legislations; setting up the legal framework to enable incentive systems and financial support for integrated waste management	1. All 5 countries satisfactorily updated their regulations to discourage open burning 2. Financing mechanisms and incentive	S

improvements and BAT/BEP implementation, and to enable introduction of financing mechanisms.	<p>systems.</p> <p>2. Introduction of financing mechanisms and incentive systems in the updated legislation in support of BAT/BEP implementation.</p> <p>3. One toolkit for waste management and 1 manual for financing mechanisms / incentive systems in each participating country.</p> <p>4. At least one regional training program (training of trainers) with 4 trainees per country (2 males, 2 females) on policies, regulations and standards. Special consideration of gender.</p>	<p>systems introduced in all countries</p> <p>3. An Integrated Solid Waste Management Toolkit to Implement BAT and BEP in Open Burning available and manual for financing mechanisms in each country available</p> <p>SWM tool and WAPLA software developed by TU Wien</p> <p>4. Regional training workshop not undertaken as national stakeholders already have policies on SWM and aware of open burning issues</p>	
Output 2.1: Strengthened human resources / institutions on regional /national levels on waste management and BAT / BEP implementation in open burning of biomass and wastes, considering gender and social inclusiveness.	<p>1. Introduction of a web-based platform for regional cooperation on academic and professional levels.</p> <p>2. At least 20 trainees on BAT/BEP and landfill management.</p> <p>3. At least 10 trainees on financing mechanisms and incentive systems</p> <p>Standardized methodology for site inventorying adopted. National inventories on type and number of disposal sites updated</p>	<p>1. Project website created: http://stopopenburning.org</p> <p>2. Regional training carried out on 27 Feb – 1 March 2018 and attended by 22 participants (7 females, 15 males) from the 5 countries.</p> <p>Due to Covid19, online regional training on WAPLA for solid waste management by TU Wien, 23 Nov – 2 Dec 2020</p> <p>3. Training cancelled in Viet Nam due to Covid19. Completed in the 4 other countries</p> <p>Completed in all countries</p>	S
Output 2.2: Enhanced regional/national institutional monitoring capacity through the implementation of standardized analytical procedures, data collection, monitoring and reporting procedures and facilities.	<p>1. Standardized methodologies adopted for the continuous update of U-POPs release inventory.</p> <p>2. Capacity of at least 3 main laboratories in the region strengthened to enable U-POPs analyses/monitoring.</p> <p>3. 2-3 technicians trained for U-POPs analyses/monitoring in at least 3 laboratories. At least 1 researcher per country trained in evaluating and reporting on UP-POPs data</p> <p>At least 1 institution identified in the region to carry out trainings on U-POPs monitoring.</p>	<p>1. Standardized methodologies developed by an international expert and shared with all participating countries</p> <p>2. Only one lab requested for capacity strengthening</p> <p>3. Regional Training of Trainers (TOT) on POPs Analysis and Sampling conducted in 2017 by the dioxin lab, NCEM and was attended by all countries.</p> <p>4. Dioxin lab of the Northern Center for Environmental Monitoring, Hanoi, Viet Nam identified</p>	S
Output 3.1: Updated comprehensive assessment of the effects of current practices and impact indicators at the selected demonstration sites.	<p>1. At least 5 sampling campaigns on each of the demonstration sites on ambient air, soil and leachate collected and analyzed for U-POPs and related contaminants at each demonstration site aimed to assess the effects of current practices.</p> <p>2. At least 20% CO₂ reduction achieved from demonstration projects. Climate change aspects assessed on every demonstration site.</p>	<p>1. Only one sampling campaign instead of five carried out at the demonstration sites</p> <p>2. Reduction by about 91% according to the international expert</p>	HS
Output 3.2: BAT/BEP plans developed and implemented at the selected demonstration sites in each participating country.	<p>1. Integrated waste management plans developed for the selected sites. BAT/BEP interventions carried out at the selected sites.</p> <p>2. At least 90% U-POPs reduction achieved in the demonstration sites</p> <p>3. Increase of at least 30% of reused / recycled materials.</p> <p>4. At least 30% CO₂ reduction achieved as co-benefit of the BAT/BEP implementation</p> <p>5. At least one business created/upgraded in the recycling/collection of different waste streams in all participating countries</p> <p>6. At least one additional job created in the enterprises involved.</p>	<p>1. Integrated management plan, guideline or model developed in all countries. BAP/BEP interventions completed in all countries</p> <p>2. More than 90% U-POPs emission reduction estimated by international expert</p> <p>3. Reused/recycled materials much higher (362%) than 30% at demonstration sites</p> <p>4. Reduction in CO₂ release much higher (91%) than 30% according to the international expert</p> <p>5. Three business upgraded in waste stream in all participating countries</p> <p>6. 70 jobs created in the enterprises / institutions involved</p>	HS
Output 4.1: Awareness raising campaigns aimed to emphasize	<p>1. Project website developed and promoted at the regional level</p> <p>2. Materials produced in English and main</p>	<p>1. Project website as well as 5 national websites developed</p> <p>2. Numerous materials produced and</p>	HS

health and environment hazards of open burning practices, carried out on targeted relevant stakeholders.	local languages, including information on business opportunities and financing mechanisms in waste management sector. 3. At least 2 targeted awareness raising campaigns implemented and delivered. 4. At least 5 National training courses and one regional training program with 10 trainees on health and environmental topics of open burning practices	promoted 3. Completed in all countries 4. All activities successfully and reports available	
Output 4.2: Educational programs aimed at introducing and promoting alternatives to open burning practices, carried out on targeted groups at several levels.	1. At least 1 training course on open burning and integrated waste management opportunities delivered per country. 2. At least 1 training course for interested stakeholders and businesses carried out per demonstration site. 3. At least 1 university curricula on U-POPs and BAT/BEPs developed per country.	1. Training course on open burning and integrated waste management successfully carried out in all countries 2. Training course carried out in all countries 3. All countries developed university curricula on POPs and BAT/BET	HS

Table 2: Change of project sites and interventions

Country	Sites and interventions at design	Sites and interventions during implementation
Cambodia	Kampot or Phnom Penh - Open dumpsites be converted to a controlled site	Battambang – Composting plant by COMPED company-
		Battambang – Plastic recycling plant by Plastic Products company
		Battambang – Rehabilitation of a recycling line by Leap Lim Company
Laos	Support current recycling activities of the Saplast company	Support current recycling activities of the Saplast company
	Vientiane - Material Recovery Facility established at premises of a landfill	Thakek District, Khammouane Province – Establishment of a Material Recovery Facility
Mongolia	Rehabilitation of the Morin Davaa Disposal Site in Ulaanbaatar	Establishment of a new cell for hot ash (from ovens in gers) storage at Tsagaanavaa dumpsite in Ulaanbaatar
Philippines	General Santos City – Rehabilitation of Tumbler dumpsite	General Santos City – Establishment of a Material Recovery Facility at sanitary landfill
	Lapu Lapu City – Rehabilitation of dumpsite	Koronadal City – Improvement of a Material Recovery Facility at Barangay Paraiso dumpsite
Viet Nam	Nam Dinh craft village, North of Viet Nam – Improvement of informal aluminum recycling activity	Phan Boi craft village – Refurbishment of an existing plastic line
		Minh Khai craft village – Introduction of one production line for plastic scraps and one recycling plastic line

Table 3: Dioxin emission reduction at demonstration sites

Country	At design		During implementation	
	Location	Achieved dioxin reduction (mgTEQ/year)	Location	Achieved dioxin reduction (mg TEQ/year)
Cambodia	Kampot	543.7	Battambang	4,876.80
Laos	Vientiane – Saplast	8,113.3	Vientiane – Saplast	4,347.20
	Vientiane – MRF		Thakek – MRF	
Mongolia	Ulaanbaatar – Morin Davaa	9,093.2	Ulaanbaatar – Tsagaan Davaa	22,150
Philippines	General Santos – Dumpsite	7,922.2	General Santos – CMRF	4,526.00
	Lapu Lapu City – dumpsite	6,070.2	Koronadal City – MRF	1,131.50

Country	At design		During implementation	
	Location	Achieved dioxin reduction (mgTEQ/year)	Location	Achieved dioxin reduction (mg TEQ/year)
Viet Nam	Nam Dinh – Aluminum recycling	3,424.6	Phan Boi – Recycle plastic	4,095.10
			Minh Khai – Recycle plastic	
Total		35,167.2	Total	41,126.60

Table 4: CO₂ emission reduction, increase in reused/recycled material and jobs created

	CO ₂ reduction (tons/year)	% CO ₂ reduction ¹	% increase* in reused / recycled material ²	Number of jobs created ³
Cambodia	84,129	83%	860%	8
Laos	82,737	85%	150%	8
Mongolia	71,450	100%	N/A	4
Philippines	79,082	100%	N/A	45
Viet Nam	19,815	87%	76%	5
Total	317,399	91%⁴	362%⁴	70

Target values as per project document: %20¹; 30%²; 1 per project site³; ⁴average value; *values calculated based on recycling capacity of enterprises before and after project interventions

Table 5: Rating of components and overall rating for achievement of outputs

Component	Outputs	Rating	Score*	Average score	Component Rating
Component 1	Output 1.1	S	5	5	S
Component 2	Output 2.1	S	5		
	Output 2.2	S	5	6	HS
Component 3	Output 3.1	HS	6		
	Output 3.2	HS	6	6	HS
Component 4	Output 4.1	HS	6		
	Output 4.2	HS	6	5.5	HS
Total and average score/Overall rating**			39		

*HS: 6; S: 5; MS: 4; MU: 3; U: 2; HU: 1; **Total score and average score for outputs and overall rating for achievement of outputs

2.1.2 Achievement of outcomes and project objective

35. The assessment of project objective and outcomes was based on the availability of the indicators proposed in the PRF of the project document. Similar to outputs, the rating scale used was from **HS** to **HU**. Table 6, which summarizes this assessment, indicates a very satisfactory achievement of results. The project objective has been highly rated (**HS**) given that its indicator has been fully met: an achieved total dioxin reduction of 41,126.60 mgTEQ/year against a total of 35,167.2 mgTEQ/year planned at design. Although, the interventions have changed (cf. Section 2.1.1 under **Component 3**), it is worthy to note that this increase in dioxin reduction has been achieved within the planned initial allocated budget, indicating the good cost effectiveness of project. The project has performed also very satisfactorily in the achievements of outcomes (cf. Table 6). Under **Outcome 1**, all the countries have successfully included new sets of guidance/guidelines in national legislations focusing on BAT/BEP, U-POPs, and open burning control measures (Indicator 1). According to available information, the countries are already enforcing these new regulations to prohibit open burning. The countries have also developed incentives systems and financing mechanisms for the adoption of BAT/BEP (Indicator 2) that

would encourage the private sector to engage in waste recycling. **Outcome 1** has been rated **Satisfactory**.

36. **Outcome 2** was to build enhanced institutional capacity in all countries to carry out BAT/BEP implementation. The target for both indicators of this outcome has been fully achieved. The Ministry of Environment of the five countries are hosting and managing the national project site where the project results as well as lessons and good practices are posted (Indicator 1). Only one lab had its capacity strengthened (Indicator 2) through procurement of equipment by the project as it was the only one that made a request for improving its capacity. However, six labs are fully equipped for UPOPs analysis. Furthermore, as mentioned earlier (cf. Section 2.1.1 under **Component 2**), four participants of the regional training carried by NCEM had plans to apply the knowledge and expertise gained during the training for sampling and analysis of POPs in their respective countries. **Outcome 2** is rated **Satisfactory**.

37. **Outcome 3** has been rated **HS** given that all the indicators have been fully achieved, and exceeded in many cases (Table 6). Open burning has completely stopped in all project locations, and targets for indicators 2, 3, and 5 have been well exceeded. In particular, people of local communities, such as waste pickers, have been recruited for most of the jobs created (Indicator 5). The project has been very effective in mobilizing a total of \$37,235,000, invested by municipalities and companies for recycling and sound management of solid waste at the pilot sites in the five countries.

38. The project has performed very satisfactorily for **Outcome 4** as well. Targets for the three indicators have been fully met. In particular, the Ministry of Environment of each country, which is hosting the project website, has been very active in dissemination and awareness activities promoting the project results and good practices for sound waste management. Furthermore, in all countries, universities have already integrated topics on POPs, BAT/BEP, and sound waste management, among others, in the syllabus of relevant programs they offer. **Outcome 4** has been rated **HS**.

39. Based on the same approach used for the overall rating of outputs¹², **Achievement of Outcomes and Project Objective** has been rated **HS**.

Table 6: Achievement of Outcomes and Project Objective

Project Objective	Indicators	Comments	Rating
Create resource efficient waste management to reduce U-POPs emissions through the introduction of BAT/BEP in open burning sources	Achieve a reduction of approximately 90% (35167.2 mgTEQ/year) of current PCDD/PCDF releases at the pilot demonstration activities in the participating countries	Target exceeded: reduction of 41,126.60 mgTEQ/year achieved; interventions changed however	HS
Outcomes	Indicators	Comments	Rating
Outcome 1: Strengthened legislative capacity for introducing BAT/BEP in waste open burning sector	<ol style="list-style-type: none"> 1. New sets of guidance/guidelines in national legislations focusing on BAT/BEP, U-POPs and open burning control measures adopted. 2. Incentives systems and financing mechanisms for the adoption of BAT/BEP developed. 	<ol style="list-style-type: none"> 1. Fully achieved in all five countries 2. All five countries developed incentive systems and financing mechanisms for BAP/BEP adoption 	S

¹² 3HS (3x6) + 2S (2x5) = 28. Average score = 28/5 = 5.6, which corresponds to HS

<p>Outcome 2: Enhanced institutional capacity to carry out BAT/BEP implementation</p>	<ol style="list-style-type: none"> At least 5 institutions in the region identified to act as sharing information centers for POPs and open burning related topics. At least 2 laboratories in the region strengthened for POPs analysis and 2 for analysis of basic parameters in landfill management. 	<ol style="list-style-type: none"> The Ministry of Environment of the five countries are hosting the national project site Only one lab strengthened; other labs did not request support for strengthening 	<p>S</p>
<p>Outcome 3: BAT/BEP implemented in open burning sources</p>	<ol style="list-style-type: none"> At least 90% (35167.2 mgTEQ/year) U-POPs reduction due to BAT/BEP implementation and proper waste segregation/ recycling at the demonstration sites. At least 20% CO₂ reduction achieved from the demonstration activities. Increase of at least 30% of reused/recycled materials At least one business created/upgraded dealing with recycling At least one job created in the recycling facilities US\$ invested in recycling and proper waste management 	<ol style="list-style-type: none"> Target exceeded: 41,126.60 mg/TEQ/year of dioxin reduction if all BAT/BEP interventions fully operational Target exceeded: 91% CO₂ reduction if all interventions operational Target largely exceeded: 362% increase Target achieved 70 jobs created in the five countries \$37,235,000 invested by municipalities and companies 	<p>HS</p>
<p>Outcome 4: Improved knowledge and understanding on BAT/BEP and on risks connected with u-pops, ghg emissions and other contaminants released through open burning</p>	<ol style="list-style-type: none"> At least two awareness raising campaigns conducted. Number of participants (male/female in the awareness raising campaigns) At least 1 institution per country engaged to conduct dissemination and awareness activities. Inclusion of U-POPs/open burning topic in at least 1 university education curricula per country. 	<ol style="list-style-type: none"> Two awareness-raising campaigns conducted in all five countries (2,905 males and 2,688 females*) Ministry of Environment of each country engaged to conduct dissemination and awareness activities UPOPs and open burning topics included in university curricula in all five countries 	<p>HS</p>

*Excluding Laos which did not report data on participation of males and females in awareness-raising events

2.2. Progress towards impact

40. Impact can be assessed through the extent to which the project interventions have brought about changes in the human condition or in the environment. Whether intended or unintended, changes can be positive or negative. For this project, there was no evidence of negative impacts on human health or on the environment. As discussed earlier, the project objective of reducing at least 90% of UPOPs emissions at the project sites has already been successful achieved (See Section 2.1.2, paragraph 35 and Table 6). In the long term, if the project-supported interventions were replicated and/or scaled up across all the participating countries, it is anticipated a total reduction of 825 gTEQ¹³ of dioxin emission. Progress towards this long term impact has been discussed at three levels: (i) Behavioral changes; (ii) Broader adoption; and, (iii) Emergence of the TOC intermediate states.

2.2.1. Behavioral changes

41. Behavioral changes have been discussed according to the following three aspects: (i) Economically competitive – Advancing economic competitiveness; (ii) Environmentally sound – Safeguarding environment; and, (iii) Socially inclusive – Creating shared prosperity; which are discussed below:

¹³ Figure compiled from the project document and representing the total estimated dioxin emission from open burning in the five participating countries

42. **Economically competitive** – This aspect of change is directly relevant to the transfer of BAT/BEP or cleaner technology to the beneficiary partners of the project. They all¹⁴ agreed that the procured equipment or production lines and technical support provided (through national and international experts) contributed to significantly increase productivity at their enterprises and improve the working conditions of their employees. For example, Saplast located in Vientiane, Laos, which is involved in the production of recycled High Density Polyethylene (HDPE) pipes from plastic wastes since 2014, was provided with a new plastics pelletizing line and two new plastic pipes production lines (Figure 2). With these new lines, production of 100 meters of HDPE pipes takes only 30 minutes instead of 1 ½ hours. The new pelletizing line has a higher capacity, i.e., 7.4 tons/day against 2.5 tons/day for the older one.



Figure 2: Picture¹⁵ of new HDPE pipe production line at Saplast

43. Similarly, the Plastic Product Handicraft (PPH) in Cambodia, a family enterprise, which was established in 2017, was provided with a new production line to recycle used plastic bags with a higher processing capacity of 4.8 tons/day against an existing capacity of 0.5 ton/day (Figure 3). With this new line, they were able to increase the processing of waste plastic bags from 35 – 40 tons to 60 – 70 tons monthly. The production of recycled plastic bags also increased from 8 to 12 – 15 tons monthly depending on the demand¹⁶.



Figure 3: Pictures¹⁷ from left to right – Ballots of waste plastic bags, new production line, recycled plastic bags

44. The Minh Khai craft village, Hung Yen Province, Vietnam was provided with a production line for recycling of plastic wastes, which they used to manufacture bricks, tiles, and materials that could be used for roofing. The pictures displayed below (Figure 4) were taken by the evaluation team during the field mission at the craft village on 25 May 2022. It is worthy to note the innovative way of the Lego-like mounting of the bricks to construct walls as seen in the 3rd

¹⁴ Interview data

¹⁵ Picture submitted by the project team

¹⁶ Interview data

¹⁷ Pictures submitted by the project team

picture from the left of Figure 4. The last picture shows a small building totally constructed (floor, wall, and roof) with the recycled materials, and which was displayed at the premises of the facility. According to testing and analyses done by the Viet Nam Institute of Building Materials, these new materials were compliant with the national norms and standards, and could therefore be used as building materials. To showcase the potential of these new recycled materials, the national consultant¹⁸, involved in the Minh Khai demonstration project, used these new materials to construct his new office building at his recycling facility in Hanoi (Figure 5)¹⁹. The costs of these new materials are 40% cheaper than normal construction materials (normal bricks, concrete, etc.)²⁰. At the time of the evaluation, the demonstration phase was completed at the Minh Khai craft village, and they were in the marketing phase to sell their products. The CMRF at General Santos City, in the Philippines and the Tsagaan Davaa sanitary landfill have also invested to produce recycled tiles and bricks from wastes. Although, they are still in the development phase, they are planning to commercialize these recycled products.



Figure 4: Left to right – tiles, bricks, Lego-like assembly of 3 bricks, demonstration building



Figure 5: Pavement, flooring, wall, and roof in the pictures made of recycled materials produced at Minh Khai

45. **Environmentally sound** – The aim of the project was to reduce UPOPs emission from open burning through awareness raising and implementing BAT/BEP interventions in the five participating countries. There is clear evidence that through the project interventions, behaviors are changing and impact is already visible at the pilot demonstration sites. In Mongolia, for example, about 220,000 households use coal for cooking and heating during the very cold season. A very large proportion of these households live in gers and use coal stoves for cooking and heating. Figure 6 below shows the picture of a ger, which is a round hut that can quickly be assembled and disassembled, and that of a commonly used stove in the gers. The ashes were generally mixed with household wastes and collected in outside bins. The ashes, still hot, with a content of unburnt carbon, once dumped to bins and transported to the Tsagan Davaa dumpsite were responsible for daily big fires. With the rehabilitation of the dumpsite: Ulaanbaatar City

¹⁸ Owner of a facility recycling plastic wastes since more than 20 years

¹⁹ Pictures of Figure 5 submitted by the national consultant

²⁰ Interview data

constructing an MRF with an automatic sorting and converter system for receiving and sorting wastes from households, and the project providing a dedicated cell for the hot ashes, the situation dramatically improved and open burning totally stopped at the dumpsite²¹ (Figure 7). The project also provided the ger household communities with metallic bins to collect the hot ashes, which were then transported to the dedicated ash cell. Backyard burning of wastes, which was a common practice, completely stopped as a result of awareness-raising activities carried out by the project. Instead, the ger households started to segregate and collect recyclable wastes, such as glass bottles, plastics, and metallic cans that they sold to junk shops to generate some income²².



Figure 6: Pictures²³of a ger and a stove inside a ger



Figure 7²⁴: Pictures of Tsagaan Davaa dumpsite before (left) and during construction of sanitary landfill

46. In the Philippines, the BAT/BEP interventions carried out in the cities of General Santos and Koronadal were the refurbishment of MRFs, which now have visible signs of impact. Since the implementation of BAT/BEP at the MRFs, open burning has stopped. With the enforcement of RA 9003 that provides for an Ecological Solid Waste Management Program and the “no segregation, no collection” policy, the key partners that included barangays, commercial sector, and public schools started to promote sound management of wastes through segregation at source; the city streets and the barangays have also become cleaner²⁵. The evaluation could see these changes during the field mission in Koronadal City on 27 May 2022. The Barangay Zone III of the city has started to use the bottle crushers and transformed the crashed materials into bricks that were used for the beautification program of the community (Figure 8). Its barangay officials were reported to be very active in implementing the local government’s SWM program.

²¹ Confirmed by the Municipality of Ulaanbaatar during interview

²² Interview data from ger household beneficiary

²³ Source of pictures: <https://www.youngpioneertours.com/what-is-a-mongolian-ger/#:~:text=What%20is%20a%20Ger.of%20tarp%20made%20with%20felt.>

²⁴ Pictures submitted by the project team

²⁵ Interview data



Figure 8: Tiles made from crushed bottles used in beautification program of Barangay III²⁶

47. In Laos, changes have been reported also. Thanks to the project interventions, open burning has considerably been reduced, and wastes are being segregated based on sources and types (wet and dry) in the local communities near the demonstration site in Battambang City. The knowledge and practices are being promoted in other areas of the city. There has been a significant improvement in terms of SWM implementation; up to about 80% improvement in terms of compliance²⁷.

48. As discussed in Section 2.1.1 under **Component 3 (Output 3.2)**, these behavioral changes observed in all the countries would contribute to a total dioxin emission reduction of 41,126.60 mgTEQ/year and to an annual decrease of 91% in CO₂ emission from open burning sources in the five participating countries (see Tables 3 and 4).

49. **Socially inclusive** – For this aspect of behavioral change, visible signs of impact are already seen in all the five countries. As discussed earlier (Section 2.1.1 under **Component 3**), the project has contributed to the creation of 70 new jobs at the pilot sites in the five countries (Table 4). According to information gathered during interviews, in nearly all cases, people from local and waste picker communities were employed for these jobs. For example, at the General Santos, in the Philippines, 45 former waste pickers were recruited to fill the jobs created at the refurbished CMRF. In general, their livelihood has improved as they are now getting a regular and much higher income which they use to sustain their respective families. To protect their health, they were also provided with adequate safety suits and personal protective equipment (PPE) such as gloves and boots. Moreover, the communities living near the CMRF were more involved in waste management and processing. As mentioned above, they were able to make bricks from bottle glasses, which they used to beautify the environment of their barangays. Similarly, at the Thakek project site in Laos, former waste pickers were recruited to work at the MRF, and they were also provided with appropriate clothing and PPEs while carrying out their duties.

50. As mentioned earlier, the ger households, beneficiaries of the project in Mongolia, have started to generate some income from the sale of recyclable wastes. They no longer call sorting bins, garbage bins, but rather “wealth” bins as they have realized that wastes can be sorted, used,

²⁶ Pictures taken during field mission at Koronadal City

²⁷ Interview data

and recycled, and can become wealth. With these wealth bins, their streets are very clean and free of the trash²⁸.

2.2.2. Broader adoption

51. This section addresses the catalytic effect of the project and describes the extent to which the project's interventions have been adopted within a country or regionally, or beyond the domains and scales originally targeted. The three mechanisms, namely mainstreaming, replication, and scaling-up, and which are frequently used to promote the broader adoption of project interventions and innovations, are discussed below.

52. **Mainstreaming** occurs when information, lessons or specific results generated by the project are incorporated into broader institutional mandates and operations, such as laws, policies, regulations, and programs. The evaluation found some tangible evidence that mainstreaming is already taking place in all the countries. For instance, open burning has been included in Intended Nationally Determined Contribution under UNFCCC and in the Long-term strategy for Carbon Neutrality 2050 for Cambodia. Also, mitigation of open burning has been integrated in the waste management program being implemented by the Ministry of Environment.

53. Segregation of waste at source was one of the strategy prescribed by the project in order to facilitate recycling. There is strong evidence that this approach has been institutionalized at the municipalities of the project sites. As earlier mentioned, both cities of General Santos and Koronadal are practicing the "no segregation, no collection" policy. The wastes of households that do not practice waste segregation are not collected. These households are fined by officers of the local government units, who have been tasked to enforce the policy. In Mongolia, the Municipality of Ulaanbaatar has a plan to provide sorting bins to all the communities in the long term, and provision has been made in its annual budget. The municipality has also started to have segregation bins in specific locations like parks, gardens, and local communities.

54. **Replication** occurs when the initiatives, technologies or innovations supported by the project are reproduced or adopted on a comparable scale. There are good indications that replication are already happening in some countries. In Mongolia, for example, after visiting the sanitary landfill at the Tsagan Davaa site, the mayors of the Khuvusgul and Khentii have decided to construct similar sanitary landfills in their respective provinces. The provinces have already contracted loans with the Asian Development Bank (ADB), the constructing firm already selected, and the construction works scheduled to start by July 2022²⁹.

55. In the Philippines, other cities have showed interest to construct MRFs. For possible replication in their respective cities, the LGUs of Tagum and Zamboanga visited the refurbished CMRF in General Santos. Impressed by what they saw, they asked for the contact details of the supplier of the CMRF facility. In Cambodia, COMPED, which was involved in composting activities in Battambang City, is currently replicating the intervention in other cities such as Kampong Cham, Kampong Thom, Siem Reap, and Kratie³⁰.

²⁸ Interview data from ger household beneficiary in Ulaanbaatar

²⁹ Interview data with NPM of Mongolia

³⁰ Interview data

56. **Scaling-up** takes place when the project-supported interventions are implemented at a larger scale, which can be administrative, geopolitical, ecological or business scales. Initiatives are often scaled up to accommodate new aspects or concerns relative to the new scales. Some scaling-up initiatives have been evidenced for the project. The project activities would be scaled up when Laos would be implementing the sustainable solid waste management strategy and action plan for Vientiane 2021-2030³¹. The strategy and action plan has six strategic outcomes: (i) increase access to adequate waste collection services by ensuring 100% collection rate; (ii) maximize waste-to-resource opportunities through adoption of source separation; (iii) maximize the material recovery rate by increasing the waste treatment capacity; (iv) minimize waste generation; (v) improve the financial and operational efficiency of the sector; and, (vi) foster green/decent job opportunities for the informal sector in the waste management. To implement the action plan, Laos is seeking financial resources / assistance from the World Bank, ADB, Asian Infrastructure Investment Bank (AIIB), and Global Green Growth Institute (GGGI)³². In Mongolia, the project has provided 1,000 ger households with metallic containers to collect stove ashes. The Municipality of Ulaanbaatar has benefitted from a bilateral cooperation with Switzerland for an amount of 3.1 M Swiss Francs. This cooperation, which started in 2019 and expected to be completed by 2023, was to increase waste collection and transportation efficiency in ger areas and to introduce waste segregation system. Through this cooperation, a much larger number of households would be provided with metallic containers for the stove ashes.

2.2.3 Emergence of TOC intermediate states

57. The impact of the project progress to impact was also assessed based on the extent to which the three Intermediate States proposed in the TOC (Figure 1) were seen to be emerging in the participating countries. The likelihood of impact was supported by the assessment of whether the proposed necessary assumptions and drivers in the TOC have shown to hold. The assessment is reported in Table 7.

58. As discussed earlier (Sections 2.1.2 and 2.2.1), there are indications that Intermediate State 1 is already emerging in all the countries. They are already enforcing their national legislations on waste management that they strengthened by including new set of guidelines on BAT/BEP, U-POPs, and open burning control measures. There is strong evidence that waste segregation at source is also being implemented by the local governments in the project locations (Section 2.2.1). As financial mechanisms and incentive systems are in place in all countries, Intermediate State 1 is rated **S**.

59. Intermediate State 2 has been rated **HS** given that open burning has stopped in all project locations, and solid wastes are being soundly managed and recycled (plastic wastes) or composted (green wastes) (See Sections 2.1.1 – **Output 3** and 2.1.2 – **Outcome 3**). As a result, a total reduction of 41,126.60 mgTEQ/year has been achieved in the pilot sites.

60. As discussed under Section 2.2.2, replication as well as scaling up of project results are already happening in Mongolia, the Philippines, Cambodia, and Laos. For example, in Mongolia, two provinces are investing to build sanitary landfills similar to the one constructed by the project at the Tsagan Davaa site. Intermediate State 3 is rated **S**.

³¹ <https://gggi.org/report/sustainable-solid-waste-management-strategy-and-action-plan-for-vientiane-2021-2030-lao/>

³² Interview data

61. All the assumptions proposed in the TOC have been found to hold, and for that reason, all of them have been highly rated: Outcomes 1 and 2 **HS** and the two others **S**, respectively (Table 7). For Assumption 1, all the governments of the participating countries provided strong support for the implementation of the project, and a very significant amount of co-financing have been materialized (Table 9). Regarding Assumption 2, as already discussed, regulatory measures are being enforced in all countries, and open burning has totally stopped in all project sites. All the countries have carried out awareness-raising activities targeting relevant populations, and significant IEC materials (posters, pamphlets, leaflets, mugs, t-shirts, etc.) have been produced and distributed during these events (Assumption 3). Concerning Assumption 4, the countries have successfully convinced the informal waste sector as well as three private enterprises to engage in the demonstration activities (MRF, recycling of plastic wastes, and composting). The findings of the evaluation clearly indicate that the waste recycling sector has a great potential and offers interesting investment opportunities for the private sector. It is therefore recommended that the countries take advantage of the momentum gained thus far to promote the project results, and encourage the private sector to invest in this sector. The financial mechanisms and incentive systems put in place by the project can be used to attract potential investors.

62. All the drivers were in place during project implementation and contributed to the successful completion of activities and achievement of results. The three drivers have been highly rated (Table 7). Given the status of intermediates, assumptions, and drivers, progress towards impact is considered **Satisfactory**.

Table 7: Status of intermediate states, assumptions and drivers

Intermediate State	Observation/findings	Rating*
Intermediate state 1: Relevant authorities in participating countries take actions to prohibit open burning practices and to promote sound waste management recycling through establishment of financial mechanisms and incentive systems	All countries are enforcing the new legislation on open burning, and are promoting waste segregation. Financial mechanisms and incentive systems are in place in all countries.	S
Intermediate State 2: Open burning no longer occurring at pilot sites, instead wastes being soundly managed / recycled through application of BAT/BEP	In all project sites, open burning have completely stopped. Instead, wastes are soundly managed at MRF and through recycling.	S
Intermediate State 3: Countries promote and facilitate the demonstrated BAT/BEP for sound management of waste at other locations and municipalities	Replication as well as scaling-up of project results are already occurring in other cities / provinces in some countries.	S
Assumptions	Observations/findings	Rating
1. Governments committed to strengthen / build national capacities for sound waste management using BAT/BEP	All the governments of the participating countries provided strong support for the implementation of the project, and a very significant amount of co-financing has been materialized.	HS
2. Countries committed to enforce regulatory measures to discourage open burning practices	Regulatory measures being enforced in all countries; open burning totally stopped in all project sites	HS
3. Governments committed to raise awareness targeting relevant populations and to promote best alternatives to open burning practices	Awareness-raising activities undertaken and significant IEC materials developed and distributed Need for further awareness raising and promotion of alternatives to open burning	S
4. Governments support informal and private sectors' involvement in waste recycling industry through PPP arrangements and policies	Informal sector at the project sites very much encouraged to participate in the project. Three private enterprises involved during implementation. However, as great potential demonstrated in the recycling sector and business opportunities for private sector, countries are recommended to encourage the private sector to invest in the waste recycling sector	S
Drivers	Observations/findings	Rating
1. Project provide guidance for uPOP reduction and capacity building for BAT/BEP implementation	Project, through the highly appreciated international experts, provided adequate guidance for UPOP reduction and capacity building for BAT/BEP implementation	HS
2. Project facilitates BAT/BEP implementation at the pilot sites	BAT/BET implementation successfully completed in all demonstration sites, and most are fully operational	HS

Intermediate State	Observation/findings	Rating*
3. Project facilitates regional cooperation and information sharing on best alternatives to open burning	Regional cooperation and information sharing done through the regional platform	HS

*HS: Highly Satisfactory, S: Satisfactory, MS: Moderately Satisfactory, MU: Moderately Unsatisfactory, U: Unsatisfactory, HU: Highly Unsatisfactory

63. The project has satisfactorily delivered all the planned outputs and produced tangible results, especially at the pilot sites where behavioral changes are already seen and impact very positive. Moreover, at project completion, the target for the project objective has been largely achieved; for these reasons, the rating for overall effectiveness is **Highly Satisfactory**.

3. Project's quality and performance

3.1. Design

64. The evaluation acknowledges several strengths in the design of the project. The project was developed through a participatory approach in the context of the East South East Asia (ESEA) BAT/BEP forum that was formally launched on 5 October 2007 during a Ministerial meeting in Bangkok, Thailand in 2009. The evaluation concurs with the midterm evaluation (MTE), which reported that the logical framework approach was used to develop the project, and that led to the establishment of a Project Results Framework (PRF)³³ and the main elements of the project, i.e., the overall objective, outcomes, outputs, as well as indicators, their means of verification, and the assumptions.

65. The evaluation also concurs with the MTE that found the project design to be adequate to address the problems at hand. In particular, a comprehensive baseline analysis on the status of open burning, waste management, and legislation on waste as well as the yearly amount of UPOPs released for open burning sources, was done for all the participating countries. A proper needs assessment regarding gaps to be addressed for the sound management of wastes in the countries was also adequately done.

66. Based on the situational analyses and the needs assessment done, a clear thematically-focused development objective has been proposed, and the causal pathways from project outputs through outcomes towards impacts have been clearly described in the PRF. Moreover, the proposed set of SMART³⁴ indicators as well as their means of verification therein are considered adequate to monitor progress at both output and results levels. However, the PRF could have benefitted from midterm targets for both outputs and outcomes, which would have better guided the implementers of the project for monitoring and evaluation (M&E). On the other hand, an adequate budgeted M&E plan³⁵ has been proposed.

67. Relevant socioeconomic benefits to be delivered by the project as well as consideration of gender dimensions have been adequately described in the project document³⁶. In particular, the project document mentions that gender mainstreaming would be done in the project activities. The implementation of the project components would also be conducted having in mind global and specific national and local gender dimensions. The project document also mentions that

³³ Annex A of the project document

³⁴ SMART: specific, measurable, achievable, relevant and time-bound indicators

³⁵ Part II Section C of the project document

³⁶ Part II Section B.2 and Annex P of the project document

UNIDO's gender policies would be observed, and that the participation of women in all activities would be encouraged and monitored.

68. Adequate institutional arrangement for project implementation and coordination at national and regional levels has been proposed. Relevant national stakeholders, such as ministries, municipalities, academia, private sector, NGOs, women's associations, groups, and waste pickers, have also been identified and their foreseen involvement described³⁷.

69. The evaluation has noted one weakness in the design. The proposed indicator "*At least 5 sampling campaigns in each of the demonstration sites on ambient air, soil, and leachate collected and analyzed for U-POPs and related contaminants in each demonstration site aimed to assess the effects of current practices*" for **Output 3.2** is not relevant. Planning for 5 sampling exercises would be appropriate in the context of a research work, but not for this project, which was aiming at reducing dioxins emissions from open burning sources. Since more than decades, it has been scientifically proven that UPOPs are formed during combustion activities, and open burning is considered as one of the major sources. Moreover, based on research data, UNEP³⁸ has developed emission factors to enable the estimation of UPOPs releases from different sources. Furthermore, sampling and analysis for UPOPs is known to be challenging and very costly.

70. Despite the weakness identified, Project Design is rated **Satisfactory**.

3.2. Relevance

71. The project is highly relevant as it is assisting the participating countries, which are all parties to the Stockholm Convention, to fulfill their obligations towards the Convention. In particular, it is assisting the countries to reduce UPOPs emissions from open burning, one of the priorities highlighted in their NIPs. During the country missions carried out by the MTE, it was reported that all the interviewed stakeholders, such as government representatives, private sector, and academics, emphasized the high relevance of the project³⁹. During the terminal evaluation, all the stakeholders reiterated the high relevance of the project. For all of them, the project is assisting their countries in improving waste management, and building/strengthening their capacity to stop open burning as well through the implementation of BAT/BEP.

72. The project is consistent with the objective of GEF-5 to promote the sound management of chemicals throughout their life cycles in ways that lead to the minimization of significant adverse effects on human health and the environment. It addresses Chemicals FA objective CHEM-1 "Phase out POPs and reduce POPs releases"; Outcome 1.3 "POPs releases to the environment reduced"; and, Output 1.5 "Country capacity to effectively phase out and reduce releases of POPs". In particular, the project, which focused on the demonstration of BAT/BEP to reduce releases of unintentionally-produced POPs from open burning, is directly in line with Article 5 of the SC.

³⁷ Part II Section B.1 of the project document

³⁸ Toolkit for Identification and Quantification of Releases of Dioxins, Furans and Other Unintentional POPs, UNEP, January 2013

³⁹ UNIDO Independent Mid-Term Evaluation report, Asia and the Pacific, *Demonstration of BAT and BEP in open burning activities in response to the Stockholm Convention on POPs*, GEF ID: 5082, Vienna 2019

73. The project is also in line with UNIDO priorities and mandates, and the renewed mandate on Inclusive and Sustainable Industrial Development (ISID). In particular, the project is very relevant to one of the pillars of ISID: Safeguarding the Environment - environmentally sustainable growth, via cleaner industrial technologies and production methods, including in the fields of waste management and recycling; the promotion, adaptation, and transfer of environmentally sound technologies, under which UNIDO aims to assist countries in reaching compliance with the Stockholm Convention and aims at developing capacities in developing countries to protect their populations and their environmental resources from POPs-related pollution. Also, the project falls within the comparative advantage of UNIDO as it focuses on the creation of resource efficient waste management systems to abate open burning practices. UNIDO has successfully implemented BAT/BEP projects focusing on the introduction of BAT/BEP in priority industrial source categories. UNIDO has assisted 62 countries in reviewing and updating their NIPs including those of Lao PDR, Mongolia, and the the Philippines.

74. As the project is responding to the needs of the countries on open burning, and it is in line with GEF Chemicals Focal area and UNIDO mandates, rating on relevance is **Highly Satisfactory**.

3.3 Efficiency

75. The CEO endorsement date of the project was 5 April 2015 and project implementation started officially at UNIDO on 1 April 2015. The project was planned for a duration of 5 years and to end on 30 April 2020. As discussed earlier (Section 2.1.1 Under **Output 3.2**), project execution was delayed due to changes in BAT/BEP interventions and demonstration locations, and an eighteen month extension was granted upon the recommendation of the MTE. The actual closing date was thus 30 June 2022. A full agency mode of execution was applied with UNIDO managing the GEF funds. The procurement of equipment and goods as well as the recruitment of consultants and the organization of regional meetings and workshops was done by UNIDO. The management of GEF funds was done according to the UNIDO internal procedures. For payments and disbursements of funds disbursement, for example, the UNIDO PM ensured that all relevant documents and approvals were obtained before making requests⁴⁰.

76. There is a clear evidence that the project has used the most efficient options for the recruitment of consultants, for sub-contracting service providers, and for project execution. For instance, the international consultant, who was hired to provide technical support since the preparatory phase, had past experience with UNIDO to implement BAP/BEP in similar initiatives. In particular, he was the expert for the sister regional project⁴¹ on open burning for the Southern African Development Community (SADC) region. TU Wien, which was sub-contracted to develop a toolkit for the design of waste management plan and to provide training to the countries, is Austria's largest research and educational institution in the field of technology and natural sciences and has been conducting research, teaching, and learning for over 200 years. There was a general consensus among the countries that the training and support provided by these experts were of high quality and contributed to build their capacity on solid waste management and BAT/BEP⁴². The dioxin laboratory of NCEM that was sub-contracted to provide training on sampling and analysis for UPOPs and other contaminants was established in 2009 in the context of a project that was supported by the Bill & Melinda Gates Foundation, the Atlantic

⁴⁰ Interview data

⁴¹ GEF funded and UNIDO implemented project: GEF ID 5322

⁴² Feedback gathered during interviews

Philanthropies, and MONRE. It is fully equipped with state-of-the-art laboratory equipment, apply internationally recognized standard operating procedures, and is accredited by ISO 17025. It has provided services for POPs analysis and monitoring in the context of numerous internationally-funded initiatives⁴³. The selection and recruitment of national consultants was also done using the best options: either they were already identified during the preparatory phase, or they had past experience with UNIDO or other UN agencies, or they were selected through a call for application.

77. Some factors that increased efficiency include: all countries making use of NIP data and some countries benefitting from other initiatives (e.g., bilateral cooperation with Switzerland in Mongolia). For cost effectiveness, the project created synergies with the sister UNIDO-led regional GEF project for SADC countries mentioned above. TU Wien provided training on BAT/BEP for solid waste management to the countries of both projects under the same contract (costs shared by both projects). The project took a cost-effective decision in undertaking only one sampling campaign for UPOPs analysis in the project sites instead of five (See Section 2.1.1 under **Output 3.1**) given that carrying out the four other campaigns would not have brought additional meaningful information (cf. Section 3.1, last paragraph).

78. Table 8 displays the budget allocated per component at design and the corresponding expenditures for each component. These figures clearly indicate that the delays encountered did not affect cost effectiveness of the project as all the substantive outputs have been successfully delivered within the total approved budget. At 28 February 2022, a total of \$7,400,649.92 has been disbursed with an unspent balance of \$159,350.08 corresponding to budgets for a few activities remaining activities, such as the independent terminal evaluation and the final project workshop scheduled on 29 June – 1 July 2022. Moreover, although the BAT/BEP interventions were changed (Section 2.1.1), the expenditures for **Component 3** were kept within the 10% limit allowed, an over expenditure of \$ 315,978.94 representing a variance of 6.7%. The project management costs were also kept within the allowed limit despite the 18 months extension granted, which also points to a cost-effective management of the project funds. The higher amount of materialized co-financing than the amount pledged at design confirms the cost effectiveness of the project. In particular, a very large proportion of the materialized co-financing (94.6%) came from the project partners in the pilot sites that greatly contributed to the successful implementation of the BAT/BEP demonstrations (Table 10). Finally, as discussed in Section 2.1.2, the project has achieved a higher reduction in dioxin emission within the allocated budget compared to what was expected at design.

79. Although implementation was delayed, by taking corrective actions and applying some cost-effective measures, the project has been able to successfully deliver all the outputs within the planned budget; efficiency is thus rated **Highly Satisfactory**.

Table 8: Budget allocation and expenditure per component as at 28 February 2022

	Allocation at approval	Expenditures at 28 Feb 2022	Unspent /over spent balance at 28 Feb 2022	Variance
Project components	USD	USD	USD	%

⁴³ Building Capacity to Eliminate POPs Pesticides Stockpiles - GEF ID 3105; Introduction of BAT and BEP methodology to demonstrate reduction or elimination of unintentionally produced POPs releases from the industry in Viet Nam – GEF ID 3011

		Allocation at approval	Expenditures at 28 Feb 2022	Unspent /over spent balance at 28 Feb 2022	Variance
1	BAT/BEP in Legislative Framework	500,000	360,327.72	139,672.28	27.9
2	Enhanced Institutional Capacity	800,000	587,698.83	212,301.17	26.5
3	BAT/BEP Gradually Implemented	4,710,000	5,025,978.94	-315,978.94	- 6.7
4	Education and Awareness	1,000,000	888,960.87	111,039.13	11.1
5	Project management	350,000	385,932.01	-35,932.01	-10.3
6	Evaluation and Monitoring	200,000	151,751.55	48,248.45	24.1
	Total	7,560,000	7,400,649.92	159,350.08	2.1

Source: Project document and terms of reference for the TE

Table 9: Co-financing at design and materialized

Co-financier	Total Pledged (\$) In-kind + cash	Total materialized (\$) In-kind + cash
Laos	2,600,000	9,070,000
Cambodia	8,497,330	4,455,288
Mongolia	6,328,800	8,129,920
Philippines	8,982,564	14,488,178
Viet Nam	5,740,000	5,742,906
GIZ	171,740	-
City of Kitakyushu	200,000	-
UNIDO	256,000	256,000
Total	32,776,434	42,142,292

Table 10: Materialized co-financing from project partners

Country	Project Partners	Co-financing (\$)	Co-financing (\$)*
Cambodia	Battambang City	1,970,000	1,970,000
	COMPED	774,000	
	PPH	706,988	
	LLWCC	721,400	
Laos	Thakek District	7,880,000	7,880,000
	Saplast	1,190,000	
Mongolia	Municipality of Ulaanbaatar	8,129,920	8,129,920
Philippines	General Santos City	12,088,349	12,088,349
	Koronadal City	2,354,137	2,354,137
Vietnam	VCNPC	325,300	
	Total	36,140,094	32,422,794

*Total co-financing from local governments

3.4. Sustainability

80. Sustainability is understood as the likelihood of continued benefits after the project ends. Sustainability is assessed in terms of the risks confronting the project; the higher the risks, the lower the likelihood of sustenance of project benefits. The four dimensions or aspects of risks to sustainability (as mentioned in the TOR, namely, sociopolitical, financial, environmental, and institutional frameworks and governance risks) are discussed below.

81. **Sociopolitical risks** – All the participating countries have signed and ratified the Stockholm Convention, and they have also transmitted their NIPs on POPs to the Stockholm Convention Secretariat. Furthermore, many of the participating countries are implementing (or have implemented) other projects of GEF POPs focal area. For example, the regional GEF-funded project *Demonstration of BAT and BEP in Fossil Fuel-fired Utility and Industrial Boilers in Response to the Stockholm Convention on POPs* (GEF ID 3732) was implemented by UNIDO in Cambodia, Laos, Indonesia, Mongolia, the Philippines, and Viet Nam. UNIDO implemented projects on PCB disposal in Mongolia and the Philippines⁴⁴. Vietnam developed two approved projects under the GEF 7 cycle: a national project “*Reduce the impact and release of mercury and POPs in Viet Nam through lifecycle approach and Ecolabel*” (GEF ID 10519) – GEF7/UNDP and Viet Nam is one of the four participating countries of the project *Reducing uses and releases of chemicals of concern, including POPs, in the textiles sector* (GEF ID 10523) – GEF7/UNEP. The implementation of these initiatives clearly show that the past and the current governments of the participating countries have shown strong commitments to fulfill their obligations towards the SC and other multilateral environmental agreements (MEAs). Furthermore, most of the countries have national strategic plans for the protection of the environment that cover the open burning issue. In Cambodia, they have developed the Long-term strategy for Carbon Neutrality 2050 for Cambodia. Laos is planning to implement the sustainable solid waste management strategy and action plan for Vientiane 2021-2030. Viet Nam has also developed its sustainable solid waste management strategy and action plan up to 2025 and vision to 2050; and also strengthened its management of plastic waste. In light of the above discussion, socio-political sustainability is rated **Likely**.

82. **Financial risks** – Based on the information available, risks regarding the financial sustainability of the project are considered low. The local governments or municipalities where the BAT/BEP demonstrations have been carried out have all included the operating costs of the facilities (MRF or landfill) in their annual budget. For example, in General Santos City, to ensure the sustainability of the City Materials Recovery Facility (CMRF), the cost of its operations has been included in the Annual Investment Program of the local government. In addition, to generate more revenue to operate the CMRF, the local government of General Santos City is planning to put in a fee system⁴⁵ for the collection of waste⁴⁶. In Mongolia, the Municipality of Ulaanbaatar has also allocated an annual budget for the operation of Tsagaan Davaa landfill. The recycling facilities (PPH, Saplast, and Minh Khai craft village) involved in the project were private enterprises that were already financially sustainable. They unanimously agreed that the support provided by the project contributed to modernize the production lines of their enterprises, which significantly increased their production capacity. It is thus anticipated that their turnovers would increase accordingly, which would further secure their financial sustainability. Financial sustainability is rated **Likely**.

⁴⁴ (i) Capacity building for environmentally sound PCBs management and Disposal in Mongolia – GEF ID 3542); (ii) Global Programme to demonstrate the viability and removal of barriers that impede adoption and successful implementation of available, non-combustion technologies for destroying persistent POPs –The Philippines – GEF ID 2329; (iii) Implementation of PCB Management Programs for Electric Cooperatives and Safe e-wastes Management - The Philippines – GEF ID 9078

⁴⁵ Garbage fee 2.00 PhP and tipping fee of 3.00 PhP per household

⁴⁶ Interview data

83. **Institutional framework and governance risks** – All the participating countries have adopted and enacted the legislations they updated in the context of the project to include provisions to prohibit open burning. The national governments have empowered the local governments to come up with their own local policies and action plans to enforce these legislations. In Laos, for example, the provincial government has issued a notice on open burning, and the relevant authorities have taken measures to discourage open burning. In Mongolia, the law on waste, adopted in 2017, which prohibits open burning of waste is being enforced by the MOET and Specialized State Inspection Agency. In the Philippines, the DENR through the Environmental Management Bureau, implemented the Basura Patrol Program in 2016 to monitor compliance with RA 9003 provisions in public places, including the prohibition against open burning. In 2017, the Basura Patrol Program was upgraded into the Solid Waste Enforcement and Education Program to extend the reach of the EMB to the grassroots (barangays) in providing technical assistance, IEC campaign, and enforcement. This program also includes monitoring of LGU compliance against open burning. At the local level, the LGUs are also enforcing the “no segregation, no collection” policy. With regard to findings discussed above, sustainability of institutional framework and governance is considered **Likely**.

84. **Environmental risks** – The project is considered ecologically sustainable as it was designed to build the capacities of the participating countries on sound management of wastes and BAT/BEP aiming to reduce UPOPs emissions from open burning sources. Open burning has stopped completely in the project intervention sites, thus facilitating significant reduction of emission of UPOPs and CO₂ (cf. Section 2.1.1 under **Component 3**). As no environmental risk that can influence or affect the projects outcomes and future flow of projects benefits has been identified, environmental sustainability is rated **Likely**.

85. Since all dimensions of risk are low, the sustainability of the project is rated **Likely**.

3.5. Gender mainstreaming

86. The project document mentioned that the gender dimension would be mainstreamed in the activities, and that implementation would be conducted having in mind global and specific national and local gender dimensions. The project document also mentioned that UNIDO's gender policies would be observed. There is documented evidence that these happened during project execution. During the 2nd project steering committee (PSC) meeting held in Vienna on 6 – 8 December 2016, the countries were reminded on the need to include the gender dimension in project activities through a presentation that covered the following topics: adoption of the revised gender policy, gender architecture, twin track, gender mainstreaming and gender specific interventions or targeted actions, and systematizing gender mainstreaming. Information gathered during interviews⁴⁷ confirmed that efforts have been made to mainstream gender balance in all the activities of the project. And the actual participation of women in all aspect of the project from management, as members of the project management unit (PMU), through participation in workshops, and as beneficiaries of the project, was very satisfactory. Data on gender-wise participation in project events was not available for Laos. The data reported for the other four countries (Table 11) indicate that, on the whole, participation in the project was quite balanced gender-wise: 47.2% female participation against 52.7% for males. Country-wise, it was also quite gender balanced for the Philippines and Viet Nam. On the other hand, a higher participation of women was seen in Mongolia, while in Cambodia, the participation of men was higher. It should

⁴⁷ Interview data with national counterparts

be pointed out also that two of the five NPMs were women. Rating on gender mainstreaming is **Satisfactory**.

Table 11: Participation in project events genderwise

Events	Cambodia		Mongolia		Philippines		Viet Nam		Total	
	Males	Females								
Workshops, conventions & summits	1311	634	689	1322	311	237	441	180	2752	2373
Poster and photo completion	268	91	12	13	74	84	1261	1260	1615	1448
Others: fun run, expo, debate, tree planting, etc.	350	87	190	280	223	342	527	531	1290	1240
Total	1929	812	891	1615	608	663	2229	1971	5657	5061
%	70.4	29.6	35.5	64.5	47.7	52.3	53.1	46.9	52.8	47.2

4. Performance of Partners

4.1. UNIDO

87. The performance of UNIDO is rated **Highly Satisfactory**. The UNIDO PM carried out field visits to the countries, and monitored achievement of outputs and results as well as budget execution. She assisted in the identification of international experts that provided training to the countries on SWM and BAT/BEP for open burning. She was involved in the procurement of BAT equipment / production lines that were transferred to the beneficiaries in the demonstration sites. She provided guidance through the PSC meetings and the coordination meetings with the NPMs. According to feedback gathered⁴⁸, the UNIDO was very accessible⁴⁹ and responded quickly to any queries sent to her. With the help of a project assistant and the regional coordinator, she facilitated the organization of the regional workshops by identifying and recruiting the appropriate resource persons and experts. The UNIDO country offices in the Philippines and Viet Nam also supported the project. For example, in the Philippines, the office facilitated the free entry of incoming as well as outgoing project shipments, provided assistance in organizing events/ regional meetings held in the country, as well as assistance in arranging the travel documentary requirements of participating government officials and partners in project activities outside the country. UNIDO showed flexibility and foresight by accepting the changes requested by the countries for the demonstration activities (2.1.1 under Component 3), and by requesting an eighteen-month extension, at no additional costs, to allow for completion of activities. As confirmed during interviews, the continuous support provided by UNIDO and the dedication showed in project management were key factors in the very good performance of the project. The UNIDO PM was very highly rated by national counterparts and partners in the survey⁵⁰ carried out by the evaluation (Table 12).

4.2. National counterparts

88. In all the participating countries, the project was under the responsibility of the Ministry of Environment. As planned, a Project Management Unit (PMU) was established within the ministry, and a National Project Coordinator (NPC) was also appointed by the ministry who was responsible to oversee the activities of the project. The PMU was led by the NPC in two countries

⁴⁸ Interview data from countries

⁴⁹ Email, WhatsApp, etc.

⁵⁰ The stakeholders were asked to rate the UNIDO PM, the RC, the international consultants, the NPMs, the NPCs and the PMUs on a scale from HS=6 to HU=1

(Laos and Cambodia), while for the other three countries (Mongolia, the Philippines, and Viet Nam), it was led by a National Project Director, who was also a staff at director level of the Ministry of Environment. A National Project Manager (NPM) was recruited in each of the five countries who was responsible to manage and execute the day-to-day tasks required by the project in close collaboration with the PMU. In general, this modality of project execution worked very well as all the countries succeeded to complete all activities and to deliver the outputs very satisfactorily. very good work of the NPMs and the NPCs as well as their dedication were highlighted by all the national stakeholders⁵¹, and this is reflected in the rating they received in the survey carried out (Table 12). They were both highly rated, receiving an average score of 6 and 5.78, respectively. The very strong support provided by the local governments in terms administrative, and human and financial resources⁵² should also be highlighted. As stated by one of the NPM, they “owned” the project as they were very much involved in it since the very start of its implementation. They provided 90.6% (\$32,422,406) of the total co-financial materialized from countries (see Table 10). Furthermore, the good collaboration that was established between the central (through the Ministries of Environment) and the local governments facilitated the mainstreaming of law enforcement on open burning as well as building capacity on SWM at provincial level. Performance of national counterparts is rated **Highly Satisfactory**.

Table 12: Rating of UNIDO PM, RC, ICs, NPM, NPC and PMU by countries

Entity	n*	Stakeholder ratings**			Average score	Overall rating***
		MS: 4	S: 5	HS: 6		
UNIDO PM	29	0	5	24	5.86	HS
RC	26	0	9	17	5.65	HS
International Consultants (ICs)	12	2	4	6	5.33	S
NPM	16	0	0	16	6.00	HS
NPC	19	0	4	15	5.79	HS
PMU	8	1	3	4	5.38	S

*n is the number of stakeholders having rated the entity; **Ratings given by stakeholders to each entity; ***HS = 6; S = 5; MS = 4; MU = 3; U = 2; HU = 1

4.3. Donor

89. GEF was the main donor for the project. The funds were available, and fund transfers were timely and adequate. Rating is **Satisfactory**.

5. Factors facilitating or limiting the achievement of results

5.1. Monitoring & evaluation

90. **M&E Design.** The project document included a detailed description of the project’s M&E activities. These included annual project reviews, mid-term evaluation, terminal evaluation report, and the project terminal evaluation. The M&E plan stated that the annual project review would be conducted through PSC meetings. Targets and indicators would be reviewed annually as part of the internal evaluation and planning processes undertaken by the RC and PMUs and communicated with UNIDO. The NPMs would be responsible to prepare an Annual Project Report (APR) and submit it to the RC for review and consolidation at least two weeks prior to the PSC for review and comments. The national project teams and the RC, in conjunction with UNIDO, would be responsible for the preparation and submission of Project Inception Report and Project Implementation Report. They would be responsible to produce the Project Implementation Report (PIR), which is an annual monitoring process mandated by the GEF. It is an essential

⁵¹ Interview data

⁵² Interview data from national counterparts

management and monitoring tool for project execution. The PIR would include: (a) analysis of the achievement of project objectives; (b) analysis of project performance over the reporting period, including outputs produced and information on the status of the outcome; (c) management of risks; and (d) co-financing accounting (resources provided both as in kind or cash contribution). The evaluation considers that M&E plan is adequate to track progress during implementation. M&E design is rated **Satisfactory**.

91. **M&E Implementation.** As per the M&E plan, the PSC was established and comprised of the PM, the NPMs, and the NPCs. The inception workshop was held back to back with the first PSC meeting on 18 – 20 May 2015 in Phnom Penh, Cambodia, and the report produced. The subsequent PSC meetings were held as planned, noting that the 5th and the 6th ones were held online due to the Covid19 pandemic on 26 June 2020 and 7 April 2021, respectively. There is documented evidence that the PSC was providing adequate guidance and was taking the right decisions and making appropriate recommendations to adapt to unforeseen situations or to respond to challenges. For example, during the 4th meeting held in Hanoi, 14 – 16 March 2019 the PSC took the right decision to request a project extension, which was recommended by the MTE as implementation was delayed due to changes in interventions for Component 3. It is clear that the project results framework (PRF) was used as basis for implementation, and the SMART verifiable indicators therein were used to track progress at both output and outcome levels. The midterm evaluation was carried out from October to December 2018, and all the recommendations made were adequately addressed. In terms of reporting, all the PIR reports were timely submitted to GEF. M&E implementation is rated **Satisfactory**.

92. **Budgeting and Funding for M&E activities.** A total amount of USD 200,000 was budgeted for M&E activities for the project. In general, the funds allocated for the different M&E activities were adequate. For instance, \$40,000 and \$50,000 were allocated for the MTE and the TE, respectively, and these amounts are considered appropriate for a regional project. Budgeting and funding for M&E activities is rated **Satisfactory**.

93. Rating on M&E is **Satisfactory**.

5.2. Results-Based Management

94. The key elements of an RMB⁵³ approach are: (i) Focusing the dialogue on results at all phases of the development process; (ii) Aligning programming, monitoring and evaluation with results; (iii) Keeping measurement and reporting simple; (iv) Managing for, not by results; and, (v) Using results information for learning and decision making.

95. The findings clearly indicate that an RBM approach was adopted to implement the project. As discussed previously, the implementation of the project was based on the PRF, and the indicators mentioned therein were used to track progress at both output and outcome levels. There is documented evidence that, using a participatory approach, the PSC made decisions and recommendations based on information provided by the executing partners on project progress. Following these recommendations, the national project teams took adaptive and corrective

⁵³ United Nations Development Group, results-based management Handbook: Harmonizing RBM concept and approaches for improved development results at country level” edited draft October 2011, p 2

measures that allowed to successfully achieve all targets. Rating on Results-Based Management is **Satisfactory**.

5.3. Other factors

96. **Factors that had a positive effect on project results** – The project design was adequate in proposing relevant, precise, and concise information to allow for the achievement of project objectives. In particular, the project document provided a project coordination and management structure at regional as well as at national level, and also described the role and responsibilities of key stakeholders and executing partners.

97. The committed and pro-active project teams, which include the UNIDO PM, RC, NPMs and NPCs, facilitated an effective implementation of the project. They coordinated activities efficiently and managed to engage key stakeholders and partners early in the project, which contributed to build a high sense of ownership among the national counterparts and beneficiaries. The recruitment of high-quality experts and engaging reputable institutions, such TU Wien and the dioxin lab of NCEM, were also key factors for success. The guidance and training that they provided greatly facilitated the transfer of best available or cleaner technologies and adoption of best environmental practices in the pilot sites.

98. **Factors that hampered project results or sustainability** – The main factor that hampered the implementation process was the delay caused by the changes of BAT/BEP interventions requested by the countries. The approved extension of eighteen months allowed the project to successfully complete all activities and to achieve all the objectives. The Covid19 did not affect significantly project progress as most activities were completed at the time of its outbreak.

99. Rating on other factors is **Satisfactory**.

5.4. Overarching assessment and rating table

100. Table 13 below summarizes the assessment of the project.

Table 13: Summary of Assessment and Ratings for the project

	Evaluation criteria	Evaluator's summary comments	Rating
A	Impact (progress toward impact)	Visible signs of impact are already observed at all project sites: open burning stopped, communities adopting segregation waste at source practice. Project target in dioxin emission reduction achieved	S
B	Project design		S
1	<ul style="list-style-type: none"> Overall design 	Participatory approach adopted to develop project in the context of the ESEA BAT/BEP forum. The designed components and interventions adequate and relevant to the achievement of project objectives in response to the countries' need on open burning	S
2	<ul style="list-style-type: none"> Logframe 	Logical framework approach adopted. Baseline and target values as well as well-defined SMART indicators for project	S

	Evaluation criteria	Evaluator's summary comments	Rating
		objective, outputs and outcomes provided to monitor progress and track results	
C	Project performance	All stated objectives achieved	S
1	<ul style="list-style-type: none"> Relevance 	Project assisting countries to fulfill their obligations towards the Stockholm Conventions and aligned with GEF Focal areas and UNIDO mandates	HS
2	<ul style="list-style-type: none"> Effectiveness 	All stated objectives achieved. Legislation strengthened and already enforced in all countries. BAT/BEP demonstration activities completed and all targets exceeded in terms of dioxin and CO ₂ emission reductions	HS
3	<ul style="list-style-type: none"> Efficiency 	Despite delays, all activities completed and outputs within budget and choosing the best options for recruitment of consultants and procurement of services and equipment. Management costs kept within allocated budget despite project extension	HS
4	<ul style="list-style-type: none"> Sustainability of benefits 	No socio-political, institutional framework & governance, financial and environmental risks identified, sustainability of project benefits considered likely.	L
D	Cross-cutting performance criteria		
1	<ul style="list-style-type: none"> Gender mainstreaming 	Adequate effort done by project teams to mainstream gender dimension during implementation. Satisfactory involvement and participation of women seen in project activities	S
2	<ul style="list-style-type: none"> M&E: <ul style="list-style-type: none"> ✓ M&E design ✓ M&E implementation 	Adequate budgeted M&E plan available. Proper project monitoring and tracking of results done using SMART proposed in the PRF. All PSC meetings held and relevant reports (e.g. PIRs) submitted timely.	S
3	<ul style="list-style-type: none"> Results-based Management (RBM) 	RBM approach adopted and proper monitoring of project progress done during PSC meetings involving all key stakeholders.	S
E	Performance of partners		
1	<ul style="list-style-type: none"> UNIDO 	Role of UNIDO crucial for project to achieve success. Timely and critical actions taken, and technical back-stopping provided and BAT/BEP implementation done through hired high quality international and national experts. Procurement of goods and services timely done.	HS
2	<ul style="list-style-type: none"> National counterparts 	Hard working and dedicated national teams organizing and coordinating effectively project activities with the strong support of the local authorities contributed to successful national execution and achievement of results.	HS
3	<ul style="list-style-type: none"> Donor 	GEF funds available, and materialization of high level co-financing contributed to achievement of project objective	S
F	Overall assessment		HS

RATING OF PROJECT OBJECTIVES AND RESULTS

- Highly satisfactory (HS): The project had no shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Satisfactory (S): The project had minor shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Moderately satisfactory (MS): The project had moderate shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Moderately unsatisfactory (MU): The project had significant shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Unsatisfactory (U) The project had major shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Highly unsatisfactory (HU): The project had severe shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Likely (L): There are no risks affecting this dimension of sustainability.
- Moderately likely (ML). There are moderate risks that affect this dimension of sustainability.
- Moderately unlikely (MU): There are significant risks that affect this dimension of sustainability.
- Unlikely (U): There are severe risks that affect this dimension of sustainability.

6. Conclusions, recommendations and lessons learned

6.1. Conclusions

101. This highly-relevant project was effectively managed by dedicated national project teams under the adequate guidance and supervision of UNIDO. Due changes in BAT/BEP interventions at the request of the participating countries, implementation was delayed and an eighteen months extension was granted, which allowed the successful completion of project activities. The active involvement of key partners and stakeholders as well as their support contributed to an effective implementation and the achievements of all targets. The BAT/BEP interventions were the key outputs of the project and they successfully demonstrated in the five countries. There are already visible signs at the project locations, where open burning has already stopped and communities have adopted better practices such as segregation at source to manage their wastes. As no risks that can jeopardize the projects outcomes and future flow of projects benefits have been identified, the sustainability of project is considered likely.

6.2 Recommendations

102. For continued relevance, sustainability of the project results and impact, the following recommendations are addressed various key stakeholders of the project.

To UNIDO
1 The project has been successfully completed and all the stated objectives have been fully achieved. In particular, the project has been able to reduce dioxin emissions by more than 90% (about 40 gTEQ) at the project sites. However, this reduction represents only 5% of the overall problem of dioxin emission from open burning in the participating countries. UNIDO could take advantage of the good lessons learned from this project to develop a follow up initiative for further capacity building and promoting plastic recycling that would be relevant to the GEF Integrated Program on Circular Solutions to Plastic Pollution, and would further contribute to reduction of UPOPs and GHG
2 In addition to Recommendation 3 made below, UNIDO could consider establishing a knowledge hub (e.g. platform linked to UNIDO website) where the results, lessons, and good practices generated through all the initiatives that it implemented could be uploaded and shared to the international community.
To UNIDO and the Philippines:

3 The project has been very successful in producing tangible results, and impacts are already visible at the project sites. A regional website was developed where the project results, lessons, and good practices were reported and shared among the participating countries. Since May 2021, the site has not been operational as the agreement with the contractor that developed it as well as the licence lapsed. It was agreed that DENR of the Philippines would be responsible for its management and maintenance after project closure. It is recommended that UNIDO and DENR take the necessary actions for the reactivation of the site in order to promote and share the results that the project produced and the lessons that emerged to the other countries and regions, potential donors, the GEF, and the international community at large.

To UNIDO and Viet Nam:

4 Viet Nam is one of the four participating countries of the project *Reducing uses and releases of chemicals of concern, including POPs, in the textiles sector* (GEF ID 10523) that is being developed by UNEP. Although the project under evaluation has ended, UNIDO and VEA, Viet Nam should consider establishing a cooperation with the UNEP-led GEF regional initiative, in order to promote the project results that could be mutually beneficial.

To national governments:

5 The findings of the evaluation clearly indicate that the waste recycling sector has a great potential and offers very promising investment opportunities for the private sector. It is therefore recommended that the countries take advantage of the momentum gained thus far to promote the project results, and encourage the private sector to invest in this sector. The financial mechanisms and incentive systems put in place by the project can be used to attract potential investors.

6 Open burning has stopped in all the project sites, thanks to the good awareness-raising campaigns undertaken by the project. The relevant authorities are encouraged to carry out further awareness-raising activities targeting the whole population, and including agricultural wastes to ensure no open burning across the country.

6.3 Lessons learned

103. The project has been successfully completed and the following key lessons stemmed out

Two key lessons that emerged:
<ol style="list-style-type: none"> 1. A very high sense of ownership was seen among the stakeholders, local governments, and partners of the project. Involving key project partners and stakeholders early in the implementation process would facilitate their support and ensure their commitment. 2. The Ministry of Environment of the participating countries were responsible to execute components 1 and 4 of the project. This modality of project execution worked very well as all the countries succeeded in completing all activities and delivering the outputs very satisfactorily. Furthermore, it allowed the establishment of a good cooperation between the central and local governments, which facilitated the mainstreaming of law enforcement on open burning as well as building capacity on SWM at provincial level.

Annexes

Annex 1: TOR of the evaluation

Annex 2: List of documents consulted

Annex 3: List of persons interviewed

Annex 4: Evaluation framework

Annex 5: Evaluation questionnaires

Annex 1: ToR of the evaluation

https://www.unido.org/sites/default/files/files/2022-04/TOR_GFRAS-150033_BAT%20BEP_Open%20burning%20activities_Mar-2022_TE-2022.pdf

Annex 2: List of Documents Consulted

A. Cambodia

Bandos, R. (undated). Education & Awareness Raising to reduce UPOPs emissions in Cambodia.

Battambang Municipality (28 May 2021). Demonstration of BAT and BEP in Open Burning Activities in Response to the SC on POPs. Co-financing Report.

Cambodia Education and Waste Management Organization (01 July 2021). Demonstration of BAT and BEP in Open Burning Activities in Response to the SC on POPs. Co-financing Report.

COOPERATIVE AGREEMENT: BATTAMBANG MUNICIPAL (BTM) and LEAP LEM WASTE COLLECTION COMPANY (LLWCC) in respect of the project Component 3 under the project on “Demonstration of BAT and BEP in Open Burning Activities in Response to the SC on POPs,” 2020.

COOPERATIVE AGREEMENT: BATTAMBANG MUNICIPAL (BTM) and PLASTIC PRODUCT COMPANY in respect of the project Component 3 under the project on “Demonstration of BAT and BEP in Open Burning Activities in Response to the SC on POPs,” 20 November 2019.

COOPERATIVE AGREEMENT concerning Technical Cooperation between BATTAMBANG MUNICIPALITY and COMPED in respect of the project Component 3 under the project on “Demonstration of BAT and BEP in Open Burning Activities in Response to the SC on POPs,” 2019.

Department of Environmental Education (4 October 2017). Workshop on the Effects of Open Burning on Human Health and Environment.

General Directorate of Environmental Knowledge and Information (GDEKI), Department of Environmental Education (31 August 2019). Consultative Meeting: COURSE CURRICULUM ON “U-POPS AND BAT/BEP IN WASTE MANAGEMENT AND INCENTIVE/FINANCING SYSTEMS” FOR THE ROYAL UNIVERSITY OF PHNOM PENH (RUPP).

General Directorate of Environmental Knowledge and Information (GDEKI), Department of Environmental Education (March 2019). Effects of Open Burning and Waste Disposal on Health and Environment with the theme: “Waste Segregation” in Battambang province (Awareness Raising Campaigns). REPORT OF ACTIVITY.

General Directorate of Environmental Knowledge and Information (GDEKI), Department of Environmental Education (June 2018). Website Design for the Project (Awareness Raising Campaigns).

General Directorate of Environmental Knowledge and Information (GDEKI), Department of Environmental Education (May 2018). National training course on health and environmental topics of open burning practices (Awareness Raising Campaigns).

General Directorate of Environmental Knowledge and Information (GDEKI) Department of Environmental Education (November 2017). REPORT OF ACTIVITY NO. 7. National Youth Debate on Environmental Issues in 2017 (Awareness Raising Campaigns).

Gobbi, M. (July 2019). DEMONSTRATION OF BAT AND BEP FOR REDUCTION OF UP-POPS EMISSION RELEASES ORIGINATING FROM UNCONTROLLED OPEN BURNING OF WASTE IN RESPONSE TO THE STOCKHOLM CONVENTION ON POPS. Mission report on visit to Cambodia.

Gobbi, M. (September 2018). DEMONSTRATION OF BAT AND BEP FOR REDUCTION OF UP-POPS EMISSION RELEASES ORIGINATING FROM UNCONTROLLED OPEN BURNING OF WASTE IN RESPONSE TO THE STOCKHOLM CONVENTION ON POPS. Mission report on visit to Cambodia and Lao PDR.

Gobbi, M. (April 2018). DEMONSTRATION OF BAT AND BEP FOR REDUCTION OF UP-POPS EMISSION RELEASES ORIGINATING FROM UNCONTROLLED OPEN BURNING OF WASTE IN RESPONSE TO THE STOCKHOLM CONVENTION ON POPS. Mission report on visit to Cambodia and Lao PDR.

Gobbi, M. (February 2017). DEMONSTRATION OF BAT AND BEP FOR REDUCTION OF UP-POPS EMISSION RELEASES ORIGINATING FROM UNCONTROLLED OPEN BURNING OF WASTE IN RESPONSE TO THE STOCKHOLM CONVENTION ON POPS. Mission report on visit to Cambodia and Lao PDR.

Hazardous Substance Management Department, Ministry of Environment (2017). Kingdom of Cambodia Nation Religion King. Assessment Report of the Impacts of Common and Traditional Open Burning Practices in Cambodia. Demonstration of Best Available Techniques (BATs) and Best Environmental Practice (BEPs) in Open Burning Activities in Response to the Stockholm Convention on POPs.

Kingdom of Cambodia, Nation Religion King. Scaling Up Waste Recycling in Battambang City.

Leap Lem Waste Collection Company (LLWC) (02 July 2021). Demonstration of BAT and BEP in Open Burning Activities in Response to the SC on POPs. Co-financing Statement.

Ministry of Environment (03 June 2021). Demonstration of BAT and BEP in Open Burning Activities in Response to the SC on POPs. Co-financing Report.

Ministry of Environment – Environment Education Department of General Directorate of Knowledge and Environmental Information (03 March 2021). Demonstration of BAT and BEP in Open Burning Activities in Response to the SC on POPs. Co-financing Report.

Ministry of Environment – Department of Environmental Education (DEE) General Directorate of Environmental Knowledge and Information (GDEKI) (December 2019). FINAL REPORT ON Project:

“Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs)”.

Ministry of Environment – General Directorate of Environmental Knowledge and Information (GDEKI), Department of Environmental Education (September 2019). NATIONAL TRAINING COURSE ON “INTEGRATED SOLID WASTE MANAGEMENT –ISWM”.

Ministry of Environment – Department of Environmental Education (DEE) General Directorate of Environmental Knowledge and Information (GDEKI) (May 2018). PROGRESSIVE ACTIVITIES REPORT ON Project: “Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs)”. Conduct of Activities to Implement Component on Awareness Raising and Advocacy Campaigns. GEF ID: 5082, UNIDO SAP ID: 150033.

Ministry of Environment – Department of Environmental Education (DEE) General Directorate of Environmental Knowledge and Information (GDEKI) (27 November 2016). PROGRESSIVE ACTIVITIES REPORT ON Project: “Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs)”. Conduct of Activities to Implement Component on Awareness Raising and Advocacy Campaigns. GEF ID: 5082, UNIDO SAP ID: 150033.

Plastic Product Handicraft (PPH) (01 July 2021). Demonstration of BAT and BEP in Open Burning Activities in Response to the SC on POPs. Co-financing Report.

Project Management Unit, Dept. of Hazardous Substance Management, General Directorate of Environmental Protection EPA, Ministry of Environment (June 2019). Integrated Solid Waste Management (ISWM) Toolkit to Implement BAT and BEP on Open Burning.

Sothea, K. (January 2018). RECYCLABLE MATERIALS MARKET IN PHNOM PENH, CAMBODIA.

UNIDO (10 April 2019). Request for 4 month extension of submission of the final report with complete annexes which is due by March 2019 with Contract No. 3000035838.

UNIDO (2017). TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA). Extension Contract for Conducting Field Study.

UNIDO (2016). TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA). Individual Service Agreement (ISA) – TOR for Policy Review and Development.

UNIDO (undated). TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA). TOR for Services for a Survey on Recyclable Materials Market. “National Expert on the supply of services for a survey on recyclable materials market in Phnom Penh Area”.

UNIDO (undated). Demonstration of BATs and BEPs in Open Burning Activities in Response to the Stockholm Convention of Persistent Organic Pollutants (POPs). Conduct of Activities to Implement Component IV on Awareness Raising and Advocacy Campaigns. Communication Strategy Roadmap.

Vibol, K. (14 October 2021). Demonstration of BAT and BEP in Open Burning Sector in Response to the Stockholm Convention on POPs. Final Report on Solid Waste Management Policy 2020-2030 Including Mechanism to Reduce Open Burning in Cambodia.

Vibol, K. (13 October 2021). Demonstration of BAT and BEP in Open Burning Sector in Response to the Stockholm Convention on POPs. Training Workshop Report: Training for Waste Pickers on Best Practice for Solid Waste Management and on Risks Connected with Health and Environment and Other Contaminants Released through Open Burning.

Vibol, K. (March 2018). Demonstration of BAT and BEP in Open Burning Sector in Response to the Stockholm Convention on POPs. Technical Guidelines on Waste and Landfill Management Introducing BAT/BEP in Cambodia.

Vibol, K. (March 2018). Demonstration of BAT and BEP in Open Burning Sector in Response to the Stockholm Convention on POPs. FINAL REPORT: Proposed Financing Mechanisms with Economic Instruments and Market-Based Incentive Concepts/Schemes for Solid Waste Management and Disposal in Cambodia.

Vibol, K. (March 2018). Demonstration of BAT and BEP in Open Burning Sector in Response to the Stockholm Convention on POPs. Final Draft Manual for using financing mechanisms and incentive systems in waste management.

Vibol, K. (26 December 2017). Demonstration of BAT and BEP in Open Burning Sector in Response to the Stockholm Convention on POPs. REPORT: Final Consultation Workshop on Technical Guidelines on Waste and Landfill Management Introducing BAT/BEP, Financing Mechanisms, Incentive Systems and Manual for Using Financial Mechanism and Incentive System for Waste Management.

Vibol, K. (2016). Demonstration of BAT and BEP in Open Burning Sector in Response to the Stockholm Convention on POPs. Inception Report Methodology and Workplan.

Demonstration of BATs and BEPs in Open Burning Activities in Response to the Stockholm Convention of Persistent Organic pollutants (POPs). "Legislation improvement to reduce UPOPs emissions in Cambodia". Conduct of Activities to Implement Component 1 on updating legal and regulation framework for open burning.

Regional East and South East Asia Project on Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to Stockholm Convention on POPs. Project Inception Report. 18 March 2016.

B. Lao PDR

Ministry of Natural Resources and Environment – Natural Resources and Environment Institute (February 2022). Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs. Project Completion Report.

Ministry of Natural Resources and Environment – Natural Resources and Environment Institute (7 April 2018). Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs. First Quarterly Progress Report and Annual Financial Report.

Ministry of Natural Resources and Environment – Natural Resources and Environment Institute (24 March 2018). Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs. Workshop on Waste Material and Alternative Biomass Utilization.

Ministry of Natural Resources and Environment – Natural Resources and Environment Institute (22 March 2018). Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs. Report on Awareness Raising Workshop on Impacts of Open Burning Activity on Environment and Human Health.

Ministry of Natural Resources and Environment – Natural Resources and Environment Institute (26 February 2016). Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs. Awareness Raising and Improved Knowledge Campaigns on BAT/BEP and on Risks Connected with U-POPs, GHG Emissions and Other Contaminants Released through the Project.

Phonvisai, P. (17 July 2019). Demonstration of BAT and BEP in Open Burning Sector in Response to the Stockholm Convention on POPs. Progress Final Report: Technical Guidelines on Waste and Landfill Management, Introducing BAT/BEP in Lao People's Democratic Republic.

Souvannavong, X. (11 June 2017). Demonstration of BAT and BEP in Open Burning Sector in Response to the Stockholm Convention on POPs. Assessment Report of the impacts of common and traditional open burning practices in terms of releases of U-POPs, GHG emissions and other contaminants, and the effects/benefits of BAT/BEP application.

Regional East and South East Asia Project on Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to Stockholm Convention on POPs. Report of Short Video on Open Burning and its impacts on human health. 30 July 2018.

Regional East and South East Asia Project on Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to Stockholm Convention on POPs. Report on Website Development. 10 August 2016.

Regional East and South East Asia Project on Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to Stockholm Convention on POPs. Report on Poster and Photo Contest. 10 July 2016.

Regional East and South East Asia Project on Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to Stockholm Convention on POPs. Report on Tree Planting Activity. 10 July 2016.

C. Mongolia

Centeno, C. & Badam, D. (2016). Report of the Analysis over the Laws and Regulations on Wastes and Landfill Management.

Institute of Chemistry and Chemical Technology, Mongolian Academy of Sciences (November 2019). The Regional Project "Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs". Component on Awareness Raising and Advocacy Campaigns in Mongolia.

Institute of Chemistry and Chemical Technology, Mongolian Academy of Sciences (June 2019). The Regional Project "Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs". Component on Awareness Raising and Advocacy Campaigns in Mongolia.

Institute of Chemistry and Chemical Technology, Mongolian Academy of Sciences (October 2018). Conduct of Activities to Implement Component on Awareness Raising and Advocacy Campaigns in Mongolia Under the Regional Project. "Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs".

Nyamjav, E. (2018). Assessment Report of the impacts of common and traditional open burning practices in terms of releases of U-POPs, GHG emissions and other contaminants, and the effects/benefits of BAT/BEP application. Final report.

Nyamjav, E. (January 2017). Report of Assessment on National and International Economic Instrument, Financing Mechanisms and Incentive Systems of Waste Management and Proposed Financial Mechanism and Incentive System in Mongolia.

Nyamjav, E. (undated). Policy Review and Development Expert. THE MEETING REPORT.

Nyamjav, E. (undated). Policy Review and Development Expert. BRIEF REPORT.

Nyamjav, E. (undated). Policy Review and Development Expert. REPORT ON FOCUS GROUP DISCUSSION TO CONCEPTUALIZE THE DESIGN OF FINANCING MECHANISMS AND INCENTIVE SYSTEMS.

Nyamjav, E. (undated). Policy Review and Development Expert. REPORT ON FOCUS GROUP DISCUSSION MEETING.

Nyamjav, E. (undated). Policy Review and Development Expert. Financing mechanisms and incentive systems in support of BAT/BEP implementation.

Nyamjav, E. (undated). Policy Review and Development Expert. "Updates of legislation changes, and updated regulation on waste management and landfill management targeting common open burning practices"

UNIDO (1 March 2019). Construction of a Landfill Cell for ash disposal and a Storage and a Maintenance Facility for containers for chemicals and ash.

Guidance manual to encourage, promote and advertise individuals, businesses and organizations introduced activity or technology for reducing waste, saving natural resources, implementing 3R.

Improvement of Legal and Regulatory Frameworks for Open Burning to Facilitate Waste Management Improvements and BAT/BEP and to Enable Introduction of Financing Mechanisms. July 2017.

LAW ON WASTE MANAGEMENT, 12 May 2017.

Project Inception Workshop (25 August 2017). "Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs" regional project. Conduct of Activities to Implement Component on Awareness Raising and Advocacy Campaigns in Mongolia.

Project Inception Workshop (09 May 2016). Conduct of Activities to Implement Component on Awareness Raising and Advocacy Campaigns in Mongolia.

D. Philippines

Evangelista, R.C. (November 2017). INDIVIDUAL LEARNING REPORT. Monitoring of Unintentional Persistent Organic Pollutants (U-POPs) and Greenhouse Gases (GHGs) from Open Burning Activities.

General Santos City (14 June 2016). G.R.E.E.N. to C.L.E.A.N. Creating a Livable Environment for All Generals Towards Nation-building in GenSan. EXECUTIVE SUMMARY.

Laurito, E. (undated). Development of a Toolkit on Solid Waste Management to Implement BAT and BEP on Open Burning and Implementation of Training of Trainers on Toolkit. Final Report.

Markell Machineries Manufacturing & UNIDO. PROVISION OF A MATERIAL RECOVERY FACILITY TO BE LOCATED AT GENERAL SANTOS- PHILIPPINES.

Saganay, A. (November 2017). Center for Environmental Monitoring (CEM)/ Vietnam Environmental Administration (VEA)/ United Nations Industrial Development Organization (UNIDO) INDIVIDUAL LEARNING REPORT. Monitoring for Unintentional Persistent Organic Pollutants (U-POP) and Green House Gases (GHG) in Open Burning Activities.

UNIDO (15 March 2021). Sustainability Management Plan. Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on POPs.

UNIDO (17 February 2020). Conduct of Setting Parameters for and Guiding of the Implementation of Activities for the Legislation Demonstration of Best Available Techniques (BAT) and Best Environmental Practices (BEP) in Open Burning Activities in Response to the Stockholm Convention (SC) on Persistent Organic Pollutants (POPs). Final Progress Report.

UNIDO (2019). Demonstration of BATs and BEPs in Open Burning Activities in Response to SC on POPs. Training on the Application of Financial Mechanisms and Incentive Systems in support of BAT/BEP Implementation and Workshop about the Legislation Improvement on Solid Waste Management. Activity Report.

UNIDO (21 November 2018). Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs). Conduct of Activities to Implement Component on Awareness Raising and Advocacy Campaigns.

UNIDO (15 May 2018). Conduct of Activities to Implement Component on Awareness Raising and Advocacy Campaigns. Progress Report.

UNIDO (3 June 2016). Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention of Persistent Organic Pollutants (POPs). Conduct of Activities to Implement Component on Awareness Raising and Advocacy Campaigns. Inception Report.

UNIDO (undated). Conduct of an assessment of the impacts of common and traditional open burning practices in the Philippines Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs). Assessment Report of the Health and Environmental Impacts of Common and Traditional Open Burning Practices.

UNIDO (undated). Integrated Solid Waste Management (ISWM) Toolkit to Implement BAT and BEP on Open Burning.

UNIDO (undated). Progress Report: Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs).

UNIDO (undated). Social Marketing and Strategic Advocacy Communication and Implementation Plan: Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs).

UNIDO and AECOM Philippines, Inc. (undated). Demonstration of Best Available Techniques and Best Environmental Practices in Open Burning Activities in Response to the Stockholm Convention on POPs. Solid Waste Management: Financial Mechanisms & Incentive Systems Manual.

ACTIVITIES OF THE ENVIRONMENTAL RESEARCH AND LABORATORY SERVICES DIVISION – EMB CENTRAL OFFICE LABORATORY IN RELATION TO DIOXINS AND FURANS ANALYSIS.

Guidelines for the collection of information on waste dumpsites.

Guidelines/Checklist on the Establishment of Information on Existing Waste Disposal Facility.

Key information on SLFs in the Philippines from 2008, 2010, 2013, 2014, 2015, 2016 & 3rd Quarter of 2017.

RESOLUTION TO FULLY ENFORCE THE PROVISIONS OF RA 9003 ON OPEN BURNING OF MUNICIPAL SOLID WASTES INCLUDING AGRICULTURAL WASTES. NSWMC Resolution No. __, Series of 2019.

E. Vietnam

Center for Environment Training and Communication (8 December 2016). Component (iv) Education and Awareness Raising Project of Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in open burning activities in response to the Stockholm Convention on Persistent Organic Pollutants (POPs). WEBSITE DESIGN REPORT.

Center for Environment Training and Communication (8 December 2016). Component (iv) Education and Awareness Raising. Project of Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in open burning activities in response to the Stockholm Convention on Persistent Organic Pollutants (POPs). Inception Report.

Deputy Director of NCEM (2020). Field Monitoring Report in 03 Countries: Vietnam, Cambodia and Laos. Implementing Organization: Northern Center for Environmental Monitoring (NCEM) - Vietnam Environmental Administration (VEA).

Environment Analyzing and Technique, JSC (EATC) (June 2021). Project "Demonstration of Best Available Techniques (BAT) and Best Environmental Practices (BEP) in open burning activities in response to the Stockholm Convention on POPs". PROGRESS REPORT 1. Assessment of the current status of production, use, treatment and current regulations of POPs and articles, products containing POPs in some typical industries/sectors in Viet Nam, according to lifecycle approach.

Environment Analyzing and Technique, JSC (EATC) (February 2021). The regional project "Demonstration of BAT and BEP in open burning activities in response to the Stockholm Convention on POPs". INCEPTION REPORT: Assessment of the current status of production, use, and treatment of POPs and articles, products containing POPs in some typical industries/sectors in Vietnam and propose of solutions for sound management of these POPs. Contract no. 3000085998.

Evangelista, R. (30 November 2017). Monitoring for Unintentional Persistent Organic Pollutants (U-POPs) and Green House Gases (GHG) in Open Burning Activities.

Linh, H. (20-30 November 2017). Introduction of Project Demonstration of BATs and BEPs in Open Burning Activities in Response to the Stockholm Convention on POPs.

Nguyen Duc Quang (July 2019). Report on Providing on Inventory Data of Waste Treatment Plants, Dumping and Landfill Sites in Vietnam. Under the Project Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs) Activity 2.1.5. ISA Ref. No. 34000.

Nguyen Thi Anh Tuyet (2018). Technical guidance on developing environmental protection plan for metal recycling trade villages. Annex 1.

Nguyen Thi Anh Tuyet (2018). Technical guidance on developing environmental protection plan for metal recycling trade villages. Annex 2.

Nguyen Thi Anh Tuyet (2018). Technical guidance on developing environmental protection plan for plastic trade villages. Annex 3.

Nguyen Thi Anh Tuyet (2018). Technical guidance on developing environmental protection plan for bamboo crafting trade villages. Annex 4.

Nguyen Thi Anh Tuyet (undated). Developing technical guidelines on the development of environmental protection plan for 4 trade village types. Final report.

The Laboratory of Dioxin and Toxic Substance Analysis, Center for Environmental Monitoring (CEM), Vietnam Environmental Administration (VEA) (February 2018). Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on POPs. Report on the Analytical Practical Sessions Carried Out in Selected National Laboratories – Post Training Assessment.

The Laboratory of Dioxin and Toxic Substance Analysis, Center for Environmental Monitoring (CEM), Vietnam Environmental Administration (VEA) (August 2017). Regional ESEA Project on Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs. Training course on standardized analytical procedures, data collection, monitoring, and reporting procedures.

The Laboratory of Dioxin and Toxic Substance Analysis, Centre for Environmental Monitoring (CEM), Vietnam Environmental Administration (VEA) (May 2017). Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on POPs. Assessment Report on Current Status of Monitoring Capabilities for U-POPs and GHG in the Participating Countries.

Thu Hoa, L. (April 2021). Final Report Activities 112b, 113, 114 and 116. Project Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs. ISA No. 28838.

Thu Hoa, L. (October 2019). Report on Develop Manual for Using Financing Mechanisms and Incentive Systems in Waste Management. Under the Project Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs. ISA No. 28838.

Thu Hoa, L. (October 2019). Draft Report Introduction of Financial Mechanisms and Incentive System Based on the Legal Update to Support BAT/BEP Implementation. In Project Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPS. ISA no. 28838.

Thuan, N. (undated). The Implementation of the Stockholm Convention on Persistent Organic Pollutants in Vietnam.

Tran the Loan (October 2016). Report on Assessment of the Impacts of Common and Traditional Open Burning Practices in Vietnam. Under the Project Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs).

UNIDO Training Course Technical Manual. Monitoring of Unintentional Persistent Organic Pollutants (U-POPs) and Green House Gases (GHG) from Open Burning Activities. October 2017.

Vietnam Cleaner Production Centre Co., Ltd, Vietnam Colour Trading and Manufacturing Co., Ltd Factory (30 August 2019). Demonstration of BAT and BEP in open burning activities to the Stockholm Convention on POPs. Project on Provision of Services and Equipment (Turnkey) for Two Pilot Facilities to be located at Phan Boi and Minh Khai Craft Village - Vietnam.

Vietnam Cleaner Production Centre Co., Ltd, Vietnam Colour Trading and Manufacturing Co., Ltd Factory (28 August 2020). Demonstration of BAT and BEP in open burning activities to the Stockholm Convention on POPs. Project on Provision of Services and Equipment (Turnkey) for Two Pilot Facilities to be located at Phan Boi and Minh Khai Craft Village - Vietnam. Progress Report No. 2.

VIETNAM ENVIRONMENT ADMINISTRATION, NORTHERN CENTER FOR ENVIRONMENTAL MONITORING (October 2019). Project: "Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs". Analysis of PCDD/PCDF and Mercury in Air, Solid and Liquid Samples on the Demonstration Sites, SAMPLING PLAN IN FIVE PARTICIPATING COUNTRIES.

Component (iv) Education and Awareness Raising Project "Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in open burning activities in response to the Stockholm Convention on Persistent Organic Pollutants (POPs)". Report on the education curriculum at university level on waste management and reduction of open burning activities. September 2018.

Component (iv) Education and Awareness Raising. Demonstration of Best Available Techniques (BATs) and Best Environmental practices (BEPs) in open burning activities in response to the Stockholm Convention on Persistent Organic Pollutants (POPs) Project. July 2017.

Component (iv) Education and Awareness Raising. Project of Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in open burning activities in response to the Stockholm Convention on Persistent Organic Pollutants (POPs). 8 December 2016.

Component (iv) Education and Awareness Raising. Project of Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in open burning activities in response to the Stockholm Convention on Persistent Organic Pollutants (POPs). Report on national training course for national and local authorities on impacts of open burning activities on human health and environment. 7 October 2016.

Component (iv) Education and Awareness Raising. Project of Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in open burning activities in response to the Stockholm Convention on Persistent Organic Pollutants (POPs). 12 September 2016.

Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on POPs. Report on the Training Course "monitoring for Unintentional Persistent Organic Pollutants (U-POPs) and Green House Gases (GHG) from Open Burning Activities". December 2017.

"Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs)". 4 June 2016.

List of Participants, Inception Workshop “Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs)”. 4 June 2016.

Minutes of Inception Workshop of “Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs)” Project. 4 June 2016.

On the technical workshop on integrated waste management and solutions to reduce open burning activities. Project of Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in open burning activities in response to the Stockholm Convention on Persistent Organic Pollutants (POPs). 25 July 2018.

Project on Provision of Services and Equipment (Turnkey) for Two Pilot Facilities to Be Located at Phan Boi and Minh Khai Craft Villages - Vietnam. Inception Report. November 2018.

Report on Reviewing and Amending National Technical Regulations on Industrial Waste Incinerators and Developing Technical Guidelines on Recall and Treatment of Discarded Products. Under the Project Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants (POPs). ISA Ref. No. 28838. July 2019.

Review on Identification of Open Burning Sources in Vietnam Based on the Most Updated Data From 2012 Up to Now. ISA 45852. February 2021.

Report on the training workshop on solutions for biomass utilization to reduce open burning activities. Project of Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in open burning activities in response to the Stockholm Convention on Persistent Organic Pollutants (POPs). 23 November 2017.

Second National Awareness Raising Event on POPs: “Green Vietnam Journey” running event Component (iv) Education and Awareness Raising. Demonstration of Best Available Techniques (BATs) and Best Environmental practices (BEPs) in open burning activities in response to the Stockholm Convention on Persistent Organic Pollutants (POPs) Project. 8 October 2017.

TECHNICAL MEETING MINUTES. Development of Technical guidance for writing environmental protection plan for trade villages of metal recycle, paper recycling, plastic recycling and bamboo mat crafting. Annex 5. August 2018.

F. Regional Documents

Demonstration of BAT and BEP in open burning activities in response to the Stockholm Convention on POPs. PROJECT COMPLETION REPORT OF VIETNAM. December 2021.

ESEA Project: Demonstration of BATs and BEPs in Open Burning Activities in Response to Stockholm Convention on Persistent Organic Pollutants. National Project Completion Report.

Laurito, E.R. (4 March 2018). Training of Trainers (ToT) on Solid Waste Management Toolkit. BAT BEP on Open Burning. FINAL REPORT.

Phet, P. (April 2022). Demonstration of Best Available Techniques (BATs) & Best Environmental Practices (BEPs) in Open Burning Activities in Response to the Stockholm Convention on POPs. National Project Completion Report. NPM Ministry of Environment, Cambodia.

Report of Mongolia on Regional Project on Demonstration of BAT and BEP in open burning activities in response to the Stockholm Convention on POPs. 2022.

UNIDO (2019). Asia and the Pacific Demonstration of BAT and BEP in open burning activities in response to the Stockholm Convention on POPs. Independent Mid-Term Evaluation.

UNIDO (1 July 2019 – 30 June 2020). Demonstration of BAT and BEP in open burning activities in response to the Stockholm Convention on POPs. Project Implementation Report.

UNIDO GEF Annual Monitoring Report. 2018.

UNIDO GEF Annual Monitoring Report. 2017.

Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on Persistent Organic Pollutants. Project Completion Report. April 2022.

Integrated Solid Waste Management (ISWM) Toolkit to Implement BAT and BEP on Open Burning. Zero Open Burning.

Regional East and South East Asia Project on Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to Stockholm Convention on POPs. 6th PROJECT STEERING COMMITTEE MEETING REPORT. 7 April 2021.

Regional East and South East Asia Project on Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to Stockholm Convention on POPs. 5th PROJECT STEERING COMMITTEE MEETING REPORT. 26 June 2020.

Regional East and South East Asia Project on Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to Stockholm Convention on POPs. 4th PROJECT STEERING COMMITTEE MEETING REPORT. March 2019.

Regional East and South East Asia Project on Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to Stockholm Convention on POPs. 3rd PROJECT STEERING COMMITTEE MEETING REPORT. 2018.

Regional East and South East Asia Project on Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to Stockholm Convention on POPs. PROJECT STEERING COMMITTEE MEETING REPORT. December 2016.

Regional East and South East Asia Project on Demonstration of Best Available Techniques (BATs) and Best Environmental Practices (BEPs) in Open Burning Activities in Response to Stockholm Convention on POPs. INCEPTION WORKSHOP and 1st PROJECT STEERING COMMITTEE MEETING REPORT. May 2015.

Annex 3: List of interviewees

Name	Position	Agency / Organization	UNIDO Project Role	Country
Dr. Carmela Centeno	Project Manager	UNIDO		
Dr. Johann Fellner	International Consultant	TU Wien - Institute for Water Quality and Resource Management		
Mr. Massimo Gobbi	International Consultant - BAT/BEP Expert			
Dr. Evelyn Laurito	International Consultant - Technical Expert on POPs			
Mr. Phet Pichhara	National Project Manager			Cambodia
Mr. Ros Bondos	Deputy Director and Task Team DEE	MOE	Project Partner and Team	Cambodia
Mrs. Chho Somony	Chief of Office and Task Team DEE	MOE	Project Partner and Team	Cambodia
Mr. Chek Noy	Deputy Municipality	Battambang Municipality - LGA Battambang Province	Project Partner	Cambodia
Mr. Neang Chanthara	Chief of PPH	Private Sector, Battambang Province	MRF's Project Recipient	Cambodia
Mrs. Som Samnang	CEO of LLWC	Private Sector, Battambang Province	MRF's Project Recipient	Cambodia
Mr. Chek John	Operations Manager	Environmental Education and Recycling Organization (COMPOSTED), NGO, Battambang Province	MRF's Project Recipient	Cambodia

Mr. Kan Vibol	National Consultant		Project Partner and Team Freeland	Cambodia
Mrs. Chea Eliyan	National Consultant	Royal University of Phnom Penh-RUPP	Project Partner and Team	Cambodia
Mr. Virasack Chundara	National Project Manager			Lao PDR
Mr. Virana Sonnasinh	Director General	Department of Planning and Cooperation, MONRE	Project Partner	Lao PDR
Mr. Khamhou Tounalom	Director of Environmental Research Division	Natural Resources and Environment Research Institute, MONRE	Project Partner (NPD)	Lao PDR
Mr. Doungmala Boudchaluern	Deputy Director	Thakhek Urban Development and Administration Agency (UDAA)	Project beneficiary	Lao PDR
Mr. Donkeo Vongkhounhom	Director of SAPLAST		Project beneficiary	Lao PDR
Mr. Delgerbayar Badam	National Project Manager			Mongolia
Ms. Oyun	Officer	Ministry of Environment	Project Coordinator	Mongolia
Dr. Jargalsaikhan	Director	Institute of Chemical and Chemical technology of the Mongolian Science Academy	C4 contractor	Mongolia
Mr. Munkhbayar	Officer	Waste Management Department of the Mayor's Office	Project implementation partner and beneficiary	Mongolia
Ms. Otgondalai		Resident of Ger area household	Project beneficiary	Mongolia
Ms. Haidee Penero	National Project Manager			Philippines
Mr. Teddy G. Monroy	Representative	UNIDO Country Office, Philippines		Philippines
Atty. Jonas R. Leones	Undersecretary for Policy, Planning and International Affairs	Department of Environment and Natural Resources		Philippines

Al O. Orolfo	Director	Foreign-Assisted and Special Projects Service (FASPS Office) (project monitoring unit of the Government Partner-DENR)		Philippines
Eddie B. Abugan Jr.	Chief - Project Management Division	FASPS Office		Philippines
Marianica Philina L. Obmerga	Project Evaluation Officer II	FASPS Office		Philippines
Engr. Omar Saikol	Regional Director	Environmental Management Bureau, EMB XII		Philippines
Engr. Phillip Biboso		Environmental Management Bureau, EMB XII	PMU Member and Technical Support	Philippines
Mr. Ferdinand Pareja	Department Head	Waste Management Office, General Santos City	PMU Member /PMT Head	Philippines
Mr. John Hitalia	SLF and CMRF Focal Person, General Santos City	City government of General Santos	Project team member	Philippines
[Manager]		Robinsons Mall	Business Establishment	Philippines
[Manager]		Mercury Drug Store	Business Establishment	Philippines
[Barangay Official]	Barangay Lagao	City government of General Santos		Philippines
[Barangay Official]	Barangay Calumpang	City government of General Santos		Philippines
[Waste Pickers]		CMRF, General Santos City		Philippines
Hon. Eliordo Ogena	City Mayor	City government of Koronadal		Philippines
Mr. Augustus L. Bretaña	City Environment and Natural Resources Officer	City government of Koronadal		Philippines
Engr. Abril Lebanan	CENRO	City government of Koronadal	Point Person - Koronadal Site	Philippines
Mrs. Delia P. Carmelo	Barangay Captain	Barangay Zone III, Koronadal		
Mr. Edison D. Peñalosa, Jr.	Barangay Kagawad	Barangay Zone III, Koronadal		
Ms. Le Thi Thanh Thao	Representative	UNIDO Country Office, Vietnam		Vietnam
Mr. Le Hoai Nam	Director	Department of Environmental	Director of the PMU	Vietnam

		Quality Management, VEA, MONRE		
Ms. Dang Thuy Linh	Principal Official	Department of Environmental Quality Management, VEA, MONRE	National Project Coordinator	Vietnam
Ms. Nguyen Thi Cam Uyen	Principal Official	International Cooperation Department, MONRE	Member of PMU	Vietnam
Mr. Nguyen Duc Thuan	Director	Vietnam GEF Office		Vietnam
Ms. Linh Hoang Dieu	National Project Manager			Vietnam
Ms. Hong Giang Le	National Project Manager			Vietnam
Mr. Dinh Viet Cuong	Official	Department of Waste Management, VEA, MONRE	Counterpart Ministry	Vietnam
Mr. Nguyen Tien Doan	Principal Official	Department of Waste Management, VEA, MONRE	Counterpart Ministry	Vietnam
Mr. Le Xuan Thinh	Director	Vietnam Cleaner Production Center (VNCP)	Consultant	Vietnam
Mr. Tran Nhu Duc Hau	Vice Director	Hoang Kim Environment and Quality Metrology Joint Stock Company (Hoang Kim EQM)	Consultant	Vietnam
Ms. Nguyen Nhu Cam Tien	Staff	Hoang Kim EQM	Consultant	Vietnam
Ms. Nguyen Thi Nguyet Anh	Vice Director	Northern Center for Environmental Monitoring (NCEM)	Consultant	Vietnam
Mr. Nguyen Huu Thang	Head of Environment Monitoring and Warning Division	NCEM	Consultant	Vietnam
Nguyen Minh Hue	Deputy Head of Analytical Laboratory for Environment, Dioxin and toxins	NCEM	Consultant	Vietnam

Ms. Nguyen Thi Anh Tuyet			National expert on Monitoring and Evaluation of BAT/BEP	Vietnam
Mr. Nguyen Quang Minh	Deputy General Director	Environment Analysing and Technique., JSC (EATC)	Consultant	Vietnam
Mr. Vu Ngoc Bach	Sale Director	Environment Analysing and Technique., JSC (EATC)	Consultant	Vietnam

Annex 4 – Evaluation framework

Evaluation criteria	Evaluation indicators	Means of verification
Project Design		
<p>The evaluation will examine the extent to which:</p> <ul style="list-style-type: none"> • The project’s design is adequate to address the problems at hand. • The project has a clear thematically-focused development objective, the attainment of which can be determined by a set of verifiable indicators. • The project was formulated based on the logical framework (project results framework) approach. • Was there a need to reformulate the project design and the project results framework given changes in the countries and operational context? • Are relevant environmental and social risk considerations included at the time of project design? 	<ul style="list-style-type: none"> • Situational analysis • Project results framework • Risk assessment and management • Adjustments made due to operational context • Environmental and social safeguards 	<ul style="list-style-type: none"> • Project document and annexes • Interviews with UNIDO, National Focal Points, key national partners, and other project stakeholders
Relevance and Coherence		
<p>The evaluation will examine the extent to which the project is relevant or coherent to the:</p> <ul style="list-style-type: none"> • National development and environmental priorities and strategies of the national governments and their populations, as well as regional and international agreements. • Target groups: relevance of the project’s objectives, outcomes, and outputs to the different target groups of the interventions (e.g., national governments, municipalities, NGOs, women’s associations, waste pickers, etc.). • GEF’s focal areas/operational program strategies: In retrospect, were the project’s outcomes consistent with the GEF focal area(s)/operational program strategies? Ascertain the likely nature and significance of the contribution of the project outcomes in the reduction or elimination of releases of uPOPs from open burning • Does the project remain relevant taking into account the changing environment? 	<ul style="list-style-type: none"> • Level of alignment with regional, sub-regional, and national environmental priorities, as well as with UNIDO and GEF strategic priorities at the time of design and implementation 	<ul style="list-style-type: none"> • Pertinent project documents and annexes • Interviews with UNIDO, national project coordinators, key national stakeholders

Evaluation criteria	Evaluation indicators	Means of verification
<ul style="list-style-type: none"> To what extent was the project aligned with – and complementary to – other work being delivered within the participating countries? 		
Effectiveness and Progress to impact		
<p>The evaluation will assess the objectives and current results (results to date):</p> <ul style="list-style-type: none"> The evaluation will assess whether the results at various levels, including outcomes, have been achieved. In detail, the following issues will be assessed: Have the expected outputs and outcomes, been successfully achieved? Has the project generated any results that could lead to changes of the assisted institutions? Have there been any unplanned effects? Are the project outcomes commensurate with the original or modified project objectives? If the original or modified expected results are merely outputs/inputs, were there any real outcomes of the project? If there were, are these commensurate with realistic expectations from the project? How do the stakeholders perceive the quality of outputs? Are the targeted beneficiary groups actually being reached? Has the project generated any results that could lead to changes of the assisted institutions? Have there been any unplanned effects? Identify actual and/or potential longer-term impacts or at least indicate the steps taken to assess these. Have the relevant authorities in the countries enforced the regulations on BAT/BEP? By how much have PCDD/Fs emissions decreased after the project interventions in the participating countries? Will the participating countries promote the demonstrated BAP/BEP in other municipalities or locations? 	<ul style="list-style-type: none"> Target for outputs, outcomes, and objectives of Project Results Framework Occurrence of intermediate states in the participating countries Stated contribution of stakeholders in achievement of outputs 	<ul style="list-style-type: none"> Review of relevant documents such as PIRs, progress reports, meeting reports Interviews with UNIDO, RC, NPCs, National Focal Points, key government representatives, consultants and other partners such as NGOs, academia, etc.
Efficiency at current stage of implementation		
<p>The extent to which:</p> <ul style="list-style-type: none"> The project cost is effective? Has the project used the most cost-efficient options? Has the project produced results (outputs and outcomes) within the expected time frame? Has project implementation been delayed? If the project has been delayed, has it affected cost effectiveness or results? Have the project’s activities been in line with the schedule of activities as defined by the project team and annual work plans? Have the disbursements and project expenditures been in line with budgets? Have the inputs from the donor, UNIDO, and government/ counterpart been provided as planned, and were they adequate to meet the requirements? Was the quality of UNIDO inputs and services as planned and timely? Was there coordination with other UNIDO and other donors’ projects, and did possible synergy effects happen? 	<ul style="list-style-type: none"> Level of compliance with expected milestones mentioned in logical framework and with respect to financial planning and annual plans Level of co-finance mobilized Level of inclusion of pre-existing initiatives and institutions, etc. 	<p>For all questions under Efficiency:</p> <ul style="list-style-type: none"> PIRs, RPSC meeting reports, annual and progress reports, NPSC meeting reports, national reports Interviews with UNIDO, RC, NPCs, National Focal Points, consultants and other

Evaluation criteria	Evaluation indicators	Means of verification
<ul style="list-style-type: none"> • Give the reasons/justifications for the extension granted to the project. • What has been the impact of COVID-19 on project implementation? 	<ul style="list-style-type: none"> • Document the delays that occurred • List of reasons, validated by project team 	project stakeholders
Assessment of risks to likelihood of sustainability of project outcomes		
<p>Sustainability is understood as the likelihood of continued benefits after the GEF project ends. Assessment of sustainability of outcomes will be given special attention, but also technical, financial, and organizational sustainability will be reviewed. This assessment will explain how the risks to project outcomes will affect continuation of benefits after the GEF project ends. It will include both exogenous and endogenous risks.</p> <p>The following four dimensions or aspects of risks to sustainability will be addressed:</p> <ul style="list-style-type: none"> • Financial risks. Are there any financial risks that may jeopardize sustainability of project outcomes? What is the likelihood of financial and economic resources not being available now that the GEF assistance has ended? (Such resources can be from multiple sources, such as the public and private sectors or income-generating activities; these can also include trends that indicate the likelihood that, in the future, there will be adequate financial resources for sustaining project outcomes.) Was the project successful in leveraging the co-financing pledged at design? • Socio-political risks. Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that project benefits continue to flow? Is there sufficient public/stakeholder awareness in support of the project’s long-term objectives? • Institutional framework and governance risks. Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize sustainability of project benefits? Are requisite systems for accountability and transparency and required technical know-how in place? • Environmental risks. Are there any environmental risks that may jeopardize sustainability of project outcomes? Are there any environmental factors, positive or negative, that can influence the future flow of project benefits? Are there any project outputs or higher-level results that are likely to have adverse environmental impacts, which, in turn, might affect sustainability of project benefits? The evaluation will assess whether certain activities will pose a threat to the sustainability of the project outcomes. 	UNIDO risk level indicators: Low, Moderate, High	<ul style="list-style-type: none"> • Review of relevant documents such as PIRs, progress reports, meeting documents, progress reports • Interviews with UNIDO, RC, NPCs, National Focal Points, and other national stakeholders and NGOs
Assessment of M&E systems		
<ul style="list-style-type: none"> • M&E design. Did the project have an M&E plan to monitor results and track progress towards achieving project objectives? The evaluation 	<ul style="list-style-type: none"> • Availability of logframe, workplans, roles of 	<ul style="list-style-type: none"> • Project document

Evaluation criteria	Evaluation indicators	Means of verification
<p>will assess whether the project met the minimum requirements for the application of the project M&E plan.</p> <ul style="list-style-type: none"> • M&E plan implementation. The evaluation should verify that an M&E system was in place and facilitated timely tracking of progress towards project objectives by collecting information on chosen indicators continually throughout the project implementation period; annual project reports were complete and accurate, with well-justified ratings; the information provided by the M&E system was used during the project to improve performance and to adapt to changing needs; and the project had an M&E system in place with proper training for parties responsible for M&E activities to ensure that data will continue to be collected and used after project closure. Was monitoring and self-evaluation carried out effectively at regional and national levels, based on indicators for outputs, outcomes, and impacts? Are there any annual work plans? Were the steering or advisory mechanisms put in place at national and regional levels? Did reporting and performance reviews take place regularly? • Budgeting and funding for M&E activities. In addition to incorporating information on funding for M&E while assessing M&E design, the evaluators will determine whether M&E was sufficiently budgeted for at the project planning stage and whether M&E was adequately funded and in a timely manner during implementation. 	<ul style="list-style-type: none"> • overseeing bodies, budgeted M&E plan • Level of implementation of M&E system (execution of activities); changes in implementation approach to adapt to changing situations; compliance of the countries in the submission of relevant reports in a timely manner • Compliance with reporting requirements as mentioned in TORs and/or project document 	<ul style="list-style-type: none"> • PIRs, meeting reports, progress and annual reports, financial and reports, audit and other relevant reports • Interviews with UNIDO, RC, NPCs, RPSC and NPSC members, and other relevant stakeholders / partners
Monitoring of long-term changes		
<p>The M&E of long-term changes is often incorporated in GEF-supported projects as a separate component and may include determination of environmental baselines; specification of indicators; and provisioning of equipment and capacity building for data gathering, analysis, and use. This section of the evaluation report will describe project actions and accomplishments towards establishing a long-term monitoring system. The evaluation will address the following questions:</p> <ol style="list-style-type: none"> Did the project contribute to the establishment of a long-term monitoring system? If it did not, should the project have included such a component? What were the accomplishments and shortcomings in establishment of this system? Is the system sustainable — that is, is it embedded in a proper institutional structure and does it have financing? How likely is it that this system will continue operating upon project completion? Is the information generated by this system being used as originally intended? 	<ul style="list-style-type: none"> • Evidence of initial efforts to establish a long-term monitoring system 	<ul style="list-style-type: none"> • Project reports, M&E reports • Interviews with UNIDO, RC, NPCs, National Focal Points, and other relevant stakeholders
Project coordination and management		
<p>The extent to which:</p> <ul style="list-style-type: none"> • The regional and national management and overall coordination mechanisms have been efficient and effective. Did each partner have assigned roles and responsibilities from the beginning? Did each partner fulfill its role and responsibilities (e.g., providing strategic support, monitoring and reviewing performance, allocating funds, providing technical support, following up agreed/corrective actions)? 	<ul style="list-style-type: none"> • Level and quality of project coordination and management at regional and national level 	<ul style="list-style-type: none"> • PIRs, meeting reports, and project coordination and management reports

Evaluation criteria	Evaluation indicators	Means of verification
<ul style="list-style-type: none"> The UNIDO HQ-based management, coordination, monitoring, quality control, and technical inputs have been efficient, timely, and effective (e.g., problems identified timely and accurately; quality support provided timely and effectively; right staffing levels, continuity, skill mix, and frequency of field visits)? 		<ul style="list-style-type: none"> Interviews with UNIDO, RC, NPCs, National Focal Points, and other relevant stakeholders
Gender mainstreaming		
<p>The evaluation will consider, but need not be limited to, the following issues that may have affected gender mainstreaming in the project:</p> <ul style="list-style-type: none"> Did the project design adequately consider the gender dimensions in its interventions? If so, how? Was a gender analysis included in a baseline study or needs assessment (if any)? How gender-balanced was the composition of the project management team at regional and national levels, the Regional and National Steering Committees, experts and consultants, and the beneficiaries? Have women and men benefited equally from the project's interventions? Do the results affect women and men differently? If so, why and how? How are the results likely to affect gender relations (e.g., division of labour, decision-making authority)? Are women/gender-focused groups, associations or gender units in partner organizations consulted/included in the project? To what extent were socio-economic benefits delivered by the project at the regional, national, and local levels, including consideration of gender dimensions? 	<p>Incorporation of gender-responsive approaches and indicators, such as:</p> <ul style="list-style-type: none"> Women's participation Gender balance Integration of gender dimensions in project delivery Equality, benefits, and results 	<ul style="list-style-type: none"> Project reports Interviews with UNIDO, RC, NPCs, National Focal Points, NGOs, Women's Associations involved, and other beneficiaries

Annex 5: Evaluation questionnaires

Independent Terminal Evaluation of the Project:

Demonstration of BAT and BEP in open burning activities in response to the Stockholm Convention on POPs (GEF ID 5082)

April - June 2022

UNIDO PM

Questions	Answers
<p>1. (i) How was the project developed? (ii) Was it a request from the participating countries? (iii) How relevant is the project to UNIDO's mandate?</p>	
<p>2. (i) Were you involved in the development of the project (PIF and PPG)? (ii) If yes, were the key national stakeholders identified during that phase? (iii) In particular, were the stakeholders and partners of the BAT/BEP demonstration projects already identified and contacted during the preparatory phase in all the countries?</p>	
<p>3. Were you PM since the beginning of the project?</p>	
<p>4. (i) How many projects are you managing at the moment? (ii) Are you assisted for the management of this project?</p>	
<p>5. (i) At UNIDO level, who is responsible to develop the TORs, the contracts and other documents to recruit and sub-contract consultants countries or for procurement?</p> <p>(ii) Did UNIDO do all the procurement of equipment (e.g. for pilot projects)? What is the procedure? Any ceiling to request additional approval? Did this occur for this project?</p> <p>(iii) Were other modalities used for procurement (of goods, equipment, etc.) in the project?</p>	

<p>(iv) How long did it generally take for procurement or sub-contracting for the project? Any challenges for procurement or sub-contracting? If yes, what were the challenges?</p> <p>(v) Modality for disbursement of funds or payments? What approval are required and from whom?</p> <p>(vi) Were disbursements / payments done on a timely manner?</p>	
<p>6. (i) Were UNIDO Country Offices and National Cleaner Production Centers involved in project implementation?</p> <p>(ii) If yes, describe their involvement in the project and support given to the beneficiary countries during implementation?</p>	
<p>7. Financial management</p> <p>(i) Please see table of expenditures at June 2021 below (taken from the TORs of this TE). Can you explain the significant variance between planned and actual expenditures for the items: National Consultants, Equipment and Contractual Services?</p> <p>(ii) Was there a need for approval to reallocate the budgets? If yes, to whom must the request be made to approve these budget reallocations?</p> <p>(iii) Financial and co-financial reports needed by evaluation team, thank you</p>	
<p>8. (i) Did UNIDO directly sub-contract the international as well as national consultants?</p> <p>(ii) How were these consultants identified?</p> <p>(iii) Procedure for their recruitment?</p>	
<p>9. Feedback on International Consultants (ICs) (Gobbi, TU Wien, Dr Evelyn Laurito).</p> <p>(i) Did they perform as expected?</p> <p>(ii) Did they deliver on time? If no, what caused the delays?</p>	

<ul style="list-style-type: none"> (iii) Did they cooperate fully with the Project? (iv) Have there been good collaboration between ICs and the other partners (UNIDO, Regional Project Coordinator (RPC), National Project Coordinators (NPCs) and countries)? 	
<p>10. Feedback on national consultants (NCs)</p> <ul style="list-style-type: none"> (i) Are they performing as expected? (ii) If no, which ones (from which countries) did not deliver satisfactorily? Reasons? 	
<p>11. Regional Project Coordinator (RPC)</p> <ul style="list-style-type: none"> (i) Was a RPC recruited for the project as planned in the ProDoC? (ii) If yes, how was he/she recruited? (iii) Are you satisfied with his/her performance/ (iv) Type and frequency of communication you had with the RPC? 	
<p>12. Project Steering Committee, monitoring, challenges, delays, extension and PIRs</p> <ul style="list-style-type: none"> (i) Did you attend all PSC meetings? (ii) Who is the official representative of the countries at the PSC meetings? (iii) Satisfied with the involvement and participation of partners and countries in the PSC meetings? (iv) Has Project Management (and PSC) used the Project Results Framework and all the proposed indicators therein as 	

<p>basis to monitor project progress and to track results?</p> <ul style="list-style-type: none"> (v) Has the gender dimension specifically been considered during implementation and monitoring of the project? (vi) What major challenges has the project faced? (vii) How have these challenges been overcome? (viii) Any impact of these challenges on project implementation? (ix) What were the reasons for the two-year extension requested? (x) When was the extension request made and has it been approved? Approved by whom? (xi) Who is responsible to draft the PIRs? (xii) Have the PIR reports been timely submitted? 	
<p>13. Execution at national level, involvement of national stakeholders, ownership, performance of National Project Coordinators (NPCs) and reporting</p> <ul style="list-style-type: none"> (i) What was the modality of execution at national level? (ii) Were the countries sub-contracted by UNIDO to execute the project activities? If yes, were there different contracts? (iii) How were the NPCs identified and recruited? (iv) Were the NPCs directly sub-contracted by UNIDO? (v) Did the NPCs perform as expected? Please give your feedback on them. 	

<ul style="list-style-type: none"> (vi) Have you seen a good involvement / engagement of national and local stakeholders as well as partners (of the participating countries) in the project? If no, give reasons. (vii) Good collaboration among all the countries? (viii) Performance of countries in project implementation? Please briefly elaborate on the challenges faced in each of the countries. (ix) Do you feel there was high ownership of project in all countries? Justify your answer (x) No National Project Steering Committee (NPSC) was designed in the project document. Do you think that the establishment of NPSCs in the countries would have contributed to increase ownership in the countries? (xi) What reports were expected from the countries? (xii) Were they timely submitted? 	
<p>14. Recommendations of MTE and achievements of goals</p> <ul style="list-style-type: none"> (i) The MTE made the following recommendations, have they been implemented? <ul style="list-style-type: none"> (a) To document expenditure of co-finance, if any, in Lao PDR. Component 3 activities to be expedited in the other countries (b) To request for an extension of one year of the project duration might be necessary (c) To clarify the responsibility and maintenance of the regional website, as well as the respective national 	

<p>websites, after project completion</p> <ul style="list-style-type: none"> (d) Relevant Ministries to pursue approval of proposed legislation / Technical Guidelines (e) Philippines: Further clarification of the classification and different cases of open burning and suggestions formulated for inclusion in the existing Law, and approval possibly as a Memorandum Resolution, if deemed appropriate (f) Vietnam: Consultation with main and relevant industry stakeholders and Ministry to decide on the “best incentives” for Vietnam and then to include in legislation (g) Cambodia: Cooperative Agreement (CA) with Battambang Province to be signed as soon as practically possible, and to expedite project activities (h) LAO: Cooperation Agreement to be signed with SAPLAST as soon as practically possible, and to expedite project activities (i) Philippines: Replications plans to be prepared, including budget (together with other LGUs) and plan visit of nearby communities and LGUs to the newly-established Facility (j) National Governments can consider the development of a “lighter” curriculum for the different levels of schools (primary, medium and high), in the form of different tasks and activities for school students (optional courses), even after project completion <p>(ii) According to the 2021 PIR, some activities (for Outputs 2.1, 3.1 and 3.2) were still pending, have they</p>	
--	--

<p>been successfully completed? (Linked to Question 12 (i). (iii) Who was responsible to develop and maintain the regional project website: http://www.stopopenburning.org)? (Evaluation team cannot access the site) (iv) Has the project been able to achieve the planned objectives? In particular, reduction of 38 g TEQ yearly?</p>	
<p>15. (i) Is the replication of pilot demonstration projects expected after project closure? If yes, what measures/support is the project proposing for replication to happen in the medium / long term? (ii) Do you think that a follow-up initiative or other type of support would be required to ensure replication and sustainability of project results?</p>	
<p>16. Your general feedback on the countries and the project.</p>	

National counterpart: Director / High level officer

Country:

Contact person information (name, email, phone):

Name of your institution and your position:

Date in filling out this questionnaire:

Please email back to:

Questions	Response and comments
<p>Is open burning a priority issue being tackled by your government? Why or why not?</p> <p>How willing is your government to fulfill its obligations towards the Stockholm Convention?</p>	

Questions	Response and comments
<p>Is the UNIDO project relevant to the country's priorities regarding national plans for open burning?</p>	
<p>What support has your government, specifically your department, given to the implementation of the UNIDO project?</p>	
<p>Are you satisfied with the support and guidance provided by UNIDO and the Regional Project Coordinator (RPC)?</p> <p>Please give your feedback on the assistance and support provided by UNIDO, and other international experts. Please elaborate.</p> <p>What other types of assistance do you think would have been helpful?</p>	
<p>Has your country been able to successfully deliver all the outputs of the project? What were the main challenges faced to undertake the activities?</p> <p>How were the challenges overcome?</p> <p>Are there already visible signs of impact of the project such as behavioural change in waste management, decrease in open burning, more waste segregation and recycling, etc. at the project sites? Please give some concrete examples.</p>	
<p>Please rate the guidance & support provided by UNIDO and the RPC separately (from 1 to 6). 1: Highly unsatisfactory; 2: Unsatisfactory; 3: Moderately unsatisfactory; 4: Moderately satisfactory; 5: Satisfactory; and, 6: Highly satisfactory</p>	
<p>Have the results of the project (e.g., regulations on waste burning, etc.) been adopted / integrated / enforced at national level? If so, please give an example and comment.</p>	

Questions	Response and comments
<p>Have the relevant authorities started to apply regulatory measures aimed at discouraging open burning practices of wastes and agricultural residues?</p> <p>Is there a plan for replicating or scaling up project results (e.g., waste segregation and recycling or composting) at national level? Please elaborate.</p>	
<p>Are there any social or political factors that may influence positively or negatively the project results? If yes, please comment.</p>	
<p>Are the capacities built (e.g., BAP/BEP capacity for sound management of wastes) within the project robust enough to continue delivering benefits beyond the project life? Why or why not? Please elaborate.</p>	
<p>To what extent are the continuation of project results and eventual impact dependent on availability of financial resources? Can these financial resources be mobilized nationally?</p>	
<p>Any inputs / suggestions to sustain project gains after project closeout?</p>	
<p>Do you have any inputs / comments / suggestions / issues pertinent to the project you'd like to raise with me?</p>	

National Project Team Members

Country:

Contact person information (name, email, phone):

Name of your institution:

Your position in the institution:

Date in filling out this questionnaire:

Please email back to:

Questions	Response and comments
(i) What was your role (or that of your institution) in the project? (ii) When was the Project Management Team (PMT) established? (iii) Who was the leader of the PMT? (iv) Who were the members of the PMT? (v) What were the responsibilities of the PMT?	
(i) Can you describe the collaboration between the PMT, the National Project Coordinator (NPC) and the National Project Manager (NPM) for the implementation of the project?	
(i) Who was responsible to recruit the National consultants (NCs)? (ii) What was the procedure to select and recruits the NCs? (iii) Were they directly contracted by UNIDO? (iv) What did the consultants have to deliver? (v) Are you satisfied with their performance? (vi) Did they submit the reports on time or late? If late, the reasons for the delay? (vii) Are you satisfied with the quality of the reports? (viii) Could you send me a copy of these reports?	
(i) Who were the main/key stakeholders of the project? (ii) Were they actively participating in the project?	

Questions	Response and comments
<p>(iii) For example, were the local authorities (e.g., municipalities) where the pilot project/s were located actively involved in the project? Were they supporting the project?</p> <p>(iv) Were the collaboration and interaction between these main/key stakeholders satisfactory? Please comment.</p> <p>(v) Were the private sector involved in the pilot project/s? How? What is its role? If no, is there a plan to involve / engage / partner with the private sector after project closeout?</p>	
<p>Did the project receive strong support from the government (or national authorities or local authorities)? If yes, what type of support? If not, please give the reasons.</p>	
<p>(i) When was the project officially launched in your country?</p> <p>(ii) Did the project build on the results / data produced by previous initiatives such as the inventory carried out under the NIP on POPs or other?</p> <p>(iii) What have been the main challenges encountered to organize and implement the activities of the project?</p> <p>(iv) Did these challenges affect the implementation? Delays? Please comment.</p> <p>(v) How were these challenges overcome?</p>	
<p>(i) Are you satisfied with the support and guidance provided by UNIDO and the Regional Project Coordinator (RPC)?</p> <p>(ii) Please give your feedback on the assistance and support provided by UNIDO, and other international experts. Please elaborate.</p> <p>(iii) What other types of assistance do you think would have been helpful?</p>	
<p>(i) What were the reports that your country had to submit to UNIDO?</p>	

Questions	Response and comments
<p>(ii) What was the frequency for the submission of these reports?</p> <p>(iii) Have there been delays in submitting those reports? If yes, please give the reasons for the delays.</p>	
<p>(i) Now that the project is almost completed, are there already visible signs of impact of the project such as behavioural change in waste management, decrease in open burning, more waste segregation and recycling, etc at the project sites? Please give some concrete examples</p> <p>(ii) Are you aware if there have been job creation as a result of the project interventions? If yes, how many jobs created and what type of job?</p> <p>(iii) Are you aware of any improvement in the livelihood of waste pickers communities or other communities as a result of project intervention? Please describe and give examples.</p>	
<p>Please rate the guidance & support provided by UNIDO and the RPC separately (from 1 to 6). 1: Highly unsatisfactory; 2: Unsatisfactory; 3: Moderately unsatisfactory; 4: Moderately satisfactory; 5: Satisfactory; and, 6: Highly satisfactory</p>	<p>UNIDO:</p> <p>RPC:</p>
<p>(i) Have the results of the project (e.g., regulations on waste burning, etc.) been adopted / integrated / enforced at national level? If so, please give an example and comment.</p> <p>(ii) Have the relevant authorities started to apply regulatory measures aimed at discouraging open burning practices of wastes and agricultural residues?</p> <p>(iii) Is there a plan for replicating or scaling up project results (e.g., waste</p>	

Questions	Response and comments
segregation and recycling or composting) at national level?	
Are there any social or political factors that may influence positively or negatively the project results? If yes, please comment.	
Are the capacities built (e.g., BAP/BEP capacity for sound management of wastes) within the project robust enough to continue delivering benefits beyond the project life? Why or why not? Please elaborate.	
To what extent are the continuation of project results and eventual impact dependent on availability of financial resources? Can these financial resources be mobilized nationally?	
What needs to be done to sustain project gains after project closeout?	
Has the project involved women? How has it integrated gender dimensions in project delivery? Any positive or emerging outcomes on gender equality? Please elaborate on gender mainstreaming benefits and results.	
Do you have any inputs / comments / suggestions / issues pertinent to the project you'd like to raise with me?	

National Project Coordinator Questionnaire

Country:

Contact person information (name, email, phone):

Name of your institution:

Your position in the institution:

Date in filling out this questionnaire:

Please email back to:

Questions	Response and comments
(vi) How did you hear about the project? (vii) Was there a call for applications? (viii) How many candidates applied for the National Project Coordinator (NPC) position? (ix) Did you go through interviews? With whom? (x) Are you directly contracted by UNIDO?	
(i) What are your responsibilities as NPC for the project? (ii) Where is your office located? (iii) Do you have the support of an assistant? (iv) Do you benefit from the support of the authorities for the management of the project? If so, give examples. (v) What are the main challenges you have faced for the management of the project or for the execution of the activities? (vi) How did you overcome these challenges?	
(i) What reports and how often should you submit these reports? To whom? UNIDO? (ii) What is the procedure for submitting these reports? Do you need to get the green light from the authorities before submitting to UNIDO? (iii) (iii) Have there been delays in submitting these reports? If yes, reasons for these delays?	
(ix) Were other consultants recruited for the project? (x) If yes, how were they recruited? Call for applications or other? (xi) Were they directly contracted by UNIDO?	

Questions	Response and comments
<p>(xii) What did the consultants had to deliver? (xiii) Are you satisfied with their performance? (xiv) Did they submit the reports on time or late? If late, the reasons for the delay? (xv) Are you satisfied with the quality of the reports? (xvi) Do these reports have to be validated? If so, by whom? (xvii) Could you send me a copy of these reports?</p>	
<p>(vi) Who are the main/key stakeholders of the project? (vii) Are they actively participating in the project? (viii) For example, are the local authorities (e.g., municipalities) where the pilot project/s is/are located actively involved in the project? Are they supporting the project? (ix) Are the collaboration and interaction between these main/key stakeholders satisfactory? Please comment. (x) Has the private sector been involved in the pilot project/s? How? What is its role? If no, is there a plan to involve / engage / partner with the private sector after project closeout?</p>	
<p>(vi) When was the project officially launched in your country? (vii) Did the project build on the results / data produced by previous initiatives such as the inventory carried out under the NIP on POPs or other?</p>	
<p>(iv) Are you satisfied with the support and guidance provided by UNIDO and the Regional Project Coordinator (RPC)? (v) Please give your feedback on the assistance and support provided by UNIDO, and other international experts. Please elaborate.</p>	

Questions	Response and comments
(vi) What other types of assistance do you think would have been helpful?	
<p>(iv) Has your country been able to successfully deliver all the outputs of the project?</p> <p>(v) What were the main challenges faced to undertake the activities?</p> <p>(vi) How were the challenges overcome?</p> <p>(vii) Are there already visible signs of impact of the project such as behavioural change in waste management, decrease in open burning, more waste segregation and recycling, etc at the project sites? Please give some concrete examples</p> <p>(viii) Are you aware if there have been job creation as a result of the project interventions? If yes, how many jobs created and what type of job?</p> <p>(ix) Are you aware of any improvement in the livelihood of waste pickers communities or other communities as a result of project intervention? Please describe and give examples.</p>	
<p>Please rate the guidance & support provided by UNIDO and the RPC separately (from 1 to 6). 1: Highly unsatisfactory; 2: Unsatisfactory; 3: Moderately unsatisfactory; 4: Moderately satisfactory; 5: Satisfactory; and, 6: Highly satisfactory</p>	<p>UNIDO: RPC:</p>
<p>(iv) Have the results of the project (e.g., regulations on waste burning, etc.) been adopted / integrated / enforced at national level? If so, please give an example and comment.</p> <p>(v) Have the relevant authorities started to apply regulatory measures aimed at discouraging open burning practices of wastes and agricultural residues?</p>	

Questions	Response and comments
(vi) Is there a plan for replicating or scaling up project results (e.g., waste segregation and recycling or composting) at national level?	
Are there any social or political factors that may influence positively or negatively the project results? If yes, please comment.	
Are the capacities built (e.g., BAP/BEP capacity for sound management of wastes) within the project robust enough to continue delivering benefits beyond the project life? Why or why not? Please elaborate.	
To what extent are the continuation of project results and eventual impact dependent on availability of financial resources? Can these financial resources be mobilized nationally?	
Any inputs / suggestions to sustain project gains after project closeout?	
(i) Has the project involved women? (ii) How has it integrated gender dimensions in project delivery? (iii) Any positive or emerging outcomes on gender equality? (iv) Please elaborate on gender mainstreaming benefits and results.	
Do you have any inputs / comments / suggestions / issues pertinent to the project you'd like to raise with me?	

National Project Manager

Country:

Contact person information (name, email, phone):

Name of your institution:

Your position in the institution:

Date in filling out this questionnaire:

Please email back to:

Questions	Response and comments
(xi) Which institution is hosting the project? (xii) When was a letter of agreement (LOA) or contract signed with UNIDO? (xiii) Which institution signed for your country? (xiv) When (date) and for which amount? (xv) Have the funds been timely transferred? (xvi) Are the funds sufficient to execute the activities at national level?	
(iv) What approach was adopted for the implementation of the project? (v) Has a national project management unit (PMU) been established? (vi) What is your role in the project and in PMU? (vii) Please give the structure of the PMU and list its members.	
(ii) How was the National Project Coordinator (NPC) recruited? (iii) Was there a call for applications? (iv) Is the NPC directly contracted by UNIDO? (v) Are you satisfied with his/her performance? (vi) Describe your collaboration with the NPC.	
(xviii) Were other consultants recruited for the project? (xix) If yes, how were they recruited? Call for applications or other ways? (xx) Were they directly contracted by UNIDO? (xxi) What did the consultants have to deliver?	

Questions	Response and comments
<p>(xxii) Are you satisfied with their performance?</p> <p>(xxiii) Did they submit the reports on time or late? If late, the reasons for the delay?</p> <p>(xxiv) Are you satisfied with the quality of the reports?</p> <p>(xxv) Do these reports have to be validated? If so, by whom?</p> <p>(xxvi) Could you send me a copy of these reports?</p>	
<p>(xi) Who are the main/key stakeholders of the project?</p> <p>(xii) Are they actively participating in the project?</p> <p>(xiii) For example, are the local authorities (e.g., municipalities) where the pilot project/s is/are located actively involved in the project? Are they supporting the project?</p> <p>(xiv) Are the collaboration and interaction between these main/key stakeholders satisfactory? Please comment.</p> <p>(xv) Has the private sector been involved in the pilot project/s? How? What is its role? If no, is there a plan to involve / engage / partner with the private sector after project closeout?</p>	
<p>Is the project receiving strong support from the government (or national authorities)? If yes, what type of support? If not, please give the reasons.</p>	
<p>(viii) When was the project officially launched in your country?</p> <p>(ix) Did the project build on the results / data produced by previous initiatives such as the inventory carried out under the NIP on POPs or other?</p>	

Questions	Response and comments
<p>(x) What have been (are) the main challenges encountered during the implementation of the project?</p> <p>(xi) Have these challenges affected the implementation? Delays? Please comment.</p> <p>(xii) How were these challenges overcome?</p>	
<p>(vii) Are you satisfied with the support and guidance provided by UNIDO and the Regional Project Coordinator (RPC)?</p> <p>(viii) Please give your feedback on the assistance and support provided by UNIDO, and other international experts. Please elaborate.</p> <p>(ix) What other types of assistance do you think would have been helpful?</p>	
<p>(iv) What are the reports that your country has to submit to UNIDO?</p> <p>(v) What is the frequency for the submission of these reports?</p> <p>(vi) Have there been delays in submitting those reports? If yes, please give the reasons for the delays.</p>	
<p>(x) Has your country been able to successfully deliver all the outputs of the project?</p> <p>(xi) What were the main challenges faced to undertake the activities?</p> <p>(xii) How were the challenges overcome?</p> <p>(xiii) Are there already visible signs of impact of the project such as behavioural change in waste management, decrease in open burning, more waste segregation and recycling, etc at the project sites? Please give some concrete examples</p> <p>(xiv) Are you aware if there have been job creation as a result of the</p>	

Questions	Response and comments
<p>project interventions? If yes, how many jobs created and what type of job?</p> <p>(xv) Are you aware of any improvement in the livelihood of waste pickers communities or other communities as a result of project intervention? Please describe and give examples.</p>	
<p>Please rate the guidance & support provided by UNIDO, NPC, ICs and the RPC separately (from 1 to 6). 1: Highly unsatisfactory; 2: Unsatisfactory; 3: Moderately unsatisfactory; 4: Moderately satisfactory; 5: Satisfactory; and, 6: Highly satisfactory</p>	<p>UNIDO: ICs: RPC: NPC:</p>
<p>(vii) Have the results of the project (e.g., regulations on waste burning, etc.) been adopted / integrated / enforced at national level? If so, please give an example and comment.</p> <p>(viii) Have the relevant authorities started to apply regulatory measures aimed at discouraging open burning practices of wastes and agricultural residues?</p> <p>(ix) Is there a plan for replicating or scaling up project results (e.g., waste segregation and recycling or composting) at national level?</p>	
<p>Are there any social or political factors that may influence positively or negatively the project results? If yes, please comment.</p>	
<p>Are the capacities built (e.g., BAP/BEP capacity for sound management of wastes) within the project robust enough to continue delivering benefits beyond the project life? Why or why not? Please elaborate.</p>	
<p>To what extent are the continuation of project results and eventual impact dependent on availability of financial</p>	

Questions	Response and comments
resources? Can these financial resources be mobilized nationally?	
What needs to be done to sustain project gains after project closeout?	
Has the project involved women? How has it integrated gender dimensions in project delivery? Any positive or emerging outcomes on gender equality? Please elaborate on gender mainstreaming benefits and results.	
Do you have any inputs / comments / suggestions / issues pertinent to the project you'd like to raise with me?	

Focal Point for Pilot Demonstration or Private Company or MRF

Country:

Contact person information (name, email, phone):

Name of your institution/company:

Your position in the institution/company:

Date in filling out this questionnaire:

Please email back to:

Questions	Response and comments
About your institution/company: (i) When was your institution/company established? (ii) What does your institution (or company) do (or manufacture)? (iii) How many people does your institution or company employ? (iv) If is a company: What is the turnover of your company before	

Questions	Response and comments
<p>and after involvement in project? And what amount of goods or wastes (please indicate which goods/wastes e.g. amount of plastic recycled: before and after being involved the project – this is linked to</p>	
<p>1: How and when were you (or your institution) contacted to be involved in the pilot demonstration project?</p>	
<p>2: (i) Has your institution/company (or yourself) been contracted by UNIDO for this pilot demonstration project? (ii) If yes, when and for which amount? (iii) What is the contribution (cash or in kind) of your institution to the pilot demonstration project?</p>	
<p>3: (i) What is your role and responsibility (or those of your institution) in the pilot demonstration project? (ii) What do (or did) you or your institution have to deliver in the context of the contract with UNIDO? (iii) What are the major obstacles or challenges to execute the activities in the contract?</p>	
<p>4: (i) To what extent have these challenges and obstacles have been overcome? How? (ii) Have you been able to deliver successfully? Why or why not? Please elaborate. (iii) Has COVID-19 impacted on the delivery of activities and outputs? What adjustments were made because of the pandemic? (v) Are the key partners and beneficiaries (e.g., waste recyclers, waste pickers associations, local communities, NGOs, etc.) of the pilot</p>	

Questions	Response and comments
<p>demonstration actively involved and / or participating in the project?</p> <p>(vi) How many jobs have created after participation of your institution/company in the project?</p> <p>(vii) Were waste pickers communities encouraged to participate in the project? Any feedback from them on the project?</p> <p>(viii) Participation of NGOs? If yes, please describe their involvement and participation</p>	
<p>5: (i) Have the project Regional Project Coordinator (RPC), National Project Coordinator (NPC), and other national stakeholders contributed to / supported the planned deliverables in the contract? Please describe.</p> <p>(ii) Are you getting support and assistance from international consultants? If yes, please give your feedback on this support and assistance.</p> <p>(iii) What other types of assistance do you think would have been helpful?</p> <p>(iv) How is the collaboration with the RPC, NPC, the National Project Unit, and other stakeholders/consultants?</p>	
<p>6: Where relevant, please rate individually the guidance & support provided by UNIDO, International Consultants, RPC, NPC and the National Project Manager (NPM) (from 1 to 6). 1: Highly unsatisfactory; 2: Unsatisfactory; 3: Moderately unsatisfactory; 4: Moderately satisfactory; 5: Satisfactory; and, 6: Highly satisfactory</p>	<p>UNIDO:</p> <p>International Consultants:</p> <p>RPC:</p> <p>NPC:</p> <p>NPM:</p>
<p>7: What challenges or obstacles remain for the sound management of wastes in order to eliminate open burning in your country?</p>	

Questions	Response and comments
<p>8: (a) What has your institution (or company) and personnel (employees) benefitted from the project interventions in terms of equipment, capacity building or technical support?</p> <p>(b) Do you know if the poor or local communities benefitted from the project or were involved in the project? Please provide some details and examples</p> <p>(c) Are there any visible or tangible signs of impact of the project such better waste management, more recycling, or reduction of open burning at the project sites / locations or at the dump sites? Please give some examples</p> <p>(c) What has been your contribution (or that of your institution) to the reduction and elimination of waste open burning in your locality/community or municipality so far?</p>	
<p>9:</p> <p>(i) What is your plan to sustain project gains after project closeout?</p> <p>(ii) What can hinder the implementation of this plan?</p> <p>(iii) How do you intend to address these hindrances?</p>	
<p>10.</p> <p>(i) Has the project involved women?</p> <p>(ii) How has it integrated gender dimensions in project delivery?</p> <p>(iii) Any positive or emerging outcomes on gender equality? Please elaborate on gender mainstreaming benefits and results.</p>	
<p>11: Your feedback on the project?</p>	

Country: Cambodia

Contact person information (name, email, phone):

Name of your company:

Your position in the company:

Date in filling out this questionnaire:

Please email back to:

Questions	Response and comments
<p>About your company:</p> <p>(i) When was your company established?</p> <p>(ii) What does your company do?</p> <p>(iii) How many people does your company employ?</p> <p>(iv) What is the turnover of your company before and after involvement in the project? And what amount of goods or wastes (please indicate which goods/wastes, e.g., amount of plastic recycled: before and after being involved in the project)?</p>	
<p>1: How and when were you (or your company) contacted to be involved in the pilot demonstration project?</p>	
<p>2: (i) Has your company (or yourself) been contracted by UNIDO for this pilot demonstration project?</p> <p>(ii) If yes, when and for which amount?</p> <p>(iii) What is the contribution (cash or in kind) of your company to the pilot demonstration project?</p>	
<p>3: (i) What is your role and responsibility (or those of your company) in the pilot demonstration project?</p>	

Questions	Response and comments
<p>(ii) What do (or did) you or your company have to deliver in the context of the contract with UNIDO?</p> <p>(iii) What are the major obstacles or challenges to execute the activities in the contract?</p>	
<p>4: (i) To what extent have these challenges and obstacles been overcome? How?</p> <p>(ii) Have you been able to deliver successfully? Why or why not? Please elaborate.</p> <p>(iii) Has COVID-19 impacted on the delivery of activities and outputs? What adjustments were made because of the pandemic?</p> <p>(iv) Are the key partners and beneficiaries (e.g., waste recyclers, waste pickers associations, local communities, NGOs, etc.) of the pilot demonstration actively involved and / or participating in the project?</p> <p>(v) How many jobs have been created after participation of your company in the project?</p> <p>(vi) Were waste pickers communities encouraged to participate in the project? Any feedback from them on the project?</p> <p>(vii) Participation of NGOs? If yes, please describe their involvement and participation.</p>	
<p>5: (i) Have the Regional Project Coordinator (RPC), National Project Coordinator (NPC), and other national stakeholders contributed to / supported the planned deliverables in the contract? Please describe.</p> <p>(ii) Are you getting support and assistance from international consultants? If yes, please</p>	

Questions	Response and comments
<p>give your feedback on this support and assistance.</p> <p>(iii) What other types of assistance do you think would have been helpful?</p> <p>(iv) How is the collaboration with the RPC, NPC, the National Project Unit, and other stakeholders/consultants?</p>	
<p>6: Where relevant, please rate individually the guidance & support provided by UNIDO, International Consultants, RPC, NPC and the National Project Manager (NPM) (from 1 to 6). 1: Highly unsatisfactory; 2: Unsatisfactory; 3: Moderately unsatisfactory; 4: Moderately satisfactory; 5: Satisfactory; and, 6: Highly satisfactory</p>	<p>UNIDO: International Consultants: RPC: NPC: NPM:</p>
<p>7: What challenges or obstacles remain for the sound management of wastes in order to eliminate open burning in your country?</p>	
<p>8: (i) What has your company and personnel (employees) benefitted from the project interventions in terms of equipment, capacity building or technical support?</p> <p>(ii) Do you know if the poor or local communities benefitted from the project or were involved in the project? Please provide some details and examples.</p> <p>(iii) Are there any visible or tangible signs of impact of the project, such as: better waste management, more recycling or reduction of open burning at the project sites / locations or at the dump sites? Please give some examples.</p> <p>(iv) What has been your contribution (or that of your company) to the reduction and</p>	

Questions	Response and comments
elimination of waste open burning in your locality/community or municipality so far?	
<p>9: (i) What is your plan to sustain project gains after project closeout?</p> <p>(ii) What can hinder the implementation of this plan?</p> <p>(iii) How do you intend to address these hindrances?</p>	
<p>10. (i) Has the project involved women?</p> <p>(ii) How has it integrated gender dimensions in project delivery?</p> <p>(iii) Any positive or emerging outcomes on gender equality? Please elaborate on gender mainstreaming benefits and results.</p>	
11: Your feedback on the project?	

International and National Consultant

Name of Consulting firm:

Name of consultant and email:

Date filling the questionnaire:

Please email back to:

<p>1: (i) How did you come to hear about the project?</p> <p>(ii) What is your field of expertise?</p> <p>(iii) Can you list some past experiences with UNIDO?</p>	
<p>2: (i) How were you selected?</p> <p>(ii) What has been your role in the project?</p>	

<p>3: (i) What did you have to deliver in the context of the contract (s) with UNIDO? (ii) What were the most important obstacles or challenges to execute the activities in the contract? (iii) To what extent have these challenges and obstacles been overcome? (iv) Have you been able to deliver successfully? On time or with delays? If delays, reasons for delays? (v) Did COVID19 affect delivery?</p>	
<p>4: (i) Did the project / UNIDO PM / Regional Project Coordinator (RPC) or other stakeholders (National Project Coordinators (NPCs) in the countries, etc.) contribute / help to deliver the planned deliverables in the contract? (ii) How was the collaboration with the project, RPC, UNIDO and NPCs and other national stakeholders? Any issue you would like to discuss? (iii) Do you have any feedback from the participating countries regarding the expertise and guidance you provided?</p>	
<p>5: (i) What has been the uptake of your deliverables (you produced in the context of the contract) by the participating countries? (ii) Have there been challenges for uptake of your deliverables by the national partners (pilot municipalities, waste management units, etc.)? (iii) If yes, what are these challenges and how can they be overcome? Or, what can be done to overcome these challenges?</p>	
<p>6: What challenges or obstacles remain for the sound management of wastes in order to reduce/eliminate open burning in the participating countries?</p>	
<p>7: What has been your contribution for the reduction and elimination of waste open burning in the participating countries?</p>	
<p>8: Your feedback on the project?</p>	
<p>9: What would you take out, add to, or do differently in the UNIDO project?</p>	

Questionnaire – Beneficiary

Country:

Beneficiary information (name, email, phone):

Occupation:

Please email back to:

Questions	Response and comments
1: (i) In which locality of the city do you live? (ii) How many persons live in your local community?	
2: (i) How did you come to hear about the project? (ii) Were you or your community encouraged to participate (or involve) in the project? If yes, in which activities did you participate? (iii) Were you or your community explained what the project was about? (iv) How receptive were you or your community about the project? (v) Are you and your community satisfied with the project?	
3: (i) What have you or your community benefitted from the project? (iii) Now that the project is over, what improvement have you seen at your level or at the level of your community as a results of the project interventions? What changes have you seen in terms of waste management at your locality? (iv) What did you like best about the project?	
5: Your feedback on the project?	