



Municipal Waste Recycling Program Evaluation Findings Report

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PROGRAM OVERVIEW / SUMMARY

Program Name:	Municipal Waste Recycling Program (MWRP)
Activity Start Date and End Date:	October 1, 2016 to September 24, 2021
Name of Prime Implementing Partner:	Development Innovations Group (DIG)
Contract Number:	AID-OAA-I-14-00066/AID-OAA-TO-16-00026
Name of Subcontractors:	<u>Subcontractors:</u> -DAI Global, LLC -The QED Group <u>Resource Groups:</u> -Women in Informal Employment: Globalizing and Organizing (WIEGO) -The Earth Institute
Geographic Coverage: (Countries)	Philippines, Sri Lanka, Vietnam, Indonesia
Reporting Period:	October 1, 2016 to September 24, 2021

ACRONYMS AND ABBREVIATIONS

Bintari	<i>Yayasan Bina Karta Lestari</i> (Indonesia)
C3MC	Candis III Marketing Cooperative (Philippines)
CBO	Community-Based Organization
CCC	Ceylon Chamber of Commerce (Sri Lanka)
CEA	Central Environment Authority (Sri Lanka)
CECR	Center for Environment and Community Research (Vietnam)
COP	Chief of Party
COR	Contracting Officer's Representative
COVID-19	Coronavirus
CRS	Catholic Relief Services (Philippines)
CSRD	Centre for Social Research and Development (Vietnam)
DCA	Divers Clean Action (Indonesia)
DENR	Department of Environment and Natural Resources (Philippines)
DIG	Development Innovations Group
DONRE	Department of Natural Resources and Environment (Vietnam)
DPC	District People's Committee
ENDA	<i>Environnement et Développement du Tiers-Monde</i> (Vietnam)
ENRO	Environment and Natural Resources Office
EPR	Extended Producer Responsibility
EWC	Ecological Waste Coalition of the Philippines
GAIA	Global Alliance for Incinerator Alternatives Inc. Philippines
GIDKP	<i>Gerakan Indonesia Diet Kantong Plastik</i> (Indonesia)
GoSL	Government of Sri Lanka
GreenHub	Centre for Supporting Green Development (Vietnam)
Gringgo	Gringgo Indonesia Foundation (Indonesia)
HCMC	Ho Chi Minh City, Vietnam
IEC	Information, Education, and Communication
IWC	Independent Waste Collectors
M&E	Monitoring and Evaluation
MCD	Centre for Marinelife Conservation & Community Development (Vietnam)
MEF	Monitoring and Evaluation Factor
MEPA	Marine Environment Protection Authority
MONRE	Ministry of Natural Resources and Environment (Vietnam)
MRF	Materials Recovery Facility
MT	Metric Ton
MWRP	Municipal Waste Recycling Program
NGO	Non-Governmental Organization
PBE	Philippine Business for the Environment Inc.
PET	Polyethylene Terephthalate
PILF	Public Interest Law Foundation (Sri Lanka)
PPP	Public-Private Partnership
PRRCFI	Philippine Reef & Rainforest Conservation Foundation, Inc.
RA 9003	Republic Act 9003 (Philippines)

SLCDF	Sri Lanka Centre for Development Facilitation
SM	SM Supermalls (Philippines)
SWEEP	Sea Waste Education to Eradicate Plastic
SWM	Solid Waste Management
UGA	University of Georgia Research Foundation
USAID	United States Agency for International Development
USD	United States Dollar
WLAB	Waste Less Arugam Bay
WWF	World Wide Fund for Nature (Vietnam)
YPBB	<i>Yayasan Pengembangan Biosains dan Bioteknologi</i> (Indonesia)

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I INTRODUCTION

Every year, approximately 8 million metric tons of plastic waste pour into the ocean – the equivalent of a garbage truck dumping a full load of plastic into the ocean every minute¹. Ineffective waste management systems and a lack of infrastructure in developing countries has led to much of this pollution. Rapid population growth and urbanization indicate municipal waste generation will keep rising dramatically. At the time that the Municipal Waste Recycling Program (MWRP) launched in 2016, Asian countries were responsible for more than half of the plastic waste in the world's oceans². The Philippines, Sri Lanka, Vietnam, and Indonesia ranked amongst the top five marine polluting countries worldwide. With proximity to two oceans, efforts to improve municipal solid waste management and mitigate the flow of plastics in these countries were critically needed.

MWRP is a five-year program that started in October 2016 and ended in September 2021. The program was designed with the primary focus of reducing land-based sources of ocean plastic pollution in Indonesia, the Philippines, Sri Lanka, and Vietnam. These countries are among the world's top ocean plastic waste polluters.³

MWRP included a grants facility component which provided grants from \$50,000 to \$250,000 each for up to three years for national and international organizations to implement locally-led, innovative, and scalable solid waste management (SWM) and recycling projects. The selected projects touched on a variety of key themes, including policy, legal and regulatory reform, behavior change, women's and youth participation, and private sector engagement. Grantee organizations and their local partners provided technical assistance to national government agencies, local government officials and environmental staff, the private sector, civil society organizations, and urban community residents.

2 OVERVIEW OF MWRP MONITORING AND EVALUATION (MEF) FACTORS

The Monitoring and Evaluation (M&E) Plan for MWRP had three primary purposes: (1) gather, record, and disseminate information about the program's progress towards achieving specific program outputs and outcomes, (2) measure overall program impact and lessons learned about the effectiveness of the implementation approaches employed, and (3) provide data, information, and analysis for regular reporting to USAID. MWRP developed grantee "project

¹ National Center for Ecological Analysis & Synthesis (NCEAS) Working Group, *An Ocean of Plastic* (published in Science Magazine), Lead Author Dr. Jenna Jambeck, February 13, 2015.

² Science Magazine, *Plastic Waste Inputs From Land into the Ocean*, Dr. Jenna Jambeck et al, February 13, 2015, Vol.347, Issue 6223, pp.768-71.

³ Jambeck, J.R. et al. (2015). Plastic waste inputs from land into the ocean. Science 347(6223), 768-771. doi: 10.1126/science.1260352.

indicators,” referred to as Monitoring and Evaluation Factors (MEF), to effectively capture the results of each grantee project. These MEFs enabled the MWRP team to evaluate grant program results consistently, precisely, and transparently.

The DIG MWRP Chief of Party and DIG Vice President for Technical Services directed the monitoring and evaluation component and coordinated the training and technical support to program grantees. The nine program MEFs were introduced by the MWRP team to grantees as part of their initial orientation following the award of their grants. The DIG team provided grantees with data collection templates, guidance on calculation methods applicable for each MEF, training in using the Epicollect5 mobile application, and individualized reviews of project reports.

2.1 Monitoring and Evaluation Factors – Description and Disaggregation Level

During the first year of MWRP, with the active participation of the USAID Contracting Officer’s Representative (COR), DIG developed six MEFs to be used as performance indicators for the grantee projects. Three additional MEFs focused on capturing the impact of MWRP on women’s economic empowerment in the solid waste management sector were developed a few months later in collaboration with USAID. We refer to these as the gender MEFs. The nine MEFs helped the MWRP team gauge the grantees’ progress in project implementation and results. The quarterly reporting on MEFs was an integral part of a grantee’s quarterly progress report. The grantees’ MEF reports were reviewed quarterly during the life of the program, with the DIG team following up to receive clarifications and justifications for specific figures and calculations. A grantee’s performance was measured not only based on the MEFs, but also on other factors, notably its ability to meet the goal(s) of its project as described in its proposal and the quality and timeliness of its deliverables.

Through rigorous analysis of the program MEF results, the MWRP team analyzed the effectiveness, investment potential, sustainability, and scalability of grantee projects in each program country. The monitoring and evaluation of grantee projects enabled MWRP to generate lessons learned about the management of municipal waste streams and impactful waste recycling practices that were disseminated through reports, workshops, fact sheets, a technical brief, a peer reviewed article, and other publications.

The nine MEFs for MWRP produced individual and collective project data on the volume of waste reduction, innovative approaches, training and technical assistance, behavior change, job creation, and women’s empowerment in the SWM sector. The program also collected data on youth participation and estimated the outreach to local populations, drawing a distinction between “Direct Beneficiaries” and “Indirect Beneficiaries.” Note the following descriptions of the nine program MEFs, below:

Direct beneficiaries: Individuals residing in the grantees’ project target areas who are directly engaged in MWRP activities and, as a result, have received improved solid waste or recycling services, improved their awareness of SWM issues, including ocean plastic pollution, and/or received training on SWM solutions.

Indirect beneficiaries: Individuals benefiting from MWRP activities either in or beyond the grantee's project target areas but who are not directly engaged in MWRP Program activities. Indirect beneficiaries include neighboring community residents who have observed the effects of the SWM trainings or community awareness campaigns and who adapted or are in the process of adopting the new practices or methodologies themselves, neighboring rural/coastal populations benefiting from improved SWM in the target areas, and community residents not living in the MWRP target areas but in the vicinity of these areas.

MEF-1: Metric Tons (MT) of Plastic Waste Diverted from the Environment

MEF-1 summarizes the number of metric tons (1,000 kg) of plastic waste recycled and reduced due to the grantee's project activities. The data collected were estimates of the metric tons of plastic waste recycled, reused, exported, incinerated, or transported to a sanitary landfill. Data on reduced plastic used due to legal and regulatory mechanisms that imposed restrictions or bans on single-use plastic consumption, extended producer responsibility (EPR) measures, and behavior change actions were also estimated under this MEF.

MEF-2: Number of Innovations

MEF-2 summarizes the number of innovations and new approaches to make municipal solid waste management more effective in the project area. The information collected was disaggregated as follows: 1) innovative approaches and models; 2) innovative technologies or equipment; 3) policies, laws, regulations, enforcement, and SWM plans; and 4) relevant public-private partnerships and signed agreements.

MEF-3: Number of Public Awareness, Training, and Technical Assistance Hours Provided in Municipal SWM

MEF-3 summarizes the number of technical assistance hours provided in municipal solid waste management (length of training/event (hours) * the number of participants). The data collected under this MEF was disaggregated as follows: 1) public awareness, 2) training, and 3) technical assistance.

MEF-4: Number of Households and Commercial Establishments that Started Waste Separation at the Source

MEF-4 summarizes the number of households and commercial establishments that started waste separation or other forms of recycling support. This information is not disaggregated.

MEF-5: Number of Jobs Created

MEF-5 summarizes the number of jobs created per project. A job must be held for a minimum of three months. The information collected was disaggregated as follows: 1) males, 2) females, and 3) total.

MEF-6 was canceled following discussions with USAID at the point MWRP changed from a Standard Grant mechanism to a Fixed Amount Award (FAA). MEF-6 was intended to evaluate the grant's cost effectiveness by analyzing the project results in comparison with the project budget and expenditures.

MEF-7: Number of Individuals Completing Training Events

MEF-7 summarizes the number of individuals who completed a grantee project training event defined as at least three hours in a half-day training event or six hours in a full-day training event, covering all types of training activities. The information collected was disaggregated as follows: 1) males, 2) females, and 3) total.

MEF-8: Number of Females who Obtained a Male-Dominated Job

MEF-8 summarizes the number of women who entered a male-dominated job in solid waste management or recycling. The information was not disaggregated.

MEF-9: Number of Females Participating in Decision-Making in SWM

MEF-9 summarizes the number of females participating in decision-making processes related to project-related SWM and recycling activities. This information was not disaggregated.

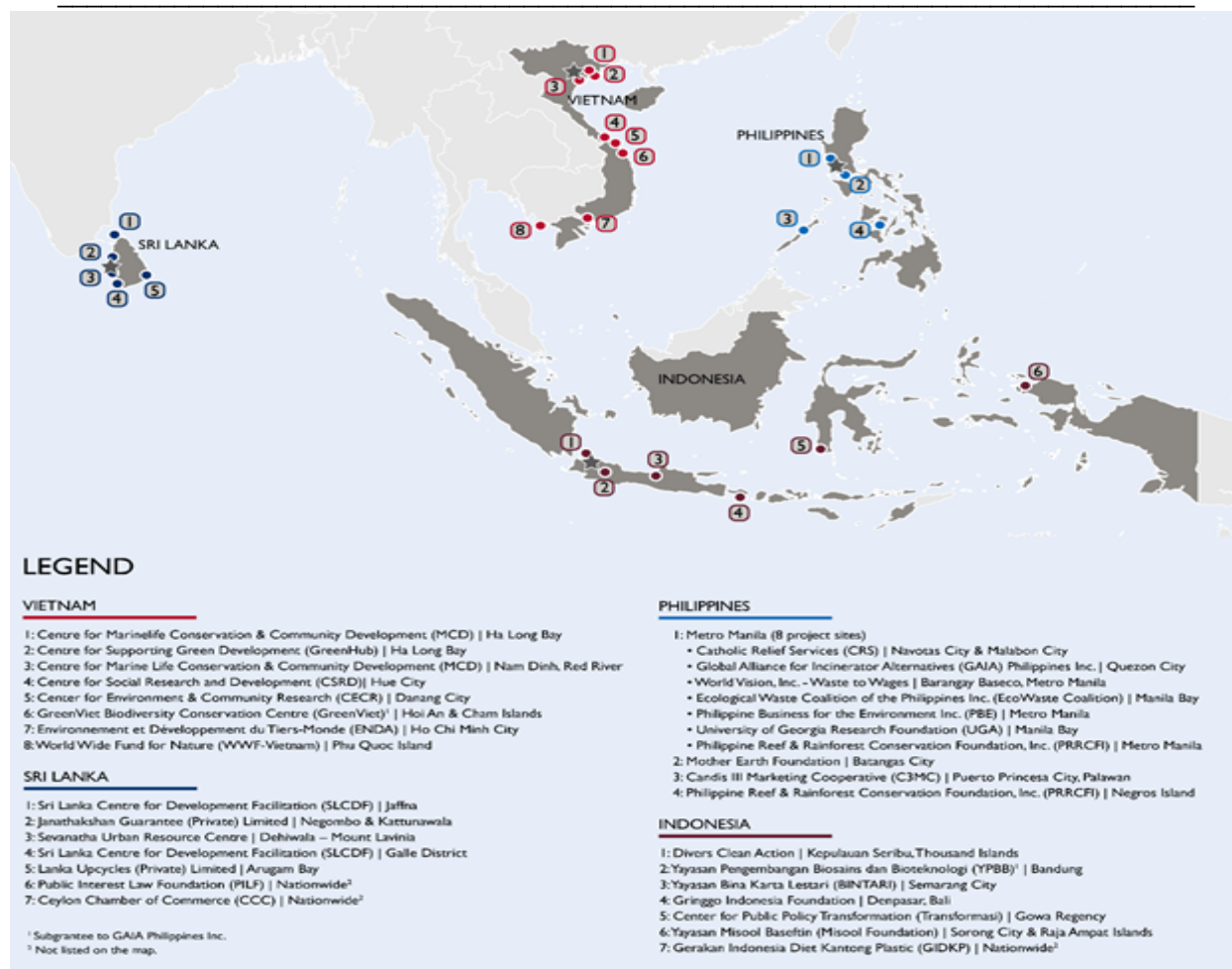
In addition to the nine MEFs, the MWRP team tracked the number of youths engaged in ocean plastic reduction activities.

Please refer to Annex I: Monitoring & Evaluation Factors Performance Sheets for the detailed definitions, data sources and methods for data collection and construction for each MEF.

3 GLOBAL SUMMARY OF MWRP RESULTS AND OBSERVED TRENDS

The program awarded \$5.5 million to 30 organizations to support locally-led, innovative, and scalable solid waste management (SWM) and recycling projects. Two organizations received two grants, bringing the total number of grant awards to 32. In Indonesia, MWRP funded six (6) grants around the country, supporting community waste banks, innovative solid waste management methodologies, and policies to reduce plastic waste. In the Philippines, the program made ten (10) grants, including expanding implementation of the Zero Waste model and research to introduce circularity of plastic to help address plastic pollution in Manila Bay. In Vietnam, the program funded seven (7) grants promoting behavior change and supporting informal (independent) waste collector organizations. In Sri Lanka, the program made seven (7) grants to raise awareness of the proper handling of solid waste and to collaborate with the public sector on solid waste management and recycling policies, laws, and regulations. Through the grantees' work, MWRP promoted social inclusion, empowered women and youth, generated jobs and economic growth, and strengthened resilience, which are pillars to reduce plastic waste leakage in the marine environment sustainably. Please refer to the map on the following page for the grantees' project locations and lead organization. Additional details on grantees projects' objectives and results can be found in the Final -Grantee Reports deliverable.

MWRP Evaluation Findings Report



MWRP has made a significant impact over the past five years. As of September 2021, ~3.8 million persons have directly benefited, and another ~5.4 million persons have indirectly benefited across the four countries from MWRP grant activities. The grantees' projects resulted in 10,700 metric tons of plastic waste recycled and additional 9,900 metric tons of plastic reduced through plastic waste reduction regulations—a total of 20,600 metric tons of plastic waste diverted from polluting the marine environment. MWRP grantees positively affected⁴ 65 local and national policies and regulations on solid waste management. MWRP achieved considerable behavior change impacts, with 256,000 households, commercial establishments (offices, hotels, stores), and other entities separating solid waste at the source. Project activities designed to reduce ocean plastic pollution attracted the participation of 233,000 youth in their schools and communities. The MWRP grantees contributed to the creation of 2,700 new jobs, 63% of which were held by women. MWRP helped economically empower women, with more than 1,400 women obtaining a male-dominated jobs and 1,300 women assuming decision-making roles in SWM and recycling sector. The Program has demonstrated that grants with an average of ~\$185,000 for technical assistance to local

⁴ "Positively affected regulations" - MWRP grantees advocated to influence local and national government authorities for new or changed policies, laws, regulations, and plans to more effectively manage solid waste, including restrictions or bans on single-use plastics.

organizations have the potential to introduce effective, sustainable approaches that improve waste collection and recycling in the four target countries

Please see Annex 2: MWRP Results Infographic for a graphic conveying these results produced by the Training Resources Group's Communications, Evidence and Learning team.

3.1 MWRP Grant Facility Key Results

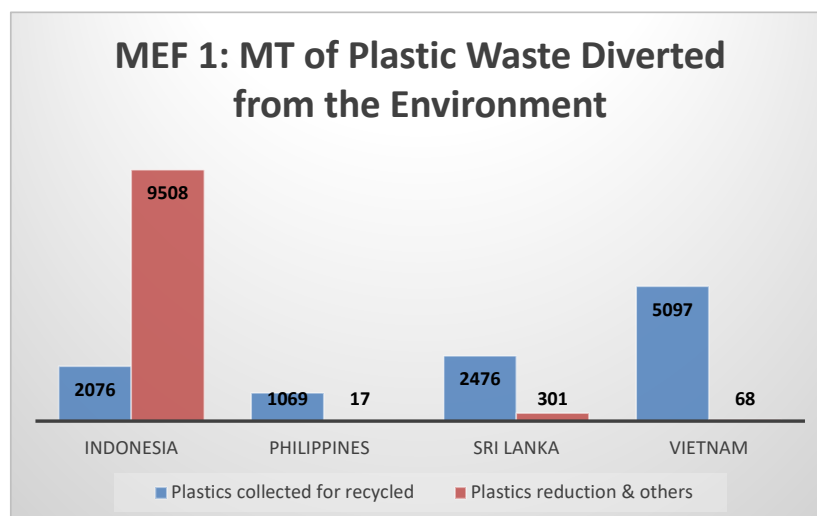
The following MWRP MEF Results table provides a final program summary of the global MEF figures, broken down by individual MEF (rows), country, and program year (columns).

	MWRP MEFs for all countries (TOTAL results)	Indonesia	Philippines	Sri Lanka	Vietnam	Total 4 countries cumulative	FY 2021	FY 2020	FY 2019
		9/1/21	9/1/21	9/1/21	9/1/21	9/1/21	Sep-21	Sep-20	Sep-19
A	# Direct beneficiaries	570,859	324,791	433,077	2,512,134	3,840,861	335,224	413,458	3,092,179
B	# Indirect beneficiaries	1,627,420	967,821	212,510	2,589,010	5,396,761	279,701	3,299,723	1,817,337
MEF 1	# MTs plastic waste recycled	2,076	1,069	2,476	5,097	10,719	4,408	4511	1,800
	# MTs plastic waste diverted from environment otherwise	9,508	17	301	68	9,894	6,083	3517	294
	# TOTAL MTs plastic waste diverted from the environment	11,584	1,086	2,777	5,164	20,612	10,491	8,027	2,094
MEF 2	# Innovative SWM approaches adopted	9	17	20	10	56	3	29	24
	# Innovative technologies or equipment adopted	5	3	3	7	18	1	8	9
	# New laws, policies, plans, regs	10	24	11	20	65	14	3	48
	# New PPP, signed agreement	31	17	24	25	97	22	6	69
MEF 3	# Public awareness hours received	72,988	121,106	263,424	156,453	613,971	76,116	144,750	393,105
	# Training hours	26,324	18,387	68,220	46,798	159,729	10,809	1,062	147,858
	# Technical assistance hours received	17,632	3,553	4,677	16,618	42,480	7,077	23,201	12,202
MEF 4	# Households/Establishments starting support for recycling	37,035	23,855	69,501	125,487	255,878	64,231	46,818	144,829
MEF 5	# Jobs created (> 3 months) for males	321	102	333	256	1,012	183	665	164
MEF 5	# Jobs created (> 3 months) for females	611	91	665	371	1,738	411	1,123	204
MEF 5	# TOTAL beneficiaries who got a new SWM job (> 3 months)	932	193	998	627	2,750	594	1,788	368
MEF 7	# Men who completed training	3,664	1,958	2,776	2,235	10,633	2,304	3,245	5,084
MEF 7	# Women who completed training	4,213	2,481	15,414	13,891	35,999	2,873	9,480	23,646
MEF 7	# TOTAL beneficiaries who completed training	7,877	4,439	18,190	16,126	46,632	5,177	12,725	28,730
MEF 8	# Women got job in traditionally male-dominated activity	605	72	31	709	1,417	263	872	282
MEF 9	# Women newly participating in decision-making in SWM	310	50	299	634	1,293	103	359	831
Youth engagement	# Youth that got engaged in plastics pollution	23,113	27,257	31,405	151,500	233,275	41,545	111,243	80,487

3.2 Results for Individual Program MEFs

MEF-A (Direct Beneficiaries) program activities reached ~3.8 million persons and MEF-B (Indirect Beneficiaries) program activities reached another ~5.4 million persons, for a total of ~9.2 million direct and indirect in-country beneficiaries. The highest number of impacted beneficiaries was in Vietnam, with a total of ~5.1 million persons. ENDA-Vietnam contributed significantly to this number as it worked with more than 2,000 independent waste collectors (IWC) in Ho Chi Minh City, a group that is fully integrated into the city's SWM system, which directly impacted ~1.6 million people and indirectly another ~1.2 million people. Generally, the Vietnamese projects were implemented in large urban areas with high populations. Excluding ENDA-Vietnam, the other Vietnamese grantees reached ~1.0 million direct beneficiaries. Indonesian grantees reached 571,000 direct beneficiaries, Filipino grantees reached 325,000, and Sri Lankan grantees reached 433,000. For indirect beneficiaries, Indonesian grantees reached ~1.6 million people, Filipino grantees reached ~1.0 million people, Sri Lankan grantees reached 216,000 people, and Vietnamese grantees reached 1.25 million people. The large number of indirect beneficiaries in Indonesia is because one of the grantees, GIDKP, focused its work on

single-use plastics reduction policy in large cities; and in Philippines, two grantees, PRCFI and PBE, worked in large shopping malls, reaching large number of customers.



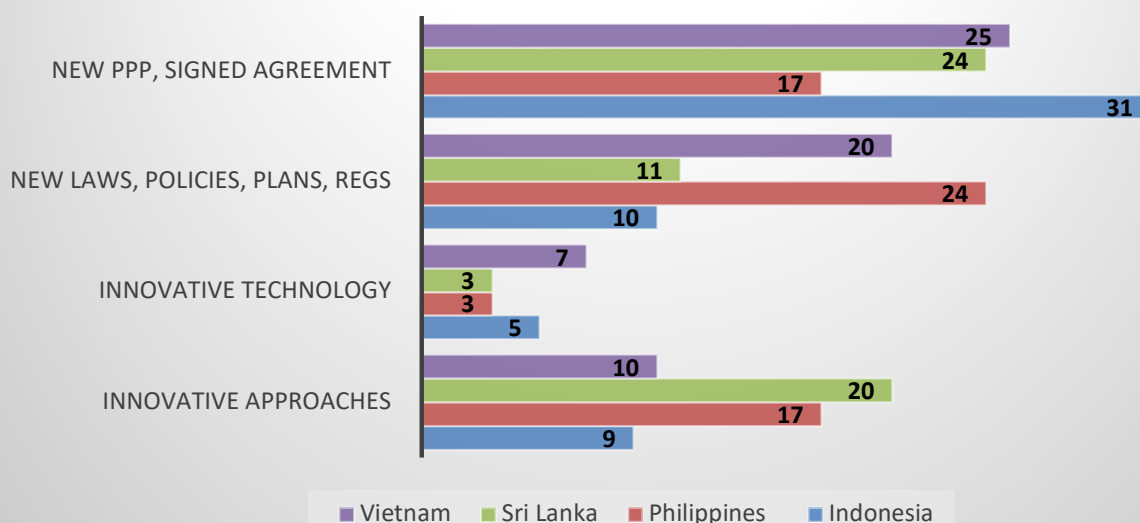
For MEF-1, a total of 20,613 MT (~45 million pounds) of plastic waste was diverted from the environment in the program countries. The sum of the blue bars indicates a total of 10,719 MT collected and treated, and the sum of the orange bars indicates 9,894 MT reduced due to new SWM policies, laws, and regulations. The grantees in Indonesia diverted the largest amount of plastic from the environment -

11,584 MT, followed by Vietnam with 5,164 MT, Sri Lanka with 2,777 MT, and the Philippines with 1,086 MT. Indonesia's high volume of diverted plastic waste was primarily the result of GIDKP's support of major changes to city and provincial government policies, laws, and regulations that placed restrictions, and in some cases bans, on the consumption of single-use plastics. GIDKP's technical assistance to the environmental departments of cities with large populations, which included Jakarta, Bandung, Cimahi, Bali, and Bogor resulted in ~9,500 MT of diverted waste, with YPBB, Gringgo, and Transformasi's projects accounting for ~600 MT of diverted waste.

For plastic waste diverted from the environment by "collected and treated" means⁵, Vietnamese grantees' projects had a total 5,097 MT, followed by Sri Lankan grantees with 2,476 MT, Indonesian grantees with 2,076 MT, and Filipino grantees with 1,069 MT. The relatively low figure for the Philippines was because two projects produced research studies and four other projects were severely impacted by the government's travel restrictions in response to the COVID-19 pandemic. In conclusion, the quantity of plastic waste that will not leak into the oceans due to GIDKP's work in legislative reforms is almost equal to the quantity achieved by all other MWRP grantees through their municipal recycling activities.

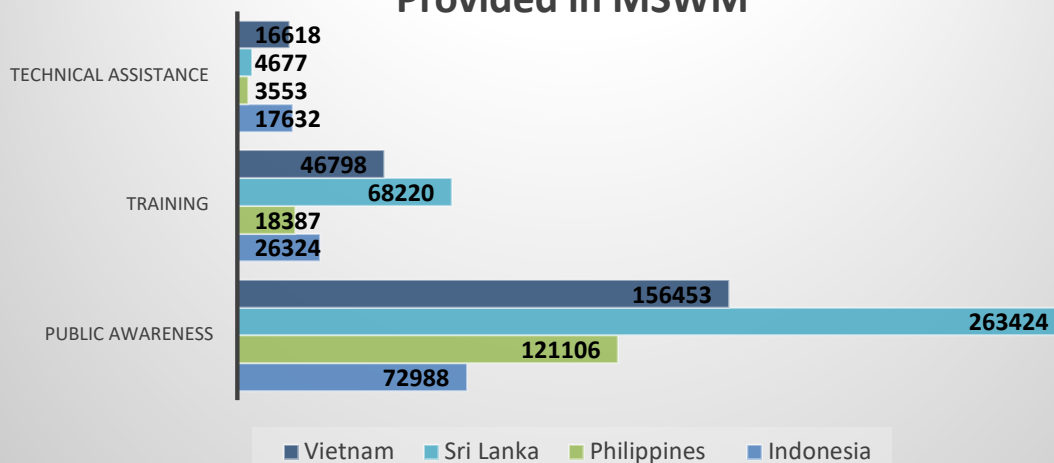
⁵ "collected and treated" plastic refer to plastic collected, recycled, reused, or incinerated

MEF 2: Number of Innovations

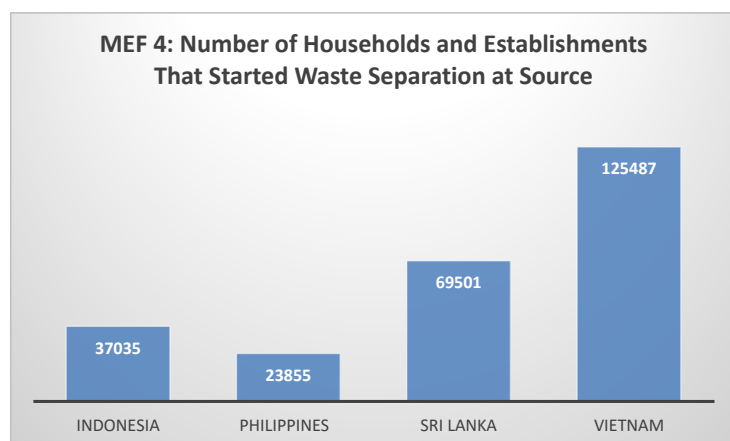


Under MEF-2, MWRP recorded 236 newly introduced SWM innovations. The innovations were categorized as follows: 97 public-private partnerships signed, 65 new laws, policies, directives, or regulations, or SWM plans, 18 technology innovations, and 56 innovative approaches to reduce ocean plastic pollution. Each of the four countries reported approximately 60 innovations from its program grantees. The impact of the various innovations varied significantly. For example, the 24 new policies, laws, regulations, and plans in the Philippines were accomplished primarily in small municipalities or municipal barangays. In contrast, the ten new policies and laws in Indonesia took effect in large, densely populated urban areas.

MEF 3: Number of TA, PA and Training Hours Provided in MSWM

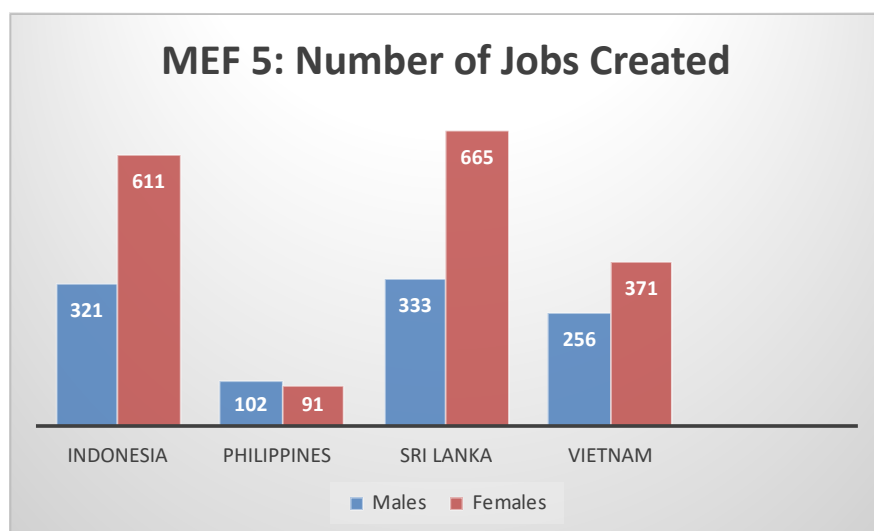


For MEF-3, the number of technical assistance (TA), public awareness (PA), and training hours in municipal SWM and recycling during the program's life was 42,486 hours in technical assistance, 159,729 hours in training activities, and 613,971 hours in public awareness activities. Four of the Sri Lanka grantees succeeded in their grassroots level information, education, and communication (IEC) approaches for reducing the amount of solid waste transported to the landfills or burned in their communities. Projects in Sri Lanka had 263,000 hours in public awareness activities and 68,400 hours in training, a significant part due to SLCDF's implementation approach in community-based outreach and education. Vietnamese grantees achieved 156,000 PA hours and 47,000 training hours, Filipino grantees had 121,000 PA hours and 18,000 training hours, and Indonesian grantees reported 73,000 PA hours and 26,000 training hours. For technical assistance (TA) provided to local governments and the private sector, Indonesian grantees reported 17,600 TA hours, Vietnamese grantees had 16,600 TA hours, Sri Lanka grantees reported 4,700 TA hours, and Filipino grantees had 3,600 TA hours. The outcomes of MEF-3 are consistent with the grantees' project designs in each country.



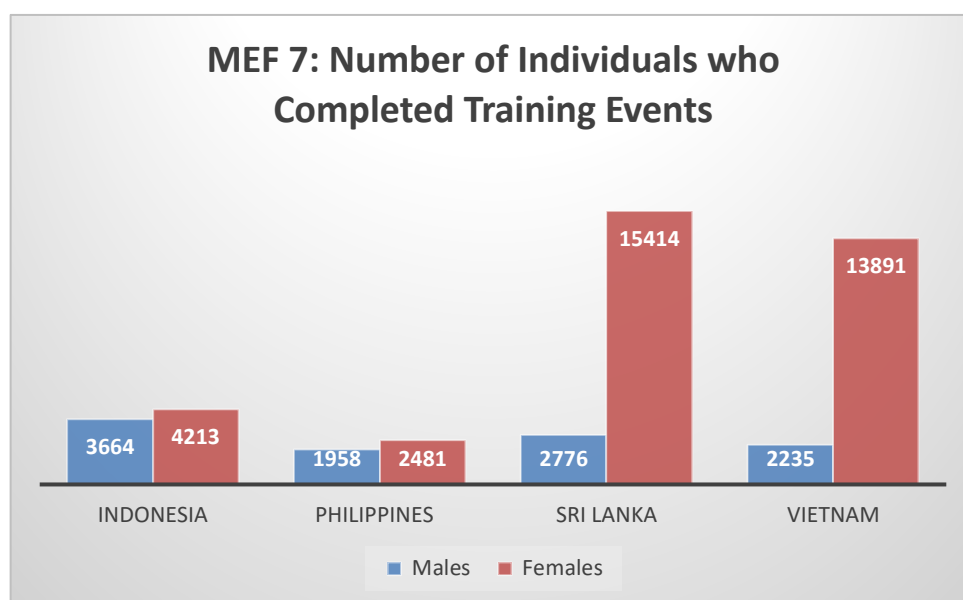
Under MEF-4, there was a total of 255,878 households and commercial establishments (i.e., shops, market vendors, offices, schools, garages, hotels, restaurants, tourism service providers, and government institutions) that started waste separation at source. The grantees in Vietnam generated the highest result, with 125,487 (49% of the total number). The Vietnamese grantees approach of working with

independent waste collectors, women's unions, and schools proved quite effective. In Sri Lanka, the grantees' training of trainers approach for local community-based organizations facilitated widespread community engagement and household-level education. The use of community-based organizations lead by SLCDF's two project IEC campaigns was beneficial to achieve high compliance rates for household waste separation at the source and expanded recycling outcomes. In Indonesia, with many communities already used to practicing waste separation at the source, the gain in this area was moderate at 15%. In the Philippines, project grantees' relatively low level of TA and training activities resulted in a lower figure of 9%.



Under MEF-5, a total of 2,760 jobs were created, of which 1,017 (37%) jobs shown by the blue bars went to males and 1,743 (63%) shown by the orange bars went to females. MEF-5 indicates by gender the number of people who secured employment in SWM or recycling. To be counted, employment in these jobs had to be maintained for at least three months. The

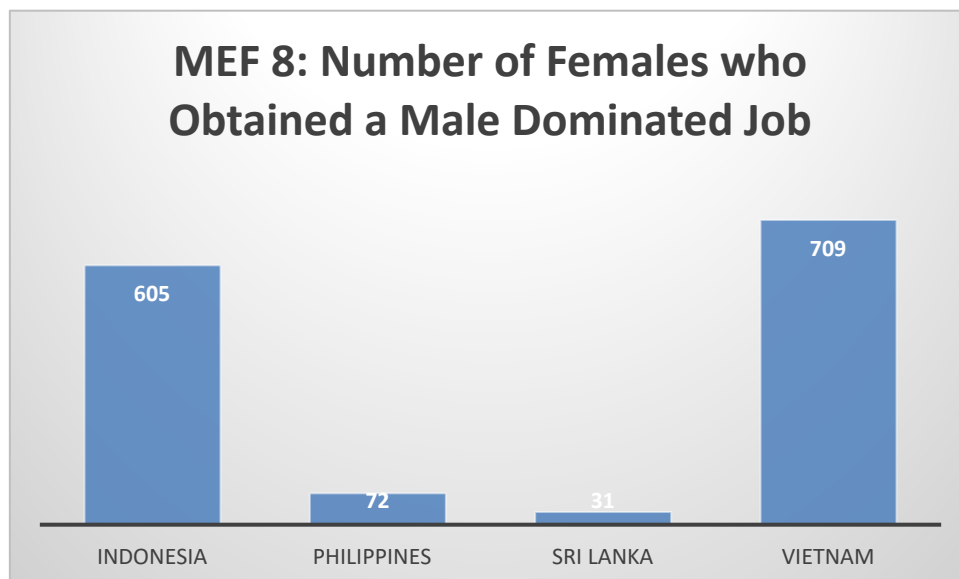
largest gains in new employment were in Sri Lanka with 998 jobs and Indonesia with 932 jobs, followed by Vietnam with 627 jobs and the Philippines with 193 new jobs. The relatively low figure for the Philippines was primarily the result of internal travel restrictions in the country over the past 18 months due to the COVID-19 pandemic. The gender breakdown for new job recipients in the four program countries was consistent, running between 59% and 67% for females and 33% to 41% for males.



Under MEF-7, there was a total of 46,146 people who attended trainings related to SWM and/or recycling for at least three hours if the training was for a half-day or six hours if the training was for a full day. The results are disaggregated by gender, with 10,259 men and 35,887 women participating in training events. In Sri Lanka, project grantees trained 18,190 people (~85%

women), Vietnam grantees trained 16,126 persons (86% women), Indonesian grantees trained 7,877 people (53% women), and Filipino grantees trained 4,439 people (56% women), despite COVID-19 restrictions.

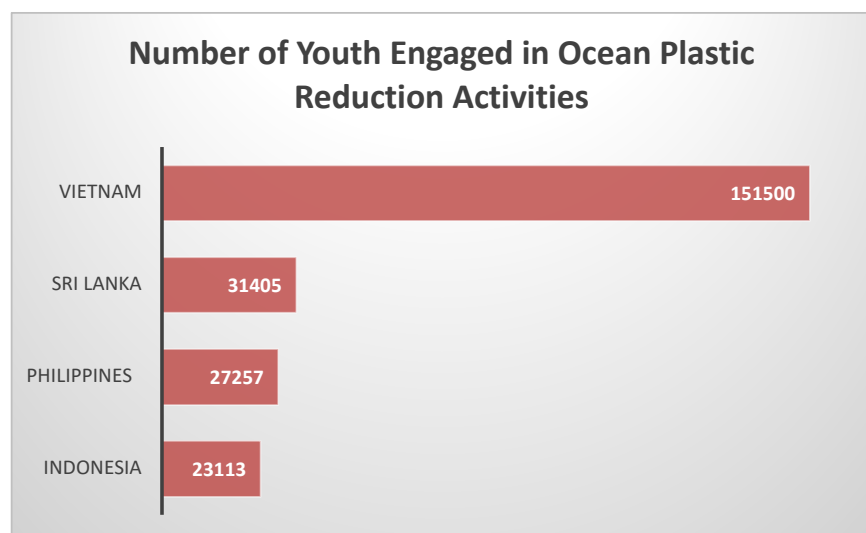
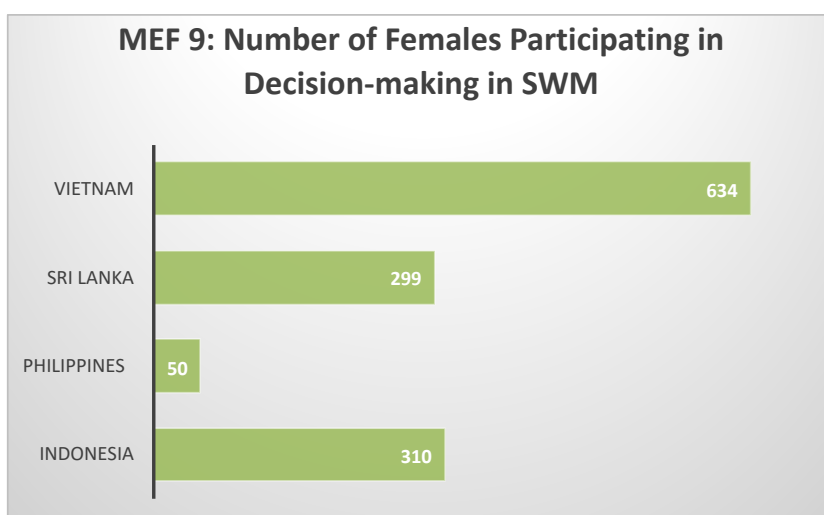
For MEF-8, the number of female beneficiaries who entered a traditionally male-dominated job in SWM/recycling due to MWRP, program grantees reported a total of 1,417 females obtaining new employment. From this total figure, 709 females (50% of the total number) came from Vietnam. ENDA and GreenHub had



94% of Vietnam's total, caused by the leveraged status of independent waste collectors (IWCs), which made jobs more accessible for women. Indonesia also had impressive results, with 605 females obtaining new employment. The Philippines had 72 females, and Sri Lanka had 31 females that secured new employment. In the Philippines and Sri Lanka, this MEF was not addressed in the grantees' project designs. For Indonesia, 584 females obtained new employment in SWM/recycling through the Gringgo Indonesia Foundation's project. Gringgo's explanation for the many females that secured new employment in SWM and recycling was that traditionally females had limited roles in this sector. Gringgo's local partner organization, PPLH, did not restrict its outreach activities to the ten waste banks in the three target communities but took a decentralized approach in recruiting residents to become more involved in recycling. As a result, females took advantage of opportunities by collecting and selling recyclables in their neighborhood or working with junk shop intermediaries. Much of this employment was part-time in traditionally male-dominated jobs, which appealed to females because the work did not interfere with other daily duties (i.e., household chores, childcare) and generated much-needed household income.

For MEF-9, the number of females participating in a decision-making role in SWM and recycling, grantees reported a total of 1,293 females now participating in SWM decision-making. Vietnam had the highest number, with 634 females (~50% of the total Program number) assuming decision-making roles through the active participation of the ward, district, and city-level women's unions and independent waste

collector cooperatives. In Indonesia, 310 females took on new decision-making roles, followed by Sri Lanka with 299 females and the Philippines with 50 females.



Under the youth component, there was a total of 233,275 youth engaged in ocean plastic reduction activity. The Vietnamese grantees mobilized 151,500 youth participants (65% of the Program total) due to extensive school education components and their use of art and theater competitions. Youth participation in other countries was 31,400 in Sri Lanka, 27,300 in the Philippines, and 23,100 in Indonesia.

WWF-Vietnam and the Centre for Social Research and Development (CSRD) conducted school-based information, education, and communication (IEC) campaigns to raise the awareness of students, teachers, and administrators on the public health, environmental, and biodiversity risks of oceanic plastic pollution. CSRD worked with students and school administrators to install trash bins on the school grounds to separate waste generated in the school cafeteria and classrooms. Student environmental clubs worked with CSRD to organize school competitions to produce learning materials (e.g., flyers and posters) on waste classification. The project's focus on motivating students to handle their plastic waste properly at school had a ripple effect, impacting the behavior of their household members. The MCD Ha Long Bay project organized a national art contest for youth, and support from Dow Chemical enabled MCD to recruit 20 university graduates to participate as project interns.

3.3 Global MWRP Trends

From the start of program grantees' project activities in October 2017, DIG has recognized five important trends that support the reduction of ocean plastic pollution across the four countries:

1. There is an increased willingness of local and national governments to regulate plastic waste.

Regulatory action covered policy development, national plastic waste action plans, laws, and regulations to adopt restrictions and/or bans on single-use plastics, formulate extended producer responsibility frameworks, and institute mechanisms to enforce these regulations. Both national government ministries and city/municipal governments requested the technical and legal support of MWRP grantees to define and develop these legal and regulatory reform elements. Program grantees influenced 65 government solid waste management policies, laws, regulations, and solid waste management operational plans through both their provision of technical assistance and advocacy work. Advocacy work included organizing and participating in workshops and conferences, producing technical reports, participating in or hosting public events, and posting material on social media.

As national and local governments consider how they should regulate single-use plastic consumption and treatment of waste, they need to “think globally and act locally.” There are many approaches and tools that can be applied to regulating plastic products, such as outright bans, technical restrictions, taxes, and producer or consumer fees. Governments must choose the appropriate tools given their local and national contexts. Implementing changes to local or national policies, laws, and regulations requires a carefully planned public information campaign directed at the entire community.

The following were lessons learned from the MWRP grantees' work on SWM policies, legislation, and regulation:

- Dialogue and engagement between civil society groups, the private sector, and the government are essential to building consensus and addressing potentially divisive issues. Multi-stakeholder platforms, which generate government and private sector participation, help develop suitable policies that involve making commitments on improving waste management.
- Civil society advocacy has effectively influenced major policy changes and subsequent legal and regulatory reforms in SWM and plastic waste regulation.
- Local governments learn from one another what works and what is possible politically. In the policy realm, local governments need to understand their unique local conditions and reach out to other governments to obtain and share information on what SWM solutions work and what makes sense politically.

2. The value chain for plastic waste is strengthened as a result of increased quantity of recyclable materials being collected.

The focus on education and behavior change lead to improved rates of waste separation in households and commercial establishments and enhanced recycling. Public sector collectors and even informal waste collectors in the Philippines, Sri Lanka, and Vietnam refused to collect

waste that households had not separated properly. Raising awareness is the critical first step in fomenting behavior change and the willingness to practice the 3Rs (Reduce, Reuse, Recycle) which are fundamental to implementing an efficient SWM operation and, at some point, transitioning into a circular economy for plastic waste. Numerous MWRP projects emphasized on getting households and commercial establishments to change their waste management behaviors and to begin waste separation at the source, which is crucial for plastic waste recovery and potential reuse.

The following lessons were learned from the MWRP grantees' work on behavior change and strengthening the plastic waste value chain:

- The plastic consumption and disposal practices of households and commercial establishments are among the principal factors that cause ocean plastic pollution (other prime factors include, lack of legislation and enforcement to avoid externalities, lack of SWM infrastructure, and lack of government capacity). Grantees perception studies revealed that the public's understanding of single-use plastics, waste management, recycling, and the impact of mismanaged waste is quite low. Well-designed public information and education campaigns are essential for teaching individuals and motivating them to change their behavior to do their part to improve the quality of life in their community through improved SWM practices.
- The participation of women is a vital ingredient to a successful community based SWM/recycling project. In each of the four targeted countries, women played central roles in waste management in their homes and neighborhoods. However, women's contributions are often taken for granted and not well captured by the collected data on solid waste management activities.
- Youth participation can incentivize behavior change within households/families. For example, introducing educational modules on sustainable SWM practices, recycling, and ocean plastic pollution in schools produces a new generation of environmental champions. These young people care deeply about what happens in their communities. They take this new knowledge home and teach their family members and neighbors about the natural environment and the steps people can take to protect it.
- Peer pressure leads to waste management behavior change. This "nudge theory" suggests that community peer pressure can be an effective approach to encourage behavior change in waste management and plastic recycling. Behavioral economists call it non-enforced compliance, with the idea being that sometimes you can get people to change with just a nudge. Harsh measures such as new legislation or regulatory enforcement are not always needed as people can be motivated by knowing that their peers are also doing something.

3. There is a willingness on the part of communities, governments, and the private sector to accept and appreciate the contributions of informal waste collectors (also known as independent waste collectors) and to recognize their roles in waste collection and recycling.

In the four MWRP countries, the informal waste sector's participation is fundamental to maintaining a clean environment. The informal waste collectors contribute to local economies and public health and safety. While recognition for their contributions is growing, they often have low social status, poor living and working conditions, and little support from local

governments. They face challenges due to competition for lucrative waste from powerful local businesses and corporate entities (WIEGO website). Several MWRP projects worked closely with individual informal waste collectors and their organized groups to raise awareness in their communities for waste separation at the source and the economic and environmental value of collecting plastic waste.

The following lessons were learned from the MWRP grantees' collaborations with the informal sector:

- Encouraging participation of the informal waste collector sector in the formal government SWM system results in improved livelihoods and better community waste collection rates.
- Strengthening the knowledge and technical capacity and working relationships of various recycling actors, i.e., IWCs, intermediary junk shops, and large recycling firms, improves the efficiency of the recycling industry and strengthens the plastic waste value chain.

4. There is growing interest in developing public-private partnerships and SWM platforms, bringing together a range of community stakeholders.

MWRP projects engaged private sector companies to reduce ocean plastic waste at city/municipal, national, and international levels. At the city/municipal level, MWRP grantees supported entrepreneurs to strengthen and expand SWM, recycling, and reduce plastic waste through training, education, skills transfer, and access to new markets. Through policy development, education and information campaigns, recycling market expansion, and capacity-building on SWM, national and multinational companies worked with MWRP grantees to achieve program objectives. With grantees simultaneously assisting the companies' plastic reduction and recycling initiatives, these collaborations resulted in "win-win" partnerships.

MWRP grantees leveraged significant private sector resources and influence by combining existing corporate initiatives with MWRP projects, engaging corporations on policy development issues, and securing direct financial support. MWRP grantees implemented projects that have incorporated a range of private sector partners and established durable partnerships. The activities noted below identify "private sector partners" as entities with a business orientation, notably multinational corporations, national companies, corporate social responsibility programs, foundations, cooperatives, and various stakeholders from the plastic waste value chain (IWCs, "junk shops," recycling intermediaries, national-level recycling firms).

Program grantees have identified creative ways to involve national and multinational companies in their project designs, aware of the need for these private sector actors to accept greater responsibility in finding solutions to the challenge of reducing ocean plastic pollution.

The following lesson was learned from the grantees' collaborations with the private sector:

- MWRP grantees' project engagement and activities with private sector partners are categorized into several groups: 1) reducing single-use plastic consumption, 2) designing and testing approaches to improve plastic waste collection, handling, and processing, 3) identifying cost-effective, sustainable business models, 4) developing

financial support mechanisms for collecting and treating low-value plastic waste, 5) disseminating information and knowledge on solid waste management and recycling, and, 6) changing the legal and regulatory framework to address plastic waste issues.

5. There is significant interest in data, dialogue, (social) media use, transparency, and publication of studies and project results.

There is a growing recognition among community stakeholders that public SWM services will become more effective if service providers and service users/clients have better access to information and cooperate in dealing with “mismanaged waste,” which is increasingly perceived as the responsibility of everyone.

Several grantees recognized the utility and importance of creating broad-based participation in dialogues related to improving SWM and recycling in their communities. The most significant need was having the appropriate government agencies/officials active in the deliberative processes where decisions impact the communities. In addition, grantees learned that providing useful analysis from data and research studies and demonstrating their roots in the communities enhanced their credibility with local government authorities.

4 COUNTRY SPECIFIC MWRP RESULTS AND OBSERVED TRENDS

The MWRP grants facility of USD 5.5 million was fully obligated by the end of Program Year Three (September 30, 2019), with funds allocated through 30 grant agreements, 32 on the ground projects. The program collaborated with multiple grantee organizations during six competitive MWRP funding cycles and a separate final round that resulted in the award of three targeted grants to the University of Georgia, Mother Earth Foundation, and the Philippine Reef and Rainforest Conservation Foundation, Inc. Program grantees included national non-governmental organizations (NGOs), a regional NGO network, international (U.S.-based) NGOs, social enterprises, a cooperative, and a business association.

Table I on MWRP Grants on the following page indicates the individual grantee organizations per country, their corresponding grant amounts, and start/completion dates of project implementation.

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Table I: MWRP Grants

Country	Grantee Organization	Agreement Start Date	Agreement End Date	Funds Obligated	Funds Disbursed
Indonesia	Yayasan Misool Baseftin	1-Oct-2018	31-Dec-2020	\$243,740	\$243,740
	Yayasan Bina Karta Lestari	1-Oct-2018	15-Mar-2021	\$244,520	\$244,520
	Gringgo Indonesia Foundation	1-Apr-2019	11-May-2021	\$165,000	\$165,000
	Divers Clean Action	1-Apr-2019	31-Jul-2021	\$195,262	\$195,262
	Center for Public Policy Transformation	5-Apr-2019	31-May-2021	\$220,481	\$220,481
	Yayasan Pengembangan Biosains dan Bioteknologi (subgrantee to GAIA Philippines Inc.)	1-Apr-2019	31-May-2021	\$69,141	\$69,141
	Gerakan Indonesia Diet Kantong Plastic	24-Jul-2019	31-May-2021	\$249,212	\$249,212
Vietnam	Environnement et Développement du Tiers-Monde	1-Oct-2017	30-Jun-2020	\$243,527	\$243,527
	Center for Environment & Community Research	1-Oct-2017	30-Jun-2019	\$249,932	\$249,932
	Centre for Supporting Green Development	31-Mar-2018	30-Sep-2020	\$247,406	\$247,406
	Centre for Social Research and Development	31-Mar-2018	31-Jul-2019	\$74,780	\$74,780
	World Wide Fund for Nature	1-Jun-2018	30-Sep-2020	\$202,000	\$202,000
	Centre for Marinelife Conservation & Community Development (first of two awarded grants)	3-Jul-2018	31-Dec-2020	\$129,738	\$129,738
	Centre for Marine life Conservation & Community Development (second awarded grant)	3-Jul-2018	31-Mar-2021	\$249,995	\$249,995
	GreenViet Biodiversity Conservation Centre (subgrantee to GAIA Philippines Inc.)	1-Apr-2019	31-May-2021	\$94,173	\$94,173
Sri Lanka	Sevanatha Urban Resource Centre	1-Oct-2017	31-Mar-2020	\$238,232	\$238,232
	Sri Lanka Centre for Development Facilitation (first of two awarded grants)	1-Oct-2017	30-Jun-2020	\$244,712	\$244,712
	Janathakshan (Guarantee) Limited	1-Oct-2017	31-Dec-2019	\$142,244	\$142,244
	Lanka Upcycles (Private) Limited	31-Mar-2018	30-Jun-2020	\$87,707	\$87,707
	Sri Lanka Centre for Development Facilitation (second awarded grant)	9-Apr-2018	30-Sep-2020	\$171,962	\$171,962
	Public Interest Law Foundation	13-Jul-2018	31-May-2021	\$167,010	\$167,010
	Ceylon Chamber of Commerce	1-Oct-2018	31-May-2021	\$153,590	\$153,590
Philippines	Catholic Relief Services	1-Oct-2017	30-Nov-2018	\$100,000	\$100,000
	Candis III Marketing Cooperative	31-Mar-2018	30-Sep-2020	\$249,880	\$249,880
	Philippine Reef & Rainforest Conservation Foundation, Inc. (first of two awarded grants)	31-Mar-2018	31-Mar-2020	\$223,994	\$223,994
	World Vision Development Foundation, Inc.	31-Mar-2018	31-Aug-2019	\$100,000	\$100,000
	Global Alliance for Incinerator Alternatives (GAIA) Philippines Inc. (primary implementer to two subgrants)	1-Apr-2019	31-May-2021	\$86,296	\$86,296
	Mother Earth Foundation (Targeted Grant)	1-Jul-2019	31-May-2021	\$151,309	\$151,309
	Ecological Waste Coalition of the Philippines Inc.	3-Jul-2019	31-May-2021	\$229,157	\$229,157
	Philippine Business for the Environment Inc.	1-Oct-2019	31-Mar-2021	\$100,000	\$100,000
	University of Georgia Research Foundation (Targeted Grant)	1-Oct-2019	31-Jul-2021	\$100,000	\$100,000
	Philippine Reef & Rainforest Conservation Foundation, Inc. (second awarded grant - Targeted Grant)	1-Oct-2019	31-Mar-2021	\$75,000	\$75,000
Total				\$5,500,000	\$5,500,000

The MWRP grants facility achieved an equitable distribution of grant funds between the four target countries, with allocations ranging from 22% in Sri Lanka to 27% in Vietnam. Although Indonesia entered the program more than one year after MWRP began, its grantees received 25% of the total grant funds. The following Table 2: MWRP Grants by Country provides a breakdown of the number of grants and projects by country, total grant amount awarded by country, and percentage of the grant facility awarded by country.

Table 2: MWRP Grants by Country

Country	# Grants / # Projects	Amount (US\$)	Percentage (by Amount)
Indonesia*	6 / 7	\$ 1,387,356	25%
Philippines*	10 / 10	\$ 1,415,636	26%
Sri Lanka	7 / 7	\$ 1,205,457	22%
Vietnam*	7 / 8	\$ 1,491,551	27%
Total	30 / 32	\$5,500,000	100%

* The MWRP grant to Global Alliance for Incinerator Alternatives Philippines Inc. included two subawards to Vietnamese and Indonesian NGOs to implement municipal “Zero-Waste” projects. For that reason, one additional project has been added for Vietnam and Indonesia. Thus, the GAIA grant constitutes three projects.

To analyze the MWRP results, the MEFs were organized into seven categories: 1) beneficiaries, 2) awareness and technical assistance, 3) training, 4) job creation, 5) changes and actions in solid waste management, 6) decision-maker influencers, policies, and partners, and 7) quantity of plastic diverted from the environment. Gender considerations were disaggregated for several of the MEFs.

The following four sections provide country-specific results based on an analysis of program MEFs and cover trends in SWM and recycling in each country.

4.1 Indonesia

The grant-making process in Indonesia started one year later than in the other three countries, with the first round of grants signed on October 1, 2018, with the Bintari Foundation and Misool Foundation. In Indonesia, of the seven projects, the average grant size was \$198,000, with an average project implementation period of 26 months. Each of the Indonesian MWRP projects were impacted in varying degrees from the travel and meeting restrictions placed by the national government due to the COVID-19 pandemic. From March 2020 to December 2020, there were some operational and travel restrictions, but by January 2021, project grantees faced major challenges implementing planned activities. Nonetheless, the MWRP projects were largely successful, with grantees achieving positive results from their involvement with community-based waste banks and performed well in their advocacy and technical assistance support to local governments in regulating the consumption of single-use plastics.

Note the following performance data of the Indonesian grantees for the individual program MEFs:

Direct and Indirect Beneficiaries

Indonesia	# Direct Beneficiaries	# Indirect Beneficiaries
Misool	56,338	270,000
Bintari	9,921	15,000
Gringgo	61,200	9,420
Divers Clean Action	24,000	20,000
GAIA/YPBB	20,000	26,000
Transformasi	40,000	20,000
GIDKP	359,400	1,267,000
Sub-total	570,859	1,627,420

The program had millions of direct and indirect beneficiaries in Indonesia. MWRP grantee GIDKP reached many people due to its support of policy reforms that phased out single-use plastics at the city and provincial levels. In Semarang City, the Bintari Foundation benefitted 9,921 direct beneficiaries, its project worked intensively with community households to organize 54 waste banks in a city with a historically weak SWM and recycling system. The Misool Foundation exceeded its targets for community outreach, but its effective work with communities resulted in high demand for its services. As Misool's operating efficiency improved during the project, its recycling services reached an estimated 56,000 direct beneficiaries. Gringgo's community

organizing partner, PPLH, reached 61,200 direct beneficiaries and succeeded in promoting waste separation at the source.

MEF-I: Metric Tons (MT) of Plastic Waste Diverted from the Environment

MEF-I measured the number of metric tons of plastic waste collected and treated, recycled, incinerated, reused, disposed of in a controlled and officially registered landfill (or other means of disposal acceptable to USAID), or reduced due to regulations that restricted plastic usage. In Jakarta and other major cities, with targeted technical assistance from GIDKP, the bans on single-use plastic bags through legal and regulatory reforms accounted for almost 9,500 MT of reduced plastic waste, almost 100% of the program's reduction in plastic waste in Indonesia. Divers Clean Action (DCA) connected the informal sector to recycling companies and promoted the sale of goods in bulk using refillable containers to reduce the use of plastic packaging. The DCA project was able to collect 785 MT of recyclable waste. The Misool Foundation operated a large recycling center in Sorong City, functioning as an intermediary to the 115 group collection points – purchasing plastic, paper, cardboard, metal, and other reusable waste materials and selling them to large recycling companies in Java. Misool collected more than 619 MT of recyclable plastic waste.

Indonesia	# MT collected/ recycled	# MT reduction/ others
Misool	619	0
Bintari	65	0
Gringgo	190	2
Divers Clean Action	785	0
GAIA/YPBB	283	0
Transformasi	134	0
GIDKP	0	9,506
Sub-total	2,076	9,508

MEF-2: Number of Innovations

GIDKP, DCA, and Misool were the most productive grantees in terms of introducing innovations and new approaches. GIDKP and GAIA/YPBB both influenced four new laws on the use of plastics and/or the sorting of solid waste. In Bali, Gringgo introduced two innovative technologies through the development of its mobile applications. However, these applications were not accepted by the local government or used by the private sector or communities, which underscored the importance of local government acceptance of the grantees' work. Transformasi, a public policy think tank from Jakarta, had three innovative approaches to support the establishment of the central waste bank in Gowa District, South Sulawesi province.

Indonesia	Innovations approaches	Innovative technology	New laws, policies & regs	New PPP, agreement signed
Misool	2	1	1	6
Bintari	1	1	0	4
Gringgo	1	2	0	4
Divers Clean Action	2	0	1	7
GAIA/YPBB	0	0	4	1
Transformasi	3	1	0	3
GIDKP	0	0	4	6
Sub-total	9	5	10	31

MEF-3: Number of Public Awareness, Training, and Technical Assistance Hours Provided in Municipal SWM

MEF-3 indicates the number of technical assistance hours dedicated to 1) public awareness, 2) training, and 3) technical assistance provided on municipal SWM by MWRP grantees. Public awareness took place in events that brought attention or awareness to MWRP objectives in person or through online activities. Training events involved building capacity also through an in-person or online activities. Technical assistance was provided to city officials or private sector groups on municipal SWM/recycling or the passage of a new directive or law.

The Misool Foundation achieved substantial impact in the three categories. Its project educated communities through numerous public awareness activities, trained new waste bank members and collection point coordinators, and provided technical assistance to city and regional government environmental officials on reforming SWM and recycling policies and regulations. Misool's progress in training and technical assistance accounted for 65% of the trainee hours for Indonesia.

Indonesia	Public awareness	Training	Technical assistance
Misool	44,448	11,884	11,386
Bintari	12,725	3,337	1,298
Gringgo	4,136	2,383	639
Divers Clean Action	3,420	967	1,665
GAIA/YPBB	1,873	966	1,129
Transformasi	2,924	2,690	454
GIDKP	3,462	4,097	1,061
Sub-total	72,988	26,324	17,632

MEF-4: Number of Households and Commercial Establishments that Started Waste Separation at the Source

MEF-4 reflects the number of households and commercial establishments (offices, schools, hotels, stores, etc.) that started waste separation or undertook other initiatives supporting recycling efforts. This MEF tracked the number of households and businesses that started separating waste at the source, composting, reducing the use of plastic products, or other similar initiatives to promote recycling. MWRP grantees in Indonesia targeted its behavior change approach at both the individual and community levels to improve SWM practices. Behavior change initiatives included educational programs to raise awareness and improve recycling, such as beach cleanups, public events, social media blogs, short video clips posted on YouTube, Facebook events, and WhatsApp advisory group meetings.

The Gringgo Indonesia Foundation's project focused on three villages in Denpasar. During implementation, Gringgo extended its outreach and communications activities into three adjacent villages. Gringgo's sub awardee, PPLH, an experienced Balinese NGO, coordinated the community outreach component using door-to-door campaigns, IEC materials, and social media. The Gringgo project's outreach penetrated deeply into the target communities and achieved strong results in securing community participation in waste separation at the source. PPLH documented that 17,927 households in Denpasar were separating waste at the source at the conclusion of the project. Households in Denpasar were highly motivated to separate waste because of the financial incentive to sell recyclables during the Bali tourism lockdown to supplement badly impacted household incomes due to COVID-19.

Indonesia	Behavior change HHs & establishment
Misool	2,758
Bintari	6,830
Gringgo	17,927
Divers Clean Action	3,220
GAIA/YPBB	4,139
Transformasi	2,161
GIDKP	0
Sub-total	37,035

The Bintari Foundation's main objectives included improving the capacity of waste recycling groups and increasing consumer participation in the recycling process in 54 urban neighborhoods in Semarang City. As a result, Bintari secured the compliance of 6,830 households separating waste separation at the source, selling recyclables, and composting organic waste. Transformasi's principal task in Gowa District, South Sulawesi Province, was to support the Gowa District government in establishing a central waste bank and supporting the creation or development of 50 community waste banks linked to the central waste bank. Transformasi's local partner, YPN, helped build the local capacity of community-based waste banks in household waste management. Transformasi's work encouraged women already active in community waste banks to mobilize other women in their communities to become active members of the local waste banks.

MEF-5: Number of Jobs Created

MEF-5 tracked the number of new SWM/recycling jobs created as a result of the grantees' project activities, disaggregated by gender. The MEF is divided into two sub-categories: 1) number of jobs created for males and sustained for more than three months; and 2) number of jobs created for females and sustained for more than three months.

Transformasi and Gringgo together supported the development of ~800 jobs out of the 932 total jobs for Indonesian projects, with the majority securing positions as informal solid waste collectors.

Indonesia	Jobs created for males	Job created for females	Total
Misool	22	27	49
Bintari	19	59	78
Gringgo	160	238	398
Divers Clean Action	6	4	10
GAIA/YPBB	1	1	2
Transformasi	112	282	394
GIDKP	1	0	1
Sub-total	321	611	932

MEF-7: Number of Individuals Completing Training Events

Indonesia	Men completed training >3	Women completed training >3	Total
Misool	1,039	1,523	2,562
Bintari	342	502	844
Gringgo	643	676	1,319
Divers Clean Action	293	218	511
GAIA/YPBB	219	385	604
Transformasi	160	267	427
GIDKP	594	530	1,124
Sub-total	3,290	4,101	7391

MEF-7 tracked the number of individuals who completed a grantee project training event defined as at least three hours in a half-day training event or six hours in a full-day training event. The Misool Foundation operated a large city recycling center in Sorong City that functioned as a recycling intermediary by purchasing plastic, paper, cardboard, metal, and other reusable waste materials from individuals and community groups and reselling them to large recycling companies based in Java. To achieve such strong results, Misool's staff trained 2,562 people on a range of community education activities. Gringgo and GIDKP also succeeded in reaching several community residents, training 1,319 and 1,124 people, respectively. Bintari, DCA, Transformasi, and YPBB trained an average of ~600 people per

grantee. For Indonesia, females represented 58% of those trained, while males accounted for 42%.

MEF-8: Number of Females who Obtained a Male-Dominated Job; MEF-9: Number of Females Participating in Decision-Making in SWM; and Youth Engaged in Ocean Plastic Reduction Activities

For MEF-8 and MEF-9, Gringgo reported that women's roles in the local SWM sector were minimal. Its ability to reach the largest number of women was due to its decision not to limit

Indonesia	Women obtained male-dominated job	Women participating in decision-making	Youth engaged
Misool	18	91	3,175
Bintari	0	15	1,047
Gringgo	584	50	4,107
Divers Clean Action	1	44	13,391
GAIA/YPBB	0	0	414
Transformasi	2	0	196
GIDKP	0	110	783
Sub-total	605	310	23,113

activities solely to waste banks, as done by Misool, Bintari, YPBB, and Transformasi. The three villages where Gringgo operated had only ten waste banks. Gringgo's decentralized approach succeeded in getting community residents to become involved in collecting recyclable waste. As a result, women began working in large numbers as informal waste collectors and with junk shops recycling waste. Some traditionally male-dominated jobs were part-time, which appealed to women because they did not interfere with other daily duties (i.e., household chores, childcare). Most of the 584 women reported by Gringgo worked about three hours per week, and only a few worked full-time.

The youth-led DCA project "Save Our Small Islands" worked to educate community residents, increase plastics recycling, and

improve livelihoods in the Thousand Islands by expanding the number of local participants engaged in the community-based SWM system. A key component of DCA's multifaceted community development model was engaging with island youth. DCA conducted regular presentations to students in schools to raise awareness on the importance of recycling and proper plastic waste management to protect their delicate marine ecosystem. With support from Kentucky Fried Chicken, DCA created a youth #NoStrawMovement and a Marine Debris Rangers conservation program on the Thousand Islands that has since been replicated in Manado and other locations in Indonesia.

Trends in Indonesia

The Government of Indonesia passed a milestone National Plastic Waste Management Plan in 2016. Several government ministries were assigned national government budget resources to support investment in SWM to mitigate marine debris throughout the country. The national government's leadership on this issue of marine debris is being carried out by the Coordinating Ministry for Maritime & Investment Affairs and the Ministry of Environment and Forestry. Much activity occurs at the local level, with local governments (municipalities/cities/provinces) picking up on the national government's interest and responding to effective advocacy from civil society groups to take action on single-use plastics. This broad-based grassroots movement at the local level is gaining momentum in the country.

MWRP grantee GIDKP has been at the forefront of this movement in Indonesia, effectively working with other civil society groups and local governments to address the need for reform of applicable policies, action plans, legislation, and regulations. Many of these actions focus on adopting bans on the consumption of single-use plastics and enforcing them when passed. Civil

society is also looking to strengthen plans to put into place extended producer responsibility legislation.

Another critical element in the Indonesian SWM/recycling sector is at the local level in the form of the neighborhood-based waste bank, which is firmly established in most cities. For the most part, the waste banks comprise mostly neighborhood women. Informal waste collectors also have formed or joined waste banks to benefit from the basic infrastructure available for storing recyclable materials. However, there is mounting concern that the waste bank is not a sustainable vehicle, as many have ceased operating after only a few years. This issue is serious, and several MWRP grantees' work explored different approaches to strengthen the waste bank model. The following information, below, details trends in Indonesia:

- I. There is increased willingness of local and national governments to regulate plastic waste. Through MWRP, local governments requested the technical support of program grantees to develop policies, laws, and regulations and to assist with the subsequent rollout and implementation. This emphasis on legal and regulatory reform has proven successful as GIDKP estimates that its advocacy and technical assistance activities have resulted in an estimated reduction of 10,000 MT in plastic waste in Jakarta and several major cities. For example, in Sorong City, the government accepted Misool's central recycling center as an important component in the city's SWM system and regularly consulted with technical experts from Misool on various issues. Misool experts assisted the city government's environment department design a fee-for-service plan for SWM services to help the city improve its cost recovery in SWM. DCA, Bintari, and YPBB (subgrantee to GAIA) worked closely with city environmental authorities to enforce existing laws and implement IEC and recycling programs. In the Gowa District, authorities trusted Transformasi to play a major role in setting up the organization's standard operating systems for the new Gowa central waste bank servicing local waste banks in the area.

Additionally, the GIDKP project organized and advanced a Plastic Waste Cities Forum, an important national initiative that engages local governments interested in dealing with plastic waste and improving SWM systems. In the most recent forum meeting in mid-2021, participants from 34 cities shared information on the status of their work. GIDKP provided the participants with a how-to guide on designing policies, legislation, and regulations on restricting single-use plastics. As part of the forum organization, GIDKP coordinates efforts with national associations of cities and city officials. The Plastic Waste Cities Forum has the potential to influence, educate, and support Indonesian cities on this issue. The same applies to local action, such as in Semarang City, where Bintari Foundation co-sponsored a series of public policy forums with the environment office that produced consensus on specific SWM/recycling policy reforms. Similar activities were carried out by YPBB with the Bandung City Environment Agency.

2. The value chain for plastic waste was strengthened in Indonesia because of the increased quantities of recyclable materials collected as well as improved waste separation at the household and establishment levels. This result was tied to MWRP grantees' projects (except GIDKP) supporting the formation and operation of community-based waste banks

and other public and private sector stakeholders. The community-based waste banks and a central waste bank model received substantial technical assistance and training in various cities. The grantees' activities resulted in more robust approaches for building sustainable organizations and operating systems.

The Bintari Foundation supported the organization of 55 women-led community waste banks, promoting waste separation at the source and sales of recyclable materials. The increased volumes of collected recyclables generated interest from local recycling intermediaries. As part of its efforts to ensure that the waste banks become more economically viable, Bintari's interventions with waste banks led to a more dynamic economic model that incorporated training in business management skills for the waste bank members, strategic planning, improved linkages to recycling intermediaries to increase waste bank income, education on available government social services, and connections to private microfinance institutions to access savings and loan products. The Semarang waste banks learned to track market prices for recyclable waste to secure reasonable prices when selling. The transactions from these waste banks contributed to a more efficient, market-sensitive plastic waste value chain.

In Indonesia, the Misool Foundation operated a central waste bank serving Sorong City and some areas outside of the city. Through its project, Misool's outreach and education team assisted city residents in forming ~115 waste collection points to expand the collection of various recyclable materials. Misool functions as an intermediary to these community-based collectors, providing them with fair prices and collecting their recyclables in the field. Misool then resells recyclable materials to large companies based in Java. Misool has worked for several years to deepen its relationships with the city and regional governments and contributed expertise to city environment officials on how to draft updated SWM regulations and improve cost recovery and the efficiency of the local government's SWM system.

3. The participation of informal waste collectors in Indonesia was supported by MWRP projects. The informal waste collectors were integral parts of the SWM operating systems in Indonesian cities, with many of them organizing to form small waste banks. Six of the seven projects were heavily involved with informal waste collectors for their community-based operations to maximize the collection of recyclables. Women became more involved in collecting recyclables through local projects, particularly after the start of the COVID-19 pandemic.

The Misool project trained informal waste collectors to identify recyclable waste and expand their circle of operations in their neighborhoods. Misool provided support to the IWCs by scheduling collections in the community regularly. The YPBB project in Bandung City used door-to-door education to build the capacity of households to reduce, reuse, and recycle, fundamental elements of the Zero-Waste model, and linked them with IWCs and community material recovery facilities. DCA supported IWCs collection efforts by promoting waste separation at source through door-to-door education and arranging for a subsidy to transport recyclable materials to the mainland from the Thousand Islands.

4. There is growing interest in establishing public-private partnerships and SWM platforms in which companies are invited to join and participate. There is an embryonic community of practice on partnering with the private sector, where substantial opportunity exists for future action. On numerous occasions, the seven grantees brought together public and private sector stakeholders or secured signed agreements. Still, among the grantees, there existed a healthy skepticism about the motivations of private sector companies to join in plastic waste reduction activities, particularly the large multinational fast-moving consumer goods companies.

In Semarang City, the Bintari Foundation cooperated with several large Indonesian companies to test extended producer models among its clients. An example was the PT Indofood partnership, where the company provided a small subsidy to noodle stall owners to collect and recycle low-value plastic wrappers from the noodle packs. The experience was novel, but the outcome indicated that more work was necessary to develop a viable approach that worked satisfactorily for both the producer and consumer.

DCA's, which looked to find viable solutions for dealing with waste on small islands, partnership with The Body Shop provided a laboratory to test whether consumer products (cooking oil, soy sauce, coffee, salt, soap, detergent, etc.) could be sold by mini-markets profitably in small quantities in refillable containers. DCA also worked with tourist boat operators to reduce the sale of drinks in PET (polyethylene terephthalate or plastic) bottles and advised on messaging for tourist passengers. In addition, DCA's partnership with Danone Aqua led to a small economic subsidy to cover the high costs of transporting recyclables from the Thousand Islands to mainland Java.

5. The proponents addressing the ocean plastic pollution problem are finding interest from government and civil society groups in dialogues, access to information, use of social and other media, transparency, and the publication of articles, research, and case studies. The Indonesian Solid Waste Platform is a civil society vehicle sharing information on what is happening around the country on SWM and recycling issues. Program grantees were incredibly active in hosting and participating in local, national, and international public forums on marine debris. Dozens of virtual communication events have been held since the start of the COVID-19 pandemic.

In each program target city, Indonesian grantees found receptive audiences for their IEC events and activities. The DCA leadership team, participating in an average of ten virtual events per month over the past year, worked with provincial officials to design an SWM roadmap for the Thousand Islands, a process supported with an ambitious, sophisticated IEC campaign. YPBB organized WhatsApp group chats to continue offering technical advice to community groups when even local travel was impossible. YPBB produced a series of "how-to" videos describing the proper methods for applying the Zero-Waste model.

4.2 Philippines

The Philippines had ten MWRP projects, most of which focused on implementing SWM and recycling approaches in municipalities and cities. Several NGOs in various contexts replicated the Zero-Waste approach pioneered in the country by the Mother Earth Foundation and GAIA-Philippines. In addition, two major research projects by highly respected organizations addressed SWM conditions and implementation in Metro Manila to provide technical inputs and data to the government in support of cleaning up Manila Bay.

Note the following performance data for grantees in the Philippines for the individual program MEFs:

Direct and Indirect Beneficiaries

In the Philippines, there was a diverse mixture of project designs. Catholic Relief Services (CRS) trained and equipped waste collection social enterprises in six barangays in Malabon and Navotas Cities in Metro Manila, directly benefiting 26,400 people. CRS's project is considered a success from a sustainability perspective, with local governments investing in its approach. World Vision worked in the biggest barangay in Manila, setting up a new material recovery facility (MRF) and improving the collection of recyclables. The Philippine Reef & Rainforest Conservation Foundation (PRRCFI) worked with SM Supermalls, a national shopping mall chain, to launch the "AweSMseas" campaign to reduce plastic pollution in the Metro Manila area by reaching mall visitors through targeted messaging. The project reached an estimated 13,800 direct beneficiaries and 600,000 indirect beneficiaries through social media and mall activities. PRRCFI's project on Negros Island trained local government officials to prepare plastic waste management plans, developed a museum on wheels to educate communities, and assisted small convenience stores to become zero plastic waste enterprises. C3MC had 42,000 direct beneficiaries in Puerto Princesa, Palawan, and Mother Earth Foundation reached 143,950 direct beneficiaries through its introduction of the Zero-Waste model in 20 barangays in Batangas City.

Philippines	# Direct Beneficiaries	# Indirect Beneficiaries
CRS/Caritas	26,400	105,000
C3MC	41,982	4,136
PRRCFI	13,820	108,885
World Vision	59,819	26,000
GAIA	5,000	600
EcoWaste Coalition	5,000	600
PBE/PARMS	10,000	50,000
Mother Earth Foundation	143,950	72,000
University of Georgia	5,000	600
PRRCFI/SM	13,820	600,000
Sub-total	324,791	967,821

MEF-1: Metric Tons (MT) of Plastic Waste Diverted from the Environment

For MEF-1, Mother Earth Foundation's technical assistance and capacity building support to the city government in Batangas to integrate the Zero-Waste model into the city's SWM system led to 355 MT of recyclable waste being diverted from the environment. For CRS, project volunteers attracted 6,000 households to begin waste separation at the source, which resulted in the collection of 420 MT of recyclable waste. World Vision's work with community groups resulted in 115 MT of collected recyclables. C3MC and GAIA also achieved the targets they had set for themselves regarding the collection of recyclable waste. The two PRRCFI projects collected a small amount of recyclable waste as the project area on Negros Island was dispersed, and expensive haulage fees discouraged recycling. The PRRCFI "AweSMseas" project in Manila focused on changing the waste management behaviors of mall visitors, which was not easily translatable to determine the quantity of diverted plastic waste.

Philippines	#MT collected/ recycled	#MT reduction/ others
CRS/Caritas	427	2
C3MC	82	7
PRRCFI	4	10
World Vision	115	0
GAIA	60	0
EcoWaste Coalition	0	0
PBE/PARMS	5	0
Mother Earth Foundation	355	0
University of Georgia	0	0
PRRCFI/SM	0	0
Sub-total	1,048	19

MEF-2: Number of Innovations

Philippines	Innovations approaches	Innovations Technology	New laws, policies & regs	New PPP, agreement signed
CRS/Caritas	1	0	2	2
C3MC	1	0	6	3
PRRCFI	8	0	14	4
World Vision	1	0	1	2
GAIA	1	0	0	0
EcoWaste Coalition	0	0	0	1
PBE/PARMS	1	1	0	3
Mother Earth Foundation	2	0	1	1
University of Georgia	1	2	0	0
PRRCFI/SM	1	0	0	1
Sub-total	17	3	24	17

For MEF-2, PRRCFI's project "Sea Waste Education to Eradicate Plastic (SWEEP)" project focused on reducing land-based sources of ocean plastic pollution in coastal communities on Negros Island to sustain public health, livelihoods, and food security. The project activities targeted three cities (Bacolod, Sipalay, and Bayawan) and five municipalities (Cauayan, Hinoba-an, Basay, Siaton, and Santa Catalina) which led to a total of 26 new innovations. C3MC focused on plastic waste planning and educating residents. PRRCFI was responsible for 59% of the 61 innovations in the country. CRS developed five innovations and World Vision developed four. PBE introduced a technological innovation by recycling certain low-value plastic waste that was considered uneconomical into upcycled products sold in the local market.

MEF-3: Number of Public Awareness, Training, and Technical Assistance Hours Provided in Municipal SWM

For MEF-3, through its SWEEP project, PRRCFI provided technical assistance, conducted public awareness activities, and trained store owners and local government officials in SWM for a total of 60,884 hours. Project implementation was guided by four objectives: 1) educate coastal communities on the negative effects of ocean plastic pollution, 2) instill waste separation at the source and recycling behaviors in households and businesses, 3) support local governments to improve SWM/recycling systems, and 4) develop a new business model for convenience stores to reduce the use of plastic packaging in consumer products. Mother Earth Foundation achieved significant results in public awareness due to its promotion of the Ecological Solid Waste Management, integral to the Zero-Waste model, which aimed to reduce plastic pollution at the source and promote waste diversion from the city's landfill. Mother Earth's approach followed its methodology of "Ten Steps to Establishing a Community Ecological Solid Waste Management Program," with ~52,000 hours of public awareness training of community residents.

Philippines	Public awareness	Training	Technical assistance
CRS/Caritas	9,483	654	6
C3MC	12,197	1,264	0
PRRCFI	45,974	13,098	1,812
World Vision	536	0	0
GAIA	580	32	800
EcoWaste Coalition	0	1,235	350
PBE/PARMS	130	512	82
Mother Earth Foundation	52,158	762	509
University of Georgia	0	240	0
PRRCFI/SM	48	590	0
Sub-total	121,106	18,387	3,559

MEF-4: Number of Households and Commercial Establishments that Started Waste Separation at the Source

Philippines	Behavior change HHs & establishment
CRS/Caritas	6,000
C3MC	12,639
PRRCFI	0
World Vision	1,200
GAIA	0
EcoWaste Coalition	0
PBE/PARMS	298
Mother Earth Foundation	3,718
University of Georgia	0
PRRCFI/SM	0
Sub-total	23,855

For MEF-4, the C3MC project, "Mitigating Threats to Marine Protected Areas through Reducing and Recycling Plastic Waste," sought to mitigate the volume of plastic waste entering the marine environment by improving the SWM system in Puerto Princesa City. The project targeted barangays adjacent to five marine protected areas (MPA) to address the threat of plastic pollution damaging coastal and marine biodiversity. C3MC's educational activities succeeded in getting 12,639 households and businesses to begin waste separation at the source. CRS reported 6,000 households separating waste in collaboration with social enterprises. Mother Earth Foundation taught 3,700 households how to separate waste at the source and integrate collections with the local MRFs.

MEF-5: Number of Jobs Created

For MEF-5, CRS's technical assistance led to the formation of SWM committees in six barangays, who in turn trained community residents, formulated barangay SWM plans, and tested and implemented new community-based SWM initiatives. The CRS project resulted in 69 new full-time jobs in Navotas/Malabon. The Mother Earth Foundation's project resulted in 62 new jobs in Batangas City. The awareness campaigns conducted by PRRCFI under its "AweSMseas" project resulted in 44 new jobs, and the C3MC project created 19 new jobs.

Philippines	Jobs created for males	Jobs created for females	Total
CRS/Caritas	45	24	69
C3MC	16	3	19
PRRCFI	0	0	0
World Vision	0	0	0
GAIA	0	0	0
EcoWaste Coalition	3	3	6
PBE/PARMS	1	2	3
Mother Earth Foundation	23	39	62
University of Georgia	0	0	0
PRRCFI/SM	19	25	44
Sub-total	107	96	203

Philippines	Men completed training >3	Women completed training >3	Total
CRS/Caritas	0	218	218
C3MC	48	60	108
PRRCFI	1,731	1,931	3,662
World Vision	0	0	0
GAIA	0	0	0
EcoWaste Coalition	62	110	172
PBE/PARMS	0	0	0
Mother Earth Foundation	65	100	165
University of Georgia	33	37	70
PRRCFI/SM	19	25	44
Sub-total	1,958	2,481	4,439

MEF-7: Number of Individuals Completing Training Events

For MEF-7, PRRCFI SWEEP project activities targeted the residents and government staff of three cities and five municipalities during various training events, reaching 3,662 people (majority women), representing 82% of the people trained in the Philippines. The remaining grantees, principally CRS, Mother Earth, EcoWaste Coalition, C3MC, and UGA, accounted for the other ~1,200 people receiving training.

MEF-8: Number of Females who Obtained a Male-Dominated Job; MEF-9: Number of Females Participating in Decision-Making in SWM; and Youth Engaged in Ocean Plastic Reduction Activities

For MEF-8 and MEF-9, the CRS barangay SWM plans incorporated SWM approaches that promoted waste separation at the source to households and businesses and improved collection in hard-to-reach areas. These advances enabled numerous barangays to achieve a high waste diversion rate for recyclable waste.⁶ The CRS social enterprise model resulted in 49 women obtaining a traditionally male-dominated job and 15 women becoming prominent solid waste decision-makers. Mother Earth Foundation also recorded progress on both counts, with 19 women obtaining a traditionally male-dominated job and 30 women becoming solid waste decision-makers.

Regarding youth engagement, MWRP grantees reached a total of 27,257 youths on ocean plastic reduction issues. The PRRCI SWEEP project engaged 12,376 youths, World Vision 8,800 youths, C3MC 4,605 youths, and Mother Earth Foundation 962 youths.

Philippines	Women obtained male-dominated job	Women participating in decision-making	Youth engaged
CRS/Caritas	49	15	200
C3MC	4	4	4,605
PRRCFI	0	1	12,376
World Vision	0	0	8,800
GAIA	0	0	92
EcoWaste Coalition	0	0	80
PBE/PARMS	0	0	121
Mother Earth Foundation	19	30	962
University of Georgia	0	0	5
PRRCFI/SM	0	0	16
Sub-total	72	50	27,257

Trends in the Philippines:

The Government of the Philippines' comprehensive Ecological Solid Waste Management Act of 2001 (Republic Act/RA 9003) provides the country and its local governments with a solid foundation for delivering SWM services to the public. In 2021, with input from civil society (including MWRP grantees), the government's Department of Environment and Natural Resources (DENR) completed the formulation of a National Plan of Action on Marine Litter. Legislation regarding extended producer responsibility is currently under study in Congress. However, the RA 9003 law contains numerous unfunded mandates which place a heavy burden on the local government's annual operating budgets, compounded by the fact that mayors have viewed charging fees for SWM services as political suicide. Local governments lack access to adequate sources of public financing for investment in SWM infrastructure and equipment, leaving most cities with unsanitary landfills and non-compliant with RA 9003.

In the face of these obstacles, an experienced group of MWRP grantees in the Philippines has made substantial progress, demonstrating viable community-based approaches to SWM and recycling, most notably through the Zero-Waste model. The need remains to continue

⁶ The waste diversion rate represents the percentage of waste that is diverted from a landfill or other locations where waste may be legally or illegally deposited for recycling.

replicating and demonstrating the value of well-accepted SWM models that have worked in select Philippine cities such as San Fernando City, San Carlos City, and Bayawan City. MWRP grant-making in the Philippines started in October 2017, with three grants awarded in 2018 and the remaining grants in 2019. Two grants had an implementation period of only one year. Three grants were for \$100,000 to U.S.-based organizations, well below the average Program grant size of ~\$180,000. There were two research projects on the plastic waste flows impacting the Manila Bay watershed and two projects that targeted the owners and clients of large shopping malls in Metro Manila. In the Philippines, project implementation was affected considerably by COVID-19 travel and meeting restrictions. Still, with minor adjustments to the individual scopes of work, the grantees achieved positive results. The following information, below, details trends in the Philippines:

1. The national and local governments in the Philippines continue to have a strong appetite for addressing SWM issues and regulating plastic waste. The presence of RA 9003 and the recent policy developments from DENR on marine debris indicate openness by senior government officials. Through MWRP, with prior consultation with DENR leadership, the EcoWaste Coalition and UGA designed and prepared extensive research reports with recommendations to address the plastic waste and a framework for transitioning to a more circular economy for plastic materials. Both research projects centered on producing materials that would support the DENR's agency design and implement its strategy to rehabilitate the polluted Manila Bay. EcoWaste produced reports on plastic material flows, city waste collection practices, marine plastic debris, and a perception study of the public's understanding of SWM, recycling, and ocean plastic pollution. The UGA Circular Assessment Protocol presented the framework for analyzing the opportunities and constraints to a circular economy approach to plastic waste. The two research projects presented detailed recommendations to the DENR Secretary.

At the city and barangay levels, MWRP grantees worked extensively with local officials, training them in the preparation of SWM plans. This activity was beneficial because it brought SWM and recycling to the forefront of government thinking. However, the budgetary constraints and lack of technical expertise were problematic. In addition, the SWM plans tendered were somewhat formulaic and were not sufficiently grounded in the realities of the local context, staffing, capacity, and budget. The SWM plans helped the local governments meet the DENR's legislative compliance requirements, but the need exists to help localities put more realistic plans in place and implement them.

2. The emphasis on information and education campaigns to raise awareness on the importance of waste separation at source and recycling led to a substantial increase in the number of recyclable materials collected. MWRP grantees' projects were oriented towards implementing community-based approaches to SWM that harnessed households and small businesses to cooperate with local government waste collection services. CRS, World Vision, Mother Earth, C3MC, and PRRCFI's project with SM Supermalls improved the quality of the plastic waste value chains in their target communities by providing technical assistance and training to a range of public and private sector stakeholders.

3. The projects had a sharp focus on bringing the contributions of the informal waste sector into the local government's mainstream SWM system. Integrating IWCs involved frequent training and support to the IWCs themselves while also working with local government environment officials at the barangay level to plan their SWM operations with the IWCs in mind. The IWCs were important to several projects, including CRS, Mother Earth Foundation, C3MC, and World Vision. The IWCs were recognized as valuable human resources in the local waste collection scheme and for promoting waste separation at the source and a clean environment.

The example from the CRS project in Malabon and Navotas City stands out, as it formed 30 social enterprise waste collection groups and linked them to a cadre of community volunteers ("champions") and barangay staff to secure the participation of ~200 households per social enterprise group in waste separation and the collection of recyclables. This approach allowed the households to earn a small amount from selling their recyclables and the social enterprises to earn a reasonable income from the bulk sale of their recyclables and small household collection fees. The community plastic waste value chain was stimulated through the increased volume of collected recyclable materials among these 6,000 households.

4. The opportunities for developing public-private partnerships in SWM and recycling exist throughout the country, and communities have participated actively in local projects. With the exception of the grant to UGA, all of the MWRP grantees incorporated some element of private sector engagement. The diversity and innovation of the private sector's involvement were impressive. For example, the PRRCI project in Negros with the *Wala Usik* ("no waste") stores provided Nestlé with an opportunity to test whether its new dispensing system was suited for the local market. Additionally, PRRCFI partnered with SM Supermalls in Manila and Bacolod City to disseminate program messaging via videos, posters, digital media, and digital games at 74 malls nationwide, reaching millions of clients each day. The PBE project coordinated the improvements in low-value plastic waste collection in Robinsons Malls with Sentinel Plastics to create a line of upcycling plastic waste bins.
5. There was increased interest in data, dialogue, use of social media, transparency, and publications of research, articles, and studies. The UGA and EcoWaste Coalition projects provided the Manila Bay Task Force with much anticipated data and recommendations that were integrated into its National Plan of Action on Marine Litter and Manila Bay strategy. In addition, MWRP grantees participated in several conferences on solid waste. GAIA prepared case studies on MWRP projects and distributed the information throughout the Asia region and the GAIA global network of 800 organizations.

4.3 Sri Lanka

The situation with SWM and plastic waste recycling in Sri Lanka has been closely linked to the national government's recent legislative initiatives to regulate plastic use in the country. The seven MWRP grants in Sri Lanka tested several community-based approaches that emphasized both collection and reduction and worked closely with community residents and their

grassroots organizations. The flagship grants in Sri Lanka with the Ceylon Chamber of Commerce and Public Interest Law Foundation established a close working relationship with key national government ministries to improve the legal and regulatory framework for SWM and develop an extended producer responsibility (EPR) roadmap.

Note the following performance data for Sri Lankan grantees for the individual program MEFs:

Direct and Indirect Beneficiaries

In Sri Lanka, there were a total of 545,000 direct and indirect beneficiaries. Sevanatha had 221,000 direct beneficiaries due to its extensive work to increase community awareness of SWM practices and its activities connected community recycling operations with SWM service providers. The two SLCDF projects in the South in the Galle and the north in Jaffna have a combined ~180,000 direct beneficiaries. Janathakshan recorded ~18,000 direct beneficiaries and ~37,000 indirect beneficiaries. The private enterprise Lanka Upcycles with its project WasteLess Arugam Bay recorded less than 2,000 direct beneficiaries but had ~50,000 indirect beneficiaries.

Sri Lanka	# Direct Beneficiaries	# Indirect Beneficiaries
Sevanatha	221,400	24,600
SLDF Galle	89,000	26,562
Janathakshan	17,872	36,600
Lanka Upcycles	1,805	50,000
SLCDF Jaffna	93,000	73,548
PILF	5,000	600
CCC	5,000	600
Sub-total	433,077	212,510

MEF-I: Metric Tons (MT) of Plastic Waste Diverted from the Environment

For MEF-I, the Sevanatha project diverted more than 1,450 MT of plastic waste from the ocean by collecting and treating the waste and then recycling and/or disposing of it in sanitary landfills. Sevanatha also diverted 60 MT of plastic waste through successful waste reduction efforts. Sevanatha achieved this by supporting the launch of five private waste collection centers following the Indonesian waste bank model. The SLCDF projects in Galle and Jaffna collected and treated 617 MT and 225 MT, respectively. Janathakshan reported that its public awareness campaigns and engagement with supermarkets, hotels, and ports resulted in 174 MT of plastic waste collected and treated and 27 MT in waste reduction. The impact of the two legal projects by CCC and PILF will be felt in the future when government regulations go into effect regarding the use and manufacturing of single-use plastics and the recovery of packaging materials.

Sri Lanka	#MT collected/ recycled	#MT reduction/ others
Sevanatha	1,454	60
SLDF Galle	617	201
Janathakshan	174	27
Lanka Upcycles	6	0
SLCDF Jaffna	225	13
PILF	0	0
CCC	0	0
Sub-total	2,476	301

MEF-2: Number of Innovations

Sri Lanka	Innovative approaches	Innovative tech.	New laws, policies & regs	New PPP, agreement signed
Sevanatha	1	2	1	3
SLCDF Galle	4	0	3	4
Janathakshan	3	0	0	7
Lanka Upcycles	2	1	0	3
SLCDF Jaffna	6	0	6	1
PILF	2	0	1	0
CCC	2	0	0	6
Sub-total	20	3	11	24

For MEF-2, SLCDF was the grantee with the most innovations, although all Sri Lanka projects introduced novel approaches. SLCDF Galle developed a centralized “self-help solid waste collection and recycling project” and selected six community-based organizations as its partners to manage on-the-ground fieldwork. SLCDF Jaffna focused on training and developing multi-sectoral advisory groups to address SWM planning deficiencies. Lanka Upcycle’s investment in an original education center and upcycling and plastic bottle collection led to significant reductions in the use of plastic bottles by tourists in Arugam Bay. Janathakshan worked closely with many private sector companies to put waste reduction strategies into place.

MEF-3: Number of Public Awareness, Training, and Technical Assistance Hours Provided in Municipal SWM

For MEF-3, SLCDF-Galle delivered ~139,000 public awareness hours, representing 23% of all MWRP achievements for this component. SLCDF accomplished this through partnerships with six CBOs, who taught community residents how to separate waste at the source. The CBOs taught residents how to use organic waste to compost, collect, and sell recyclable plastic waste, working with local IVCs and local authorities. Galle municipality agreed with SLCDF to haul the residual waste to the regional sanitary landfill. Sevanatha’s community development team was successful in raising awareness on SWM/recycling through many public events. For training, SLCDF used a training-of-trainers approach to reach a large number of people in a short period. Technical assistance to public and private sector employees was practiced by the two SLCDF projects, Janathakshan and PILF.

Sri Lanka	Public awareness	Training	Technical assistance
Sevanatha	85,806	2,856	0
SLCDF Galle	138,649	8,016	2,559
Janathakshan	1,486	6,872	817
Lanka Upcycles	3,654	3,321	62
SLCDF Jaffna	28,274	44,654	717
PILF	5,480	1,636	522
CCC	75	865	0
Sub-total	263424	68220	4677

Sri Lanka	Behavior change HHs & establishment
Sevanatha	20,369
SLCDF Galle	24,250
Janathakshan	4,468
Lanka Upcycles	177
SLCDF Jaffna	20,237
PILF	0
CCC	0
Sub-total	69,501

MEF-4: Number of Households and Commercial Establishments that Started Waste Separation at the Source

For MEF-4, SLCDF had two grants that performed very well. SLCDF topped the Sri Lanka list with households and establishments that started to separate waste at the source to enable recycling of recyclables and obtain clean compost from organic waste. SLCDF had 24,250 households and businesses in Galle and 20,237 households and businesses in Jaffna. Sevanatha in Dehiwala-Mt.Lavinia saw behavior change in more than 20,000 households and businesses that resulted in waste separation at the source. Janathakshan's project also changed behavior in almost 4,500 households and businesses.

MEF-5: Number of Jobs Created

For MEF-5, Sevanatha's project led to the creation of 553 new jobs (55% women) by engaging with IWCs. Sevanatha sought to improve the IWCs' operations by linking them to large-scale buyers to generate more income from recycled materials. In collaboration with the Central Environmental Authority (CEA), Sevanatha secured business registrations for selected IWCs, giving them formal recognition in the SWM and recycling system in Dehiwala-Mt. Lavinia. SLCDF Jaffna created 363 jobs (85% women), of which 21 were to produce alternative shopping bags made of cloth and paper to sell to local vendors. These jobs were a result of training 129 women.

Sri Lanka	Jobs created for males	Job created for females	Total
Sevanatha	247	306	553
SLCDF Galle	51	312	363
Janathakshan	19	15	34
Lanka Upcycles	10	1	11
SLCDF Jaffna	0	21	21
PILF	0	2	2
CCC	6	8	14
Sub-total	333	665	998

MEF-7: Number of Individuals Completing Training Events

For MEF-7, the SLCDF-Jaffna project trained 14,463 people (85% women) for at least three hours, by far the largest number of any MWRP grantee. SLCDF used a training-of-trainers methodology to achieve a significant impact. Janathakshan trained 1,600 trainees, SLCDF-Galle trained ~800 people, PILF trained 267 people, and Lanka Upcycles trained 146 people.

Sri Lanka	Men completed training >3	Women completed training >3	Total
Sevanatha	248	523	771
SLCDF Galle	92	802	894
Janathakshan	89	1,498	1,587
Lanka Upcycles	18	127	145
SLCDF Jaffna	2,180	12,283	14,463
PILF	124	143	267
CCC	25	38	63
Sub-total	2,776	15,414	18,190

MEF-8: Number of Females who Obtained a Male-Dominated Job; MEF-9: Number of Females Participating in Decision-Making in SWM; and Youth Engaged in Ocean Plastic Reduction Activities

For MEF-8, the SLCDF- Jaffna project supported the local authorities of Jaffna, Chavakachcheri, Valvettithurai, and Point Pedro to develop SWM plans to promote the improved collection and recycling of plastic waste. This activity resulted in 21 women obtaining traditional male-dominated jobs in SWM/recycling. Sevanatha hired 16 female IEC and outreach employees but found that after some incidents, women should not travel alone and not go alone into houses. Thus, traditional values on gender roles impeded progress in this area.

For MEF-9, however, for women taking on decision-making roles in SWM, the SLCDF projects in Galle and Jaffna had a substantial impact. For youth engagement, substantial opportunities existed in several projects. SLCDF's projects included a component to form youth environment clubs in the schools in both cities. A ~15,000 youths participated in these environment clubs. Several other grantees also had school education components.

Sri Lanka	Women obtained male-dominated job	Women participating in decision-making	Youth engaged
Sevanatha	1	8	13,217
SLDF Galle	6	80	11,727
Janathakshan	3	15	1,500
Lanka Upcycles	0	0	1,436
SLCDF Jaffna	21	196	3,303
PILF	0	0	172
CCC	0	0	50
Sub-total	31	299	31,405

Trends in Sri Lanka:

Sri Lanka saw rapid increases in urbanization, industrialization, and tourism following the end of the country's long civil war in 2009. While the country enjoyed advantages in economic growth, this development came at a cost, particularly with regards to coastal pollution, which increased over the past few decades. Scientific estimates showed that Sri Lanka contributed up to 640,000 MT of ocean plastic waste annually.⁷ The mismanagement of the increasing amounts of solid waste and an insufficient number of disposal sites led to a growing volume of plastic waste discarded near or in the waterways, ultimately finding its way into the ocean. Household and business waste separation at the source in Sri Lanka was inconsistent in practice, and the booming tourism industry added to the complexity of dealing with local waste generation. The Ministry of Environment and Natural Resources headed policy-making and planning in SWM. The Central Environmental Authority directed and monitored local authorities ultimately responsible for implementing SWM plans in Sri Lanka. The Government of Sri Lanka (GoSL) developed the National Policy on Solid Waste Management in 2007, followed by the National Solid Waste Management Strategy to cover a period of ten years. Some EPR legislation was passed in 2017 but not implemented due to strong resistance from the private sector. In August 2021, the GoSL launched the National Action Plan on Plastic Waste Management.

The GoSL recognized the importance of addressing ocean plastic pollution in the country and welcomed two USAID-funded MWRP grantees (CCC and PILF) to improve the national legal and regulatory framework. The country's SWM sector operates in a disorganized manner with significant confusion over what authority the local governments have in passing, implementing, and enforcing SWM regulations. More attention is needed to clarify the roles of local authorities to design and test new approaches for community-based SWM/recycling, and improve cost recovery for government waste collection and treatment activities. The following information, below, details trends in Sri Lanka:

- I. The Government of Sri Lanka is actively pursuing legal and regulatory reforms that will overhaul dramatically how plastic and plastic waste is handled in the country. The centerpiece for the current government's attention is the formulation of EPR legislation. In Sri Lanka, MWRP selected two legislative/research projects that would work with national government agencies on an EPR policy and address gaps in the country's legal framework for SWM, recycling, and plastic waste.

The CCC successfully mobilized support to create a multi-sectoral Stakeholder Committee comprised of representatives from the public sector, private sector, and civil society to develop an EPR roadmap to encourage the sound management of post-consumer plastics. CCC coordinated the preparation of several technical studies to inform the deliberative process and help identify viable approaches. In early 2021, the national government environmental agencies, major companies, and private sector trade groups reached a consensus on a practical, implementable EPR model. With ongoing support from CCC, the EPR Steering Committee will develop a national EPR policy and legal framework and

establish an EPR operating structure. PILF provided technical assistance to a dozen government agencies through its research activities, producing a Legal Review that identified the need for revisions in the existing laws as well as omissions/gaps. The subject of regulating the use of microplastic beads in consumer cosmetic and household products was brought to the attention of government officials by PILF's research and reporting.

In northern Sri Lanka, SLCDF-Jaffna facilitated the preparation and implementation of four integrated, participatory Solid Waste Management Plans in collaboration with the four local governments supported under the project. SLCDF also worked with local governments to establish functional multi-stakeholder advisory groups around SWM and recycling and encourage safe disposal and recycling options for plastic waste. Four steering committees were formed to coordinate the training of community representatives on the 3Rs. The steering committees strengthened the relationship between the communities and government officials through organizing SWM-related public events.

2. The plastic waste value chain improved as a result of increased quantities of recyclable materials being collected and improved separation of waste at the household and establishment levels. Five projects (Sevanatha, Janathakshan, Lanka Upcycle SLCDF Galle, and SLCDF Jaffna) addressed the value chains of recyclables in their communities through intensive technical assistance to stakeholders. Lanka Upcycles attracted the largest national recycler to come to the east coast to pick up and transport large quantities of PET bottles collected from tourism sector businesses and the local government landfill.
3. The projects promoted acceptance and recognition by communities, governments, and the private sector of IWCs as valuable participants in local waste collection and recycling. Sevanatha's project team realized that the IWCs' status was questioned in Dehiwala-Mt. Lavinia and needed to be formalized. Sevanatha's advocacy led to official recognition by the local authority's environmental division. SLCDF helped IWCs to become independent SWM social enterprises in 20 villages. In Dehiwala-Mt. Lawinia, Sri Lanka, Sevanatha integrated the Badowita's informal waste collectors into a city-operated recycling center and trained them in equipment operation.
4. Sri Lankan MWRP grantees promoted public-private partnerships, both in legislative matters and via city SWM platforms that integrated community residents. In Colombo, Coca-Cola supported grantee Sevanatha in community-level initiatives in waste separation, including setting up collection bins for PET bottles and training people engaged in recyclable waste collection activities. Coca-Cola donated collection bins in numerous schools to promote recycling. In Arugam Bay, the Lanka Upcycles social enterprise collected 325,000 PET bottles from a group of tourism service operators and sold them to a large national recycling firm, Beira Enviro Ltd., for transformation into thread use for bags and garments.

Interest increased in data, dialogue, (social) media use, transparency, and publications studies and research. CCC project provided funding for comprehensive, independent technical studies requested by the Multi-Stakeholder Committee during preparatory work on the EPR roadmap. PILF's Law Review was the first of its kind to address SWM and plastic consumption, identifying inconsistencies and gaps in existing legislation.

4.4 Vietnam

The first two projects in Vietnam started in October 2017, with the last one more than one year later. The average grant amount of the eight projects was \$186,500 with the average project implementation period of 28 months. The COVID-19 travel and meeting restrictions in Vietnam were shorter than in the other three countries, but closures –once imposed- were fiercer than in Sri Lanka, Indonesia, or the Philippines.

Note the following performance data for Vietnamese grantees for the individual program MEFs:

Direct and indirect Beneficiaries

The *Environnement et Développement du Tiers-Monde* (ENDA-Vietnam) worked with 2,650 IWCs, reaching more than 1.5 million direct beneficiaries and 1.25 million indirect beneficiaries.

ENDA's project outreach was extensive in Ho Chi Minh City, Vietnam's largest city (almost nine million residents) because the IWCs covered approximately 60% of the city's neighborhoods. The other MWRP grantees in Vietnam, such as MCD, GreenHub, GreenViet, and CECR, operated in much smaller urban areas and tended to focus on only a few target communities to test and demonstrate specific SWM/recycling approaches.

Vietnam	# Direct Beneficiaries	# Indirect Beneficiaries
ENDA	1,592,000	1,250,000
CECR	285,000	230,000
GreenHub	350,000	800,000
CSRD	15,640	16,000
WWF-Vietnam	29,137	35,000
MCD Ha Long Bay	111,036	119,409.5
MCD Nam Dinh	111,321	131,000
GAIA/GreenViet	18,000	7,600
Sub-total	2,512,134	2,589,010

MEF-I: Metric Tons (MT) of Plastic Waste Diverted from the Environment

For MEF-I, ENDA collected close to 3,000 MT of recyclable waste. Multiple factors drove this high number, including working with 2,650 independent waste collectors, increasing public awareness of SWM at the household level, and providing technical assistance to the local government. Several MWRP grantees achieved substantial amounts of collected/recycled waste, mostly through community-based activities that emphasized waste separation at source and integration with the local plastic waste value chain. Besides ENDA, MCD achieved success in promoting recycling as did the community-based approaches of CECR, GreenHub, and WWF.

Vietnam	# MT collected/ recycled	# MT reduction/ others
ENDA	2990	0
CECR	245	0
GreenHub	283	16
CSRD	10	0
WWF-Vietnam	261	52
MCD Ha Long Bay	835	0
MCD Nam Dinh	427	0
GAIA/GreenViet	46	0
Sub-total	5,097	68

MEF-2: Number of Innovations

For MEF-2, ENDA supported IWCs in policy advocacy resulting in six new policies, laws, or regulations. The most impactful regulation was the Ho Chi Minh City District People's Committee's passage of Decision 38, which effectively doubled the monthly household waste collection fee from 25,000 VND (~\$1.00) to 48,000 VND (~\$2.00), created an IWC cooperative network in HCMC and expanded relationships with IWCs in other Vietnamese cities. An agreement was signed by GreenHub with the Women's Union of Ha Long to improve SWM and recycling in several wards. The women's union groups were trained to separate high-value plastic waste for resale and reuse plastic advertising panels and brick wrappers to make shopping bags. The Women's Union of Ha Long and the Women's Union of Cat Hai came together to sign

Vietnam	Innovative approaches	Innovative technology	New laws, policies & regs	New PPP, agreements signed
ENDA	1	1	6	4
CECR	1	1	2	2
GreenHub	4	1	7	5
CSRD	1	0	0	0
WWF-Vietnam	1	1	1	5
MCD Ha Long Bay	1	1	0	3
MCD Nam Dinh	1	2	1	2
GAIA/GreenViet	0	0	3	4
Sub-total	10	7	20	25

a memorandum of understanding to coordinate SWM activities. MCD introduced and tested an innovative design using indigenous materials for river waste traps in Nam Dinh. With support from the District People's Committee in Phu Quoc, WWF-Vietnam organized a public-private Solid Waste Platform that attracted the participation of 20 large tourism enterprises.

MEF-3: Number of Public Awareness, Training, and Technical Assistance Hours Provided in Municipal SWM

For MEF-3, the Centre for Social Research and Development (CSRD) project had three objectives: 1) raise student and community awareness of the negative impacts of plastic waste on the environment, 2) change waste management practices through innovative measures to reduce plastic pollution, and 3) change community behavior related to waste treatment and handling to protect the ocean. To achieve those results, CSRD needed to engage in substantial public awareness and training hours in schools. The CECR project sought to address weaknesses in the city's SWM system in Da Nang City, encourage community residents to separate their household waste, and increase the volume of collected recyclable waste materials, which resulted in 17,000 hours of training conducted and 21,000 hours of public awareness.

Vietnam	Public awareness	Training	Technical assistance
ENDA	28,166	2,441	7,280
CECR	21,000	17,000	922
GreenHub	10,214	4,253	180
CSRD	42,240	15,600	200
WWF-Vietnam	32,094	1,500	511
MCD Ha Long Bay	7,061	1,473	2,646
MCD Nam Dinh	7,326	2,691	3,182
GAIA/GreenViet	8,352	1,840	1,697
Sub-total	156,453	46,798	16,618

MCD's two projects were limited geographically and demographically to relatively small areas, which resulted in relatively modest public awareness training hours. However, the nature of MCD's technology interventions in Nam Dinh and Ha Long Bay led to substantial technical assistance activities to local individuals and groups.

MEF-4: Number of Households and Commercial Establishments that Started Waste Separation at the Source

For MEF-4, most of the grants in Vietnam focused on changing behaviors to encourage community residents to separate their household waste, and the grantees achieved excellent results. ENDA through its work with IWCs was able to change the behavior of more than 33,100 households and establishments. CSRD and WWF-Vietnam worked in schools, which also helped to promote waste separation at source at the household level.

Vietnam	Behavior change HHs & establishment
ENDA	33,112
CECR	21,111
GreenHub	13,934
CSRD	3,930
WWF-Vietnam	4,127
MCD Ha Long Bay	27,759
MCD Nam Dinh	19,364
GAIA/GreenViet	2,150
Sub-total	125,487

MEF-5: Number of Jobs Created

Vietnam	Jobs created for males	Jobs created for females	Total
ENDA	216	222	438
CECR	0	8	8
GreenHub	16	120	136
CSRD	0	1	1
WWF-Vietnam	16	10	26
MCD Ha long bay	1	2	3
MCD NamDinh	7	8	15
GAIA/GreenViet	0	0	0
Sub-total	256	371	627

For MEF-5, ENDA assisted independent waste collector (IWC) groups in Ho Chi Minh City (population 9 million) with skills training, organizational development, access to basic services, and advocacy for supportive government solid waste management (SWM) policies. The IWCs operate throughout the city in hard-to-reach alleyways, transporting garbage to the Ho Chi Minh City Urban Environment Company (CITENCO) transfer stations—a state-owned waste collection company. IWC income comes from fee-for-services paid by households and businesses and the sale of recyclable waste materials to local buyers. ENDA focus on was on supporting and expanding IWCs participation throughout Ho Chi Minh City (HCMC). As noted

earlier, the other Vietnamese grantees' projects had a narrow geographic and demographic focus, resulting in fewer opportunities to impact job creation.

MEF-7: Number of Individuals Completing Training Events

Vietnam	Men completed training >3	Women completed training >3	Total
ENDA	306	1,070	1,376
CECR	112	5,655	5,767
GreenHub	198	902	1,100
CSRD	0	4,161	4,161
WWF-Vietnam	85	89	174
MCD Ha long bay	663	705	1,368
MCD Nam Dinh	720	1,038	1,758
GAIA/GreenViet	151	271	422
Sub-total	2,235	13,891	16,126

For MEF-7, all grantees had similar results under this MEF. CSRD's project had three objectives: 1) raise student and community awareness of the negative impacts of plastic waste on the environment; 2) change waste management practices through innovative measures to reduce plastic pollution; and 3) change community behavior related to waste treatment and handling to protect the ocean. The main challenge that DIG reported with regards to this MEF was that grantees often targeted women for training on household waste segregation, largely because women are already the ones responsible for household waste management across Asia (and much of the world) and are more responsive to this issue. Targeting only women risks entrenching stereotypes and expectations that

women exclusively manage the voluntary aspects of waste management, which can undermine their role in remunerated waste management jobs. Furthermore, grantees are not necessarily aware that targeting women for waste management that may not result in paid opportunities or improved work conditions may run counter to a gender-sensitive approach as it may increase women's labor burden and contribute to time poverty. When initially reporting on this gender MEF, some grantees only recorded the number of women involved in the training activity. Such was the case for CSRD (which recorded only female participants in trainings).

MEF-8: Number of Females who Obtained a Male-Dominated Job; MEF-9: Number of Females Participating in Decision-Making in SWM; and Youth Engaged in Ocean Plastic Reduction Activities

For MEF-8, ENDA and GreenHub were very successful, making up 94% of MEF total. This high number is almost entirely the result of the leveraged status of IWCs, which made jobs more accessible for women (in the past, women were a minority among the IWCs in the project areas). For MEF-9, CECR in Danang facilitated 458 women to become local decision-makers when the grantee decided to collaborate with the Women's Union to mobilize the projects via mini-neighborhoods to achieve a "clean house, clean street, clean hamlet." In addition, GreenHub, WWF, GreenViet, and the two MCD projects facilitated the empowerment of 158 new female leaders in neighborhoods making these women responsible for

Vietnam	Women obtained male-dominated job	Women participating in decision-making	Youth engaged
ENDA	375	10	7,722
CECR	8	458	2,000
GreenHub	290	42	2,592
CSRD	1	8	10,000
WWF-Vietnam	23	58	11,001
MCD Ha long bay	2	13	102,043
MCD Nam Dinh	0	16	15,747
GAIA/GreenViet	10	29	395
Sub-total	709	634	151,500

markets and other important SWM locations. For the youth component of MWRP, WWF and the Centre for Social Research and Development (CSRD) conducted school-based IEC campaigns to raise the awareness of students, teachers, and administrators on the public health, environmental, and biodiversity risks of oceanic plastic pollution. CSRD worked with students and school administrators to install trash bins on the school grounds to separate waste generated in the school cafeteria and classrooms. Student environmental clubs worked with CSRD to organize school competitions to produce learning materials (e.g., flyers and posters) on waste classification. The project's focus on motivating students to handle their plastic waste properly at school had a ripple effect, impacting the behavior of their household members.

Trends in Vietnam

Vietnam has experienced rapid urbanization and industrialization in the last twenty years. Despite the increasing waste generation, Vietnam lacked the financial resources to adequately equip and build SWM facilities and faced issues with waste collection, transport, treatment, and disposal in urban areas. There is minimal waste separation at the source, making recycling a serious challenge. Waste is disposed of in open dumping sites and sanitary and unsanitary landfills. Vietnam generates about 730,000 MT of waste annually. Environmental management and SWM are the responsibility of the Ministry of Natural Resources and Environment (MONRE). The national government heavily subsidizes the public sector-owned companies handling solid waste collection and landfill operations, although some private sector recycling companies are involved in SWM.

MONRE recognized that MWRP's grants would complement the national government's SWM priority areas, although program activities would interact almost exclusively with local and provincial governments. The tight control by the government of SWM and the existence of a structured institutional landscape offer attractive opportunities for mobilizing citizen support. The Vietnamese grantees were successful in securing high levels of cooperation from the local governments throughout project implementation. As a testimony to the quality of their work, MONRE and the Vietnam Administration of Seas and Islands requested the inputs of several MWRP grantees during consultation on the development of the National Action Plan on Marine Plastic Debris Management.

- I. At the national and local levels, the Vietnamese government is taking action to improve SWM, recycling, and reduction in plastic waste. This has included policymaking, directives to improve cost recovery, and approving national action plans and laws. MWRP was allowed to work freely with the selected Vietnamese grantee organizations to implement projects to decrease the leakage of plastic waste into the marine environment. USAID and DIG representatives were allowed to accompany Vietnamese counterparts into governmental buildings with advance permission. Meetings with local or national environmental authorities were relaxed, and topics on plastic waste and reaching out to the communities could be discussed openly.

Through the advocacy work of ENDA and the Ho Chi Minh City IWC cooperative network, long-term, intensive advocacy efforts with government environment officials in Ho Chi Minh City resulted in milestone decisions to establish reasonable SWM service

collection fees for IWC – leading to an increase in IWC incomes over the prior three years by 60%. Grantee CECR co-sponsored forums with the Da Nang DONRE to develop project strategies for implementing new SWM and recycling approaches.

2. The emphasis of the grantees' project on improved waste separation at the source contributed to improvement in the plastic waste value chain in several cities. The training and community education and information campaigns of ENDA, CECR, MCD, WWF, GreenHub, and GreenViet resulted in increased collected plastic waste. The emphasis on women's participation through the women's union groups motivated thousands of households to participate actively in waste separation and recycling activities. The funds raised from selling recyclable plastics and other materials were used to finance community projects or assist indigent families.
3. The important role of the IWCs in the city SWM system was accepted by community residents, local governments, and the private sector. ENDA worked with more than 2,000 IWCs in Ho Chi Minh City, helping them organize IWC cooperatives and advocate for fair treatment and household collection fees. ENDA provided trainings to support the institutional development of the IWC cooperatives and the startup of a city Alliance of IWC cooperatives. The IWCs are integrated into the Ho Chi Minh City SWM system, with full recognition from city environmental authorities. They are responsible for collecting waste from households and small businesses located in hard-to-reach areas. The IWC cooperative network leaders meet regularly with city government environmental officials to discuss better working conditions and more equitable SWM fees. The recycling sector in Da Nang, where CECR operated, primarily consisted of: (i) informal waste collectors who performed preliminary sorting before selling materials to junk shops for resale to wholesalers; and (ii) private workers from the Urban Environment Company who separated plastics during their regular collection rounds. The role of IWCs was central to the success of CECR's project.
4. The program demonstrated benefits from the increased participation of public-private sector partnerships in SWM and recycling. SWM committees and platforms were formed, and private companies were included in discussions. WWF-Vietnam worked together with the Phu Quoc Peoples' Committee to establish a public-private partnership model (SWM Platform) to promote effective government SWM policies, management of solid waste, and to minimize plastic waste leakage into the surrounding marine environment. The Phu Quoc SWM Platform comprised public sector, tourism sector, and civil society representatives and secured commitments from 40 tourism businesses (hotels, tour operators) to reduce their plastic footprints. Other grantees that benefited from private sector participation in their projects include CECR, ENDA, GreenHub, and MCD (Ha Long Bay).

Projects increased their use of public forums, dialogues, use of social media (particularly during the COVID-19 pandemic), and benefited from technical studies. Grantees publicized their project activities through traditional media channels, using radio, newspapers, and internet websites. WWF-Vietnam conducted a comprehensive survey of the island's solid waste

collection operation and provided data and recommendations to local authorities for investment and changes to the existing SWM system.

5 RECOMMENDATIONS

5.1 Recommendations for Future USAID Programming

For the purpose of MWRP, we defined monitoring and evaluation as follows when we launched the program:

- *Monitoring: a way to audit and verify the accuracy of grantee reporting and confirm that USAID funding is being used for the intended purposes.*
- *Evaluation: measures grantee performance or impact of results toward established impact indicators (hereafter called “M&E factors” or MEFs).*

Based on the MWRP experience, we recommend that **Contractors ensure that grantees understand the difference between monitoring and evaluation.** This can be done by including language in an Annual Program Statement (APS) and explaining these concepts in workshops for potential grant applicants. It is critical for Contractors to develop standardized monitoring and evaluation tools for grantees’ projects that are separate from the indicators used to measure the performance of USAID’s Contractor. Having a program indicator that is similar to a MEF (for instance, the number of SWM policies) may create confusion, so we recommend having the program indicators be clearly distinct from the MEFs used to measure grantee performance.

Contractors should use a variety of means to monitor and evaluate grantees’ performance, including conducting scheduled and unscheduled site visits of activities, reviewing grantee reports, and evaluating ongoing and end-of-activity results. Grantees should be required to report on standardized MEFs which are sufficiently generic to be applicable to most or all grantees, for instance, number of metric tons of plastic diverted from the environment. The Contractor should also design a **MEF tracking tool to help grantees report MEF data in a systematic manner.**

M&E activities conducted both by the Contractor and grantees require careful planning, robust training, and unwavering discipline. M&E should include the following steps:

1. During the Contractor’s first visit to the grantee’s project location (during a Pre-Award Survey and Risk Assessment), the Contractor and grantee should identify which MEFs would be relevant to monitor and evaluate based on the nature of the grantee’s proposed project.
2. Grantee should set indicative targets for each selected MEFs in a proposed implementation plan, to be approved by Contractor.
3. Upon signing of the grant agreement, the Contractor should adequately train the grantee on M&E terminology, MEF definitions, the use of M&E instruments (such as EpiCollect5), the Contractor’s MEF templates, data collection methodologies, verification, and data recording. One of the outputs of this process would be for the grantee to complete a “MEF performance sheet” or “Performance Indicator Reference

Sheet” that would be reviewed by the Contractor for approval. The sheet should describe: (i) the MEF’s precise definition, unit of measure (e.g., kilogram), data type (e.g., integer); (ii) the plan for data collection including the data source, method of data collection and/or construction, reporting frequency, and the individuals who are responsible for this task; (iii) any known data quality issues; and (iv) the date of the last update of the form. The grantee, whenever possible/appropriate, should be requested to collect sex and age disaggregated data.

4. A first step in the grantee’s M&E process should be for the organization to conduct an initial survey to collect baseline data against which project progress can be measured. In some instances, the nature of the grantee project activities may not warrant the undertaking of a baseline survey.
5. After the baseline survey, the grantee should submit to the Contractor a project implementation plan, in which there is an implementation timeline, selected local partners and stakeholders, and a final set of relevant, measurable MEFs with final targets established. The implementation plan should describe the current municipal solid waste management (MSWM) scheme, including collection and treatment methods, quantities, and projections of the impact of the newly developed SVM scheme.
6. The Contractor should discuss the implementation plan with the grantee and approve the final document. The Contractor’s national staff (e.g., country liaison officer) should be available to provide technical assistance on M&E to the grantee staff.
7. Each grantee should collect, verify, and record data for the project MEFs and, on a quarterly basis, submit MEF data to the Contractor with quarterly programmatic reports. The review of quarterly programmatic reports helps the Contractor determine project progress; conformance of project staffing with the approved grant application and agreement; compliance with USAID norms, standards and general provisions; and abidance by any special conditions in the grant agreement.
8. The Contractor should verify the grantee’s recording of MEF data during a mid-term evaluation and at project close-out. During these field visits, the Contractor should meet with other organizations and stakeholders involved in the program (e.g., local or national government entities) to help verify MEF results and check the accuracy of statements and claims made by the grantee. These meeting would also help the Contractor gather qualitative information regarding the grantee’s performance. Such triangulation helps increase data accuracy and obtain a more holistic picture of how well a grantee is performing.
9. The Contractor should check the grantee’s M&E database and verify that collected data are correct, complete, timely collected, and recorded accurately.
10. The Contractor should upload collected data to a Program database (DIG developed a tailor-made database under MWRP).
11. The Contractor should report to USAID progress on/results of grantee MEFs in its programmatic reports to USAID.

The following are specific M&E issues to keep in mind:

- a. Direct and indirect beneficiaries. The Contractor should periodically (e.g., on a yearly basis) ensure that grantees continue to understand the definitions of and distinction between direct and indirect beneficiaries and if the project area and the beneficiaries are still identical to when the project started.

- b. “Plastic waste diverted from the environment” could be a result of collecting and treating⁸ plastic waste or of legislation. There should be a distinction in measuring and reporting between the two approaches.
- c. Newly introduced approaches or technologies may require sub-categories such as policies and laws, SWM plans, signed agreements, private sector engagement, public-private partnerships, etc.
- d. Technical assistance could be a sub-category of capacity building, which could also include training and information, education and communication campaigns.
- e. Capturing data on behavior change could include waste separation at source, voluntary refusal of accepting single-use plastics, or a reduction in consuming plastic materials.
- f. The Contractor should provide gender orientation training to grantees when a grant is approved so that grantees understand that men, women, boys, and girls need to be targeted in waste sensitization. It’s important for grantees to be aware of the risk of inappropriately targeting women, which can result in increasing unpaid work on women.

When tracking the employment of women versus men in the solid waste management sector, beyond measuring the number of jobs obtained by a specific sex, the Contractor can gain additional insights into the economic empowerment of women in the sector by asking grantees to track women’s earnings in comparison with the earnings of men in the same role, and any changes in these incomes that result from the project intervention.

ANNEX I: MONITORING & EVALUATION PERFORMANCE SHEETS

Measuring MWRP Monitoring & Evaluation Factors (MEF) Performance Sheets

USAID MEFs Performance Sheet	
Name of Indicator:	Number of direct beneficiaries and indirect beneficiaries who benefited from the USAID-funded Municipal Waste Recycling Program (MWRP)
DESCRIPTION	
Precise Definition(s):	<u>Direct beneficiaries:</u> Individuals residing in the grantees' project target areas who are directly engaged in MWRP activities and, as a result, have received improved solid waste/recycling services; improved their awareness of solid waste management (SWM) issues (including ocean plastic pollution); and/or received training on SWM solutions. <u>Indirect beneficiaries:</u> Individuals benefiting from MWRP activities either in or beyond the grantees' project target areas but who are not directly engaged in program activities. Indirect beneficiaries include neighboring community members who have observed the effects of SWM trainings or community awareness campaigns, and who are in the process of adopting the new practices or methodologies themselves; neighboring rural/coastal populations benefiting from improved SWM in the target areas; and community members not living in MWRP target areas but residing in the vicinity of these areas and who have improved access to recyclers and/or cleaner coastal waters, river banks, and/or other environments.
Unit of Measure:	Number (individual)
Data Type:	Integer
PLAN FOR DATA COLLECTION	
Data Source:	DIG, grantees, and local authorities jointly estimated the number of beneficiaries in project locations in each country using: 1) the Wikipedia website, as instructed by USAID's Bureau Environmental Officer, to obtain the most recent city and city sub-division population census numbers; 2) local authorities to obtain neighborhood statistics, specifically by reaching out to the city's Solid Waste Management unit/department director. Data was subsequently checked verbally with grantees' project directors and M&E staff.
Method of Data Collection and Construction:	Using a combination of quantitative (official statistics) and qualitative data, <u>direct beneficiaries</u> include a calculation of the following: individuals directly engaged in MWRP activities and who, as a result, have received improved solid waste/recycling services; improved their awareness of SWM issues (including ocean plastic pollution); and/or received training on SWM solutions. Ideally, this data should be checked during in-situ visits, but the data can also be obtained and discussed remotely as an alternative during travel restrictions. DIG looked at all data provided by grantees (e.g., # of households separating waste at source, training attendance sheets, public awareness activities, etc.) to determine, on a case-by-case basis, the number of people who are directly benefiting from the activities. Next, the program's Chief of Party and DIG's Vice President for Technical Services discussed the numbers with each grantee, focusing notably on the formula used to reach the total number of beneficiaries, and allowing the grantee's project director to calibrate that formula if needed. The number was inputted into the MEF database on a yearly basis. Examples: In the case of awareness campaigns conducted in schools, this indicator captures students targeted by the campaign and their family members living in the project's target area.

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Using a combination of quantitative (official statistics) and qualitative data, indirect beneficiaries include a calculation of the following: neighboring community members who have observed the effects of SWM trainings or public awareness campaigns, and who are in the process of adopting the new practices or methodologies themselves; neighboring rural/coastal populations benefiting from improved SWM in the target areas; and community members not living in MWRP target areas but who are in the vicinity of these areas. In addition to the steps used to calculate direct beneficiaries (described above), calculating indirect beneficiaries requires one additional step: asking authorities if activities have been replicated beyond the project area. For instance, if individuals residing beyond the project area have started selling more recyclables and doing so can be traced to the program, those individuals are counted as indirect beneficiaries. Tracking indirect beneficiaries enables the capture of a project activity's ripple effects into communities beyond the target area. For instance, in the case of public awareness activities, it is useful to capture the number of families changing their behavior even though they are not directly targeted by the activities. This may occur when a public awareness campaign is conducted for students in a specific school but affects students in a neighboring school outside of the project's target area because of student interactions in adjacent neighborhoods.

Reporting Frequency: Annual basis

Individual(s) Responsible: MWRP grantees

DATA QUALITY ISSUES

Known Data Limitations: The data accuracy depends on the accuracy of Wikipedia and of the government's population numbers, as well as of MWRP's grantees' ability to calculate who falls under direct vs indirect beneficiaries. Grantees' ability to keep good records of attendance may affect data quality. Finally, data quality increases when staff members in charge of calculating beneficiaries stay throughout the program duration, since calculating data is partly based on judgement.

THIS SHEET LAST UPDATED ON: September 2021

MEFs Performance Sheet

I. Name of the MEF: Number of MT (1,000 KG) of plastic treated (recycled/ reused/ exported/ incinerated) and of plastic reduced. *(Note: the original language for this MEF did not include plastic reduction in the name. That was included to better capture the information reported on under this MEF. For example, GIDKP's work to reduce plastic use by positively influencing policies that regulate plastics).*

DESCRIPTION

Precise Definition(s): Number of metric tons (MT) of plastic waste collected and treated, recycled, incinerated, reused, disposed of in a controlled and officially registered landfill (or other means of disposal acceptable to USAID), or reduced due to regulations on plastic usage.

Unit of Measure: Number of MTs

Data Type: Integer

Disaggregated by: This MEF is disaggregated as follows: 1) Number of metric tons (MTs)⁹ of plastic waste treated (i.e., collected to be recycled, disposed of in a landfill, incinerated, etc.); and 2) Estimate of MTs of plastic waste diverted from the environment and reduced in other ways (via laws and regulations or behavior change) as a result of the program.

PLAN FOR DATA COLLECTION

Data Source: MWRP's primary data source for this MEF is standard program reporting from MWRP grantees. MWRP grantees estimate or collect proof of the amount (in MT) of plastic waste using data from their records, municipalities, and/or private sector actors, such as waste banks, formal or informal waste collectors, and recyclers. Some grantees (e.g., GAIA, Mother Earth Foundation, ENDA) are estimating the amount of plastic waste diverted from the environment using Dr. Jambeck's projection formula: # people living in the coastal area *

⁹ 1 MT is equivalent to 1,000 kilograms (kg).

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waste generation in kgs/cap/day * % of PW in waste composition * % mismanaged waste * 365 days * range of 15-40% of PW in Environment leaking into ocean. DIG checked the grantee records with government statistics, Jambeck's raw data, and information from the internet.

Method of Data Collection and Construction: To ensure consistent reporting, DIG designed an M&E tool, the "MEF tracking template," for grantees to collect data. Under this MEF, DIG approved one of the three methods for each grantee's data collection: 1) use Epicollect5¹⁰ to collect and calculate the amount of waste. Each grantee, based on its operation and collection approach, designs the form in Epicollect; 2) manually record data (from waste banks, municipalities, etc.); or 3) use Dr. Jambeck's projection formula. After discussions, DIG approved the collection method used by individual grantees.

Reporting Frequency: Quarterly. Grantees report on this MEF on a quarterly basis in their quarterly reports submitted to the MWRP team. Grantees record the data in the MEF tracking template.

Individual(s) Responsible: MWRP grantees, with assistance from the MWRP Country Liaison, are responsible for data collection, calculation, and reporting under this MEF. DIG, on a quarterly basis, checked the data before they were reported to USAID in programmatic reports and uploaded to the MWRP database. DIG, on quarterly basis, reviewed the MEFs excel sheet sent by grantees by comparing results achieved in prior months, checking calculation methods, and arranging meetings to discuss results and verify data if needed (e.g., by requesting backup documentation, collection records from waste banks or collectors, or letters from municipalities supporting the reduction). Once the review was completed and the results were approved by USAID, DIG uploaded the data to the MWRP database.

DATA QUALITY ISSUES

Known Data Limitations: Data quality depends on grantees' ability to verify data from informal collectors, waste banks, municipalities, and recycled wholesale shops. This MEF does not capture plastic that is refused by consumers.

THIS SHEET LAST UPDATED ON: September 2021

MEFs Performance Sheet

2. Name of the MEF: Innovations and new approaches to make municipal solid waste management (MSWM) more effective in the project area

DESCRIPTION

Precise Definition(s): This MEF is divided into the following sub-MEF categories: 1) innovative approaches and/or methodologies related to MSWM (including recycling or public awareness) employed by MWRP grantees; 2) innovative equipment and/or technology applicable in MSWM introduced by MWRP grantees; 3) new laws, policies, regulations, or enforcement, and MSWM plans which are positively influenced by MWRP grantee activities; and 4) new public-private partnerships and signed agreements among stakeholders related to MSWM practices facilitated by MWRP grantees.

Unit of Measure: Number

Data Type: Integer

Disaggregated by: Innovations are disaggregated per the four sub-MEF categories

PLAN FOR DATA COLLECTION

Data Source: MWRP's primary data source for this MEF is standard program reporting from MWRP grantees. Grantees use a variety of data sources, including but not limited to documentation of an approach/activity, copy of

¹⁰ Epicollect5 is a mobile & web application data collection that enables users to collect customized data (including location and media) in the field using a mobile device. The user easily collects data on a mobile device using either a form the user created or a pre-designed form. DIG taught grantees to use this tool and DIG designed a tailormade template. <https://five.epicollect.net>

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an agreement, copy of a law/directive, and copy of an SWM plan.
Method of Data Collection and Construction: Grantees record the data collected using the above-mentioned data sources in the MEF tracking template.
Reporting Frequency: Quarterly. Grantees report on this MEF on a quarterly basis in their quarterly reports submitted to the MWRP team. Grantees record the data in the MEF tracking template.
Individual(s) Responsible: MWRP grantees, with assistance from the MWRP Country Liaison, are responsible for data collection, calculation, and reporting under this MEF. DIG, on a quarterly basis, checked the data before the information was reported to USAID in programmatic reports and uploaded to the MWRP database.
DATA QUALITY ISSUES
Known Data Limitations: None.
THIS SHEET LAST UPDATED ON: September 2021

MEF Performance Sheet
3. Name of MEF: Number of technical assistance hours (public awareness, training, and technical assistance) provided in MSWM by MWRP grantees.
DESCRIPTION
Precise Definition(s): This MEF tracks the number of hours for grantee's public awareness, training, and technical assistance provided (hours*number of participants). This MEF is divided into the following three sub-MEF categories: 1) hours of public awareness, an event that brings attention or awareness to MWRP objectives in person or online activity, including big crowds, town hall gathering, or neighborhood gatherings; 2) hours of training events that involve a group of trainees in a classroom setting; and 3) hours of technical assistance provided to city officials or private sector staff on MSWM or recycling, or on passing a new directive or law. This technical assistance can be provided one-on-one or to a couple of participants.
Unit of Measure: Hours (calculated by number of participants*total hours of an event)
Data Type: Integer
Disaggregated by: Sex (male/female) and age (up to age 29 or age 30 and over)
PLAN FOR DATA COLLECTION
Data Source: MWRP's primary data source for this MEF is standard program reporting from MWRP grantees. Data is collected by the grantees conducting the public awareness, training, or technical assistance. Grantees use the following forms to record data and report this MEF: 1) training records (described in the Method of Data Collection and Construction section below). These records are maintained by the MWRP grantee after each training event to ensure that information is organized chronologically and can be easily referenced; and 2) photographs of the event, when possible.
Method of Data Collection and Construction: Attendance or sign-up sheet: For every training or technical assistance event, the grantee provides a trainer(s) with an attendance or sign-up sheet using USAID's standard attendance sheet. Participants use the form with the training title to write the date(s) of the training, their full name, and phone number and check a box for sex (M/F) and age bracket (up to age 29 or age 30 and over). This data is collected after obtaining individuals' consent for collecting personally identifiable information, consistent with local norms. Grantees are responsible for obtaining a copy of the form from the trainer and filing it in an organized and chronological way. Group photos for trainings: Grantees require the trainers to obtain a group photo, when possible, of the training event or public awareness event participants and keep the photo in their records. The MWRP Country Liaison and DIG staff

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conduct spot checks to verify the numbers reported by the grantees in the sign-up sheet match the number of people in the MEFs tracking sheet.
Data construction: To support accurate reporting, the MEF tracking template includes a “Grantee Training Record” sheet that grantees use to track information about all training events conducted and technical assistance (TA) provided with funding from USAID under MWRP. The “Grantee Training Record” includes the following information: country in which the training/TA is conducted; grantee name; training event title; training objective; number/sex/age bracket of participants; and whether the training/ TA has a gender focus.
Reporting Frequency: Quarterly. Grantees report on this MEF on a quarterly basis in their quarterly reports submitted to the MWRP team. Grantees record the data in the MEF tracking template.
Individual(s) Responsible: MWRP grantees, with assistance from the MWRP Country Liaison, are responsible for data collection, calculation, and reporting under this MEF. DIG, on a quarterly basis, checked the data before the information was reported to USAID in programmatic reports and uploaded to the MWRP database.
DATA QUALITY ISSUES
Known Data Limitations: In the event of large public awareness events (such as beach cleanups or town meetings), the number of participants is estimated by grantees. The grantee reports on the PA event in their quarterly reports and describes the events in the MEFs tracking sheet.
THIS SHEET LAST UPDATED ON: September 2021

MEF Performance Sheet
4. Name of MEF: Number of households and establishments that started waste separation or undertook other initiatives that support recycling efforts.
DESCRIPTION
Precise Definition(s): This MEF tracks the number of households and establishments that started separation of waste at source, composting, and reducing their use of plastic or carried out other initiatives to support recycling efforts as part of MWRP. Establishments include shops, offices, schools, workshops, restaurants, hotels, governmental institutions, etc.
Unit of Measure: Number of households or establishments
Data Type: Integer
Disaggregated by: N/A
PLAN FOR DATA COLLECTION
Data Source: MWRP’s primary data source for this MEF is standard program reporting from MWRP grantees. The grantees collect data using different methods depending on their activities. These data sources include, but are not limited to: visits to neighborhoods on waste collection days, surveys such as focus group discussions, questionnaires, interviews with households and establishments to document behavior change after a relevant MWRP activity (e.g., training, public awareness, etc.), observations from municipal staff, information from informal solid waste collectors, increased quantities of recyclables offered to middlemen (MRFs, waste banks, junkshops, etc.), and expansion of recycling activities by the local industry.
Method of Data Collection and Construction: Data is collected using follow-up visits after a training or public awareness event, informal waste collectors’ observations, and municipal records, among others.
Reporting Frequency: Quarterly. Grantees report on this MEF on a quarterly basis in their quarterly reports submitted to the MWRP team. Grantees record the data in the MEF tracking template.
Individual(s) Responsible: MWRP grantees, with assistance from the MWRP Country Liaison, are responsible for data collection, calculation, and reporting under this MEF. DIG, on a quarterly basis, checked

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the data before the information was reported to USAID in programmatic reports and uploaded to the MWRP database.
DATA QUALITY ISSUES
Known Data Limitations: In the case of information, education, and communication campaigns, neighborhood meetings, interviews, school outreach, and other surveys, there is an assumption that the respondent will be truthful in his/her responses.
THIS SHEET LAST UPDATED ON: September 2021

MEF Performance Sheet
5. Name of MEF: Number of jobs created per project (jobs must be held for more than 3 months)
DESCRIPTION
Precise Definition(s): This MEF tracks the number of jobs created as a result of MWRP. To be counted, the individual must hold the job for at least three months.
Unit of Measure: Number of jobs created
Data Type: Integer
Disaggregated by: Sex (male/female)
PLAN FOR DATA COLLECTION
Data Source: MWRP's primary data source for this MEF is standard program reporting from MWRP grantees. The majority of employment related to SWM is from the informal sector. When possible, backup employment documentation is obtained, mainly a copy of the employment contract or a pay slip. In some cases, MWRP played an important role to formalize the jobs of individuals and their recognition with the authorities and communities.
Method of Data Collection and Construction: Attendance or sign-up sheet Grantees and (unions of) informal waste collectors have good estimates of the (growing) number of people starting to work in solid waste collection, haulage, recycling, and disposal. During visits, DIG checked these grantee observations with community leaders and counterparts from the public, private, and civil society sectors.
Reporting Frequency: Quarterly. Grantees reported on this MEF on a quarterly basis in their quarterly reports submitted to the MWRP team. Grantees recorded the data in the MEF tracking template.
Individual(s) Responsible: MWRP grantees, with assistance from the MWRP Country Liaison, are responsible for data collection, calculation, and reporting under this MEF. DIG, on a quarterly basis, spot-checked the data before the information was reported to USAID in programmatic reports and uploaded to the MWRP database.
DATA QUALITY ISSUES
Known Data Limitations: As often is the case with informal jobs and informal basic services, typically there is no employment contract or pay slip to prove date of employment. In these cases, the grantee is ready to provide a signed statement.
THIS SHEET LAST UPDATED ON: September 2021

ANNEX 2: MWRP RESULTS INFOGRAPHIC



What USAID's MWRP Achieved



Diverted plastic waste from the ocean: diverted **20,600 MT** (metric tons) of plastic waste from oceans, of which **10,700 MT** of plastic was recycled and **9,900 MT** of plastic waste was reduced through other reduction approaches



Improved access to SWM and recycling services for over **3.8 million people**, with additional **5.4 million** indirectly benefiting from these services (total of more than 9 million beneficiaries)



Partnered with local government and the private sector: More than **40 local governments** committed to using the improved SWM services initiated by MWRP. Local businesses and organizations signed over **100 agreements** with their governments and MWRP grantees on topics such as single-use plastics, separated waste collection of organics and recyclables, and strengthening the recycling value chain



Strengthened legislation and policies to reduce ocean plastic pollution: over **60 new and improved laws and regulations** that support ocean plastic reduction



Empowered women in the waste management and recycling sector: trained **36,000 women** (78% of all trainees) in SWM and recycling, with over **1,700 women** gaining jobs (63% of jobs created) in the SWM sector



Engaged over 233,000 youth in awareness and learning campaigns to build future generations focused on reducing ocean plastic pollution



Increased recycling and waste segregation in 255,000 households

5 Lessons Learned for Programs to Reduce Ocean Plastic Pollution

Organizing and formalizing the status of informal waste collectors is an effective strategy to mobilize an enormous labor force that can help to recover a larger quantity of recyclables that is also of higher quality, two critical elements in strengthening the recycling value chain. In addition to informal waste collectors, women and youth play critical roles in reducing ocean plastic pollution.

Creating strong partnerships/ linkages between private sector stakeholders and local governments results in a reduction of waste ending up in the (marine) environment.

Enable locally led solutions is critical to addressing ocean plastic pollution at the source.

Awareness raising is only the first step in creating behavior change for the 3Rs (reduce, reuse, recycle). Improving waste separation at the source is crucial to recover cleaner recyclable plastics that are used to manufacture new products.

New policies and regulation around waste must be paired with implementation support.

ANNEX 3: MEF RESULTS PER COUNTRY

	MWRP MEFs for all countries (TOTAL results)	Indonesia	Philippines	Sri Lanka	Vietnam	Total 4 countries cumulative	FY 2021	FY 2020	FY 2019
		9/1/21	9/1/21	9/1/21	9/1/21	9/1/21	Sep-21	Sep-20	Sep-19
A	# Direct beneficiaries	570,859	324,791	433,077	2,512,134	3,840,861	335,224	413,458	3,092,179
B	# Indirect beneficiaries	1,627,420	967,821	212,510	2,589,010	5,396,761	279,701	3,299,723	1,817,337
MEF 1	# MTs plastic waste recycled	2,076	1,069	2,476	5,097	10,719	4,408	4511	1,800
	# MTs plastic waste diverted from environment otherwise	9,508	17	301	68	9,894	6,083	3517	294
	# TOTAL MTs plastic waste diverted from the environment	11,584	1,086	2,777	5,164	20,612	10,491	8,027	2,094
MEF 2	# Innovative SWM approaches adopted	9	17	20	10	56	3	29	24
	# Innovative technologies or equipment adopted	5	3	3	7	18	1	8	9
	# New laws, policies, plans, regs	10	24	11	20	65	14	3	48
	# New PPP, signed agreement	31	17	24	25	97	22	6	69
MEF 3	# Public awareness hours received	72,988	121,106	263,424	156,453	613,971	76,116	144,750	393,105
	# Training hours	26,324	18,387	68,220	46,798	159,729	10,809	1,062	147,858
	# Technical assistance hours received	17,632	3,553	4,677	16,618	42,480	7,077	23,201	12,202
MEF 4	# Households/Establishments starting support for recycling	37,035	23,855	69,501	125,487	255,878	64,231	46,818	144,829
MEF 5	# Jobs created (> 3 months) for males	321	102	333	256	1,012	183	665	164
MEF 5	# Jobs created (> 3 months) for females	611	91	665	371	1,738	411	1,123	204
MEF 5	# TOTAL beneficiaries who got a new SWM job (> 3 months)	932	193	998	627	2,750	594	1,788	368
MEF 7	# Men who completed training	3,664	1,958	2,776	2,235	10,633	2,304	3,245	5,084
MEF 7	# Women who completed training	4,213	2,481	15,414	13,891	35,999	2,873	9,480	23,646
MEF 7	# TOTAL beneficiaries who completed training	7,877	4,439	18,190	16,126	46,632	5,177	12,725	28,730
MEF 8	# Women got job in traditionally male-dominated activity	605	72	31	709	1,417	263	872	282
MEF 9	# Women newly participating in decision-making in SWM	310	50	299	634	1,293	103	359	831
Youth engagement	# Youth that got engaged in plastics pollution	23,113	27,257	31,405	151,500	233,275	41,545	111,243	80,487

ANNEX 4: MEF RESULTS FOR ALL 32 PROJECTS

MWRP Grantee Results: MEFs per project & country																									
					MEF 1 (# MT)			MEF 2 (#)				MEF 3 (# hours)			MEF 4 (#)		MEF 5 (#)			MEF 7 (#)		MEF 7	MEF 8 (#)	MEF 9 (#)	(#)
Countr y	Name of grantee	Project Location	# direct beneficiaries	# indirect beneficiaries	Plastics collected/ recycled	Plastics reduction (other)	Plastics reduction TOTAL	Innovative approaches	Innovative technology	New laws, policies, plans, regs	New PPP, signed agreement	Public Awareness	Training	Technical Assistance	Behavior change house/ establishment	Jobs created for males	Jobs created for females	Jobs created TOTAL	Men completed training	Women completed training	Total individuals completed training >3	Women got male- dominated job	Women participating decision-maker	Youth engaged	
Indonesia	Misoel	Papua	56,338	270,000	619	-	619	2	1	1	6	44,448	11,884	11,386	2,758	22	27	49	1,062	1,535	2,597	18	91	3,175	
	BINTARI	Java	9,921	15,000	65	-	65	1	1	0	4	12,725	3,337	1,298	6,830	19	59	78	329	472	801	-	15	1,047	
	Gringo	Bali	61,200	9,420	190	2	192	1	2	0	4	4,136	2,383	639	17,927	160	238	398	642	700	1,342	584	50	4,107	
	Divers Clean Action	Java	24,000	20,000	785	-	785	2	0	1	7	3,420	967	1,665	3,220	6	4	10	311	216	527	1	44	13,391	
	GAIA/PPBB	Java	20,000	26,000	283	-	283	0	0	4	1	1,873	966	1,129	4,139	1	1	2	371	411	782	-	-	414	
	Transformasi	Sulawesi	40,000	20,000	134	-	134	3	1	0	3	2,924	2,690	454	2,161	112	282	394	64	23	87	2	-	196	
	GDKP	Java	359,400	1,267,000	-	9,506	9,506	0	0	4	6	3,462	4,097	1,061	-	1	0	1	885	856	1,741	-	110	783	
	Subtotal		570,859	1,627,420	2,076	9,508	11,584	9	5	10	31	72,988	26,324	17,632	37,035	321	611	932	3,664	4,213	7,877	605	310	23,113	
Philippines	CRS/Caritas	Manila Bay	26,400	105,000	482	-	482	1	0	2	2	9,483	654	-	6,000	40	19	59	-	218	218	49	15	200	
	CSMC	Palawan	41,982	4,136	23	7	30	1	0	6	3	12,197	1,264	-	12,639	16	3	19	48	60	108	4	4	4,605	
	PRRCI	S. Negros	13,820	108,885	3	10	13	8	0	14	4	45,974	13,098	1,812	-	0	0	0	1,731	1,931	3,662	-	1	12,376	
	World Vision	Manila Bay	59,819	26,000	175	-	175	1	0	1	2	536	-	-	1,200	0	0	0	-	-	-	-	-	8,800	
	GAIA	Manila	5,000	600	-	-	-	1	0	0	0	580	32	800	-	0	0	0	-	-	-	-	-	92	
	EcoWaste Coal.	Manila Bay	5,000	600	-	-	-	0	0	0	1	-	1,235	350	-	3	3	6	62	110	172	-	-	80	
	PBE/PARMS	Manila Bay	10,000	50,000	5	-	5	1	1	0	3	130	512	82	298	1	2	3	-	-	-	-	-	121	
	Mother Earth F.	Butangas	143,950	72,000	355	-	355	2	0	1	1	52,158	762	509	3,718	23	39	62	65	100	165	19	30	962	
	Georgia Univ.	Manila Bay	5,000	600	-	-	-	1	2	0	0	-	240	-	-	0	0	0	33	37	70	-	-	5	
	PRRC/SM	Manila Bay	13,820	600,000	26	-	26	1	0	0	1	48	590	-	-	19	25	44	19	25	44	-	-	16	
	Subtotal		324,791	967,821	1,069	17	1,086	17	3	24	17	121,106	18,387	3,553	23,855	102	91	193	1,958	2,481	4,439	72	50	27,257	
Sri Lanka	Sevanatha	Dehiwala	221,400	24,600	1,454	60	1,514	1	2	1	3	85,806	2,856	-	20,369	247	306	553	248	523	771	1	8	13,217	
	SLCDF	Gin River	89,000	26,562	617	201	818	4	0	3	4	138,649	8,016	2,559	24,250	51	312	363	92	802	894	6	80	11,727	
	Janathakshan	Negombo	17,872	36,600	174	27	201	3	0	0	7	1,486	6,872	817	4,468	19	15	34	89	1,498	1,587	3	15	1,500	
	Lanka Upcycles	Arugam Bay	1,805	50,000	6	-	6	2	1	0	3	3,654	3,321	62	177	10	1	11	18	127	145	-	-	1,436	
	SLCDF	Jaffna	93,000	73,548	225	13	238	6	0	6	1	28,274	44,654	717	20,237	0	21	21	2,180	12,283	14,463	21	196	3,303	
	PILF	Nationwide	5,000	600	-	-	-	2	0	1	0	5,480	1,636	522	-	0	2	2	124	143	267	-	-	172	
	CCC	Nationwide	5,000	600	-	-	-	2	0	0	6	75	865	-	-	6	8	14	25	38	63	-	-	50	
	Subtotal		433,077	212,510	2,476	301	2,777	20	3	11	24	263,424	68,220	4,677	69,501	333	665	998	2,776	15,414	18,190	31	299	31,405	
Vietnam	ENDA	HCMC	1,592,000	1,250,000	2,990	-	2,990	1	1	6	4	28,166	2,441	7,280	33,112	216	222	438	306	1,070	1,376	375	10	7,722	
	CECR	Danang	285,000	230,000	245	-	245	1	1	2	2	21,000	17,000	922	21,111	0	8	8	112	5,655	5,767	8	458	2,000	
	GreenHub	HaLong Bay	350,000	800,000	283	16	298	4	1	7	5	10,214	4,253	180	13,934	16	120	136	198	902	1,100	290	42	2,592	
	CSRD	Hue City	15,640	16,000	10	-	10	1	0	0	0	42,240	15,600	200	3,930	0	1	1	-	4,161	4,161	1	8	10,000	
	WWF-Vietnam	Phu Quoc	29,137	35,000	261	52	313	1	1	1	5	32,094	1,500	511	4,127	16	10	26	85	89	174	23	58	11,001	
	MCD	HaLong Bay	111,036	119,410	835	-	835	1	1	0	3	7,061	1,473	2,646	27,759	1	2	3	663	705	1,368	2	13	102,043	
	MCD	Nam Dinh	111,321	131,000	427	-	427	1	2	1	2	7,326	2,691	3,182	19,364	7	8	15	720	1,038	1,758	-	16	15,747	
	GAIA/GreenViet	Hoi An	18,000	7,600	46	-	46	0	0	3	4	8,352	1,840	1,697	2,150	0	0	0	151	271	422	10	29	395	
	Subtotal		2,512,134	2,589,010	5,097	68	5,164	10	7	20	25	156,453	46,798	16,618	125,487	256	371	627	2,235	13,891	16,126	709	634	151,500	
Overall Total			3,840,861	5,396,761	10,719	9,894	20,612	56	18	65	97	613,971	159,729	42,480	255,878	1,012	1,738	2,750	10,633	35,999	46,632	1,417	1,293	233,275	