

Advancing Solutions to **Plastic Pollution** Through Inclusive Recycling





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Executive Summary

This report builds on Ocean Conservancy's [first report](#) on efforts to support informal sector waste collectors in Colombia and Vietnam through the project: Advancing Solutions to Plastic Pollution through Inclusive Recycling" (ASPPIRe). The 2021 report covered the launch of the project and its first year of activities and lessons learned, while this report covers the growth of the project and findings from 2022.

Informal sector waste collectors (ISWCs) – also known as waste pickers or recyclers, among other terms – spend all or part of their workdays out in the community collecting items considered waste that can be recycled, to resell for an (often small) income. According to the International Labor Organization, it is estimated that there are 15-20 million informal waste collectors, primarily in low-to-middle-income economies where there would be little to no recycling without their contributions. If items are not recycled or reused, they may be landfilled, burned, or leaked into the environment.

While ISWCs provide an invaluable public service, some types of plastics are often left uncollected and ultimately, end up in the environment because there is not enough of an economic incentive to recover and recycle these plastics. These types of plastics, known as "low-value plastics," are plastics that are not currently collected due to properties that make them more difficult to recycle and lack of end markets for recycling.

Following Ocean Conservancy's publication of recommendations in its Plastic Policy Playbook (2019), the organization and members of its Trash Free Seas Alliance® began implementing some of the recommendations to incorporate the informal sector into plastics policies and initiatives. The ASPPIRe project aims to increase recognition and improve the well-being of informal waste collectors in the recycling sector.

The three overarching goals of ASPPIRe are the following:

- 1 Improve the well-being of the individual collectors;
- 2 Explore end markets for low-value plastics; and
- 3 Share findings with policy makers in both countries, specifically the consideration of the informal waste collection sector within new or developing extended producer responsibility (EPR) systems.

For Year Two of ASPPIRe, Ocean Conservancy's global coordinating partner, iWrc, and the in-country implementation partners, Compromiso Empresarial para el Reciclaje (CEMPRE) and the Center for Environment and Community Research (CECR), built upon the results and experiences from Year One to work towards the project goals.

ASPPIRe's Year Two activities began in March 2022 and ran through December 2022, continuing to rely on CEMPRE in Colombia and CECR in Vietnam as the key implementers of these activities. Their relationships with their country's informal sector and local stakeholders made it possible to drastically expand the participation of informal sector workers from Year One to Year Two. CEMPRE continued to implement the ASPPIRe project in Cartagena and Buenaventura and expanded the implementation to Santa Marta and Barranquilla. CECR continued to implement the project in the Nam Tu Liem district of Hanoi, Vietnam, and expanded the number of individual collectors who were part of the project.

Year Two Highlights (March 2022 – December 2022)

Accomplishments in Colombia included:

- ▶ An additional **22 cooperatives joined the project**, up from four cooperatives that participated in Year One.
- ▶ Each cooperative individually received eight trainings to support their implementation of the **Social Assurance Management Framework**.
- ▶ All 26 cooperatives **improved their social assessment scores** (see pgs. 7-8) in at least one category.
- ▶ Through support from ASPPIRe and other initiatives, all 26 cooperatives have **entered the government's formalization process**.
- ▶ **149,320 kg (164 US tons) of low-value plastics** (primarily colored PET bottles and multi-layer plastics) and **16,083 kg (18 US tons) of total waste plastics** were collected for recycling.
- ▶ 2,326 ISWCs from 26 cooperatives were offered the opportunity to participate in the enhanced income program. In total, **842 of the 2,326 ISWCs participated in the program** and received vouchers for groceries in exchange for collecting low-value plastics.
- ▶ The enhanced income program **distributed 3,967 vouchers** during Year Two.
- ▶ **41% of ISWCs** who received vouchers through the enhanced income program identified as women.
- ▶ CEMPRE implemented **80 public awareness activities** and segregation-at-source educational campaigns that **reached 49,904 people**.
- ▶ CEMPRE conducted 6 beach cleanups with 1,100 volunteers collectively who recovered **6,331 kg (13,957 lbs) of trash** and **446 kg (983 lbs) of recyclables**.

Accomplishments in Vietnam included:

- ▶ CECR launched the **Supporting Women Informal Waste Collectors Club**, which is being managed by the Women's Union of Nam Tu Liem district – this is a first step towards more formal organization.
- ▶ There were **10 trainings conducted for the women's unions** and ISWCs from 10 wards to support the implementation of the Social Assurance Management Framework.
- ▶ The Supporting Women Informal Waste Collectors Club received the Social Assurance Framework training and helped to plan and implement 10 additional training programs to support **300 female ISWCs** and members of women's unions across the 10 wards.
- ▶ There were **four collection points established** for the ISWCs to use as a place to aggregate material. Milk cartons and nylon (plastic) bags are the primary items brought for aggregation.
- ▶ **150 female ISWCs** participated in the enhanced income program and received funds for collecting plastic bags.
- ▶ 18,169.5 kg (40,057 lbs) of plastic bags and 4,159 kg (9,169 lbs) of milk cartons were collected. In total **35,924 kg (79,199 lbs)** of plastic bags, milk cartons, and other plastics were collected during Year Two.
- ▶ **9,000 households** have begun to practice segregation at source for their waste and are supporting the project.
- ▶ CECR provided training and education for 24 secondary school teachers in Hanoi who subsequently developed and implemented plans for reducing, sorting, and recycling waste. Through this educational program, **19,000 students received information** on reducing, sorting, and recycling plastic waste.
- ▶ Through the marketing and educational contest held between secondary schools, **20 initiatives for reducing and recycling plastic** were developed.

Project Structure & Partners

Ocean Conservancy's coordinating partner is the Inclusive Waste Recycling Consortium (iWrc). iWrc worked closely with two in-country implementing partners: Compromiso Empresarial para el Reciclaje (CEMPRE) in Colombia and the Center for Environment and Community Research (CECR) in Vietnam.



Compromiso Empresarial para el Reciclaje (CEMPRE Colombia), founded in 2009, is the Colombia branch of CEMPRE, a non-governmental organization whose purpose is to strengthen waste recovery value chains and increase collection rates of post-consumer materials in Latin America. CEMPRE Colombia engages and supports communities, local informal waste collectors and other stakeholders in the waste recovery value chain to create a circular economy for materials. Through these activities, partnerships, and the capturing of data in their Knowledge Management Center, CEMPRE Colombia seeks to drive the development and sustainment of a circular economy in Colombia.



The Center for Environment and Community Research (CECR) was established in 2009 in Vietnam with the mission to promote and support the participation of organizations, businesses and communities in environmental protection and the development of effective responses to climate change. Services and areas of engagement that CECR provides include research, environmental education, environmental consulting, policy advocacy for addressing water pollution in Vietnam, and advocacy for women's participation in environmental protection. CECR operates with the strong belief that solutions to environmental problems and climate change require local participation in both the development and implementation stages.



The Inclusive Waste Recycling Consortium (iWrc) is a global leader in fair trade labor practices in the waste and recycling sector. iWrc creates an environment where people, community, and business benefit from reducing and transforming waste into valuable resources. They eliminate individual risk factors for those who recycle in emerging markets and live on or below the poverty line – risk factors such as child labor, forced labor, and unsafe and inhumane working conditions.

iWrc's Social Assurance Framework, based on standards such as ILO, CDM, ISO, SA8000, and more, is crafted around principles of global workplace standards, mechanisms, and expert input to incrementally improve conditions.

Implementation of Social Assurance Assessments & Trainings

Overview

For the ASPPIRe project, iWrc provided virtual and in-person experts to train and build capacity through the two locally based, in-country implementing partners using the Social Assurance Framework (Figure 1). iWrc worked with the cooperatives, recycling organizations and ISWCs to teach them how to incorporate the Social Assurance Framework into their daily practices, based on international standards such as ILO, CDM, ISO, SA8000, and others, to support them and their activities. The Social Assurance Framework was introduced to ISWCs in Vietnam through in-depth training programs and workshops. In Colombia, iWrc reassessed the four cooperatives from the Year One phase of project ASPPIRe and successfully implemented the Social Assurance Framework in all 26 cooperatives participating in the project.

For ASPPIRe, it was crucial to understand the needs of the informal sector in both Vietnam and Colombia and customize the training to the local reality. By focusing on this first step, iWrc was able to build capacity with a clear purpose and avoid a curriculum that was disjointed and would lead to big gaps in implementation. When an individual picker, consumer, or business engages the framework, iWrc considers their needs and wants in order to enroll them in a training program that offers health and safety education, material knowledge, and better operational techniques. iWrc and the in-country partners for ASPPIRe designed a curriculum of trainings geared towards the informal sector based on best-in-class recycling techniques and risk avoidance, identification, and correction. The Social Assurance management assessment is evaluated based on Capacity Building and Management Systems. Both of these elements are assessed by criteria which fall under three groups: Basic Assurance, Social Assurance, and Management. The five categories that fall under Basic Assurance for Capacity Building include health and safety, child labor, forced labor, fair trade, and good production practices. The three categories under Basic Assurance for Capacity Building include policies; identification and assessment of risks; and corrective and preventive actions.

The level of compliance for each category is measured on a 1-5 scale, with 3 corresponding to the minimum parameter of compliance and 5 corresponding with full compliance (Table 1). The baseline assessment is then used to collaboratively create an action plan to address areas where the scores are lowest and those of higher priority. It is not uncommon for a cooperative to have several scores of one and two during its baseline assessment; the goal is to provide help and support rather than to overwhelm.

Figure 1: The iWrc Social Assurance Framework

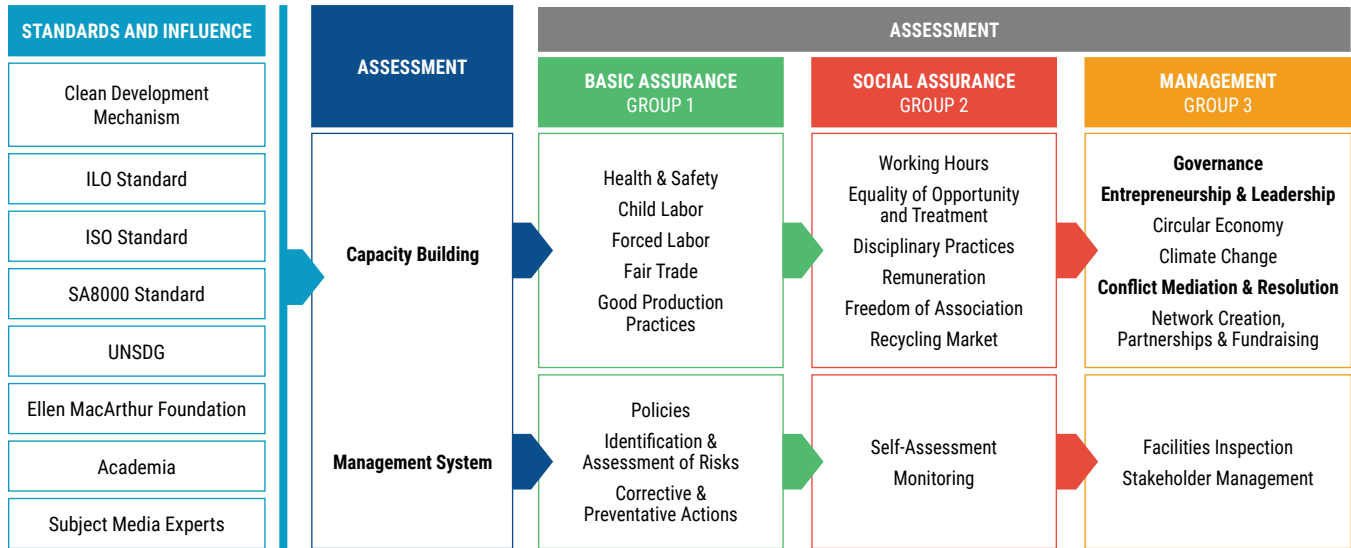


Table 1. Management System Maturity Scale

Rating	Performance	Criteria	ISWCs in cooperative familiar with standards
5	Fully Developed	Sustained focus and knowledge on management systems and continually improves the system through leadership, commitment and participation by all levels of the organization.	80-100%
4	Satisfactory	Has a relatively above-average knowledge and compliance with management systems. Is working to develop participation from all levels and functions of the organization.	60-80%
3	Adequate	Meets the minimum threshold for knowledge and compliance with management systems. Has demonstrated ability and willingness to establish, implement, and maintain compliance.	40-60%
2	Poor	Barely has knowledge of or compliance with management systems. Only shows negligible to minimal effort to maintain or increase compliance.	20-40%
1	Very Poor	No working knowledge of nor compliance on any level with management systems. Is not working towards establishing, implementing, or maintaining any change in the system.	0-20%

How to interpret a social assurance score:

If an organization has a management system score of 2.5 for health and safety, then that means that between 20-40% of the organization’s members have a working knowledge of relevant issues or do comply with the standards required for compliance and best practices. While the organization is trending towards meeting the baseline for compliance, it has not yet reached full compliance with internationally recognized standards for health and safety; it needs to work on identifying and assessing the risks posed to themselves for not complying, and it needs to identify corrective and preventative actions that the organization commits to implementing.

Because the Social Assurance Framework methodology is flexible and modular, it can be customized to the immediate needs of the cooperative. For example, the cooperative can first tackle the issues that are the most relevant for legal due diligence and risk mitigation requirements, such as child labor, forced labor, and life safety issues. Or, if these issues are not relevant, the cooperative might focus instead on other issues such as wages or health and safety issues that are not immediately life-threatening but still pose significant risks. The management systems categories can also be tackled in progressive steps. For example, a less mature cooperative might focus first on policies, procedures, internal communications, and trainings, whereas larger, more mature cooperatives might also tackle stakeholder engagement.

Given the nature of the informal sector in Vietnam in which workers tend to operate independently and, in Hanoi, where there are no significant cooperatives or organized informal labor groups, application of the Social Assurance Framework presented a unique challenge. The program traditionally begins with initial training followed by an assessment of an organized cooperative structure and their physical worksite. However, due to the Social Assurance Framework's heavy focus on training and capacity building, iWrc modified the traditional approach and successfully leveraged this focus, working together with CECR to use the train-the-trainers method. While in Colombia, a more standard classroom approach was taken to engage the recycling organizations who manage the recycling operations.



Colombia



Overview

The Colombian government's passage of Resolution 1407 in 2018 and the publication of the National Plan for the Sustainable Management of Single-Use Plastics in 2021, signaled a serious focus on improving the management of plastics, especially single-use packaging. Designed to support the transition to a circular economy and the country's recycling targets, Resolution 1407 introduced EPR for manufacturers, importers, and distributors of plastic containers and packaging and requires packaging producers to develop deposit return schemes (DRS).

The informal waste sector of Colombia is estimated to have more than 60,000 ISWCs who operate as a critical component of the national waste management system. Acknowledging the significant role these workers play, the government enacted Decree 596 in 2016 to support the formalization of ISWC cooperatives and encourage their entry into the formal economy.

iWrc has been closely working with CEMPRE to pursue formalization and implement the iWrc Social Assurance management system so that cooperative members understand and access all of their legal protections, such as enjoying occupational health and safety and fair remuneration.

Building on Year One activities and results that helped CEMPRE identify the types of low-value plastics collected in different locations as well as end markets for these materials, during Year Two, CEMPRE prioritized the recovery of flexibles (i.e., multilayered plastic, PE-PP flexible packaging) and colored PET. A major achievement of the Year Two phase of project ASPPIRe in Colombia was the expansion from 4 to 26 cooperatives.

The objectives of the Year Two program in Colombia were to continue to implement the enhanced income program developed during Year One to encourage ISWCs to collect low-value plastics, support cooperatives in the process for achieving legal formalization status by the government, and to continue to focus on the well-being of cooperative members through trainings to implement the iWrc Social Assurance management system.

Social Assurance in Colombia

Formalization of Cooperatives in Colombia

A key objective of the ASPPIRe project in Colombia has been to support the enactment of Decree 596/2016 through working with cooperatives to train and support them in working through the 8-phase process (detailed in Decree 276/2016) and meeting the government's standards for formalization. Once formalized, cooperatives will be eligible to receive subsidies in the form of service payments. To date, all 26 cooperatives in the program have initiated the formalization process.

Table 2: Eight-phase Process for Achieving Formalization in Colombia

Phase	Requirements	Number of cooperatives in the program who are in each phase
Phase 1	Join the registry of service providers	2
Phase 2	Define the service area	
	Track and report tonnes of material transported	
	Track and report the tonnes of material managed in the service area	
	Track and report the tonnes of material that are valorized	
	Track and report receipts for the commercialization of materials	
	Develop classification and valorizations stations	
	Register and license transportation vehicles	
Phase 3	Develop uniform conditions for the public cleaning service	1
Phase 4	Develop a service portfolio	2
	Develop a work plan and strategy for improving performance	
	Develop a user database	
	Develop a website	
Phase 5	Record and report scale calibration	5
	Appoint supervisors and operational control systems	
	Establish a service program	
Phase 6	Designate staff by department (area) of employment	7
	Establish micro-collection routes	
	Receive labor certifications	
Phase 7	Develop a registry of petitions, complaints, and resources	7
	Develop emergency and contingency plans	
Phase 8	Track and report financial data	2
	Submit map of service area in the MAGNA-SIRGAS system	

Source: National Decree 596/2016 and Resolution 276/2016

Implementing the iWrc Social Assurance Framework

A core initiative during Year Two was making progress on establishing and implementing a plan for the iWrc Social Assurance Framework adapted to the Colombian market. The cooperatives who participated in Year One were reevaluated with the Social Assurance assessment to measure changes in their performance compared to 2021. For the cooperatives introduced in Year Two, they first received training modules to familiarize the cooperatives with the standards used that influence the criteria for the Social Assurance Framework before undergoing the Social Assurance assessment.¹

The assessment tool helped to identify each organization's current performance and established a baseline which informed each of the comprehensive action plans designed for the cooperatives. iWrc and CEMPRE also ensured that cooperatives prepared for implementation by designating responsible managing parties. They were provided with resources to support implementation and a program deadline was established.

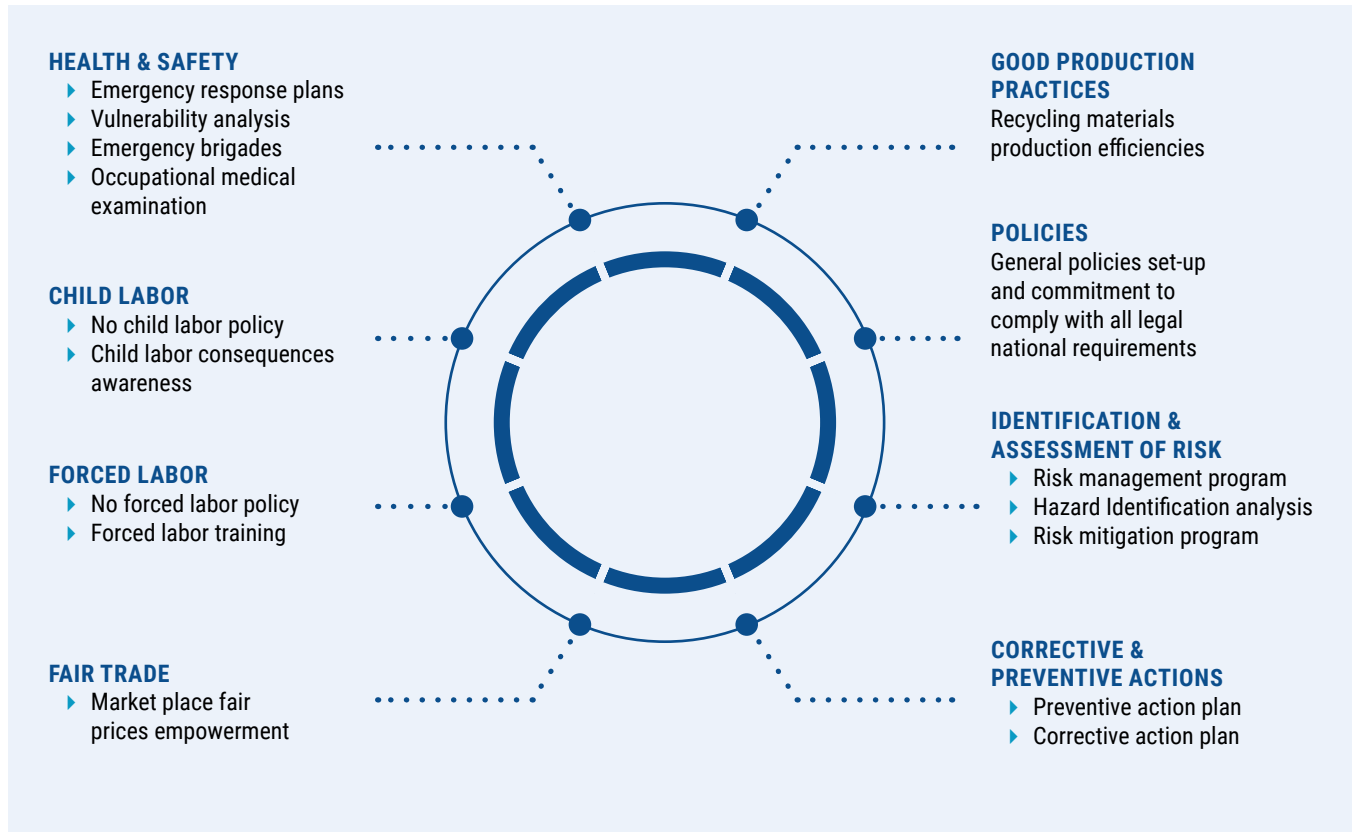
In Colombia, to provide an accurate assessment of all cooperatives, the iWrc model was adjusted to ensure that the assessment tool integrated the national legislation that passed in 2019, the Minimum Standards of the Occupational Health and Safety Management System (Resolution 312-2019), which defines the minimum requirements that Colombian organizations must comply with regarding occupational health and safety standards.

¹ The application of the Social Assurance assessment is adjusted based on the categories that the cooperatives are interested in understanding how they perform against the standards defined by the Social Assurance Framework.

Emphasis was placed on developing action plans that had capacity building tools for enforcing better understandings of child and forced labor issues as well as human right abuses. Cooperatives also received trainings for improving production practices as well as becoming better public service providers (Figure 2).

iWrc and CEMPRE ensured that the creation of strong management systems was also prioritized. Cooperatives were given trainings on policy, management system procedures, organizational compliance, and files management. Trainings were also issued for health and safety regulation and organizational issues that posed a risk to people, property, governmental compliance, and could jeopardize licenses and financial support from regulatory agencies.

Figure 2: Areas of Focus for Trainings



Throughout the implementation of the cooperatives’ action plans, CEMPRE assisted the cooperatives with carrying out strict data collection and analysis. The tracked metrics were shared with Ocean Conservancy and iWrc so that progress could be monitored. Figure 3 shows a dashboard with the tracked performance of each cooperative across the evaluation categories. Of the four cooperatives who participated in Year One, the average baseline result for all categories was a 1.4 rating and the average end result was a 2.2 rating, showing an 0.8-point increase (Table 3). Continued effort will be required for each cooperative to meet the 3-score goal. The average score in 2022 for the 22 new cooperatives was 1.82.

The adjustment of the Social Assurance assessment tool from Year One to Year Two of project ASPPIRe, due to the incorporation of parameters set by Resolution 312-2019, had the effect of making the Year Two baseline evaluation results for the four original participating cooperatives slightly lower than their end-of-year performance from Year One. In particular, the performance criteria for occupational health and safety, child labor, and forced labor were adjusted.

Table 3: Social Framework Results for Cooperatives that Began Participating in 2021 (and Reassessed June 2022 - December 2022)

Results of the Social Framework Methodology (Phase 1)									
	Goal	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Increase (Jun.–Dec.)
COARPOZ	3	1.2	1.2	1.4	1.5	1.7	1.8	1.8	0.6
CORECICLAREC	3	1.6	1.8	2.1	2.4	2.5	2.5	2.5	0.9
CARTAGENA AMIGABLE	3	1.5	1.5	1.9	2.0	2.2	2.3	2.4	0.9
ASOGESAMPA	3	1.4	1.5	1.8	1.9	2.0	2.0	2.3	0.9
Average	3.0	1.4	1.5	1.8	1.9	2.1	2.2	2.2	0.8

Figure 3: Dashboard Showing the Social Assurance Performance of Cooperatives at the end of Year Two

Organizations	Health and Safety Management	Occupational health	Work safety	Occupational hygiene	Emergency control	Forced Labor	Child Labor	Average
ADEVOLVER	2.58	1.67	2.50	3.00	2.00	2.00	2.00	2.25
ALIANZAS AMBIENTALES	1.33	1.00	1.50	2.00	2.00	2.00	2.00	1.69
ARCOS	1.58	1.00	2.00	3.00	1.00	2.00	2.00	1.80
ASOBALIVA	1.58	1.00	2.00	3.00	2.00	2.00	2.00	1.94
ASOBAPRE	1.58	1.00	2.00	3.00	2.50	2.00	2.00	2.01
ASOGESAMPA	2.42	1.67	2.50	3.00	2.00	2.00	2.00	2.23
ASOREBIC	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ASOREMAGCOL	1.67	1.00	1.50	3.00	2.00	2.00	2.00	1.88
ASORESCATAR	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.71
ASOREVIVIR	1.83	1.00	2.00	3.00	2.00	2.00	2.00	1.98
ASOUNIVERSAL	2.58	1.00	2.00	3.00	2.00	2.00	2.00	2.08
BASURA CERO	1.58	1.00	1.50	2.50	1.00	2.00	2.00	1.65
Cartagena Amigable	2.58	1.67	2.50	3.00	2.00	2.00	2.00	2.25
COARPOZ	1.83	1.33	2.00	3.00	1.50	2.00	2.00	1.95
COEMPRESMAC	1.58	1.00	2.00	3.00	2.00	2.00	2.00	1.94
COORENACER	2.50	1.00	2.50	3.00	2.00	2.00	2.00	2.14
CORAMBIENTAL	1.75	2.00	1.50	3.00	2.00	2.00	2.00	2.04
CORECICLAREC	2.83	2.00	3.00	3.00	2.50	2.00	2.00	2.48
ECOBARU	1.50	1.00	1.50	2.50	1.00	2.00	1.00	1.50
FENACICLAR BARRANQUILLA	2.17	1.00	3.00	3.00	2.00	2.00	2.00	2.17
FENACICLAR CARTAGENA	2.08	1.00	2.00	3.00	2.00	2.00	2.00	2.01
HACIA UN MUNDO SOSTENIBLE	1.33	1.00	1.50	2.50	2.00	2.00	2.00	1.76
METROREICLAR	1.67	1.00	1.50	3.00	2.00	2.00	2.00	1.88
NATURA BARRANQUILLA	2.92	3.00	3.00	3.00	2.00	2.00	2.00	2.56
NATURA CARTAGENA	2.92	3.00	3.00	3.00	2.00	2.00	2.00	2.56
RECICLA POR CARTAGENA	1.08	1.00	1.00	1.00	2.00	2.00	2.00	1.44
Average per component	1.98	1.40	2.06	2.75	1.90	1.96	1.92	2.00

Increasing Recovery of Low-Value Plastics

CEMPRE expanded the income enhancing program that was first implemented in Year One of project ASPPIRe to include all 26 cooperatives participating in Year Two. The program was intended to enhance the income of ISWCs through the distribution of vouchers for practical daily-life necessities, such as groceries. The goal of the initiative was to facilitate an increase of collection of low-value plastics without affecting efforts to recover other high-value plastics currently being collected, increase proper storage and aggregation of collected material, and create sustainable conditions for material to be sent to end markets for recycling.

For Year Two, 2,326 ISWCs were offered the opportunity to participate in the enhanced income program. In total, 842 ISWCs registered with the program; 41% of ISWCs who received vouchers were women. The average monthly income (sale of materials, incentives, recycler fee) for an ISWC during 2022 was COP 730,439 (USD 162) (Table 4). Often an ISWC may have alternative forms of income which would raise this value, but the project teams are not tracking those other forms of potential income. The average wages earned from sale of materials, enhanced income, recycler fees, is approximately 62% of the minimum wage (COP 1,160,000.00) in Colombia and 38% of the living wage (COL \$1,882,737).

Table 4: Monthly Average Income of an ISWC (2022)

Average Monthly Income of ISWC 2022 (across 26 cooperatives)						
Number of Recyclers			Income from Material	Income from enhanced income program (842 participants)	Recyclers fee	Total income
Total	Men	Women				
2,326	1,527	799	592.808 COP (132 USD)	32.732 COP (7 USD)	104.899 COP (23 USD)	730.439 COP (162 USD)
100%	66%	34%				

To support the enhanced income program, CEMPRES collaborated with municipal representatives and other stakeholders to lead a segregation-at-source campaign in all locations where the cooperatives were operating. CEMPRES also assisted cooperatives with implementing activities to raise public awareness of environmental issues and the role that ISWCs play in their local waste and recycling system. During the program, 80 awareness activities were conducted, reaching 49,904 people through implementation at schools, universities, and public spaces such as beaches, public buildings, and events.

Table 5: Impact of Awareness Campaigns

Results of the Social Framework Methodology (Phase 1)		
Month (2022)	Number of Activities	Number of People Impacted
March	8	1,350
April	9	1,180
May	12	1,385
June	11	1,600
July	8	2,600
August	6	5,990
September	2	26,669
October	12	3,535
November	7	4,620
December	5	975
Total	80	49,904

Six beach cleanups were conducted during the program, with at least 1,100 volunteers who participated to recover a total of 6,331 kg (13,957 lbs) of trash and 446 kg (983 lbs) of recyclables.

Table 6: Materials Collected During Beach Cleanups

Results of the Social Framework Methodology (Phase 1)								
City	Beach	Date	Volunteers	Materials Collected (kgs)				
				Plastics	Cartons	Metals	Glass	Trash
Cartagena	Barú	2 Apr.	100	30	2	3	40	4,000
Barranquilla	Puerto Col	18 Mar.	250	32	44	10	0	430
Santa Marta	Los Cocos	23 Apr.	200	10	1	0	40	1,000
Santa Marta	Los Cocos	21 May	300	40	5	55	0	900
Cartagena	Boca Grande	15 Jul.	100	37	15	0	22	1
Cartagena	El Pozón	29 Jul.	150	40	20	0	0	0
Total			1,100	189	87	68	102	6,331

The data collected during the enhanced income program provided detailed insights into the materials collected, participating demographics, and social assurance of the participating ISWCs. The total amount of low-value plastics collected during the program was 149,320 kg (~164 US tons): 74,830 kg (~82 US tons) of PE (polyethylene) and PP (polypropylene) flexibles and 74,490 kg (~82 US tons) of colored PET. The total amount of other plastics collected during the program was 16,083 kg (~18 US tons).

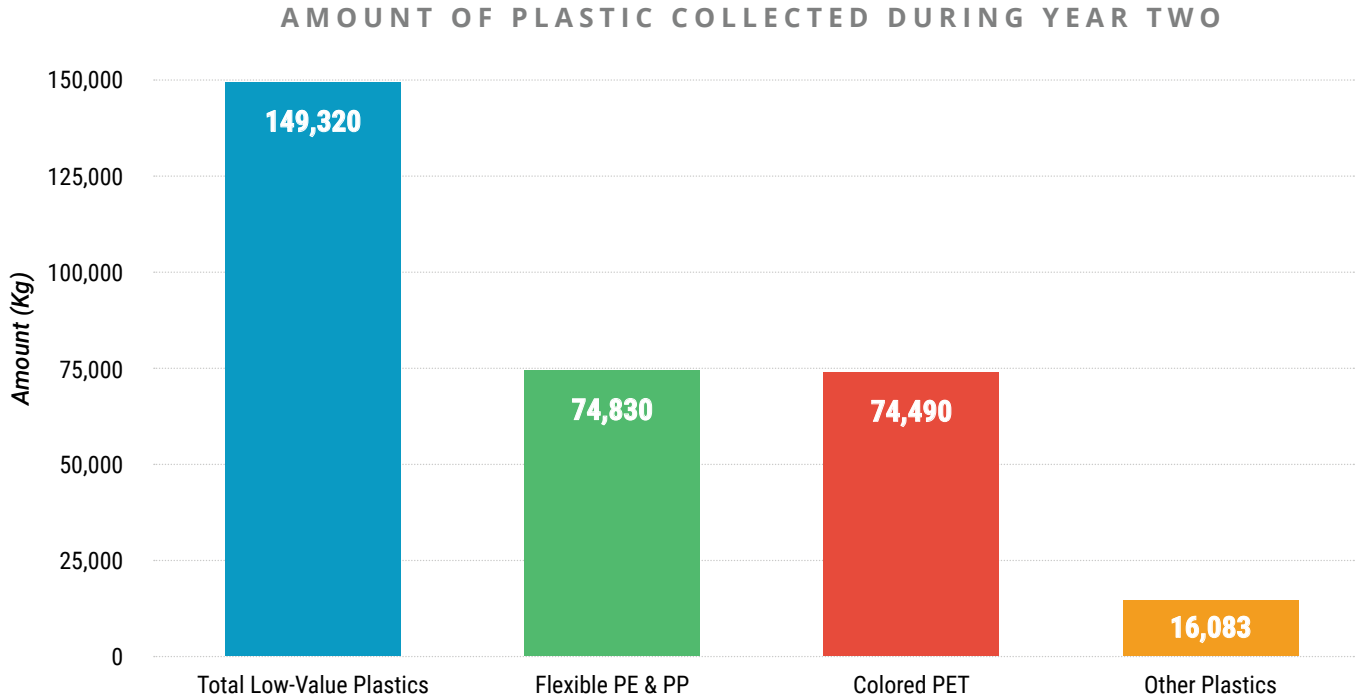
The 22 cooperatives that joined ASPPIRE in Year Two were each involved in either the Movimiento RE or Plataforma Pacifico initiatives. Movimiento RE works with cooperatives in Barranquilla, Santa Marta, and Cartagena and elsewhere to improve collection of all recyclable materials. The program was established by Coca-Cola FEMSA Colombia, Bavaria, PepsiCo, Postobón, and Coca-Cola Company. Plataforma Pacifico is another plastic recovery and income-generating program run by Carvajal Empaques and supported by CEMPRE, Natura, and the Carvajal Foundation. The material collected by project ASPPIRE cooperatives participating in these programs was aggregated and sold through each of the program networks (Table 8).



Table 7: Prices for Low-Value Plastics in the Caribbean and the Pacific (2022)

Price per Ton of Low-Value Plastics In Colombian Pesos (COP) in 2022				
Month	Movimiento RE		Plataforma Pacífico	
	Multilayer Plastic	Amber PET	Multilayer Plastic	Amber PET
January	\$450	\$390	\$500	\$1,000
February	\$400	\$425	\$500	\$500
March	\$380	\$300	\$500	\$500
April	\$420	\$400	\$500	\$500
May	\$430	\$543	\$500	\$900
June	\$440	\$528	\$500	\$900
July	\$450	\$528	\$500	\$900
August	\$480	\$500	\$500	\$880
September	\$200	\$450	\$500	\$850
October	\$200	\$400	\$500	\$600
November	\$200	\$400	\$500	\$1,000
December	\$200	\$400	\$500	\$1,000

Table 8: Tons of Plastic Waste Collected During Year Two



Results in Colombia

- ▶ An additional **22 cooperatives joined the project**, up from four cooperatives who participated in Year One.
- ▶ Each cooperative individually received **eight trainings to support their implementation** of the Social Assurance Management Framework.
- ▶ All 26 cooperatives **improved their social assessment scores** in at least one category.
- ▶ Through support from ASPPIRe and other initiatives, all 26 cooperatives have **entered the government's formalization process**.
- ▶ **149,320 kg (164 US tons) of low-value plastics** (primarily colored PET bottles and multi-layer plastics) and **16,083 kg (18 US tons) of total waste plastics** were collected for recycling.
- ▶ All 2,326 ISWCs in the 26 cooperatives had the opportunity to participate in the Year Two enhanced income program. In total, **842 ISWCs participated in the program** and received vouchers for groceries in exchange for collecting low-value plastics.
- ▶ The enhanced income program **distributed 3,967 vouchers** during the Year Two enhanced income program.
- ▶ **41% of ISWCs** who received vouchers through the enhanced income program identified as women.
- ▶ CEMPRE implemented 80 public awareness activities and segregation-at-source educational campaigns and **reached 49,904 persons**.
- ▶ CEMPRE conducted 6 beach cleanups with 1,100 volunteers collectively and recovered 6,331 kg (13,957 lbs) of trash and **446 kg (983 lbs) of recyclables**.

Additional Findings in Colombia

- ▶ The enhanced income program is an effective way to engage the ISWCs and has a noticeable positive impact on the average income of the ISWCs. The increase calculated in Table 4 includes the wages for the 842 participants who entered the Enhanced Income Program.
- ▶ The identification of end markets and the price for the collected material continues to be a challenge, primarily due to volatility in the recycled material markets and lack of incentives for companies to purchase recycled content. When the price is too low for the cooperatives, they store the materials. As the number of participating cooperatives grow, the focus will naturally shift to finding stable commercial connections for the low-value material.
- ▶ The awareness program was received well by the public and there is an uptick in the rate of households who sort their waste at their homes, which helps the ISWCs to collect the recyclables more easily.
- ▶ There is still a need for ongoing effort, training, and support to be provided for the cooperatives if they are going to meet the minimal parameters for compliance with the Social Assurance Framework. The cooperatives all started at a fairly low baseline, so it is likely to take some years to help them improve across the many different areas of the framework.

A light blue map of Vietnam is positioned in the upper left quadrant. To its right, a series of concentric, wavy lines in shades of light blue and teal flow across the top and right side of the page, creating a dynamic, organic background element.

Vietnam

Overview

Vietnam's government has made significant steps in recent years to craft solid waste and recycling policy to address the growing plastic waste crisis. Single-use plastics and waste import bans, source segregation, and forthcoming implementation of a national household waste collection fee are among the growing landscape of legislation to better management plastic waste. In particular, the passage and rollout of EPR for packaging is a substantial move towards increasing plastics recovery and improving the foundation of waste and recycling management. This policy also provides an opportunity for recognizing and integrating the informal waste sector into the national waste management plan as this sector operates as a key, yet unrecognized stakeholder in waste and plastics recovery.

There are thousands of ISWCs working across Vietnam, especially concentrated in densely populated cities, and women account for nearly 60% of the workforce. It is estimated that there are between 10,000 and 16,000 informal recyclers in Hanoi and Ho Chi Minh City.² CECR, Ocean Conservancy's partner in Vietnam, worked to grow the recognition of Vietnam's ISWCs during Year Two through policy workshops with government representatives and policymakers, as well as communications and network building initiatives. Capacity building, training for ISWCs, and supportive mechanisms for the female waste collectors who dominate the sector are some of the ways CECR and iWrc have approached increasing the recovery of low-value plastics while helping the informal sector protect their welfare and grow their ability to conduct business with all of the protections and self-determination afforded to the formal sector.

Once the Vietnam Union of Science and Technology Associations (VUSTA) approved the implementation plan for the ASPPIRe Year Two activities, CECR worked closely with local representatives of the Vietnam Women's Union, district leaders, representatives of local recycling companies, and other stakeholders to progress the program model and ensure activities were aligned with ASPPIRe's framework.

The overarching objectives of Year Two in Vietnam were 1) to continue to implement an enhanced income program for ISWCs to collect low-value plastic bags, 2) develop and implement a training program to educate ISWCs on how to use the Social Assurance management system and apply it throughout the informal sector, and 3) document and report on Year Two activities to continue building on the knowledge and lessons to improve the model and broader efforts.

² Vietnam Investment Review (VIR). 2022. "Fostering a just and sustainable future for Vietnam's female waste workers." VIR, 20 April 2022. <https://vir.com.vn/fostering-a-just-and-sustainable-future-for-vietnams-female-waste-workers-92838.html>

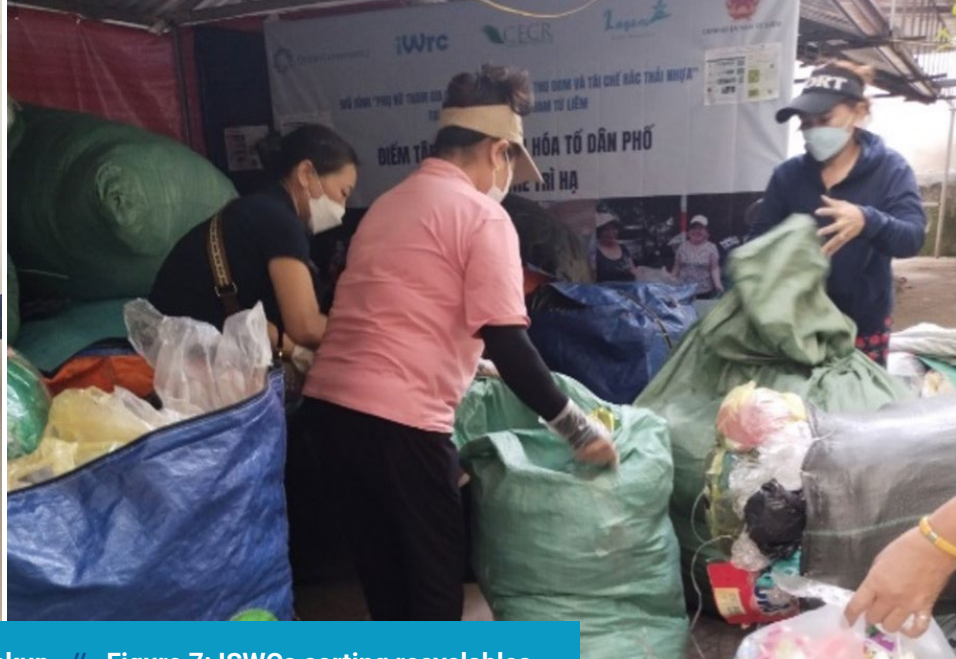


Figure 6: Storing plastic bags for pickup // Figure 7: ISWCs sorting recyclables

Social Assurance in Vietnam

During this second phase of ASPPIRe, iWrc and CECR continued to collaborate on developing a train-the-trainers program tailored to meet the needs of the unique structure of the Vietnam informal waste sector. After consultations with Ocean Conservancy and ISWC representatives, iWrc and CECR developed a tailored assessment tool for ISWCs and the Nam Tu Lien Women’s Union (Women’s Union) members. This assessment tool is designed to function as a capacity assessment to identify the level of knowledge, skills, and practices of ISWCs related to occupational safety and waste management to inform the subsequent development of a capacity building program for ISWCs in Nam Tu Lien district.

The implementation of the training program commenced on September 9th, 2022, and was organized by iWrc, CECR, the Women’s Union, and the Department of Natural Resources and Environment (DONRE). The program trained 100 ISWCs and Women’s Union members on the Social Assurance Framework, with particular focus on occupational safety, price negotiation, environmental regulation, communication, and environmental technical training.

During the training, 10 groups representing 10 wards of ISWCs were formed and were tasked with implementing 10 technical training programs for more than 300 ISWCs and members of local women’s unions. The Women’s Union, DONRE, and CECR held a workshop with women ISWCs and members of local women’s unions to educate them on the iWrc Social Assurance Framework. The workshop provided the participants with an opportunity to discuss their profession and receive recognition for their role in the local waste management system. Around 90% of the women participants expressed the desire to see the development of capacity building programs in the near future to support their work and help them comply with the Law of Environmental Protection.

On the same day, the Women’s Union launched the Supporting Women Informal Waste Collectors club for informal sector waste collectors. The Clubs is structured to have a Steering Committee which consists of representatives of Nam Tu Lien’s Women’s Union. Members are informal waste collectors and representatives of 10 wards within the Women’s Union; in total, the first club has 25 people. With the establishment of this entity, the local government acknowledged the contribution of women ISWCs and set them on a path to more formal organization.



Figure 8: Social Assurance Framework training

Scaling Up the Waste Classification and Network Building Model

In partnership with the Nam Tu Liem's Department of Natural Resources and Environment (DONRE) and the Women's Union, CECR replicated and improved upon the Year One program for organizing and providing training for female ISWCs to increase recovery of low-value plastics. The program had 150 participants across 18 residential groups, including residential areas in Me Tri ward, My Dinh 1 ward, and My Dinh 2 ward.

CECR, the Women's Union, and DONRE organized trainings for local organizations and ISWCs on how to implement the model developed for sorting, collecting, and recycling low-value plastics. More than 150 participants from the wards attended these trainings, which were followed up by a separate series of trainings conducted by CECR that were intended to prepare ISWCs and members of residential groups for the implementation of the scaled program across the selected 18 residential groups. This training was attended by 40 participants representing the residential groups and Women's Union operating in My Dinh 1 ward, 40 participants operating in My Dinh 2 ward, and 65 participants operating in Me Tri ward. The training from CECR and experts provided education on how to record data and best practices for collection. Implementation and expansion plans were agreed upon with participants and representatives of the core team of ISWC groups and 4 collection points were identified during the trainings. There were also opportunities for participants from Me Tri ward to share experiences and challenges identified during the Year One program.

Implementation of the Year Two program ran from August 2022 through December 2022, and the results and plans for next steps were reviewed by CECR, the Women's Union, and DONRE, and shared with delegates.

At the collection point, periodically (every 2 weeks or once a week), the Lagom company collected and brought all materials to their warehouse in Dong Anh district (suburb of Hanoi city). Lagom was responsible for recycling milk cartons, which are incentivized for collection through a separate program. For low-value plastic material collected (plastic bags), Viet Cycle company collected it from Lagom's warehouse, then delivered all materials to Hung Yen province (outside of Hanoi city) for treatment and recycling plastic waste into plastic pellets. Plastic pellets serve as an input for recycled products and can be purchased by larger recycling companies from Viet Cycle.

CECR collaborated with experts from the Ministry of Natural Resources (MONRE) and from the waste management industry to conduct a research study on the status of plastic waste management in Hanoi. This study involved interviewing and surveying stakeholders, including companies, establishments, and households who were involved in some capacity with the local recycling industry. From this research, the *Overview and information on plastic recycling facilities in districts in Hanoi, and the difficulties and advantages in implementing regulations on Extended Producer Responsibility (EPR)* report was crafted, received comments from experts, and was submitted to Ocean Conservancy and iWrc.

Environmental Education Program for Secondary Students

CECR developed a program called "Environmental education for secondary school students on low-value plastic waste reduction, classification, and recycling in 2022" with the goal of raising awareness amongst students and teachers about the environmental impact of plastic waste and the role that they can play in reducing and properly disposing of these plastics.

CECR, in collaboration with the Nam Tu Liem district's Department of Education and Training, implemented this educational program. As part of the program, five secondary schools were surveyed to understand the current management of plastics generated in secondary schools. Once the survey results were compiled, CECR used them to develop training programs for teachers at 24 secondary schools to develop action plans for managing low-value plastics in their schools.

The training program covered seven key topics: 1) environmental action – future building, 2) management of daily waste and plastic waste, 3) governmental policies, 4) international experiences in waste management, 5) international case studies of schools participating in waste reduction and sorting initiatives, 6) communication (the role of waste collectors, behavior change, and taking action), and 7) program development. Almost 50 teachers across the 24 secondary schools participated in the training program and each school represented developed an action plan for addressing their school's management of plastics.

An additional component of this educational program was a contest held between five secondary schools and a festival day program. Taking the training provided by CECR, each school was tasked with designing initiatives for reducing and recycling plastics that would be submitted and scored. More than 1,500 students, teachers, and parents attended the festival where results of the program were shared.

Figure 9: Secondary school training program // Figure 10: Secondary school training program

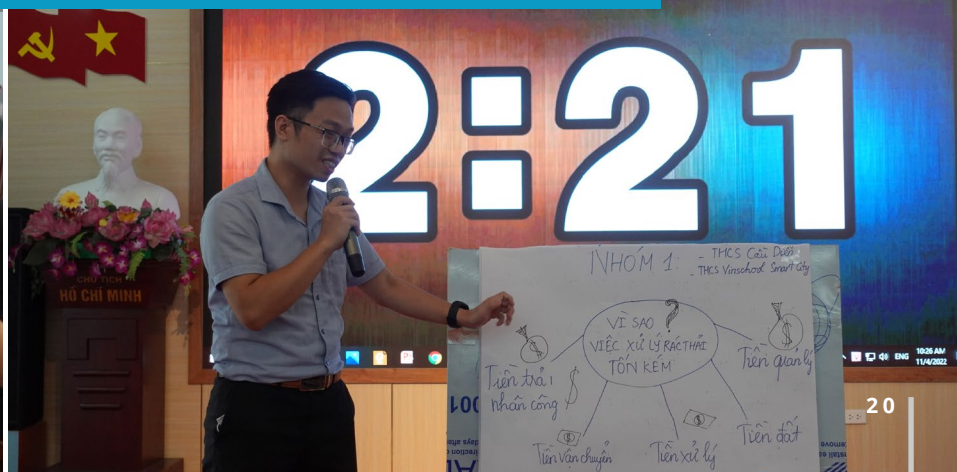




Figure 11: The workshop to inform and influence policy development

Policy Workshop

CECR and the Nam Tu Liem District People’s Committee organized a policy workshop on January 12th, 2023, to present the experiences and lessons learned during the course of the ASPPIRe project to local representatives and policymakers. The goal of the workshop was to share the outcomes and lessons learned to inform policy development for supporting the formal participation of ISWCs in municipal waste management. During the workshop, participants presented the project implementation process, achievements accomplished during Year Two, lessons and challenges identified, and recommendations for mobilizing the participation of ISWCs in the formal waste management system.

At the roundtable session, the Women’s Union, the core group of ISWCs, the Women’s Informal Collector’s Group, and the Transport Company discussed their roles in the Year Two phase and suggested recommendations for continuing the Supporting Women Informal Waste Collector club. MONRE’s Institute of Strategy, Policy and Environment recognized the important role of women ISWCs in the waste management value chain and the need to recognize them in the development of waste-related policies.

The workshop had 97 delegates who participated, including representatives from the People’s Committee of Nam Tu Liem district, Ocean Conservancy, the Vietnam Union of Science and Technology Associations, the Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE), municipal representatives of the Nam Tu Liem district. In attendance were also ISWCs and members of the district’s Women’s Union.

Results in Vietnam

- ▶ CECR launched the **Supporting Women Informal Waste Collectors Club**, which is being managed by the Women’s Union of Nam Tu Liem district – this is a first step towards more formal organization.
- ▶ **10 training programs** for the women’s unions and ISWCs of 10 wards were conducted to support the implementation of the Social Assurance Management Framework.
- ▶ The Supporting Women Informal Waste Collectors Club received the Social Assurance Framework training and helped to plan and implement 10 additional trainings programs to **support 300 female ISWCs** and members of women’s unions across the 10 wards.

- ▶ There were **four collection points established** for the ISWCs to use as a place to aggregate material. Milk cartons and nylon bags are the primary items brought for aggregation.
- ▶ **150 female ISWCs participated** in the enhanced income program and received funds for collecting plastic bags.
- ▶ They **received financial support** based on kilograms of waste collected and labor hours. 3,000 VND/per/kg for nylon bags - 2,000,000 (\$100 USD per month for ISWCs for labor hours); Lagom company supports 1,500 VND/per/kg for milk carton boxes. These are added to the ISWC's monthly income.
- ▶ 18,169.5 kg (40,057 lbs) of plastic bags and 4,159 kg (9,169 lbs) of milk cartons were collected from March 2022 through December 2022. In total, **35,924 kg (79,199 lbs)** of plastic bags, milk cartons, and other plastics were collected during Year Two.
- ▶ **9,000 households** have begun to practice segregation at source for their waste and are supporting the project.
- ▶ CECR provided training and **education for 24 secondary school teachers** in Hanoi who subsequently developed and implemented plans for reducing, sorting, and recycling waste. Through this educational program, 19,000 students received information on reducing, sorting, and recycling plastic waste.
- ▶ Through the marketing and educational contest held between secondary schools, **20 initiatives for reducing and recycling plastic** were developed.

Additional Learnings in Vietnam

- ▶ Participation by local government and organizations is imperative to fostering a supportive and sustainable model for ISWCs. The government needs to understand that integrating the informal waste sector into the national waste management plan is crucial because the informal sector is the core infrastructure currently operating in this area.
- ▶ ISWCs benefit socially and economically from capacity building training programs that provide them with necessary education on occupational safety, social security, business negotiation, communication skills, and environmental technical and policy training.
- ▶ The unique characteristics (independent, not formalized businesses) of a network of ISWCs need to be taken into consideration when designing a system for connecting ISWCs with aggregators and recycling businesses.
- ▶ CECR has identified on-going key challenges that need to be addressed through further training and capacity building:
 - ▶ The Supporting Women Informal Waste Collectors club has the potential to grow to a sustainable level that may enable the waste collector members to have formal recognition within the national waste management system, increase recovery of low-value plastics, earn a higher income, and be a key stakeholder in the implementation of EPR. Establishing the club as a cooperative or legal group should be explored.
 - ▶ Policies for the support and protection of ISWCs is still underdeveloped in Vietnam, which makes this sector vulnerable to occupational hazards and financial abuse. The policies that currently exist are not widely understood by ISWCs who are not provided adequate resources for being educated about their legal protections.
 - ▶ The lack of formal recognition of the role that the informal sector has in the national waste management system means that ISWCs continue to work in unsafe, rudimentary conditions, are vulnerable to price pressure, are not recognized by the communities that they serve, and are not able to attain the resources or opportunities that would enable them to play an even more effective role in the national recycling system.

Conclusions & Next Steps

End Markets

To achieve one of the project's core objectives – to find end markets for low-value plastic material – it was first necessary to implement the trainings for cooperatives and implement the Social Assurance Framework, the enhanced income program, and the segregation-at-source awareness campaigns all of which support human well-being first, and broader collection second. These foundational elements should help create a sustainable stream of input material that end markets require. Through implementation of the Social Assurance Framework action plans, the intention is for cooperatives to be prepared to enter the formal market and become connected with potential market partners (e.g., aggregators, brands, etc.) who not only have the benefit of finding a sustainable material supply, but also have assurance that they are responsibly sourcing this material.

Currently, in both the Colombia and Vietnam markets, the low-value plastic that has been recovered by the cooperatives participating in project ASPPIRe has not reach an aggregated volume of significant value. This challenge coupled with the dramatic shifts in prices paid for this type of material has made it difficult to commercialize. Over the next two years (2023-24), ASPPIRe partners will consider what next steps can be taken to create a feasible and sustainable market for both high- and low-value material.

Next Steps

Ocean Conservancy and its partners, iWrc, CECR and CEMPRE will continue to implement the ASPPIRe project in 2023, maintaining the level of training and engagement with approximately the same number of ISWCs as in 2022. The aim is to continue to strengthen the cooperatives in Colombia and the organization of the ISWCs in Hanoi, while exploring the broader needs of the recycling value chain – including the need for improved recycling infrastructure and end-markets for recyclable materials.

In addition, Ocean Conservancy and its partners continue to share the learnings from ASPPIRe with national and municipal level government representatives in both Colombia and Vietnam, as well as the global community. As an international legally binding instrument on plastics takes shape at the United Nations, Ocean Conservancy has already begun to leverage its UN-designated observer status to call for inclusion of the informal sector in the process. It is critical that policymakers recognize and support the millions who contribute to collection and recycling globally and their environmental service to society, and to our ocean.

For more information about this project, please contact Edith Cecchini, International Plastics Director, Ocean Conservancy: Ececchini@oceanconservancy.org.

Appendix

Acronyms

ASPPIRe	Advancing Solutions for Plastic Pollution through Inclusive Recycling
CDM	Clean Development Mechanism standard
CECR	Center for Environment and Community Research
CEMPRE	Compromiso Empresarial para el Reciclaje
DONRE	Department of Natural Resources and Environment
EPR	Extended Producer Responsibility
iWrc	Inclusive Waste Recycling Consortium
ILO	International Labor Organization
ISO	International Organization for Standardization
ISWC	Informal Sector Waste Collector
ISPONRE	Institute of Strategy and Policy on Natural Resources and Environment
LVP	Low-value plastics (plastics with some potential for end-markets, but not strong enough demand to incentivize collection through supply/demand markets)
MONRE	Ministry of Natural Resources
SA8000	International certification standard related to socially acceptable workplace practices
PE	Polyethylene (polymer resin)
PET	Polyethylene terephthalate (polymer resin)
PP	Polypropylene (polymer resin)
VUSTA	Vietnam Union of Science and Technology Associations

iWrc Management System and Approach

1. Confirm basic requirements at the cooperative to participate in the program
2. Schedule program presentation visit (onboarding)
3. Send the program presentation, the agreement, and the digital platform data sheet
4. Confirm interest in participating in the program and confirm signed agreement
5. Request essential documents
6. Confirm essential documents against checklist
7. Schedule & conduct operational checklist
8. Schedule & conduct Social Assurance management assessment
 - 8.1. Alert situation identified
 - 8.1.1. Report by email and indicate in the control sheet
 - 8.1.2. Go/No Go to continue work with the cooperative (alert dependent)
 - 8.1.3. Prepare & present the action plan
 - 8.1.4. Validate the action plan
 - 8.2. Request complimentary and additional documents based on assessment
 - 8.3. Complete Social Assurance management assessment
 - 8.4. Prepare results presentation (final report)
 - 8.5. Send the certificate & results
 - 8.6. Schedule & present results presentation
 - 8.7. Prepare & present the action plan
 - 8.8. Validate the action plan
 - 8.9. Monitor the implementation of the action plan
 - 8.9.1. Actions related to standard (Social Assurance Framework, SPT, etc.)
 - 8.9.2. Training (Social Assurance Framework, priority areas, supporting documents, etc.)
 - 8.9.3. Additional requirements (legal documents, H&S regulations, etc.)
9. Social Assurance management system re-assessment



