



CREATING A SUSTAINABLE MATERIALS MANAGEMENT (SMM) PROGRAM FOR FESTIVALS: THE “FIESTAS PATRONALES DE VIEQUES 2015” EXPERIENCE



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INTRODUCTION

Festivals, while enjoyable and culturally significant, are known to create mass amounts of waste in short periods of time. Too often, festival grounds can be seen with garbage cans overflowing or fields and streets littered with garbage. Little attention is typically paid to reducing and diverting trash generated at festivals and similar events. However, concerned community members, nonprofits, and festival organizers can take action to establish a festival Sustainable Materials Management (SMM) program, or recycling program, to educate the public and reduce the amount of discarded materials being sent to a landfill.

DEVELOPING COLLABORATION AGREEMENTS

Designate a leader from your team to be the program's Recycling Coordinator. The coordinator should then establish an implementation plan for the program, including the development of collaboration agreements with following stakeholders to accomplish program goals:

Materials Management Team

- a. Install Sustainable Material Management (SMM) Stations at strategic points
- b. Agree on process and frequency of bin pickup and cleanup rounds
- c. Complete a waste characterization study

Festival Organizers:

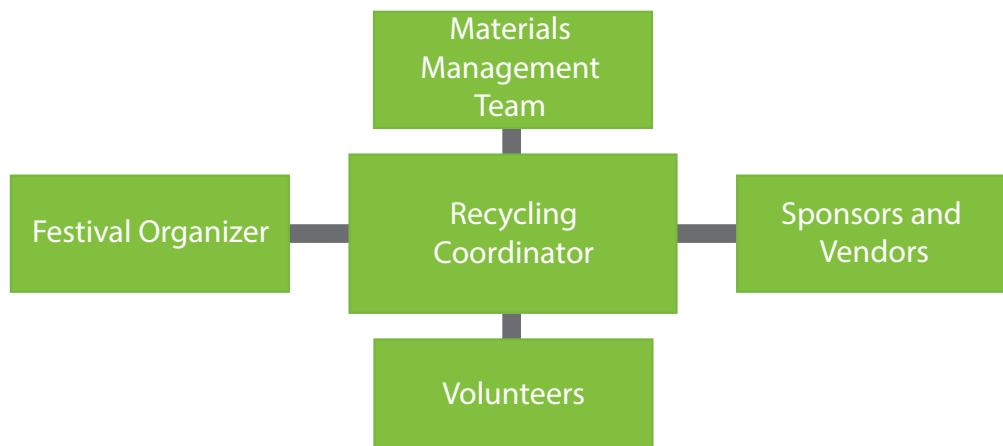
- a. Include recycling program ads with festival marketing materials
- b. Install educational signs at recycling bins and vendors
- c. Promote a waste reduction campaign

Sponsors and Vendors:

- a. Implement waste reduction recommendations
- b. Include educational messages about recycling in product promotions
- c. Sponsor SMM education campaign and volunteers t-shirts
- d. Eliminate non-recyclable and non-compostable products from sales
- e. Source food and crafts locally when possible

Volunteers:

- a. Monitor SMM stations and system efficiency
- b. Encourage the public to use SMM stations



SUSTAINABLE MATERIALS MANAGEMENT STATIONS

To implement a Sustainable Materials Management (SMM) program at a festival, “SMM stations,” or recycling centers, should be created with consideration for where people tend to consume and dispose of materials. Stations are a group of recycling bins that the public can use to sort and recycle the various types of materials being separated and collected at the festival. Where possible, a collection bin for compost can also be included in the station. Clear graphics and simple instructions on what and how to recycle, and why we segregate materials for recycling, should be located at eye level on top of recycling bins. Lids are recommended for bins to prevent materials from ending up in the wrong container. Trash bins should not stand alone. Instead, trash bins should be labeled as “Landfill,” and placed next to the SMM station.



RECYCLING AS PART OF THE SHOW

At most festivals there is an MC or master of ceremonies in charge of introducing musicians, making general announcements, and advertising. This person should be trained by the Recycling Coordinator to have a clear understanding on how the festival recycling program works and why it is important. The Recycling Coordinator should work with the MC to develop an announcement that can be recorded prior the event, and determine ways for the announcement to be incorporated into regular festival programming to draw attention to SMM stations. Educational videos and recycling games are other ways to raise awareness of the festival recycling program.



CALL FOR VOLUNTEERS

Volunteer participation is an important component of a successful festival recycling program. Before the event, develop a Call for Volunteers that can be emailed out to potential volunteers, or a flyer that can be posted throughout the community, as well as an online sign-up form (e.g. Google Forms). Volunteers will help staff SMM stations and educate the public on how to separate materials properly. Volunteers should work no more than three to four hours. Depending on the duration of the festival and how many volunteers sign-up, make a schedule program divided in three or four hour shifts that will cover the entire festival. Volunteers will need a brief training on how to interact with the public, details on the frequency of pickups and disposal procedures, educational t-shirts promoting the recycling initiative and their involvement, gloves, bags for the bins, hand sanitizer, shade, and refreshments.



VENDOR AND SPONSOR PARTICIPATION

The Recycling Coordinator should work with vendors to reduce the consumption of non-recyclable materials such as plastic bags, disposable plastic cups, silverware, and food containers made out of plastics other than #1 & #2. Encouraging vendors to source products locally will help reduce the amount of waste produced from the packaging of imported commodities and reduce the carbon footprint of products. Promote local food and crafts in your festival by incentivizing vendors to use local produce to prepare food, beverages, and crafts with local materials. The materials management team and festival organizers should work with sponsors and vendors to include educational messages about recycling in product promotions. Sponsors can also help with the recycling education campaign by funding t-shirts for volunteers.

COLLECTION AND MONITORING

Depending on the size of the festival, you will need to have a minimum number of volunteers and time set aside to collect materials when bins are full, or to collect materials littering the ground after crowds and parades. Despite educational signs posted at each station, expect that the separation of materials will not be completely correct. If you are unsure about the pace and the level of attendance at the festival, monitor the SMM stations by revisiting the bins every 30 minutes to see how full they become and adjust the frequency as needed. Volunteers can help to complete these tasks and specific areas can be assigned to volunteers for monitoring. Consider creating a map of the festival to assign different areas to volunteers.

Before the event, establish how sustainable material management stations will operate with solid waste staff, volunteers, and vendors. Communicate the location of each station and estimated collection frequency. Check in with volunteers consistently and check on bins between pickups to make sure that diversion procedures are being followed properly. Also monitor the landfill bins to ensure that the solid waste team is not hauling away recyclables. After the event, complete a waste characterization study to estimate the percentage of the total waste stream that was diverted, and the total of recyclable and non-recyclable materials that were discarded in landfill bins. Develop a proposal with improvements to the collection system for future events.

MATERIALS CHARACTERIZATION

Following the event, weigh the recyclable materials that were collected to determine the quantity of materials diverted from the landfill and their market value. Complete a characterization study of festival waste to determine the type and amount of materials that ended in the landfill stream. Define future strategies to reduce waste and increase recycling rates, such as establishing a collection program for compostable materials, or requiring vendors and sponsors to use reusable or biodegradable service ware.



Handwritten table titled "Fiestas Patronales y Carnaval" and "Material Reciclado". It lists the amount of material recycled in pounds and grams (lb GR) for different materials over time.

Material	Time	Amount
Aluminio	7-21-15 10:31 AM	107 lb GR
Aluminio	7-21-15 10:36 AM	108 lb GR
Aluminio	7-21-15 10:40 AM	51 lb GR
Vidrio	7-21-15 10:44 AM	292 lb GR
Metal	7-21-15 10:48 AM	15 lb GR
Plastico	7-21-15 10:49 AM	

THE "FIESTAS PATRONALES Y CARNAVAL" EXPERIENCE

The "Fiestas Patronales y Carnaval" was celebrated over five days in July 2015 in the Vieques Municipality on the Island of Puerto Rico. Twelve kiosks were installed around the plaza to serve food and drinks. The municipal recycling office provided a 20-gallon bin and educational information to each kiosk to implement a collection program with pickup rounds being made every two hours. Each kiosk manager signed a contract with the recycling coordinator in which they assumed responsibility for the proper use of the bin, as well as returning the bin in good conditions after the festival.

A team of staff and volunteers from Syracuse EFC's "GREEN-PR Program" (Generating Replicable Environmental Education Networks in Puerto Rico) helped the municipal recycling coordinator implement and coordinate the recycling program. The objective of the program was to increase the recycling rate at the festival, complete a materials characterization study to evaluate the economic and environmental impact of such a program, and to establish an efficient collection process that could be replicated at other festivals.

Out of the twelve participating kiosks, only three followed proper separation procedures without contamination during the event. Other kiosk operators benefited from consistent reminders to keep the recycling bin clean from organics and non-recyclable items.

Twenty trash receptacles were placed around the festival to collect solid waste. The GREEN-PR team transformed ten of them into recycling bins and placed them next to the trash receptacles for convenient recycling.

SMM stations should capture the attention of the public in a very clear and obvious way. An easy way to transform a trash receptacle into a recycling bin is to create a cardboard lid for the top of the bin with a labels and cutouts in the shape of each accepted recyclable.

A characterization of the total waste stream was conducted at the end of the second day of the festival. Plastic #1 bottles and aluminum cans found in the waste stream were collected and weighed. These values were compared with the estimated weight and value of their counterparts collected in recycling bins. Cardboard and tin were collected directly from the kiosks, and it is estimated that 20% of these materials ended in the waste stream. The following table reflects the results of the characterization.

Table 1: Materials recovered for recycling in “Las Fiestas Patronales de Vieques” recovered pounds and estimated landfilled pounds with an estimated market value using references from material management companies in the island: IFCO, ConWaste and Ambiente Orgánico; and the recycling coordinators from the following municipalities: Carolina, Utuado and Vieques.

Materials	Recovered Pounds	Recovered %	Wasted Pounds	Estimated Market Value \$/lb	Estimated Market Value \$/ton	Estimated Recovered Value	Estimated Landfilled Value
Plastic #1	70	15	466.67	0.20	400.00	14.00	93.33
Tin	15	80	18.75	0.18	350.00	2.63	3.28
Cardboard	398	80	497.50	0.08	150.00	29.85	37.31
Aluminum	266	15	1773.33	0.75	1500.00	199.50	1330.00
Glass	292	15	1946.67	0.02	38.00	5.55	36.99
Total						251.52	1500.91



Final Recommendations and Next Steps

Establishing collaboration agreements is an important step in establishing a festival recycling program. Collaboration agreements should be formalized with in-person training(s) for volunteers, contractual agreements for vendors, and shared work plans among collaborators. The role of each stakeholder should be clearly outlined and communicated well in advance of the event.

Educational materials and metrics to measure the success of the program are key to public outreach and community buy-in. Educational materials should be created in collaboration with community leaders so that the information reflects local recycling infrastructure and markets. Every community event or concert has unique characteristics and targets a particular audience. Involving community members and seeking their input on the program will increase community buy-in to your program and increase its impact.

As a result of the recycling program at the “Las Fiestas Patronales de Vieques 2015,” the project team was able to identify ways to incorporate SMM practices in municipal solid waste operations as well. The municipal recycling coordinator for Vieques and Syracuse EFC are planning a series of workshops this year to discuss future steps.

