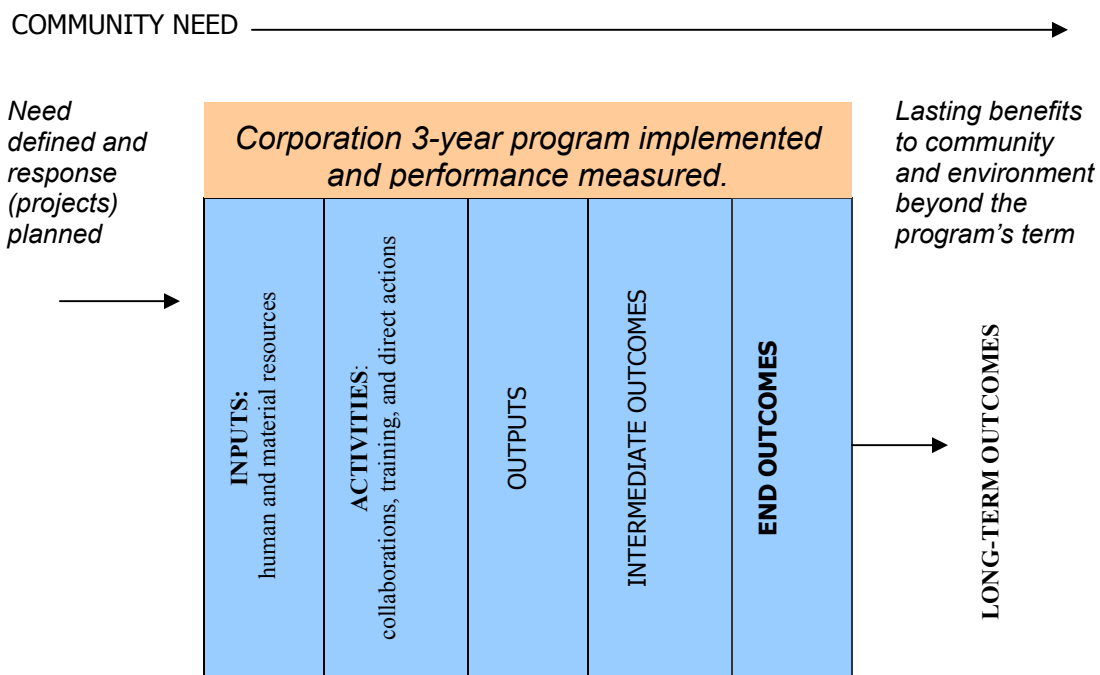


Corporation for National and Community Service
Environmental Programs
SOLID WASTE REDUCTION
Performance Measurement

Corporation programs (AmeriCorps, Senior Corps, AmeriCorps*VISTA, Learn and Serve America) implementing environmental projects face challenges in identifying outputs and outcomes that can be measured annually, and sometimes even within the three-year program funding cycle. This is because generally, Corporation environmental projects contribute to a *larger mission* that is realized over a longer period of time. Below is a diagram of how the efforts of Corporation environmental projects might fit into the broader environmental picture. Following is a description of a fictional environmental program, organized into a logic model, that considers both the immediate and the eventual benefits to humans and the environment.

Figure 1. Corporation Programs' Contribution to Lasting Environmental Benefits



Solid Waste Reduction: An Example

This document provides an example of an environmental project, solid waste reduction, which demonstrates a "big picture" of this effort, and within this big picture, what Corporation programs can contribute. Solid waste reduction can incorporate various efforts, including waste prevention, recycling and composting, reusing materials, and disposing of hazardous waste safely. This document identifies the solid waste reduction outcomes that can be measured annually and within the program's three-year funding cycle, as well as those outcomes that are likely to occur after the three-year term.

This document consists of two sections:

1. **The Logic Model: Measurable Outputs and Outcomes** incorporates direct environmental service and public education activities. Outcomes listed on these pages could be measured within a three-year project term.
2. **Long-term Outcomes** lists outcomes that would be expected as a result of various solid waste reduction activities (e.g., decrease in pollution). However, these long-term outcomes may be difficult to measure, or may not be measurable at all, within a three-year project term.



SOLID WASTE REDUCTION Logic Model Example¹

Community Need: The community needs an efficient and sustainable solid waste reduction system. Solid waste reduction includes these efforts: (1) waste prevention; (2) reusing materials that can be reused; (3) recycling and composting; and (4) disposing of remaining waste safely.

		Inputs	Activities	Outputs	Intermediate Outcomes	End Outcomes
		In order to carry out our set of activities, we will need the following:	In order to address our need, we will carry out the following activities:	We expect that once carried out, these activities will produce the following evidence or service delivery:	We expect that if carried out, these activities will lead to the following intermediate changes:	We expect that if carried out, these activities will lead to the following end changes:
Direct Environmental Service	Recycling (Manmade Materials)	<p><u>HUMAN RESOURCES:</u> X number of members/ volunteers/ participants assigned to set up and/or run recycling activities. Community volunteers Trainers</p> <p><u>MATERIAL RESOURCES:</u> Materials: gloves, goggles, masks, other safety clothing; bins, signage, tools. Containers and instructional flyers for distribution.</p>	<p><u>COLLABORATIONS:</u> Collaborate with local government agencies, businesses, universities, or nonprofits to partner in setting up and/or operating recycling sites, collecting household recyclables, processing materials, and distributing new raw materials to manufacturers. Work with local churches, housing authority, community centers, or neighborhood associations to target areas that are not receiving city recycling services (e.g., low income or multi-family unit housing, mobile homes). Collaborate with local business and manufacturing to (1) collect used materials and (2) find new uses for recycled materials. Contact the media for publicity.</p> <p><u>TRAINING:</u> Train community volunteers in recycling procedures and safety.</p> <p><u>ACTIONS:</u> Install recycling containers in public areas (e.g., schools, markets). Distribute recycling containers to households. Assist in setting up recycling site (if needed). Assist in operation of recycling site, including collecting, sorting, cleaning, and packaging materials.</p>	<p>Number of collaborative partners.</p> <p>Number of community volunteers trained.</p> <p>Number of new recycling containers installed around town.</p> <p>Number of households served (where items are picked up and those that deliver items to the site themselves).</p> <p>Number of hours recycling sites are in operation per week (open to public and/or maintained by labor).</p> <p>Pounds of paper, glass, plastic, and metal collected and processed.</p> <p><u>Instruments</u> <i>List of Sponsors, Letters of Agreement Checklist of Households/Blocks, or Neighborhoods (where public bins were installed and household containers distributed) Record of (pounds of) Materials Collected</i></p>	<p>Increased use of recycling center in community; increased amount of materials recycled.</p> <p><u>Instruments</u> <i>Record of (pounds of) Materials Collected</i></p>	<p>People report decreased amount of household waste.*</p> <p>Sustainability: Recycling system in place.*</p> <p><u>Instruments</u> <i>Household Survey</i></p>

¹ For illustrative purposes, this example provides examples of various activities. However, it is not meant to suggest that a project should attempt all these activities.

<p>Recycling (Composting)</p>	<p><u>HUMAN RESOURCES:</u> X number of members/ volunteers/ participants assigned to composting activities. Community volunteers Trainers</p> <p><u>MATERIAL RESOURCES:</u> Training curriculum. Materials: site, signage, bins, bedding (straw, shredded paper), tools, and possibly red worms. Containers and instructional flyers for distribution.</p>	<p><u>COLLABORATIONS:</u> Collaborate with local government agencies, businesses, universities, or nonprofits to partner in setting up and/or operating composting sites, collecting household organic recyclables and yard trimmings. Partner with farmers, community and gardeners, and other growers to accept or purchase compost, and to contribute materials to compost site (e.g., red worms, straw).</p> <p><u>TRAINING:</u> Train community volunteers and members/volunteers/participants in composting procedures and care.</p> <p><u>ACTIONS:</u> Distribute composting containers to households. Set up and maintain composting site: collect materials or alert public to distribution points, maintain/care for compost; distribute or sell humus to growers, individual or community gardeners, and landscapers.</p>	<p>Number of collaborative partners. Number of community volunteers trained. Number of households served (where items are picked up and those that deliver items to the site themselves). Number of hours composting sites are in operation per week (open to public and/or maintained by labor). Pounds of organic material collected for composting. Number of bins set up at site for composting.</p> <p><u>Instruments</u> <i>List of Sponsors, Letters of Agreement Checklist of Households/Blocks, or Neighborhoods (where materials were collected or household containers distributed) Record of Materials Collected</i></p>	<p>Increased public awareness of, and contribution to, compost site. Increased use of humus by home and community gardeners.</p> <p><u>Instruments</u> <i>Record of (pounds of) Materials Collected Survey of Community Gardeners</i></p>	<p>People report decreased amount of household waste.*</p> <p>Improved soil quality where compost was added (soil retains moisture and nutrients, prevents fertilizer runoff and lessens need for fertilizer).</p> <p>Sustainability: Composting systems in place.*</p> <p><u>Instruments</u> <i>Survey of Community Gardeners Household Survey</i></p>
<p>Reusing (Flea Market example)</p>	<p><u>HUMAN RESOURCES:</u> X number of members/ volunteers/ participants assigned to flea market activities. Community volunteers Trainers</p> <p><u>MATERIAL RESOURCES:</u> Training curriculum For flea market: site, signage, folding tables. Access to printing materials.</p>	<p><u>COLLABORATIONS:</u> Collaborate with local businesses or nonprofits to partner in setting up community flea markets. Work with local government to obtain permits, other requirements for public gathering (e.g, portable toilets, water source). Work with media for publicity.</p> <p><u>TRAINING:</u> Train community volunteers in organizing and marketing community activities.</p> <p><u>ACTIONS:</u> Develop flyers and distribute. Organize, set up and staff one-time or periodic flea markets.</p>	<p>Number of collaborative partners. Number of community volunteers trained. Number of days/hours flea market is open to the public, number of sellers, and number of attendees.</p> <p><u>Instruments</u> <i>List of Sponsors, Letters of Agreement</i></p>	<p>Increased attendance at flea markets; people report they are satisfied.</p> <p><u>Instruments</u> <i>Survey of Flea Market Attendees</i></p>	<p>People report decreased amount of household waste.*</p> <p><u>Instruments</u> <i>Household Survey</i></p>

Community Need: The community needs an efficient and sustainable solid waste reduction system. Solid waste reduction includes these efforts: (1) waste prevention; (2) reusing materials that can be reused; (3) recycling and composting; and (4) disposing of remaining waste safely.					
	Inputs	Activities	Outputs	Intermediate Outcomes	End Outcomes
Public Education and Outreach					
Schools, Households, and Community Events	<p>HUMAN RESOURCES: X number of members/ volunteers/ participants assigned to outreach activities. X number of members/ volunteers/ participants assigned to developing educational materials, including website. Community volunteers Trainers</p> <p>MATERIAL RESOURCES: Training curriculum in outreach efforts, working with different groups of people. Training curriculum in finding and accessing various sources of information. Supplies for educational materials or outreach flyers (books, presentation materials, electronic equipment, access to printing materials., etc.). Materials for booths (tables, chairs, signage, tents/covers, etc.) Access to library and electronic resources (internet, telephone, computers, etc.).</p>	<p>COLLABORATIONS: Develop partnerships with local organizations or government agencies that can sponsor educational/outreach efforts such as community fairs. Collaborate with local schools, community centers, and other organizations or agencies to determine who, where, when, and how best to address educational/outreach efforts. Work with the media for publicity.</p> <p>TRAINING: Train community volunteers in developing research materials and conducting outreach efforts.</p> <p>ACTIONS: Develop educational materials (handouts, flyers, posters) for school children and the general public. Set up and operate booths at fairs/events at schools, parks, etc. to educate public and raise awareness. Present at local schools. Deliver informational leaflets to households. Set up and maintain website as a public information resource.</p>	<p>Number of documented commitments from sponsors, schools, community centers, or other organizations.</p> <p>Number of meetings, fairs, community events, and school visits where presentations were given. When possible, the number of attendees at presentations.</p> <p>Number of community volunteers trained.</p> <p>Number of educational materials developed and used in presentations and outreach efforts.</p> <p>Number of blocks/households where leaflets were distributed.</p> <p>Number of "hits" on website.</p> <p><u>Instruments</u> <i>List of Sponsors, Letters of Agreement</i> <i>Schedule of Presentations (with estimated attendance)</i> <i>Checklist of Households/Blocks</i> <i>Checklist of Educational Materials and Sources</i> <i>Record of "Hits" on website</i></p>	<p>Increased public knowledge of waste reduction options and programs/resources available locally. Improved attitudes/increased willingness to use these options. Increased public knowledge of household hazardous wastes and how to dispose of them safely.</p> <p><u>Instruments</u> <i>Household Survey</i></p>	<p>Reduction in the amount of waste generated (e.g., in pounds per capita).</p> <p>Increase in recycled materials (e.g., in pounds per capita).</p> <p>Households report they have decreased amount of waste* and increased:</p> <ul style="list-style-type: none"> • Reusing products • Recycling manmade materials • Recycling organic materials • "Precycling" • Proper disposal of household hazardous wastes <p>Fewer accidental poisonings in households.*</p> <p><u>Instruments/Data Source</u> <i>Household Survey</i> <i>County Records</i></p>

*Directly benefits people in the community.

Examples of topics for educational materials:

- Overview of the life cycles of commonly used products, from the materials energy it takes to manufacture them to where they end up.
- Preventing unnecessary waste at home and in the office (reusing paper products or using less paper, reducing junk mail)
- Reducing toxic waste in the environment (using nontoxic biodegradable products, pump sprays instead of aerosol, unbleached paper products)
- Reusing or extending the life of other business and household items (maintaining or donating furniture, electronics, clothes, bikes, cars, etc.)
- Recycling manmade materials (bottles, cans, paper, plastic, etc.)
- Recycling organic materials (composting and yard trimmings)
- Safe disposal of household hazardous wastes (flammable, toxic, corrosive, or reactive paints, aerosols, cleaners, motor oil, mercury thermometers, etc.)
- “Precycling”: purchasing products made of recycled materials and with minimal packaging, products that last longer rather than single-use items.

SOLID WASTE REDUCTION Long-term Outcomes

Long-term outcomes are the effects on the environment that we would expect to see *over time* because of actions taken earlier by Corporation project teams. We would not expect to measure these outcomes because they would probably not be observable until after a three-year project term. For example, the long-term outcomes listed below (e.g., reduced pollutants in the soil and groundwater) would result from a combination of actions completed during the project’s term (e.g., outreach and educational visits to schools), as well as actions continuing beyond the project term (e.g., recycling efforts set up by members/volunteers/participants and continued by the community; see pages 2-4).

Long-term Outcomes		
<p>Through proper hazardous waste disposal, safer home and working environments.* →</p> <p>Through reduced litter and dumping practices, enhanced beautification of the land.* →</p> <p>Increased community assistance in maintaining an efficient and sustainable solid waste reduction system. →</p> <p>Reduced need for new landfills and combustors.</p> <p>Increase in raw materials to local manufacturers* (through recycling efforts). Potential for new business start-ups using recycled materials to develop products.</p> <p>Improved vegetation (through regular use of compost). Potential for increase in organic farming practices.</p>	<p>Reduced pollutants in the soil and groundwater (fewer heavy metals in the soil and groundwater because of household hazardous waste; fewer chemicals because of lessened need for fertilizer and pesticides). →</p> <p>Measurable reduction in solid waste over time.</p> <p>Reduction in waste disposal expenses to the county* (less handling, transporting, storing).</p>	<p>Improved quality of drinking water.*</p> <p>Decrease in air, water, and soil pollution.*</p>

***Directly benefits people in the community.**

Resources: U.S. Environmental Protection Agency (www.epa.gov), California Integrated Waste Management Board of California (www.ciwmb.ca.gov), Recycling and Waste Reduction Commission of Santa Clara County (<http://reducewaste.org>), Minnesota Office of Environmental Assistance (www.moea.state.mn.us).

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