



Recycling and Climate Change Program Report 2021



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Description and Vision

The BELL Organization was founded under the intent that proper educational opportunities should be provided to every youth and young adults regardless of their socio-economic status. BELL Organization's mission is to develop and provide quality educational opportunities for girls, in-school youths, and out-of-school youths, young adults from low-income and underrepresented communities. Our organization provides services ranging from career building, educational enrichment programs, life coaching, internships, and youth mentor-ship development for girls, migrants, youths, and young adults.

Global Climate Crisis

According to the United Nations (UN), global climate change is the greatest challenge of our time, and it is taking place more rapidly than we expected. And because of climate change, all parts of the world are suffering severe consequences from environmental degradation, natural disasters, weather extremes, food insecurity, economic disruption, conflict, and terrorism. We are seeing rising sea levels, Arctic melting, coral reefs dying, oceans becoming acidic, and forests disappearing.

There are billions of tons of carbon dioxide emitted into the atmosphere every year because of coal, oil, and gas production. Our activity as humans is causing unprecedented emissions of greenhouse gases, which show no signs of slowing down. Currently, glaciers and ice sheets in polar and mountainous regions are melting more quickly than ever, raising sea levels. We are all at risk of food and water insecurity due to climate change.

We are also seeing a rise in human-induced climate change diseases. In 2019, the world was attacked by the COVID-19 disease. A report the Lancet highlight the importance of aligning response to climate change and COVID-19 pandemic.

We need to confront climate change sooner rather than later to advance toward a sustainable future. How do we combat the climate change crisis?

- Renewable energy
- Recycling
- Solar power

Recycling & Climate Change Program Overview

The Bell Recycling and Climate Change Program strives to encourage community interest in climate change and sustainable living. It is well known that growing your own food promotes healthy organic eating, reusing, and recycling can help save the environment, and that grocery shopping bills can be minimized, which can help families who are financially burdened by the ongoing COVID-19 pandemic.

In this six-week program, participants (age range is 9 to 24) from the Bronx learn to incorporate recycling and sustainable practices like composting into vegetable community gardening where they grow plants like spinach, kale, carrots, and lettuce. Participants also do plant-care projects at home where they can grow smaller herbs and plants. Upon completion, participants are awarded a \$100 gift card, a certificate of completion, the vegetables and plants grown at that point from our garden.

Goals and Objectives

The program tracks an increase in knowledge about gardening methods, both in an outdoor garden as well as home, ways that recycling can be used in gardening and how gardening relates to the climate and affects climate change via surveys. The surveys are administered to the participants and parents of minors that are participating to see if the knowledge also transfers to the surrounding community of the active participants.

The following are the goals and objectives of the program:

1. Motivate community interest in learning about climate change while helping families who are financially burdened due to the ongoing COVID-19 pandemic
2. Teach community about:
 - a. Gardening (lettuce, carrots, kale/smaller herbs like, basil, thyme, or lentil sprouts).
 - b. Recycling & Composting
 - c. Successfully germinate/sprout vegetables from the community garden
3. Demonstrate actionable knowledge about the relationship between recycling, climate change and the environment.

Curriculum

The BELL Recycling and Climate Change Program is in 3 modules which corresponds to the days it takes for certain crops to grow. Each module lasts a month, with the potential of optional meeting days

Module 1	Module 2	Module 3
<ul style="list-style-type: none"> • Introduction into planting (types of soil, how to plant, types of seeds) • Introduction into recycling for gardening • Introduction into climate and garden theory • Carrots are planted 	<ul style="list-style-type: none"> • Introduction into planet safe gardening methods (composting, humane pest control, weeding) • Lesson on plant maintenance • Kale is planted 	<ul style="list-style-type: none"> • Lettuce is planted • How to harvest crops and replant them • Certificates are awarded • Gift cards are awarded

Figure 1 - Participants were supplemented with worksheets, emails, and offers for after class instruction. Classes were scheduled from 10:00 am to 2:00 pm, totaling for an allotted twenty-four (24) hours of official scheduled garden time and approximately thirty

Itemized Budget

For this program, BELL Organization proposed the following budget, and it was accepted by the New York City Civic Engagement Commission:

Description of Item	Quantity (if applicable)	Cost	Total
Personnel (Staff Time)			
Program Director – responsible for researching, planning, developing, and implementing the program.	1	\$ 3,000	\$ 3,000
Outreach Team – ensure the program runs efficiently, maintain open dialogue with student parent and be the go between with the program director.	5	\$ 7,500	\$ 7,500
Data Acquisition team – data collection and reporting.	2	\$ 2,000	\$ 2,000
Materials, Equipment and Supplies			
Microsoft Surface Pro 7 (2)	2	\$ 599	\$ 1,198
13-inch MacBook Air (1)	1	\$ 999	\$ 999
iPad mini (1) 64GB	1	\$ 399	\$ 399
Licenses, Promotion & marketing, Storage	1	\$ 2,900	\$ 2,900
Youth Stipends and Incentives			
Gift Cards	20	\$ 2,004	\$ 2,004
TOTAL			\$ 20,000.00

This is the proposed budget, but funding did not arrive in time as result the following are additional items that we used:

- A collaboration with a local community garden in the Bronx with access to large plant beds sufficient to grow larger crops like lettuce and kale
- Gardening materials such as shovels, trowels, gardening gloves, seeds, spray bottles, gardening pots, soil, composting materials, plant food, fertilizers, natural pesticides, rakes, fencing and smaller miscellaneous gardening items

- Administrative materials such as library computer access, Staples printer access, paper, printer ink, pens, and pencils
- Staff members (instructors, assistants, program coordinator, guest facilitators and experts, garden merchants)
- Supplementary materials such as drinkable water, small snacks, and PPE such as masks and hand sanitizer to optimize safety for the participants and accompanying guests
- Promotional materials such as online advertisements, flyers, handouts, and brochures

Program Details

Promotion and Advertisement



To promote the program, we made digital advertisements and distributed them via online social media platforms such as Instagram and Facebook. Below is a flyer we created to promote the program.

We asked the program applicants several questions to understand their knowledge about the program.

When asked how they heard about the program, almost half of the participants indicated that they heard through word of mouth (41.2%) while the rest of the participants heard through a variety of other ways including flyers (17.6%) and social media (5.9%) specifically Instagram (11.8%).

When asked why participants chose to participate in this program:

- 35% of the participants indicated that they wanted to learn how to grow their own food.
- 17% said they were interested in helping their community
- 12% mentioned having interest in community gardens
- 6% said they wanted to explore
- 6% spoke about loving plants
- 6% mentioned loving to garden and wanting to know more
- 6% said that recycling and planting were good for the air
- 12% did not give an explicit reason

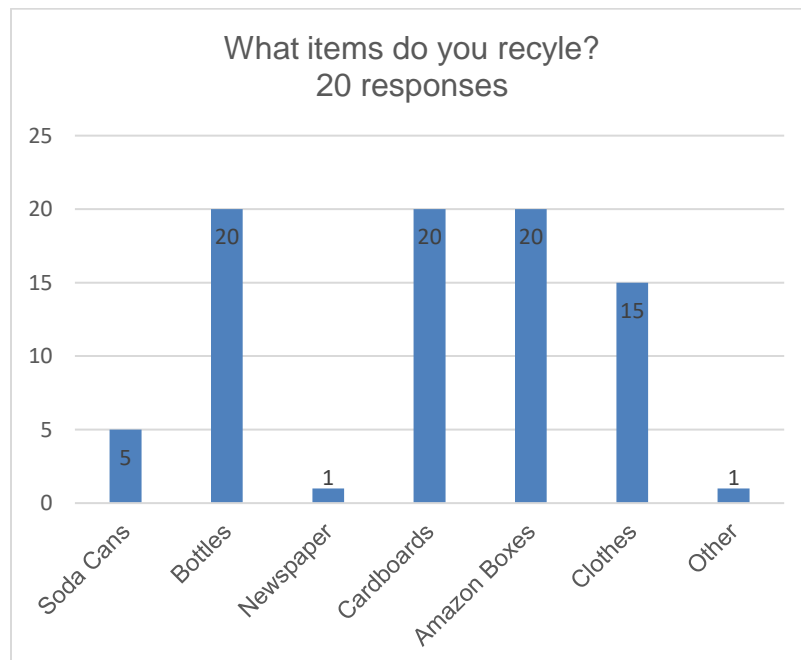
Participants Recycling Survey

Prior to the program, we collected information about participants' recycling knowledge using Google forms.

For example, we wanted to see if they recycle at home, or if they knew what items can be recycled, and the importance of recycling in their lives and household.

In this survey, we had 20 respondents.

According to the 20 participants; bottles, cardboards, and Amazon boxes are the most recycled items while newspapers are the least recycled in their households as seen in the chart below.



PARTICIPATION INFORMATION

Gender (Male to female) -

The participants identified as a mix of different demographics with a mostly even split between those identifying as male (he/him) and female (she/her).

Ethnicity -

The participants also identified with a range of different racial and ethnic identities with approximately 59% of the participants identifying as of Hispanic or Latino descent, the rest of the participants identifying as black or African American (11.8%), multiracial or biracial (11.8%), Asian or Pacific Islander (5.9%), Native American or Alaskan Native (5.9%) and as an identity not listed.

Age Range Information: 9 - 24

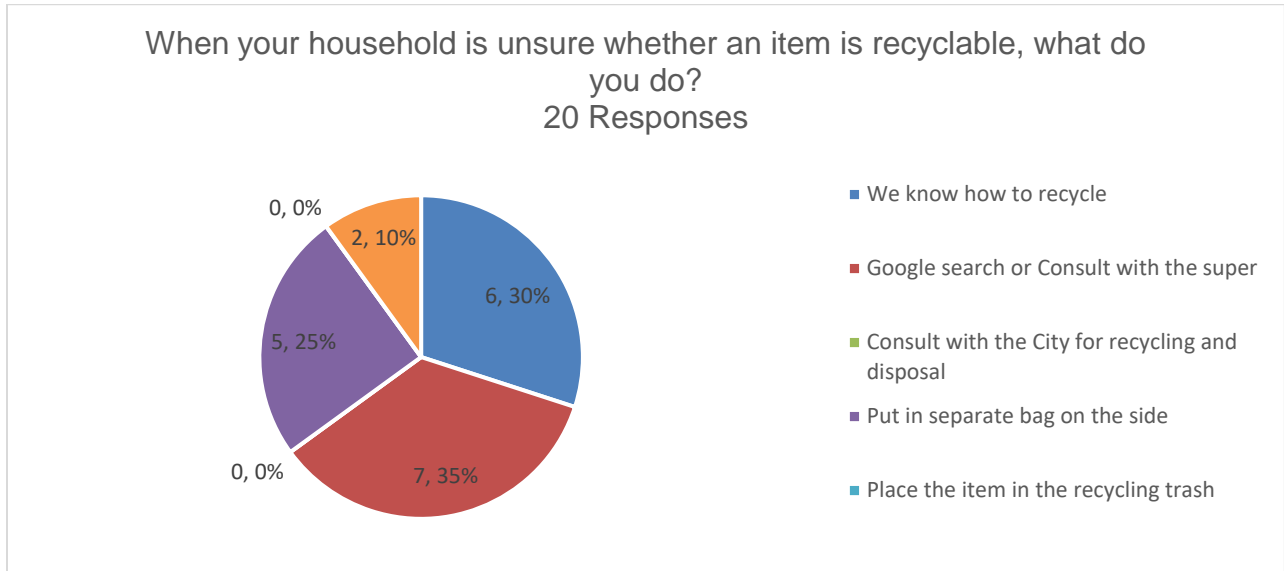
Zip Codes -

All the participants were from the Bronx with 52.9% of them located in the 10467 Zip code area.

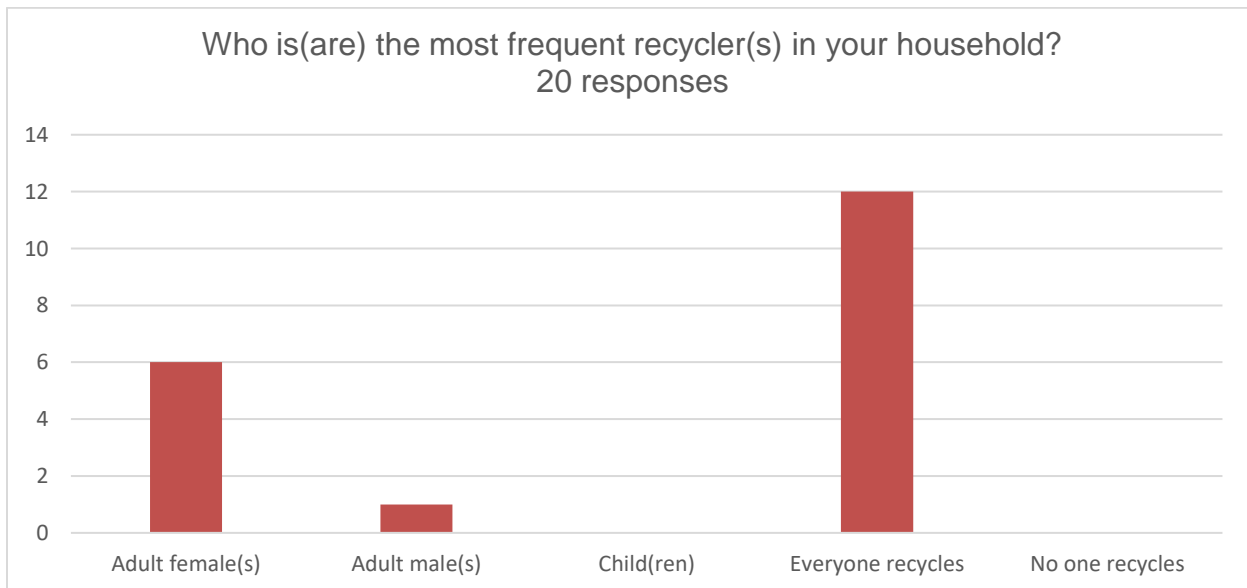
Language -

Most of the participants indicated that they spoke English, though some of them indicated that they spoke Spanish as well.

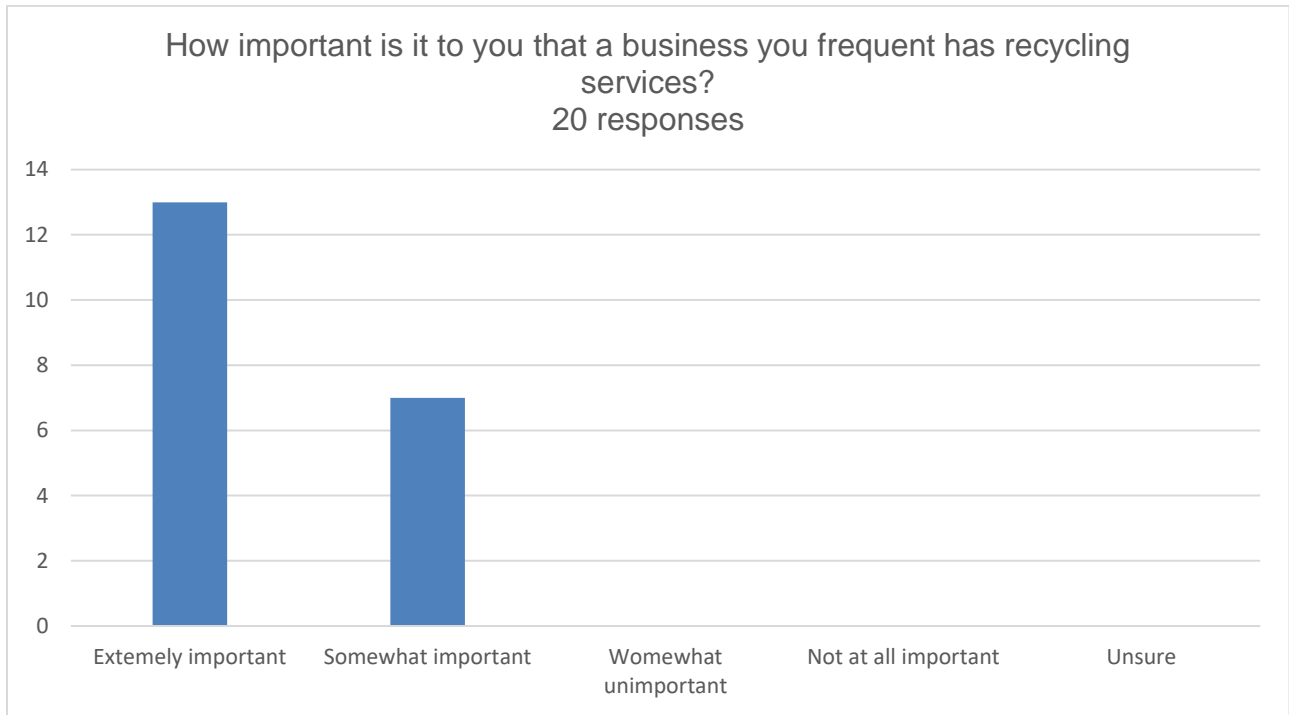
In the survey, we asked the 20 households what they do when they are not sure whether an item is recyclable or not. Seven respondents said that they consult the internet using Google or they ask their building superintendent for directions, six replied that they recycle, five said that they place the item into a separate bag, and the last two answered that they throw the item in the trash. This is summarized in the following chart.



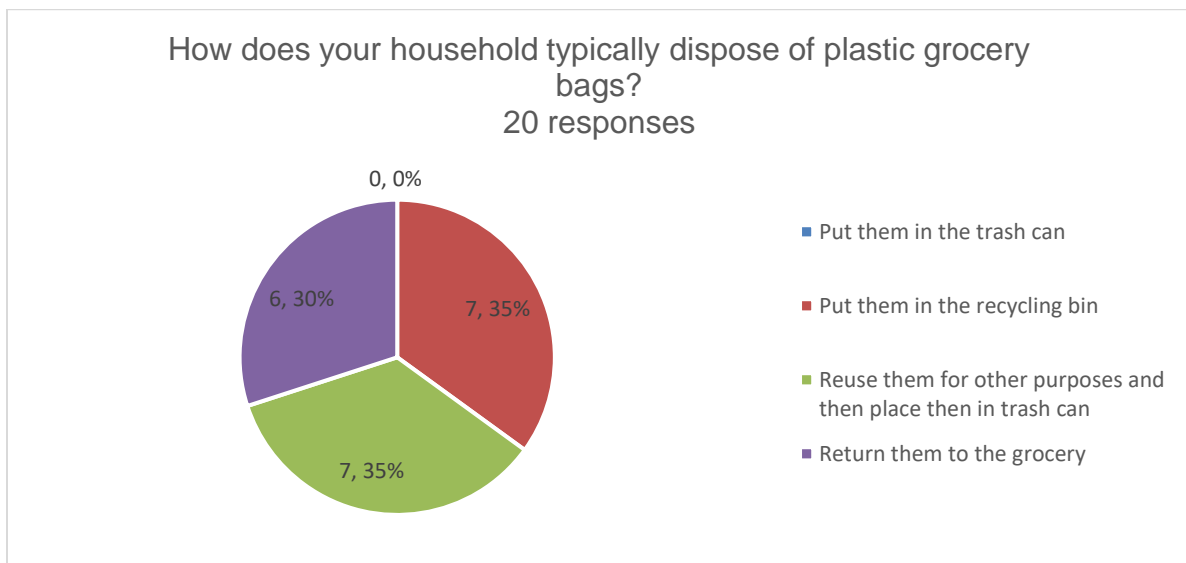
We also wanted to see who does most of the recycling in these 20 households. From the twenty (20) responders; twelve (12) households said everyone in their home recycles, six participants said that only the adult females recycle, and the last participant said only adult males recycle as the chart below illustrates.



When asked how important it is for business, they frequent to have recycling services, thirteen (13) households said it was extremely important and the last seven (7) shared that it was somewhat important.



When asked about how they typically dispose of plastic grocery bags, we received different responses. Seven (7) households reuse bags and discard them, seven (7) households recycle them, and the last seven (6) households return them to the grocery as seen below.



Program Meeting Location

Initially, we secured a place at Meg's Community Garden & Edible Forest located at DeWitt Clinton High School, 100 W Mosholu Pkwy South, Bronx, NY 10468 to host our program. Unfortunately, the garden faced permit issues due to its location. The overseers of garden are still currently in the midst of attempting to resolve the issue. This resulted in us halting the program after one class temporarily to source a new garden.

Due to the ongoing COVID-19 pandemic, many gardens closed either for rehabilitation to implement COVID-19 safety measures or they are not accepting new partnerships at all.

Eventually, BELL was able to acquire a space at the Fordham Bedford Lot Busters Community Garden located at 2597 Bainbridge Ave, Bronx, NY 10458.



Figure 2 - Participants watering plants at our Fordham Bedford Lot Busters Community Garden.

Attendance

During the initial launch of the program, we wanted to ensure that data is collected on the participants and their guardians to observe their understanding on gardening, climate change and recycling. Our team created Google Surveys to track this data. The primary focus was to assess whether the participants had a positive feel about the program, whether they enjoyed attending the program and whether the materials that the teachers were providing were satisfactory. Throughout the whole program, participants completed these surveys at the end of each session. We trained all staff and provided them with the necessary documents to hand out to attendees and guardians at the end of every meeting. Periodically throughout the program, we had low attendance turnout due to COVID-19 pandemic, bad weather, and scheduling conflicts.



Figure 3 - Participants and teachers transplanting plants at our Fordham Bedford Lot Busters Community Garden.

Student Weekly Surveys

We presented all participants with the following survey at the end of each session.

BELL Student Weekly Survey

1. I feel safe being in this Program.
Strongly agree
Agree
Neutral
Strongly disagree
Disagree
2. I like going to the Program.
Strongly agree
Agree
Neutral
Strongly disagree
Disagree
3. I like the way my program leader teaches our class
Strongly agree
Agree
Neutral
Strongly disagree
Disagree
4. We have lots of fun activities in the Program.
Strongly agree
Agree
Neutral
Strongly disagree
Disagree»»«
5. My parents come to the Program with me.
Strongly agree
Agree
Neutral
Strongly disagree
Disagree
6. I am learning the kinds of things I thought I would learn in the Program
Strongly agree
Agree
Neutral
Strongly disagree
Disagree

Follow Up and Challenges

After examining our data and observing our plants while running the program, our team decided to extend the dates of the program through the month of July while changing some of the format to allow the participants the opportunity to make it to Modules 2 and 3. To maximize the extended program dates, we made a concerted effort to meet with the students more frequently to quantify the time lost in June.

With these amendments we saw an increase attendance rates, decrease learning loss, and increase participation.

The following are some additional challenges we faced:

1. Increased promotional duration
2. Our Official Instagram Account and Posts were flagged for unknown reasons, which affected our promotion
3. The initial garden lost its permit, which caused the program to begin later than expected
4. The soil in our alternative garden beds should have been treated with additional fertilizers to ensure that once we planted the seeds and transplanted their home plants of choice they would be in the right environment for optimal growth
5. Longer program time with the participating students
6. Lower in-person attendance rate due to the ongoing COVID-19 pandemic
7. An easier way to access community gardens

Conclusion

Despite above stated challenges, we were able to achieve two of the three goals of the program. With more time and some amendments to our programming, we hope to produce the intended results of increasing overall knowledge of gardening, recycling, and climate change within the communities in the Bronx. The following are some suggestions to raising the bar for the future of the program:

- Securing a garden early and starting the program early
- Expanding our advertisement mediums

- Better database management
- Developing effective ways of record keeping
- Efficient way of handling the surveys returned by participants or their guardians

Gratitude

We would like to thank New York City Civic Engagement Commission, staff, interns, and volunteers. You made it possible.