# Turning Trash into Trees

Vihaan & Nav Agarwal, One Step Greener
India

## ☀ Values

- Innovative
- Inspiring
- Environmentalist
- Dedicated
- Community Service
- Compassion

## ☀ Lessons Learned

**You are never too young to do something to improve the world around you.**

**You can be a source of inspiration for others, regardless of your age.**

**Don't be afraid to ask questions, experiment, and innovate.** That is how great ideas are born!

**When Vihaan Agarwal read about a fire at a large landfill in Delhi, he learned that trash was causing almost 20 percent of the city's air pollution.**

He decided to do something about it; and together with his younger brother Nav, he started One Step Greener, an organization that collects and separates trash, and recycles it. Then they use the money they earn from picking up and selling waste from more than 700 households in Delhi to plant urban forests, to further improve air quality.

"When you do something that actually creates a difference, everyone will want to do something that is as inspiring as the things you do," Vihaan says. He adds, "What you're doing might not make a difference directly, but the domino effect it creates will create huge change-- even something as small as planting a tree in your backyard."

## ☀ Language Arts

**Find out what the greatest environmental issue is in your community.** Then write a cause-and-effect essay in which you discuss the link between that particular environmental issue and public health problems in your area.

**Write a children's story about Vihaan and Nav's "trash experiment," and include illustrations.** Focus on these two questions: What did the brothers learn? How did this inspire them to found One Step Greener?

**Write a short story in which you explain what air pollution is;** but write it from the perspective of one of the old trees in Vihaan's neighbourhood who has now been joined by newly planted trees. How does the old tree feel about the newcomers?

## ☀ STEM Activities

**Create a chart that displays the amount of waste produced and recycled materials in the United States, and nine other countries of your choice.** Compare the results and the population sizes of each country. Then try to explain what you think the causes of the differences from country to country might be.

**Explain the difference between the benefits of recycling e-waste versus the benefits of recycling traditional materials.** Which one do you think is most common? Why are recycling problems different in some countries?

- **Example:** China, India, and the U.S. are three of the leaders in e-waste. Why is this, and what should be done about it?

**Create a Venn diagram that compares and contrasts the culture and lifestyles in India and in the United States.** Focus on CO2 emissions; trees planted per square mile; amount of electronic waste recycled per capita; and overall recycling rates over the past 5 years. Conduct research to see if your assumptions in the previous activities were correct or not. Then explain why projects like Vihaan's and Nav's are essential to both India and the United States.

## ☀ Sustainability Innovations

**One Step Greener[1] has expanded their separation of trash to include composting, e-waste, and tree planting.** They have expanded from simply targeting the resulting trash to also assessing and identifying environmental laws in India than need to shift their focus to recycling.

**In addition to the original goals of One Step Greener, the expansion to composting and dealing with e-waste is important.** Many people understand the importance of recycling, but they do not always associate it with electronics. The EPA - International E-waste Management Network[2] has helped officials from around the world be able to collaborate and together address the threats that e-waste poses to our environment.

**The Nature Conservancy[3] is one organization that has had a great influence on all aspects of sustainability.** In addition to their commitment to recycling waste and planting trees, they have more than 100 marine conservation projects, and they operate in more than 70 countries, helping individuals like Vihaan and Nav who are striving to bring about positive change.

**The Netherlands is one of the world's leaders in e-waste recycling.** The Journal of Engineering[4] posted this article highlighting the importance of recycling e-waste, and the amount of harmful materials that have been recycled in the Netherlands.

**The concept of a circular economy is an economic system in which economic growth is redefined, with a focus on creating products that have positive, society-wide benefits.** Fairphone[5] is a sustainable smartphone designed for long life that can be completely dismantled and recreated with recyclable parts. Would you like to help design goods that last a long time, and that at the end of their usefulness can be fed, with zero waste, into the next generation of products? Learn more about the circular economy and get inspired here[6].

## ☀ Sustainability Career Pathways

**Local Recycling Coordinator.** Most states, like Connecticut[7], require every town to have a recycling coordinator to help residents and businesses get their recyclable waste recycled. Many corporations also have dedicated recycling managers, and recycling plants need many employees to manage their operations. If you want to help ensure that waste is turned into new products instead of just

becoming garbage, the field of recycling may be for you. If you are interested in the field of recycling, read [here][8].

**Extended Producer Responsibility Manager.** More countries are requiring corporations to be responsible for the goods they produce, from creation to disposal, including how products are packaged. This means that there are many new jobs being created; in government, to oversee Extended Producer Responsibility (EPR); in companies, to manage the packaging, recycling, and disposal of goods; and in nonprofit organizations, to help companies effectively manage environmental requirements. EPR is a growing expectation for increasing number of products, including electronic products, and even mattresses-- thus it is a future career path with much potential. [If you want to learn more, start with this overview][9].

**Designer in the Circular Economy.** Recognizing that waste represents a significant cost to companies as well as to the planet, a whole new generation of designers is creating products that can be fully dismantled--reusing long-lived parts, recycling worn parts, and enabling repair and replace services for goods that do not have the toxic disposability (and planned obsolescence) often designed into these goods. For example, while most phones can't be easily recycled or repaired, and are designed to have a lifespan of only a few years.

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1 https://www.onestepgreener.org/

2 https://www.epa.gov/international-cooperation/where-epa-works-around-world

3 https://www.nature.org/en-us/get-involved/how-to-help/plant-a-billion/

4 https://www.researchgate.net/publication/318804805_The_Circular_Economy_of_E-Waste_in_the_Netherlands_Optimizing_Material_Recycling_and_Energy_Recovery

5 https://www.fairphone.com/en/

6 https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview

7 https://portal.ct.gov/DEEP/Reduce-Reuse-Recycle/Local-Municipal-Recycling-Coordinators

8 https://bestaccreditedcolleges.org/articles/recycling-coordinator-job-description-duties-salary.html

9 https://en.wikipedia.org/wiki/Extended_producer_responsibility