

Composting project at our school

The plan is to address the environmental issue of atmospheric effects and hydrological effects caused by unmanaged landfills by reducing the amount of waste deposited to landfill by composting within our school.By composting we hope to reduce the amount of rubbish going to landfill. Landfill has major effects on the environment. The average person dumps almost 2.04 kgs of waste in landfills every day. Two main effects of landfill are atmospheric and hydrological. Atmospheric effects are the methane gases produced by the rotting organic matter in unmanaged landfills. Not only does methane get produced by various forms of rotting organic matter but household chemicals are introduced to the mix as well. These produce toxic gases that pollute the air. Hydrological effects are the chemicals that are thrown away by households to create a toxic soup. Animals that come across this toxic death suffer a painful death. By completing our action to compost in our school, this will reduce the amount of rubbish that is taken to landfill and therefore, reduce atmospheric and hydrological effects and therefore, work towards a sustainable future.

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....The initial action that we planned to carry out was to set up 36 Bokashi composting bins around the school. These were to be placed inside each classroom used as a lunchroom or that accepted food to be eaten in it. We also planned to have 6 large, green wheelie bins placed outside around common eating areas.

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.....Our plan changed from having two bins inside each other to serve as a bokashi bin, to having one, 20 litre labelled, bucket and lid in every classroom that served as a lunchroom or allowed food to be eaten in it. The idea to have outdoor composting wheelie bins for warmer days showed the potential to be a safety hazard so the idea was discarded.....

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Waste Audits

Before this plan was able to get underway, we had to work out how much waste the school produced daily. A waste audit was carried out so that we could look at how much waste the school produced daily. This waste audit would be carried out for a second time after the buckets were placed so that we could see if our composting project was successful in reducing the amount of rubbish taken to landfill and how this affected the school. The first waste audit carried out on the 16th of March 2016, before the composting buckets were placed, showed that our school produced 20.45 kgs of waste and 9.0 kgs (44%) of this was food scraps, all of which (100%) was being sent to landfill. The second waste audit carried out on the 25th of May 2016, after the composting buckets had been placed, showed that the school produced 7.45 kgs of waste. Of this, 35% was food scraps that had been composted by the school and 22.8% was food scraps that were mixed with the rubbish going to landfill. The total amount of food scraps from the first waste audit was significantly more than the second waste audit with a difference of 4.5kgs. Of the 4.5kgs of food scraps collected in the second waste audit, over half of this was composted at 2.8kgs when the rest was sent to landfill at 1.65kgs. This proved that our composting project was successful as it resulted in over half of food waste produced being composted.

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Threats, weaknesses and further recommendations for action

To prevent the chance of fire hazards and chances of vandalism for future projects I would place the bins in a safe open area, a safe distance from any buildings in case they caught on fire. In the holidays, to prevent vandalism possibilities, the outside wheelie bins would be locked away in a shed. This would protect the wheelie bins and allow the composting project to continue the following term. In order to make sure that the composting project continues to work within the school, a possible "composting team" would be organised to pass on bigger and better ideas and encourage students to continue to compost. This would have major benefits to our project and give further opportunities to the composting project.

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.....As well as weaknesses, there were also multiple threats towards the composting project. One of these threats was the school's budget that our project had to fit in. However, after changing our plan multiple times and getting sponsorship from Mitre 10 and Northern Southland Transport, we were able to reduce the cost of our project and this allowed us to fit within the schools budget. Also some students refused to accept our composting project and would not empty the compost bins daily. This was a threat towards the composting project because it made it difficult to gain accurate results in the second waste audit as some of the compost buckets still had contents in them back in the classrooms.

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.....The composting project also adds a small increase to both students and teachers workload as they have to empty the bucket every day. This has posed a threat towards our project as if students and teachers refuse to take on a small increase in workload then the compost project will not work. If the buckets are not emptied then there is nothing to collect and then the separation does not happen, which was our original aim to reduce rubbish taken to landfill. Composting is a very good idea for the environment. However, there are threats to this idea. After the food scraps have been separated from the rubbish they have to be collected. Because the truck has to collect the compost, it then produces greenhouse emissions. Greenhouse emissions are gases that trap and hold heat in the atmosphere. This causes the greenhouse effect and ultimately leads to global warming.

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A better, more environmentally friendly option would be to dispose of the compost onsite at our school.

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In order to better the project to compost within our school, my partner and I had to think of recommendation for further action. These ideas included possible places to store excess compost if we were to use it for the gardens, make sure the new caretaker is aware of the composting project, create a compost team to keep the project going in 2018 onwards, in school worm farms, encouraging students and the community to compost in their own homes and using the compost to benefit food they could grow themselves and teaching people how to compost. This would also include recycling paper and glass etc. The further recommendation ideas would help bigger and better the composting project within our school.

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Evaluation

Our action contributed to economic and environmental aspects of sustainability. Our project affected the economic sustainability as our plan was originally going to cost us \$935 and then it was reduced to \$265.24. This was an extravagant cost for the school. In order to reduce this cost we asked for sponsorship and managed to reduce this cost down to \$40 a month for curbside collection. This affected the economic sustainability as we managed to save the school a lot of money. This allowed the principle and other staff to have a positive look on our project as it was cheap but extremely effective. Our project also affected the economic sustainability as collection of the rubbish skips per year is around \$3000. The composting project will potentially reduce the cost of skip collection.

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This is because of green waste separation from landfill will reduce the amount in the skip and it will not have to be emptied as often. Our project also affected the environmental aspect of sustainability as we plan to reduce the amount of food waste/green waste being added to what will be disposed of in landfill, by 50%. This is a school wide project that will benefit the environment as the compost can then be used for plants so they can thrive off of the new nutrients.

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This is how the composting project within our school has affected the economic and environmental aspects of sustainability.

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