

Japan-Thailand Collaboration for Well-Being Society

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Abstract

In our modern society it is hard for us to learn about what supports our lives such as how our foods are produced, and fewer and fewer people are interested in producing what we use. As a result we have become largely dependent on imported and mass-produced goods, causing many global issues like food waste and excess consumption of energies. In our schools in Japan and Thailand, we have collaboratively developed many projects to tackle these issues, such as utilizing our food waste as compost and energy and learning about food production in our rooftop farms. We will discuss how collaboratively creating what we need in our lives with our own hands using the resources we find around us helps us learn our connection with each other and with our environment.

The Impact of Each Person's Efforts on the SDGs (Japan)

The SDGs, the goals of the world as a whole, are so big and so varied that while it is important to work on them, what exactly should we do? Because the SDGs are being addressed globally, it is difficult to know what we can do as individuals. Therefore, we have decided to focus on one of the areas most familiar to us in our daily lives: food, and to work on a project to convert food waste into compost. We also decided to collaborate with the university's co-op cafeteria so that more students would know that they can contribute to the SDGs.

In recent years, while the food crisis has become an issue in the world, a lot of food is being discarded in Japan. Our university cafeterias are similarly throwing away food that was prepared but not eaten that day or that has expired. So, we composted food waste from the University Co-op cafeteria and plan to use the compost to grow food on campus. According to a survey in our class, while 60% of the students said they felt that SDGs are important, only 20% of the students said they thought they could contribute to them. Therefore, we believe that our project will make students feel more familiar with the SDGs.

The specific method to make compost is as follows: We create a barrel using wood produced in our local forests for fermentation and composting of waste foodstuffs. We get the discarded foodstuffs from the university's co-op cafeteria. Next, rice bran and rice husks, along with microorganisms we found in the soil on campus, are placed

in the barrel and stirred well. The barrel is turned and stirred once or twice a day. Then, the primary fermentation is completed in about a week. After that, it is transferred to another container and left for a few weeks, and when the second fermentation is finished, the compost is ready. We will use this compost to set up a vegetable garden, allowing us to turn what we used to consider trash into energy. We're also collaborating with the "Circular Economy Society" section of the city office to develop a compost system for the homes in the local community.

Start Us (Thailand)

Nowadays, people around the world are facing environmental issues. This affects the health, economy, and livelihood of humans. Therefore, we created the project called "Start Us". The purpose of this project is to make better solutions for environmental issues and change the way people think about the environment. We are focusing on changing self-awareness, leading to a positive effect on others and society. This project is related to three topics from Sustainable Development Goals including Quality Education, Responsible Consumption and Production, and Climate Action. Start Us projects consist of three mini projects and campaigns.

Start Us Station is a mini project that focuses on reducing, reusing, and recycling. The objective of this project is to make trash more useful, so it doesn't end up in the landfill and reduces some types of trash such as plastic and beverage packaging. Currently, we're building a shredder machine to help in the process of grinding plastic into smaller pieces, using a compost tumbler to convert food waste into compost to grow vegetables, growing vegetables in used plastic cups, created a collection point and a reuse center at school called "Trash Station", and making the products from HDPE plastic.

Sharing the World is another mini project, it is about inspiring a good mindset about the environment in elementary students by doing activities. The results of this project were that the students had fun and learned about the value and approach of reducing trash. Also, they are eager to make toys. This project gave us a lot of satisfaction when we saw other people start to dispose of their trash in our Trash Station.

DSIL Green Cone is the newest mini project in Start Us. It is an improvement of the compost tumbler we had made in the Start Us Station. The pain points of the old project are the smell and time because it took so long to compost foodstuff waste. Therefore, we improve the new one using the circulation of the airflow to allow oxygen to travel into the fermentation material. This way, it is producing very little odor compared to other fermentation methods. The oxygen gas can enter the fermentation barrel through 3 channels: through the gap of the soil granules that are loosely covered around the tank, through the holes of the basket entering the bottom fermentation material, and through the top cover passes into the gap between the small and large barrel. The products obtained from the Green Cone are the nutrients resulting from the decomposition process of microorganisms which we use to grow the vegetables on the rooftop of our school. We are working on the education part by following the ideas of the Sharing the World mini-project. Currently, we are going to start this part in Sukhothai city and encourage the students in our school to do it at home.





Thai Conclusion

Building a well-being society is our primary goal. We've started to make our school become a well-being society and more eco-friendly. We found that it is not easy to change ourselves and even harder to change others, but change will happen if we really intend to do it and do it consistently. We have learned lots of things in this project about compost, trash management, plastic properties, and improved engineering skills such as woodworking and laser cutting.

Working with the Japan team has given us many inspirations and ideas for developing our project. For instance, we were interested in the use of microorganisms in the compost and the barrel made by wood from Japan. We have found that both Thailand and Japan face many similar problems, for instance, food waste in schools. We have used this as the main topic of our discussion and exchanged ideas to develop a compost bin to turn school food waste into compost. Currently, the Thailand team has two compost bins named Compost Tumbler and Green Cone. We are using the compost from these two compost bins to grow vegetables and bring back the vegetables for the students in our school.

Japan Conclusion

In today's world where we can easily buy and consume many mass-produced products, producers and consumers are clearly separated, and many people do not know much about how food is produced and processed. In fact, until we started working on this project, we did not know much about the SDGs and thought that they were something that could only be achieved through the efforts of large organizations such as countries and corporations. However, through this project, we realized that being aware of problems that lie close to home and approaches to solving them can have a significant impact on the world.

We also learned a great deal from our collaboration with Thai students. We thought we needed to put in a mass of bacteria from forest plant matter that would be the decomposers of food waste, but from the Thai project we learned that compost bacteria can also be made from cow manure. Since microorganisms exist in various forms depending on the region, I am sure that more new methods will be found in the future as more people engage in compost making.

We took on the challenge of composting waste foodstuffs as part of SDGs' efforts to address environmental issues, but in Thailand there were more diverse approaches. We found that there are many possible solutions to the SDGs, such as reusing plastic to reduce waste, or working directly with elementary school students to help them understand the value of reducing waste.