

Circular Economy and Japan

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Hello everyone.

Before getting into my main subject, do you mind showing me a little inside of your bag? Don't hesitate, I know it's messy. Just kidding. Let me show you the inside of my bag. A pen case, a bottle of tea, a cosmetic pouch, a handkerchief, a lip balm, and so on. Have you ever wondered what would happen after these things finished their role? Yes, they turn into garbage.

I've been hearing the terms "sustainability" and "SDGs" for about three years now. Surprisingly, more than half of the garbage in this society comes from buildings. Recently, an interesting theme was presented at KOSEN design competition, which was "Sustainable Housing". When I heard the theme, a question came up in my mind. "What does sustainable mean, when it comes to building a house? Should it be strong enough? Should I attach solar panels?" After that, I realized an important way of thinking, which is circular economy.

The circular economy is a concept that aims to break away from the "straight-line economy" that uses goods in one way by preserving and maintaining the value of products, materials, and resources for a long time and minimizing the generation of waste.

Peter van Assche, the founder of an architectural studio that promotes the Dutch circular economy, says, "Destroying a building produces a lot of trash. As a designer of the building, we architects are responsible for half of the trash that exists in the world." I strongly agree with him. I would like to show you some examples of efforts in the Netherlands, a developed country with a circular economy. In some toilets in this country, excrement is composted and reused by installing a biofilter. There are also restaurants that use waste ingredients. The facility called "CIRCL" in Amsterdam is made of used or reusable materials.

Are these efforts only done overseas? In fact, this significant idea has existed in Japan for a long time. During the Edo period, excrement was used as fertilizer. Also, in ancient Japanese wooden architecture, the structure is supported by beams and columns without using nails. That method makes the buildings stronger, and easier to disassemble. In modern Japanese society, it seems that several companies are promoting the circular economy, such as UNIQLO and Kagome efforts. UNIQLO collected 620,000 of used Ultra Light Down Jackets in 2019, which is one of its best-selling clothing items and produced new down jackets by using the recycled ones. In addition, from September 2020, Kagome has commercialized some PET bottle products using 100% recycled PET resin. However, it is a fact that the idea has not spread enough in this society. As I recently learned the word, Circular Economy, there are many people around me who don't know the idea.

As Japanese people have had a "mottainai" spirit and a high awareness of recycling since long ago, if the idea of the circular economy prevails, it has the potential

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to adapt rapidly. Since the idea was common in the Edo period, it should be possible to realize a more earth-friendly economy with the current technology and people's consciousness.

"Make it by thinking about what happens after it is no longer used." As a future engineer, I also keep this circular idea in my mind and would like to work with you to aim for a sustainable world.