

Summary of Deasy Conference vol.1

~Communication Conference on Diaper Disposal to Sewage~

The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) has been examining a project, which will make diaper disposal less troublesome by connecting our daily life with the Japan's sewer system, to alleviate burdens of nursing care and child-raising. MLIT aims to utilize sewage system to enrich our declining population and "super-aging" society in environmentally sustainable way. MLIT held a communication conference to share the examinations of the government and private companies, and to hold discussions among participants in open innovation.

【Meeting Information】

Date & Time: 13:00~17:40, Tuesday, March 5, 2019 Venue: 100BANCH at Shibuya

The number of Participants: 81 Conference Structure: Information provided by guest speakers and group talks



Moderator: Ms. Yoko Kitsuda (Citrus Corporation / Komazawa Women's University / Deasy Executive Committee)



■ Opening Remarks



Ms. Mariko Sonoda (Meiji University / Chairperson, Deasy Executive Committee)

In addition to the concept of the agenda, what characterizes the today's conference is that participants from a wide range of industries gathered in one place, which will connect diverse point of views. This hopefully will make innovation happen.

Since 2014, when we began to consider the idea of the project, we have broadened the circle of stakeholders involved in the discussions. In addition to the topic of housing and sewerage, the presentation about material development of disposable diapers is going to be held by Mr. Date of The National Museum of Emerging Science and Innovation today. Because of that, we will be able to discuss diapers from manufacturing to disposal thoroughly.

I intend to work together towards the goal of 'Deasy', which means EASY use of Diapers.



Mr. Tetsuya Yamada (MLIT)

MLIT aims to improve the added value of Japan's sewer system, and this endeavor of the project is part of that. I would like to expect that participants from various fields will exchange their views on the agenda.

■ The first session: Information provided by guest speakers

Mr. Yusuke Date (The National Museum of Emerging Science and Innovation)

"Reality of paper diaper use"

Problems arising from the usage of paper diapers depend on users. Socially active senior citizens, especially men, who use a diaper when going out, have trouble finding a place to throw it away. Elderly persons who use diapers at home have a problem that large amounts of used diapers cause a stinky odor.

Reducing the environmental impact is one of the challenges in developing paper diapers. Since paper diapers available in the market today use hardly-biodegradable materials such as water absorbent polymers, which are classified as plastics, the development of an alternative material for diapers is required. Diaper manufacturers, however, tend to avoid such development because it is unclear whether new paper diapers with low environmental impact will be accepted by consumers.

Given that paper diapers are not biodegradable for the time being, we need to examine not only the benefit but also the environmental impact when it comes to the project. For that reason, I think that three perspectives should be considered; 1) whether the absorbent polymer leak from sewage to water environment; 2) whether it is reasonable to discard used paper diapers without recycling; 3) comparing this project methods with incineration in terms of the amount of energy consumption.



Mr. Genichiro Matsuda (Panasonic Corporation) "Reduction of care work by using diaper waste separatorpaper diaper"

Panasonic is developing "Separation Method (method A)" processing machine with the support of the ministry. The machine separates absorbed urine and feces from used paper diapers by applying a water separating agent on them, and then flushes the urine and feces into sewer system. It also returns the bagged diaper. This would eventually reduce the amount of waste as well as unpleasant odors. We plan to carry out a demonstration assessment at a nursing care facility in March this year and intend to manufacture the upgrade version of the machine.



Mr. Katsuhisa Fukumoto (LIXIL Corporation) "Efforts to reduce the burden of nursing care and environmental load by shredding and collecting disposal process of diapers"

LIXIL is developing "Shredding Method (method B)" processing machine with the support of the ministry. The machine shreds a used paper diaper, and then separates absorbed urine and feces from it by applying a water separating agent on the shredded diaper. The machine also flushes the urine and feces into sewer system, leading to waste reduction. In fact, it took time for the agent to reach inside because used diapers are rolled up when discarding them, but shredding the diapers makes the agent react easily. Thus, one of the possible advantages of this method is shorter processing time than method A. We are fully aware that there is a concern regarding possible leakage of diaper components such as plastics and water absorbent polymers due to shredding so we intend to add a device which recovers the shredded components to the machine. Our company plan to set up the machine at a nursing care facility and conduct a demonstration test before summer when an odor problem becomes evident. Then, based on the results obtained from the test, we will update the machine, and finally manufacture a high performance one.



Ms. Chika Abe (MLIT) “Consideration on realizing the project – Results from the preceding considerations”

Although sewer in Japan initially had played its role in removing miscellaneous waste water or rainwater quickly from living areas, it has expanded its roles in response to changes in social conditions such as population increase in the past. In this regard, I think this approach is important in terms of assigning new role to the sewer to support lifestyle in the society facing a declining and aging population. For promoting the project, MLIT formulated the project roadmap’ and describes three methods. Of the three, the guideline for method A will be released within this fiscal year.



Ms. Akiko Ito (Cabinet Secretariat) “Revitalization of Local Economy – Community Development for 100-year-life”

With the advent of 100-year-life, use of paper diapers would be prolonged. As the working population declines, it is crucial to reduce the burdens of disposing diapers to build a society which enables people to cope with both nursing care and child-raising. With the growing importance of paper diapers in the society, the Ministry of Environment examined recycling of paper diapers while MLIT started looking into the project. Although there is a ‘living’ between water supply and sewerage treatment, there has been no connection between the living and the sewer. I think the project is epoch-making because the sewer is actively involved in people’s ‘living’. I believe that efforts closer to our lives are also an important factor, which may have a significant impact on society. From the perspective of Sustainable Development Goals, it is vital for us to realize inclusive societies through participation. Considering the extra capacity of society, we must somehow manage it by 2040 at the latest, preferably by 2030.



Q & A

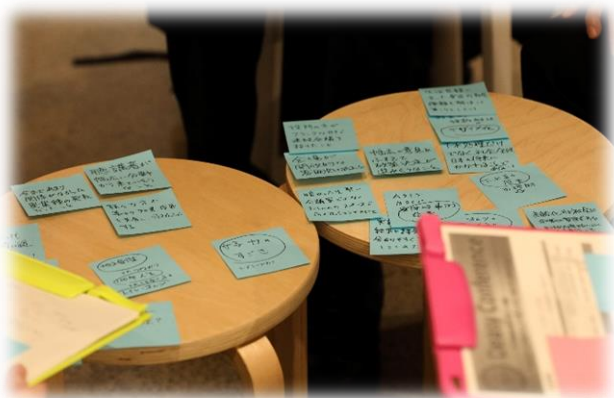
- What are the likely subject in conducting the demonstration assessment of the paper diaper processing machine?
⇒ The evaluation of odor is one thing, and the other thing is that the examination of the case when the user is infected. (Panasonic)
- Have you considered developing a diaper processing machine for home use?
⇒ We will start with elderly care facilities first, and then consider if there is a possibility of downsizing. (Panasonic and LIXIL)
- Have you considered the environmental impact of possible outflow of microplastics?
⇒ We recognize that the microplastic issue should be addressed by the Japanese government as a whole. (MLIT)
- About the method A, B and C, respectively, what percentage of sewer systems in Japan can be applied?
⇒ Our aim is that method A would be applied to almost any sewerage plant, and method B is considered to be almost the same as method A at the point of discharging treated water to the treatment plants. Although method C would increase the load to the wastewater treatment plants, we think that the introduction would be judged in terms of financial condition in a region. (MLIT)

■ The second session: Group Talk

In this session facilitated by Ms. Chiaki Hayashi, CEO of Loftwork, the participants exchanged their opinions. After explaining the aim of the session, they were divided into teams and exchanged opinions. Then, the opinions of each team were shared.

Some of the opinions shared at the session as below:

- To make the project a model of the world, I want to support the efforts to make this a model of the world.
- Social experiment for the project should be conducted early because it is essential to comprehensively verify various things including waste collection and environmental considerations.
- The great needs of socially active senior citizens when going out has become clear, and I want to recognize them as a target of the project.
- It would be expected to develop an eco-friendly material for diapers which will not cause any trouble when it is flushed down.
- 'female power' is impressive.
- As a sewage treatment manufacturer, today's talk made me aware that I have not paid attention to 'life' between water supply and sewage.
- This liaison conference is desirable to be held in entire nation.



■ Closing Remarks

I am so pleased that the project in which women have played a central role received praise from participants today. During the conference, there were encouraging comments from the floor such as about eco-friendly diaper materials or social experiments for the project. I would really appreciate for your continuous support for this project. (Excerpt from closing speech by Ms. Mariko Sonoda)

