

Risk Communication for Water Reuse in Agriculture

~ The Study in Itoman City, Okinawa ~

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1. INTRODUCTION

Itoman City in Okinawa Prefecture is currently promoting a water reuse project for agriculture to solve serious water shortage there. For a successful water reuse program for agriculture, making ordinary consumers to feel safe is critical. However, satisfying this has been difficult in Japan even if much care is taken to ensure the system integrity through careful management and close monitoring and inspection because water reuse for agriculture has not been practiced in a large scale in modern Japan. Therefore, in this research, I tried to come up with the ideal methods of risk communication, which make the consumers feel comfortable with recycled water and its agricultural use.

2. METHODS

(1) Questionnaire survey to the publics in Itoman city

A series of questionnaire-based survey was conducted with citizens in Itoman city before and after various information sessions about recycled water and observed the changes in their feeling and perception. Firstly, only an outline of recycled water project was provided, and the participants were asked whether they would want to purchase the products produced with recycled water and how much they would think it is necessarily for Okinawa. Secondly, additional information about the safety of recycled water (e.g., microbial pathogens such as *E. coli*, chemicals, and management plan), was provided and the same questions were asked again. Finally, more detailed information about the benefits of recycled water was given to the participants and they were asked the same questions again.

(2) The utility interview survey in California, the United States of America

An interview survey was conducted to the professionals who are involved in public communication or outreach of recycled water in the public utilities. Since agricultural water reuse has been practiced for a long time in California, many researches have been conducted on its public acceptance. In addition, the agencies are giving the publics various information about water by unique methods. A number of useful tips of public outreach were picked up for the recycled water project in Japan.

3. RESULTS AND DISCUSSION

(1) Questionnaire survey to the publics in Itoman city

The total sample consisted of 471 respondents (i.e., 89% recovery). The respondents' attribute make-up was slightly biased; about 60% of respondents were men and about 40% were women. About a half worked as white-collar workers. However, significant difference in buying intention and rate of acceptance to the recycled water project could not be found between its attribute group. On the other hand, it could be seen that the respondents would likely to show more willingness to buy vegetables produced with recycled water as they received more information. About 40% of all the respondents showed their intention to buy vegetables after receiving the first information. The number increased by 60% after receiving all the information. In addition, it was found that the public tended to feel more anxiety about chemical substances and management plan than about pathogens or food poisoning. From these points, it is probably better to explain the publics about the story of recycled water sincerely and pay more attention to tell the information about chemical substances and management plan when the agency communicates with the publics.

(2) The utility interview survey in California, the United States of America

Based on the interview survey in California, it was found that the active outreach including not only providing the information about recycled water but also showing the origin of water would be necessary to make the public to accept a recycled water project. Most of the interviewed agencies have communicated with the public through facility tours, speaker's bureaus and news media for a long time, which has led to the public's high consciousness against local water situation. By making the public to think recycled water is necessarily, more acceptance could be gained from them. In the case of Itoman city, it would be better to make the outreach strategy similar to California's one.