Contact Information

Chika Watanabe

University of Manchester
Social Anthropology
Arthur Lewis Building
Oxford Road
Manchester M13 9PL
UK

Tel: +44-161-275-4839

Email: chika.watanabe@manchester.ac.uk

Biographical statement

Chika Watanabe is a Lecturer in social anthropology at the University of Manchester. Her research and teaching interests revolve around issues of development, humanitarianism, NGOs, religion and secularity, ethics and morality, environmental crisis, and disasters. She is currently working on a book, *Muddy Labor: Nonreligion and the Moral Imaginaries of a Japanese NGO in Myanmar*.

Waste, Incorporated

Abstract:

In this article, I explore how human and animal waste circulated back into the environment in an agricultural training center in Myanmar operated by a Shinto-based Japanese NGO. Following the Shinto-inspired ecological visions of the organization, I translate Japanese aid workers' use of the term *junkangata shakai* ("material-cycle society") in an idiosyncratic way as "circulatory sociality." I argue that the importance of the circulation of waste in this training center lay in the making of intimate relations amidst a disciplinary lifestyle as the path to a sustainable future.

Thus, belonging to and participating in the intimate and totalizing experiences of a sustainable environment created not only a potential alternative to environmentally harmful human practices, but also new forms of sociality that could usher in a sustainable world. This case shows how practices of sustainability are not simply about changing production and consumption systems, but can demand profound transformations in social relations and personhood.

Keywords: Waste, sustainable agriculture, development aid, Japan, Myanmar

Waste, Incorporated

Taking a deep breath in the lush vegetable fields of a Japanese agricultural training center in Myanmar fills my body with a distinct smell of excrement. Jolted by the stench, I nevertheless try to breathe normally in front of my Burmese co-workers and trainees. We squat down close to the ground, digging into the moistness of the earth to uproot the weeds that would eventually be fed to the animals and cooked for our dinner. Where is the smell coming from? I squint toward the plot of freshly planted tomato plants that are struggling in the intense heat of central Myanmar. To our left stands the staff living quarters, and I wonder if the outdoor sinks are the culprits, although they always seem spotless. To our right lies the waste treatment infrastructure consisting of what look like a sedimentation tank and small stabilization ponds for the wastewater. Surely, I glance hopefully at the concrete structures, they are the source of the smell. Even so, I cannot bring myself to look at the mud caked around my fingers because I know, deep down, that the stink is rising from underneath me.

It did not take long for me to realize that the soil in the paddies and fields of this training center did, indeed, include waste matter, such as our bodily wastes. But contrary to my initial experience, when I actually learned that my waste—our waste—was coming back to us in other forms, it was odorless. Wai Aung, one of the staffers at the training center, had shown me how to help the trainees take care of the pigs, and after touring the pigpens and discussing the different types of pigs, he explained that they used an effective microorganism (EM) solution to disinfect the pig manure. “It doesn’t smell, right?” he smiled proudly. Two pigs shared each of the rectangular spaces made of concrete flooring, and there was a trough towards the back into which trainees were shoveling the pigs’ excrement. They mixed the manure with rice husks and took it out of the pigpen every six months in order to use it as an ingredient for the organic

fertilizer in the rice paddies and vegetable fields. I inhaled the air in the direction of the manure-filled troughs and nodded in agreement. Wai Aung continued, “Actually, human excrement is the best, and so the training center also uses the wastewater from the living quarters for agriculture.”

So there it was. We were eating the products of our own feces, in addition to animal manure. In this article, I argue that the circulation of waste in the training center created intimate relations among human and nonhuman beings, a process that I call “circulatory sociality.” What we had distanced from ourselves suddenly reappeared in the closest form possible, that is, in the food that we consumed. To be even more precise, we were ingesting other people’s waste matter. If living side by side with others in this small-scale environment, as well as with the pigs and chicken, surrounded by rice paddies and vegetable fields, created a tightknit community, the circulatory processes through which waste was transformed and passed through our own bodies wove us into an even more intimate relationship with the environment and with each other. There was little that we did not see, hear, smell, touch, and in some form, eat. And, as I show in the course of this article, discipline was key to these intimacies.

The Japanese organization running this training center, the Organization for Industrial, Spiritual and Cultural Advancement (OISCA), is one of the oldest international NGOs in Japan established in 1961, and it derives from a Shinto-based new religion called Ananaikyō. It focuses on sustainable development and environmental education activities through long-term trainings in organic agriculture around Asia, among other projects. The organizational mission is founded on a principle of human-nature coexistence, which in part states that “all life-forms are closely interconnected and that their source is in the universe” (OISCA n.d.). OISCA’s projects in Myanmar take place in a region called the Dry Zone, where temperatures can rise to as high as

50 degrees Celsius. Despite the difficult climate, OISCA's Japanese director, the 40 Burmese staff members, and the 20 trainees have been successfully cultivating organic rice and vegetables, and raising chicken and pigs in environmentally sustainable ways. Over the course of 15 years, in an area stretching to almost 19 acres, Japanese and Burmese aid workers and trainees have transformed an arid land into a compound of fertile rice paddies and bustling agricultural activities. Hundreds of young people have passed through the place, learning about organic agriculture, and dozens have joined the ranks of staff.

The training programs last for a year, during which time trainees, Burmese staffers, and the Japanese director live together in a communal lifestyle that emphasizes discipline and collective harmony. Japanese staff members described their work as *hitozukuri* (literally translating as “making persons”), a form of Japanese aid that focuses on human resource development. But this hitozukuri aid goes beyond a simple transfer of skills. OISCA staffers in Japan told me that the ethos of communal living was perhaps more important than the teaching of agricultural techniques. According to them, the trainees come from farming families and might already know about agriculture, but they are less likely to know what it means to be disciplined, punctual, and in harmony with the collective. Hence, life at the training center in Myanmar was rigorous: everyone woke up at five in the morning to clean the grounds together and engage in prescribed physical exercises, followed by a day of hard agricultural labor. We worked even through the hottest times of day in the afternoon, when local farmers tended to rest. There was little or no privacy, and each of our activities contributed to a collective task: cleaning the chicken coops, weeding the vegetable fields, cooking everybody's meals, feeding the pigs.

In the training center, the circulation of waste foregrounded a suspension of one's self amidst intimate connections with others. Everyone had a role to play in the scheme of the

training center. Even the chicken and the pigs participated in the sociality of the training center in their own ways. In this thorough involvement, we felt that we were part of a totalizing system and that each of us as individuals did not and could not matter much. Personally, I also developed an acute awareness of my surroundings: the clucking from the chicken coops echoing in the walls of my bedroom, the sandy ground never staying put as people shuffled busily across the courtyard. These sensations pushed against the boundaries of my body. The sweat, the smell, and the heat clung to my skin and my interactions with others. The young female trainees were especially affectionate, and whenever they held my hand or passed their arms through mine on our walk to the rice paddies, I was particularly aware of the sweaty indistinction between their bodies and mine.

The use of waste matter for agriculture made sense given OISCA's focus on sustainable and organic agriculture. But what I want to argue in this article is how the circulation of waste created not only a particular agricultural system, but also an environment in which intimate sensations and relations cultivated specific kinds of persons. In what follows, I offer a brief exploration into the ways that waste was incorporated into the environment of the training center under the organizational aim to "make persons" who can usher in a sustainable future. Specifically, Japanese aid workers described the training center as "*junkangata shakai*," which I translate as "circulatory sociality." Using this idiosyncratic translation, I hope to offer a framework for understanding how the movement and transformation of waste through the environment produced particular forms of persons based on intimate relations with one's environment and with others.

"*Junkangata shakai*" is a phrase used among Japanese actors engaged in environmental sustainability policies and practices, officially translated as "material-cycle society" by the

government. No doubt that OISCA's Japanese aid workers used the term *junkangata shakai* to make their work relevant in light of these wider discourses. In many ways, the ideas about *junkan* ("circulation" or "cycle") expressed in the Basic Environment Plan (*kankyō kihon keikaku*) of 1994 resonates with OISCA's philosophies about human-nature coexistence: for instance, in the section about "long-term goals," the policy states that "the environment is founded upon a circulation (*junkan*) of materials (*busshitsu*) between air, water, soil, and life forms, and the maintenance of an intricate balance of the ecosystem" (Ministry of the Environment 1994). But contrary to these wider and more abstract conceptualizations of *junkangata shakai*, the actual Fundamental Plan for Establishing a Sound Material-Cycle Society (*junkangata shakai keisei suishin kihonhō*) defines the term narrowly in terms of waste management and recyclable resources, such as through the 3Rs of waste (reduce, reuse, recycle) (Ministry of the Environment 2000). Unlike this policy framework, what I translate as circulatory sociality in OISCA did not simply point to a system of waste management. I suggest that the circulatory sociality in the training center sprung from and aimed at a different kind of worldview. In short, it was a perspective framed by OISCA's roots in a Shinto-based new religion.

The man who created OISCA, Nakano Yonosuke, was also the founder of a religious group called Ananaikyō, which he established in 1949. Despite its religious roots, most of OISCA's Japanese aid workers today stress that their organization is neither religious nor secular, but rather, inspired by a nonreligious, "Shinto" ecological worldview (Watanabe 2015).¹ Therefore, a Shinto-derived philosophy of ecological harmony framed OISCA's activities around the Asia-Pacific. In the early years of the organization, Nakano wrote:

All life forms, including humans, live in the womb of the Great Life of the Universe. Even after being born on earth through the power of Great Nature, we are connected to the universe by an invisible lifeline and protected by it, bathing in the great virtues of the earth, and breathing the air of the great skies... When we sense the pulse of life running through our flesh and the honorable will of Great Nature residing there, that is, the flow of the Great Spirit of the Universe, our hearts tremble at the precious existence of humanity, and we cannot but be grateful for the Great Nature of the Universe. [Nakano 1963: 42]

This philosophy promotes an awareness of oneness between humans, nature, and all living beings under the Great Spirit of the Universe. Accordingly, Nakano's mission, and thereby that of OISCA, has focused on activities that are considered to be in line with nature, the most important form of labor being agriculture. It is worth noting that this idea of oneness with nature does not derive from a concept of a pristine nature or the banishment of waste, but a transformation of both. As scholars have pointed out, nature as pristine and unmanned wilderness does not possess a positive quality in Japan. Nature's virtue emerges in being associated with supernatural forces but also tamed in particular ways on a continuum with human activity, consequently often leading to ambiguous and contradictory relationships between humans and their environments (Kalland and Asquith 1997; Kirby 2011; Knight 1996; Thornber 2013). Similarly, just as waste was incorporated into nature, OISCA's aid actors aimed to alter natural environments for specific practices of agriculture and visions of sustainability. The environmental goal lay in a co-transformation and coexistence of humans and nature, not in the former's submission to the latter.

Although Nakano's philosophies were rarely articulated directly in practice, they trickled into Japanese staffers' views of their work. One senior staff member in Japan summed up the organization's approach to sustainable agriculture and development as focused on the soil (*tsuchi*)—the foundation of circulation (*junkan*) and the basis of life. Drawing scenes in the air with animated hands, he explained that there are trees in the mountain, fruits on those trees, animals that eat those fruits, and their feces that go back to the soil, which then nourishes the trees. So on and so forth. "All life is connected," he said. In this sense, the *junkangata shakai* in OISCA aid workers' imaginations went beyond the ordinary use of the term in Japanese government policies around technologies of waste management and recycling. The circulation of waste matter such as excrement was one link in the connections of life and the oneness of the Great Spirit of the Universe.

In thinking about the circulation of waste as a process that connects different life forms, I find useful the perspective of scholars who have proposed that we take waste as an analytical object and process. Sociologist Gay Hawkins (2006) argued that we open ourselves to "the possibility of having different relations with things that we frame as ontologically other," such as waste (11). Her approach sees waste not as excess (Bataille 1991) or "matter out of place" (Douglas 2002), but as an actor with material presence and social productivity (see also Evans et al. 2013; Hetherington 2004; O'Brien 1999). Hence, while many historians, anthropologists, and philosophers have analyzed how waste and its symbolic pollution feeds into the politics of exclusion such as in colonialism and postcoloniality, projects of modernity, and government (Anderson 1995, 2010; Chakrabarti 1991; Esty 1999; McFarlane 2008; Scanlan 2005), the perspectives of Hawkins and others treat waste as a material reality that embodies and shapes social order and relations. In other words, waste does not simply exist outside of the order of

things, nor does it solely symbolize negative values. If we paid attention to its material presence, we would see that it also generates new forms of sociality and values—that is, we would see that waste is a process (see Hetherington 2004; Lathers 2006; Reno 2014).² This view challenges my own initial reactions to the presence of waste matter in the soil at the training center. Waste such as excrement, leftover food, and weeds in OISCA were not simply polluting and repulsive remainders. The most important aspect of waste matter was that it was transformed *and* was transformative in its circular movement. It is not that trainees and staffers did not comment on the unpleasant smells of waste and organic fertilizer around the training center. Rather, despite these reactions, the ways that the training center operated turned people's attention to waste as something other than refuse, and even as something beneficial, once it was changed into fertilizer or food. Most notably, I suggest that waste as process made visible particular actors, social relations, and ways of being.

An important aspect of the circular movement of waste in the training center was the presence of different actors who facilitated this flow, human and nonhuman. In this sense, we can see waste as a medium through which one life becomes another—or, to see waste as a sign of life, rather than of decay, disorder, and death (Reno 2014). One instance of this character of waste as life appeared in the ecosystem of microorganisms that participated in the circulation of manure and excrement. When the trainees and staff members pushed the pig manure into the trough, they mixed it with rice husks and a liquid EM solution. Effective microorganisms, or *akyo:pyú thekshí anúziwá* in Burmese (literally meaning “micro life form with benefits”), “consists of a wide variety of effective, beneficial and non-pathogenic microorganisms produced through a natural process and not chemically synthesized or genetically engineered,” according to the EM Research Organization (EMRO) in Japan. EMRO, affiliated with the professor who

developed EM technology, Higa Teruo, explains on its website that there are three kinds of EM: lactic acid bacteria, yeast, and phototrophic bacteria. They are all microorganisms that exist in nature and are cultivated through fermentation. The EM solution that is used in agriculture and wastewater treatment, as in OISCA's case, contains mostly the third of these types, and can be reproduced by "feeding" the microorganisms with organic matter such as rice bran or bone meal, molasses, and water.

The particular EM solution used in the Myanmar training center during my time there was an amber-colored liquid stored in plastic water bottles in the Japanese director's room. Taking the bottles out of the cabinets to show me, Sakurai confessed that he had inadvertently destroyed the original EM solution from Japan that the previous director had been propagating. This original solution had come from a small amateur laboratory run by a veterinarian in Japan. This EM enthusiast had created the solution using soil from local rice paddies (Satō Kenkyūjo n.d.).³ Sakurai was a young man in his thirties with much less agricultural experience and knowledge than his predecessor, and his failure derived from a miscalculation of the heat of central Myanmar in April, when temperatures rise far above the required 30 degrees Celsius for reproducing the EM solution. When the original bacteria died, Sakurai turned to what he called his bible, the Japanese agricultural magazine, *Gendai Nōgyō* (*Modern Agriculture*), and found a recipe for making EM solution using one's own paddy soil. After several experiments fermenting mud from the paddies in the training center, he succeeded in making the amber liquid that was now helping turn excrement into food. Sakurai believed in giving back to the land what one takes from it. Coaxing beneficial bacteria from local soil to facilitate this kind of return and circulation was precisely what his vision was about.

There is nothing new in using animal manure or microorganisms to reduce the use of chemicals in agriculture and re-relate ourselves to waste. The circulation of human waste for agricultural usage has also been practiced for centuries around the world, although currently only 10% of human excreta are used in agriculture or aquaculture (Cordell et al. 2009; Goddard 1996; Jewitt 2011). Scholars have turned especially to the histories of China and Japan to examine systematic uses of the euphemistically called “night soil” (Ferguson 2014; Hanley 1997; Howell 2013; Walthall 1988). These studies show that since at least the sixteenth century, urban and rural citizens, as well as municipal and national governments in these places saw human feces and urine as useful for agriculture, and even profitable. For instance, for landlords in eighteenth century urban Japan, the income from human excrement sometimes exceeded that from rent (Howell 2013: 144). The use and circulation of night soil constituted a valuable part of the economy, agriculture, and health conditions in these countries even until the early twentieth century. David Howell (2013) argues that, although people saw human excrement as “yucky,” they did not see it as “pollution” in symbolic and categorical terms, and the people who handled the waste did not become social outcasts (146). As he evocatively states, “even useful shit is still yucky; but its utility trumps its yuckiness” (138).

As this statement points out, the value of night soil in places such as Japan and China in previous centuries derived from its utility; it was not for environmental reasons (Howell 2013: 147–148; Iwabuchi 2004). As times changed, the usefulness and efficiency of night soil application decreased, and as of 2014, Japan was hardly reusing the organic waste in its sewage (JSWA n.d.). But there is momentum again in Japan and elsewhere to try to make use of human waste matter, this time for “green” causes. With climate change and the depletion of natural resources, actors such as international agencies, corporations, and governments are investing

increasing energy into developing waste circulation systems such as ecological sanitation (ecosan) toilets that turn night soil into fertilizer, technologies that create biomass energy out of sewage sludge, and other initiatives—including a Danish music festival where the urine of festival goers will be used to fertilize the barley that will make the beer for future guests (Fraunhofer 2012; NEDO 2011; Russell 2015; WHO n.d.).⁴ While the use of human and other waste is not a new phenomenon, its re-emergence today appears in an era of environmental concerns. It is in this context, in addition to Ananaikyō framings, that OISCA's activities can be understood.

A leading proponent of ecosan initiatives, Steven A. Esrey, argued that ecosan is “about a way of life, and how we should live on this planet, not just about how toilets should be different” (Esrey 2002: 1). His view resonates with the mission voiced by OISCA's founder and aid workers: that the importance of the circulation of waste lies in particular values and ways of living that can usher in a sustainable future. One component in Esrey's formulation is particularly relevant in looking at OISCA. He explains that “ecosan is a closed-loop ecosystem approach,” in which there are no external inputs or outputs to the system (Esrey 2002: 2). In other words, the ideal environment here is one that is enclosed and controlled—therefore, as I suggest, one that requires discipline. For, to ensure that no input or output is required, life in this system would need to adhere to particular rules about production, consumption, and waste treatment. If we consider this requirement for a successful circulation of waste, we can see why some scholars believe that the widespread use of night soil today is near impossible, since no society can ensure that communities and individuals do not dump toxic materials down the drains (Rockefeller 1998: 18). To state the point in another way: small-scale environments in which

discipline could be demanded from all its members might be where the circulation of waste as a technology and a way of life could, perhaps, be achieved.

In this sense, it seems to me that what makes the movement of waste in OISCA a kind of sociality rather than just a form of waste management is the small scale in which it is impossible to avoid the bodily sense and importance of discipline in consuming the products of our waste. In contrast to forms of anonymous “mass waste” whose connections to the beings that produced them are obscured (Reno 2014: 17), small-scale environments confront us with the fact that waste matter shapes persons and relations in intimate ways (see also Parreñas forthcoming). Arun Agrawal’s (2005) concept of environmentality is relevant here, as it shows how regimes of environmental management mobilize not only technologies of rule and politics by other means, but also forms of “intimate government” in which people’s subjectivities are molded through everyday practices (see also Hawkins 2006; cf. Blaser 2009; Brosius 1999; Escobar 1995). One difference is that Agrawal’s theory derives from a Foucauldian analysis of (neo)liberal government and self-governance, whereas in OISCA the making of persons is not framed by liberal traditions, but rather, in nonliberal and spiritual terms (Watanabe 2014). Yet, for the purposes of this article, environmentality’s dual focus on intimacies and the regulation of people’s actions speaks to what I aim to evoke in the circulatory sociality in the OISCA training center—namely, the primacy of intimate relations that become possible only through a collective discipline around the circulation of waste.

The awareness of waste transformed into fertilizer, and then food, created a sensation of proximity with other people, the animals, and the environment itself. Yet intimacy can be a suffocating thing. The lack of interpersonal distance that this environment created meant that it was impossible to have nonconforming spaces. Critiques of the organization and lifestyle were

difficult because there was no room for external perspectives. To make a circulatory sociality possible, it was not necessary to reduce waste, but we did have to control what kind of waste was produced and how we lived with it. Discipline became paramount and this was not just a form of behavioral regulation, but an affective condition. Watching what we ate—only products from our fields—and how we disposed of the remains stirred feelings of constraint. Piggens and chicken coops had to be cleaned thoroughly and regularly to avoid excrement from becoming sources of disease, an exhausting task. The interpersonal, environmental, and collective intimacy of the circulatory sociality of waste went hand in hand with a disciplinary lifestyle—the pleasures of intimacy were possible because of the discipline, and most likely, vice versa. The strict rules of communal and sustainable living were acceptable because we also felt that we belonged together. “We are like family,” many of the trainees and staffers told me repeatedly. In such an environment, it was difficult to challenge the system, given that it was what made us close. It was also risky to deviate from the discipline because it was what kept waste circulating, intimately, instead of putrefying in place. We were cogs in the machine of the movement of waste, embodying the possibilities of a sustainable future.

And so, I hold my breath and continue to weed with the Burmese staff members, trying to keep in my mind the vision of waste becoming our food, the vision of a sustainable world as intimately connected as we are in this training center.

Acknowledgments

I am grateful to the trainees and staffers at OISCA, especially those in the Myanmar training center, for making this project possible. The research was funded by the Social Science Research Council and Cornell University. Feedback on earlier drafts from Sarah Grant and Gökçe Günel helped strengthen the article. I also thank the anonymous reviewers and Melissa Caldwell whose incisive comments were critical in sharpening my arguments.

NOTES

¹ I put “Shinto” in quotation marks because, as scholars have shown, Shinto as a religion or nonreligion, and as an ecological tradition, is a historical and political product (see e.g. Hardacre 1989; Josephson 2012; Kuroda 1981; Thomas 2001).

² Marie Lathers (2006) makes an interesting argument in her analysis of women primatologists’ relationship with nonhuman waste, stating that these primatologists engage positively with primate excrement, making possible a shared sociality between humans and nonhumans, and thereby the potential for a posthumanist future. Reno (2014) makes a similar argument.

³ In Japan, people make a distinction between EM and *dochakukin* (“indigenous bacteria”), the former referring specifically to the formula produced in EMRO and the latter taken from local environments. In this analysis I do not make a distinction since the people at the Myanmar training center did not differentiate the two terms.

⁴ Japanese NGOs are also promoting organized and hygienic night soil use among farmers in Myanmar, where individuals have been using human and animal waste for agricultural purposes but often without proper treatment (e.g. NICCO 2015). Although little reliable information exists on this topic, documents from international agencies as well as my own observations in rural central Myanmar indicate that night soil and animal manure has not been used systematically in

agriculture in Myanmar (e.g. FAO n.d.; Myint 1989). Chemical fertilizers have been the norm so far.

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