It flows both ways: water and circulation in central Japan

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Abstract  
In this paper I examine socio-cultural circulations associated with water in Japan. The circulation of water in Japan is a phenomenon that links communities across rural and urban spaces in social, political, economic, and cultural ways. Japan’s vertical topography of steep mountains and shallow streams has created in the nation a “love affair” with dams, which are used to capture and store water in mountainous regions so that it can be circulated for use within lowland communities. Water, and in turn dams, are plentiful in Japan’s rugged mountains, while human habitation within the archipelago is centered in lowland urban areas like Tokyo and Osaka. In one sense, water always flows downstream and relationships between rural and urban areas can be characterized as extractive and exploitative. However, I suggest that these relationships are much more complex. Looking specifically at waterways connecting Nagano’s Kiso Valley upstream to Nagoya City and the Nobi Plain downstream, I argue that horizontal expanses of water (i.e. dams) become loci of circulation—spaces of heightened socio-cultural attention and activity—that at once challenge and legitimate unequal patterns of resource use.

Japan is a vertical country. Roughly two-thirds of the archipelago is made up of steep, forested hills and mountains. Waters cut through these highlands in a series of shallow, fast-running streams and rivers. Flatlands are found only along the coasts where floodplains fan out and slow the waters tumbling from the mountains above. While water is ubiquitous in the mountains, streams converge in the lowlands like woven threads forming wide, slow-moving rivers that meander across the landscape before emptying into the ocean. The selective geographic courses of these rivers leave some lowland areas, particularly islands and peninsulas, lacking water. Though on the whole there is no lack of water in Japan, its unevenness in both time and space create a lack of control of water. Desires to direct flows of water have created in Japan a love affair with dams, of which there are roughly 2,600 scattered across the nation.
In Japan, water is the basis of life, both for human bodies and for the production of rice, a central element of Japanese society, culture, and political-economy for centuries (Ohnuki-Tierney 1993). Like many other natural elements, water is viewed in Japan with respect as a kami (god or spirit), and like all kami residing in the archipelago, it can be finicky. In its abundances and dearths, water embodies a dialectic which must be mediated through interventions. Also, though it originates in the realm of the kami—the sky and the mountains—water flows to the dusty world below and eventually to the sea. Thus, it transects not only geographical, but also socio-cultural contexts as it circulates. These dialectical qualities make water an element that can both intrigue and frighten, and its circulation a phenomenon that raises anxieties.

In the past, anxieties over water were eased through supplications to water kami. Religious specialists capable of entering the mountainous realms of the gods were tasked with mediating flows of water between the sacred and mundane worlds. Schnell argues that images of water (and its place of origin in the mountains) have been dominated in Japan by the perspectives of lowland rice cultivators, and that, “Water from the mountains may thus be considered the ultimate source of the rice crop’s vitality” (Schnell 2007:865). He goes on to describe how material relationships of flowing water were conceptualized through folk religion where yama no kami, or gods of the mountain, were ritually invited down into rice paddies where they became ta no kami, and then returned again to the mountains at the end of the growing season.

In modern Japan, technologies have intruded on the religious specialist’s role, both subsuming and expanding it, and dams have become central mediating structures for water circulation. Waters are captured and held in highland areas and then circulated downstream where they are consumed. In previously drought prone areas, dams and waterways have allowed residents to pursue and maintain new livelihood patterns. Generally speaking, Japan’s highlands are poor, marginalized, and powerless, while lowland coastal plains are home to the nation’s megalopolises; enormous accumulations of economic capital, social prestige, and political authority. Thus, water circulates through landscapes that have been wrought through historical processes, which imbue them with unequal qualities of power. Technological
mediations of hydrologic flows, therefore, make the circulation of water a social and political phenomenon as well, one that boldly expresses the socio-cultural asymmetries of life in modern Japan.

My focus in this paper is not on circulations of water per se, but rather on the socio-cultural attention garnered by dams (non-flowing water) in the Kiso Region of central Japan that enable water to be circulated across spaces. My primary goal is not to reveal or analyze social and economic inequalities related to water; nor to focus on the heavy and uneven impacts that dams have on the environments in which they are located (however, these are realities that will come to light). Rather, through an ethnographic examination of social activities focused on structures of water circulation in the Kiso Region, I hope to offer a sense of the weight with which these structures sit in modern landscapes. Why, I ask, do these dams collect such great pools of activity, and what does this say about the value of water in Japan? A comparison with the inconspicuousness of hydroelectric dams, which are also prevalent in the Kiso Region, helps to clarify this question. It also reveals that the ideological contexts in which dams are constructed, as well as their position in landscapes, influences the ways they are (or are not) thought of and talked about. I argue that dams built for the purpose of circulating water in particular become loci of social activity through which anxieties concerning inequalities related to water are simultaneously highlighted and concealed.

Storage dams and their accompanying reservoirs are the mechanisms by which this feat is accomplished. They are monumental entities that irrevocably alter the landscapes in which they are created, as well as the lives of those who dwell therein. In this way, dams are embodiments of modern technology and capital flows; indeed they symbolize the very mode of production of late capitalism. Yet, the commodity being exchanged—water—is viewed not as a commodity in the capitalist sense, but as a right of all Japanese citizens. According to Japan’s River Law, passed in 1896 and amended in 1964, river waters are public property, and existing water rights historically have been, more often than not, maintained, meaning that downstream users too are entitled to a share of a river’s water (Nickum and Greenstadt 1998). This pattern of water resource governance ignores the spatial and temporal “patchiness” of water and relies on technological solutions—dams and other water works—to fulfill ideals of ryuuichi-
minshuka (river basin democratization), where all citizens are allotted a share. Upriver communities, however, disproportionately bear the burdens of water circulation due to the technological incursions that sit so heavily upon their environments.

Though waterworks in Japan, such as ponds, have a history that stretches back to the 7th century, concrete dams were first built in the Meiji Period (1868-1912) with the employment of western techniques (Japan Commission on Large Dams 2009). However, national land development projects and agricultural reforms in the post-war period brought a flurry of technological activity, and a whole lot more dam building [add chart]. Makio Dam, located in the village of Otaki in central Japan, is one of the many post-war dams. It spans a narrow section of the Otaki Valley, which runs a crescent path along the base of Ontake-san, a 3,000 meter volcano that rises up independently amidst the craggy peaks of Japan’s North and Central Alps. The valley comprises a single watershed and its streams and rivers are fed by the heavy winter snows that blanket the region. The village of Otaki sits towards the rear of the valley on the southeastern flank of Ontake-san. Makio Dam’s reservoir, Ontake-ko, begins just below the village center and stretches about five kilometers down valley to the dam itself.

Makio Dam was completed in 1961 as part of the greater Aichi Yousui project. The project was funded by the World Bank and modeled on the Tennessee Valley Authority as a way to democratize the Otaki watershed by bringing water to communities south of the Kiso Region; in particular to the drought prone Chita Peninsula located in Aichi prefecture. In fact, the two men who initially conceived of and garnered political support for the Aichi Yousui project both had connections to the peninsula (Takazaki 2010). The project, therefore, includes a 112 kilometer long canal that allows water diverted from the Kiso River to be transported to the dry peninsula. The project has been a success for communities on the Chita Peninsula in terms of urban and industrial expansion.

The completion of the 105 meter tall Makio Dam halted the flow of the Otaki River and its waters began to fill in behind, submerging 66 hectares of agricultural land and 235 homes, and displacing over 1100 residents. Four of Otaki’s hamlets were completely lost, along with sections of three others. Although hantai-undou (anti-dam protest movements) took place in the village throughout the project
planning process, these were largely ignored. For example, in response to a March 4th, 1952 newspaper report that World Bank funds had been secured for the Aichi Yousui project, the head of Otaki’s *futagomochi damu kensetsu hantai kisei doumei kai* (Association to Oppose the Construction of Futagomochi Dam (Makio Dam)) stated that:

“The fact that foreign capital is being introduced for the construction of Futagomochi Dam means that prospecting for the capital required for construction has commenced; this is a grave matter for us. We have for some time now been circulating petitions in the affected districts, and we plan to continue the line of absolute opposition until the bitter end, no matter what happens. Development that benefits only downstream Aichi prefecture and for which there is no positive [benefit] whatsoever for local areas cannot be called integrated development. I will wait for detailed investigation results about the foreign capital and then I want to make a new counter-plan” (Takazaki 2010:12)

In contrast to downriver communities, the Aichi Yousui project and Makio Dam have brought little benefit or success to the Otaki landscape or to village residents. As part of the project, the village government received an initial compensation payment of 210 million yen, a sizable amount of money for the time, which was used to develop tourist infrastructure on the slopes of Ontake-san in hopes of securing a prosperous future. Though initially successful, this development ultimately became a financial liability that the village is only now working through. Also, the reservoir, Ontake-ko, has an aesthetic value that is appreciated by residents, but its level fluctuates based on demands for water downstream and at times all that is left is a small trickle of water and the exposed dirt and rock of the valley where fields and homes had once existed. The third verse of the school song for Otaki’s combined elementary and junior high school, which was composed the same year that Makio Dam was completed, offers a sense of the sentiments that swirled around the Aichi Yousui project:

Filled with one ton of water,
the ripples of “Ontake-ko”
wish for the glory of the nation
and become a badge of our sincere feelings
for the industry of the blessed nation,
the measure our hometown’s happiness.

The fact that residents no longer sing this verse, however, is suggestive of enduring doubts about the project among residents, as well as the lasting contentiousness of the dam.
From the perspective of downriver residents it is reasonable to say that Makio Dam and the Aichi Yousui project have been successful in achieving the goal of fostering “river basin democratization.” Urban and industrial expansion has continued in areas receiving water from the dam. However, success depends on the matrices employed in evaluations. Water, like all elements, draws its value from its context—from the landscapes in which it flows. Thus, the value of water is always subjective. For downriver communities, water circulated downstream from Makio Dam is transformed into industrial expansion and urban growth, creating jobs and enabling livelihoods; it has, in other words, turned into economic value. For residents of Otaki, on the other hand, circulations of water stop at Makio Dam. The horizontal expanse of the Ontake-ko reservoir is in a sense antithetical to the vertical flows of water that enliven the Otaki landscape. Circulations of water beyond the dam, along with the values these hold, are often hidden from the view of village residents.

Since the completion of Makio Dam there have been concerted efforts among downriver communities to express kansha, or “gratitude” to the upriver residents of Otaki. Much of this has been coordinated by the Aichi Yousui cooperative’s 58 full time employees and 33,000 members. Notions of reciprocity are drawn forth to mediate the anxieties that water produces as it is circulated across boundaries of class and economic prosperity. The activities of downriver residents related to the Aichi Yousui project work to signify the value of water as it circulates beyond the Otaki watershed. Water that flows from the Otaki watershed is transformed through its use into economic value and does not return in its original shape; rather, it comes back in a variety of social forms related to water and technologies of water circulation. These forms vary and include volunteer activities, such as forestry; photo contests; publications; festivals and other events; products; and gifts of cash. The enactment of these forms allow downstream beneficiaries of the Aichi Yousui project and flows of water from Makio Dam to engage in social relationships (as imagined as these may be) with those upstream, who presumably do not otherwise benefit from the material relations of water circulation.

A “regional study meeting” held in Otaki on a brisk October afternoon in 2008 is emblematic. The meeting consisted of a panel discussion focusing on upstream/downstream relationships and Makio
Dam. The head of an Otaki Village revitalization group opened the meeting with the following remark, “The foot of Ontake-san is the home of Aichi Yousui’s water source. It is also the theme for today’s seminar. The water, without which we cannot live, is nurtured through the upstream/downstream interactions and deep mutual understanding and cooperation between upstream and downstream residents that has come through Makio Dam and the Aichi Yousui project.” Panelists discussed Aichi Yousui’s new midori-no-netto program, which means “green network” (the word “green” comprised of three characters meaning “water,” “soil,” and “village”). The program’s main goal was to educate school children in downriver communities about the source of their water (Otaki, Makio Dam, and the Aichi Yousui project). In the same meeting, during a speech by Otaki’s mayor, the tensions of upriver/downriver relations were highlighted. The mayor spoke of the long history of resource exploitation in Otaki, including a century of dam building and water resource development, and stressed that the building of Makio Dam was a turning point for Otaki. However, his speech ultimately reinforced ideas of reciprocity by suggesting that the village relies on the support of downriver communities. In their focus on the dam as a locus of circulation, both of water and social forms, participants in the regional study meeting drew on and reinforced sentiments of reciprocity that help to harmonize inequalities of water circulation.

Upstream flows of social activity are forms that highlight, but also temper the tensions and anxieties that mark unequal development and utilization of water resources along the Aichi Yousui corridor. Gift-giving too serves as a way to grapple with the inequalities of water circulation. Befu suggests that the motivational force behind gift-giving in Japan is the concept of giri. Contained in the giri concept is a sense of duty (Befu labels it a “moral imperative”) towards one’s group, however that group may be defined. In other words, by receiving a gift one is obliged to return a gift (Befu 1968). This sense of obligation is called in Japanese on, and it is something that can never be fulfilled. The act of gift-giving takes on a patterned quality and in this sense is similar to other kata that must be performed (Yano 2002). Gifts in Japan are often given with the understanding that the act is done with a sense of katachi dake de, meaning “only in form.” The purpose of such exchanges is to maintain social harmony and
cohesion within a group; to ease tensions and discharge one’s giri, though never one’s on. Gift-giving allows for the continuation of social relationships by masking anxieties and tensions that threaten to tear them apart. Social activities and gift-giving centered on Makio Dam too fit this pattern in that they are meant to harmonize upstream/downstream imbalances related to circulations of water. Identification as national citizens by both upstream and downstream residents, along with conceptualizations of water as a right of all Japanese citizens sets the social stage for reciprocal relationships that are capable of normalizing circulations of water across rural/urban divides.

Twelve kilometers up valley from the center of Otaki sits the small hamlet of Takigoshi. With only about 16 full time residents, all of whom are over 80 years old, what was once a community buzzing with activity as a hub for forestry, now faces imminent extinction. Takigoshi is also home to two hydroelectric dams (Miura and Otaki) owned by Kansai Denryoku, a company that produces electrical power to sell to cities in western Japan (Osaka, Kobe, and Kyoto). In contrast to Makio Dam, these dams are largely unseen in the landscape and little thought about. Miura Dam, the larger of the two, sits beyond Takigoshi, out of sight, at the very back of the Otaki valley. Construction on the dam began in 1943 and was completed in just two years through the use of forced Chinese and Korean laborers purchased from the imperial government. Miura Dam was the last project of Fukuzawa Momosuke, a wealthy business man and politician who, as part of his ideology of ikkasen hitokaisha (one river for one company), had overseen the completion of dams all along the Kiso River. In addition to the dam itself, these laborers dug by hand a tunnel running from Miura Dam through the center of the mountains above the Otaki Valley to an electric generation station approximately thirty kilometers down canyon. The tunnel too is largely unseen and is used to transport water not only from Miura Dam, but also from each of the major mountain streams it intersects along the way. Waters from most of these streams no longer naturally flow into the Otaki River, but rather travel horizontally through the mountains to electricity generating stations where they are used to spin turbines that produce electricity.

Compared to that related to Makio Dam, there is a stark absence of published material, public speech, or social activity associated with Miura and other hydroelectric dams located in Otaki and the rest
of the Kiso Valley. Kansai Denryoku’s homepage offers only a brief history of hydroelectric development on the Kiso River. In addition, during my two years of fieldwork in the Kiso Region I received a wealth of published materials related to Makio Dam, but not one related to Miura Dam or the great number of tunnels, pumps, and power stations that litter the Kiso landscape. My knowledge of these locations came from local residents in Otaki who talked about them with me, led me to them on foot, and helped me to map them. However, even among residents the number of people who have been to Miura Dam appears to be small.

In contrast to Makio Dam, which was built on the premise of providing water to downriver communities, hydroelectric dams in Otaki do not garner the same level of attention from either the downstream or upstream communities they link together. Though Otaki’s hydroelectric dams are located in inconspicuous locations, this is not true for most in the region. Therefore, differences in visibility do not explain discrepancies in the amount of socio-cultural attention directed at particular dams, though these surely play a role in residents’ experiences of the dams. I suggest that the heightened socio-cultural activity surrounding Makio and other similar dams is due to the symbolic meanings associated with water in Japan, which stems in part from the ideological contexts related to democratic access in which these dams were built.

In Japan water circulates through varied rural and urban landscapes that embody unique social, economic, political, and cultural histories, yet dwellers in these landscapes are linked together through a common identity as national citizens and water, as an essential element of life, has become symbolic of democratic ideals and is conceptualized as a common right of the citizenry. However, water, like other natural elements, is god-like and therefore unpredictable. Due to its geographic and temporal variability, water requires mediation in order to achieve the ideal of democratic access. Instruments of circulation—dams in particular—create lines in the national landscape that connect places and people that, due to their individual histories, are unequal in economic, political, and social terms. Water’s circulation, therefore, is a phenomenon that produces anxieties and threatens the ideals of democracy and concepts of national
unity and harmony. Through social activities, including gift-giving, actors help to ease the tensions that arise from one-directional flows of water that move from upstream to down. *It flows both ways*, we might say, is the sentiment employed to harmonize inequalities by seeking to create and maintain social relationships between upstream and downstream communities, even if this is done *katachi dake de*, only in form.

Dam building and other projects of modernity are dissolving whatever boundaries may have ever existed between rural and urban communities in Japan, while etching new lines of circulation that link them in much more intimate ways. Those interested in the welfare of rural communities should be wary of the sentiments I’ve outlined above, insofar as they hold the power to normalize imbalances that are inherent in dam-building (and other projects) by appealing to notions of reciprocal exchange between actors in a homogenized national citizenry. It has not been my intention in this paper to weigh the benefits and costs of dam-building, which are unique to each situation, community, and environment. However, the example of dams in Japan’s Kiso Region exemplifies that, just as much as inattention, socio-cultural attention focused on structures of resource exploitation can have the effect of legitimizing them in the broader landscape of the nation to the detriment of the communities and environments in which they sit with such gravity.

References


