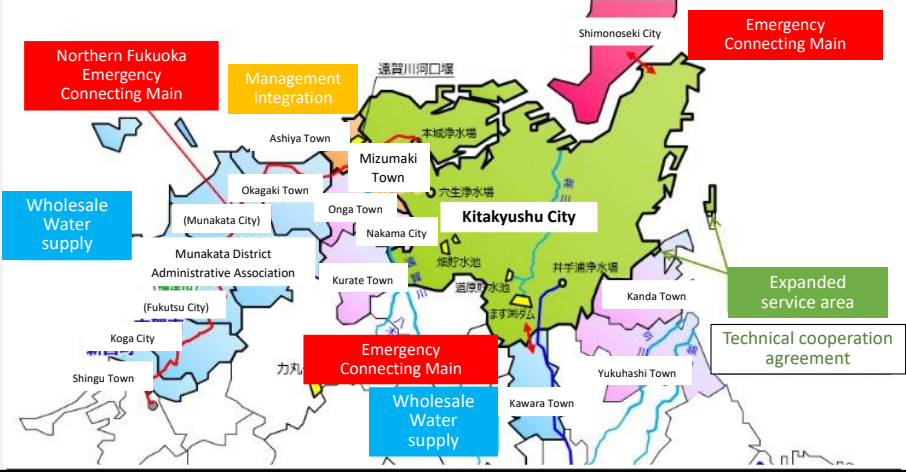


Case	Wholesale Water Supply Service and Water Management Integration with Mizumaki Town		
Water utility	Water and Sewer Bureau, City of Kitakyushu		
General information of the utility (as of 2021)			
Operation type	Public (wholesale & retail water supply)	Service area (km ²)	514.56
Population served	968,095	Distribution (m ³ /d)	293,765
Service coverage (%)	99.67	Pipe length (km)	4,684
NRW (%)	9.40	Number of staff	344
Number of water sources	Surface water (10), Groundwater (0), Others (0)		
Water rates (JPY)	780	(in case of 10m ³ of water per month for residential customers with 13mm diameter)	
Summary	<p>Water and Sewer Bureau, City of Kitakyushu (“Bureau”) has been promoting various wide-area collaborations, including "amalgamation of water supply services," "provision of wholesale water supply service" and "outsourcing of comprehensive operations” (Figure 1).</p> <p>In the Bureau’s “Medium-Term Management Plan 2025 (FY2021-FY2025)” formulated in FY2020, "promotion of various wide-area partnerships" was positioned as one of the priorities. Also, the "Vision for the Kitakyushu Metropolitan Area" based on the "Kitakyushu Metropolitan Area Partnership Agreement" concluded in 2016 between Kitakyushu and 16 neighboring municipalities also includes a "further development of water supply and sewerage services”. The city is actively promoting wide-area cooperation by utilizing the technology and know-how cultivated over many years of operations.</p>		

	 <p>Current state of wide-area cooperation/collaboration (4 cities & 6 towns)</p> <ol style="list-style-type: none"> 1. Service integration: Ashiya Town (2007.10), Mizumaki Town (2012.10) 2. Wholesale water supply: <ul style="list-style-type: none"> Munakata District Administrative Association [Munakata City] and Shingu Town (2011.4), Okagaki Town (2015.4) Munakata District Administrative Association [Fukutsu City] and Koga Town (2016.4), Kawara Town (2017.4) 3. Partial water supply: Kanda Town (2008.3) 4. Comprehensive outsourcing contract: <ul style="list-style-type: none"> Munakata District Administrative Association [Munakata City & Fukutsu City] (2016.4) 5. Sharing of facilities: <ul style="list-style-type: none"> (=Emergency connecting main) Kawara Town (2005.5), Shimonoseki City (2006.3), Fukuoka urban area (2011.4) 6. Technical cooperation agreement: <ul style="list-style-type: none"> Munakata District Administrative Association, Nakama City & Okagaki Town, Yukuhashi City & Kanda Town, Kurate Town, Noogata City <p>Figure 1 Wide-area collaboration in Kitakyushu</p>
<p>Current Status & Challenges</p>	<p>Nationwide, water utilities are facing challenges such as "aging water facilities," "delays in making seismic upgrades," "weak management bases in small utilities" and "decreasing number of personnel involved in water supply services". It is becoming increasingly difficult for each utility to operate sustainably and efficiently on its own. How to strengthen the water infrastructure and pass on related technology to next generations is an important issue.</p>
<p>Measures & Solutions</p>	<p>【Management integration with Mizumaki Town】</p> <p>Kitakyushu began water diversion to the neighboring Mizumaki in 1969, and since then, the City has deepened its cooperation through "contracted water quality testing" and "emergency support agreements". In order to further promote wide-area cooperation, various studies were conducted, including system sharing, joint outsourcing, and management integration. At the time, Mizumaki identified lowering water rates (approximately 1.8 times higher than those of the City) as its most important issue, and in August 2011, Mizumaki formally requested management integration with Kitakyushu in order to achieve a drastic solution to this issue. During the study phase of the management integration, it became clear that there was a disparity in the level of water supply facilities between Mizumaki and Kitakyushu, so the necessary financial resources were secured by keeping Mizumaki's water rates unchanged for a certain period of time after the integration. Later, the water rates were unified with those of Kitakyushu within one year</p>

after the integration.

Through the management integration, Mizumaki was able to realize a reduction in water rates, and furthermore, their water supply service level was greatly improved by enabling the use of Kitakyushu's mechanisms such as payment at convenience stores and customer call center services. In turn, Kitakyushu was able to eliminate water diversions and secure stable revenues.

【Emergency communication pipe and wholesale water supply】

metropolitan The March 2005 "Fukuoka Prefecture West Offshore Earthquake" triggered a top-level meeting between the Governor of Fukuoka Prefecture and the Mayors of Fukuoka and Kitakyushu, and an agreement was reached to quickly implement the "Northern Fukuoka Emergency Communication Pipe Project" to ensure a stable supply of water in Fukuoka Prefecture. The project will mutually supply up to 50,000 m³ of water per day between Kitakyushu and the Fukuoka area in the event of an earthquake, accident, or other emergency.

In order for the emergency pipeline to function immediately when it's needed, it is necessary to maintain the water quality and facility functions by constantly flowing water within the pipeline. On the other hand, the water utilities along the emergency pipeline (Munakata District Administrative Association, Koga City, and Shingu Town) had their own water sources and were considering conversion.

Under these circumstances, the "City of Kitakyushu Wholesale Water Supply Project" was established in conjunction with the emergency communication pipeline project, utilizing the water for maintenance of the emergency communication pipeline to supply up to 20,000 m³ of

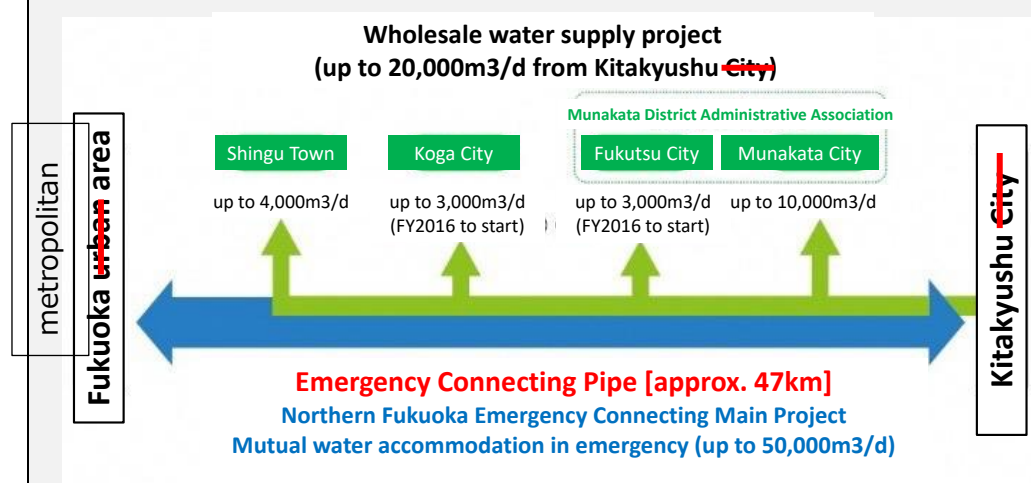


Figure 2 Emergency communication pipeline and wholesale water supply project

	<p>water per day to the water utilities located along the pipeline (Figure 2). Both projects were initiated in 2006 as a joint project for emergency communication pipeline and wholesale water supply, and were put into service in 2011. The wholesale water supply project, which utilizes the 47-km long emergency communication pipeline and its maintenance water, was an unprecedented undertaking in Japan.</p>
Future Plans	<p>Under the revised Water Supply Act enacted in October 2019, the prefectures were positioned as the promoters of wide-area cooperation, and the government requested prefectures to formulate a "Plan for Promotion of Wide-Area Utilization of Water Supply Services" by the end of fiscal year 2022. In March 2023, Fukuoka Prefecture formulated the "Fukuoka Prefecture Plan for Promotion of Wide-Area Utilization of Water Supply Services", which outlines related policies of the prefecture and the specific measures to be taken.</p> <p>In collaboration with Kitakyushu Water Service Co., Ltd., the Bureau believes it necessary to continue its "wide-area water supply seminars", "study meetings" and "individual consultations", as well as to carefully promote consultations according to the needs of each related entity in order to materialize various cooperation measures, with the support of the national government and Fukuoka Prefecture, which are the promoter of wide-area cooperation.</p> <p>Kitakyushu, as the central city of the Kitakyushu metropolitan area, expects to exercise leadership and actively work toward the development of a wide-area development that could have a synergistic effect on the entire metropolitan area.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Picture 1 Wide-area water supply seminars</p> </div> <div style="text-align: center;">  <p>Picture 2 Study meetings on wide-area water supply</p> </div> </div>
References	<p>Web page on the Northern Fukuoka Emergency Communication Pipeline Project</p> <p>Cross-Regional Project Division, Cross-Regional and International Project Department, Water and Sewer Bureau, City of Kitakyushu https://www.city.kitakyushu.lg.jp/suidou/s00500006.html</p> <p>Planning Division, Water Service Department, Water and Sewer Bureau, City of Kitakyushu http://www.city.kitakyushu.lg.jp/suidou/s00600009.html</p>

