Supporting utility	Chiba Prefectural Waterworks Bureau (**CPWB**)	Case No.	5
On recipient utility		Data from	2015

Recipient utility	National Directorate for Water Services (**DNSA**), General Directorate for Water and Sanitation, Ministry of Development and Institutional Reform in Timor Leste		
Cooperation year	2012 to Present		
Service area	• Dili (capital) • 11 other cities		
Service population	• Urban area: 181,000 • Rural area: 110,000	Service coverage in Dili	• Urban area: 47.0% • Rural area: 14.0%
Water distribution	N/A※1	Maximum water distribution	N/A
Water consumption per capita	N/A	NRW	N/A
Water source	• Rivers • Groundwater	Pipe length in Dili	355km※2
No. of WTP in Dili	4 (Rapid sand filtration) 33 (Well)	No. of Employees	365※3
Water treatment	Rapid sand filtration or Slow sand filtration or Well + Chlorine Disinfection		
Water rates	Domestic ： 0.2USD/m3(≦14m^3) ， 0.4USD/m3(＞14m^3) (water charged only in limited areas)		

On technical cooperation

※1 N/A = Not available

※2 Calculated by distribution network map

※3 Of which 25 people are part-time workers

Background	Timor Leste became independent from Indonesia in 2002. The conflict for independence caused destruction to water facilities such as water treatment plants. Further, the Indonesian engineers who had operated the water facilities went back to Indonesia post-conflict. After the independence, the Government of Timor Leste made a development of water supply systems a top priority in terms of both structural and nonstructural aspects, and requested assistance from Japanese government. Upon the request, the Japan International Cooperation Agency (**JICA**) asked the Chiba Prefectural Waterworks Bureau (**CPWB**) to provide technical cooperation for the country. So far, CPWB have dispatched 19 engineers to Timor Leste to help improve the country's water supply. Owing to this cooperation, residents now have 24/7 access to water supply in portions of the capital Dili. For other challenges, Timor Leste also faces an absence or inefficiency of water charges and accounting systems. To mitigate these issues, JICA held a special seminar in January 2016 in Timor Leste on the subject of organizational management. At the seminar, the General Director of CPWB made a lecture for the local water professionals.
Cooperative scheme	➢ Long-term dispatch projects and number of staff dispatched • April 2012 - April 2015: one advisor for water supply improvement • July 2015 – July2017: one advisor for water supply improvement • August 2017 - Present: one advisor for water supply improvement ➢ Short term dispatch projects and number of staff dispatched • May 2014 - June 2014 (4 weeks): two engineers for operation of water treatment plants and water quality management • October 2015 (11 days): one engineer for facility management • January 2016 (1 week): one engineer for technical management • January 2016 - February 2016 (4 weeks): four engineers for operation of water treatment plants and water quality management • January 2017 - February 2017 (3 weeks): four engineers for operation of water treatment plants and water quality management • February 2017 - March 2017 (3 weeks): two engineers for water leakage detection • November 2017 (1 week): two engineers for technical management

HWC's challenges	Timor-Leste Government has set a goal of providing all residents with access to safe drinking water※4 by 2030 as well as achieving a 24/7 water supply in the urban areas of 12 districts by 2030. As of 2015, the average access to safe drinking water is 71.9% in the country and 95.2% in the urban areas※5. In most cases, however, their water supply is intermittent with water available only a limited number of hours a day.
Technical cooperation provided	• Improve operational and water treatment skills at water treatment plants in Dili as well as at those constructed by grant aids from Japan • Make a plan to reconstruct the distribution network in Dili • Provide recommendations on how to improve the water supply system in Timor Leste Among others, Dili faces issues of illegal connections and low pressures in the distribution network. In low pressure areas, it is difficult to identify water leaks caused by illegal connections as the leaked water does not reach the ground surface because of low pressure. Therefore, CPWB used the following methods to identify and repair leaks in Dili, which contributed to achieving a 24-hour water supply in portions of the capital. • Subdivided the distribution network into smaller blocks by placing gate valves at strategic locations and increased water pressure for each block. • Identified and repaired leaks by closing the gate valves and increasing the distribution pressure for effective leak surveys
Future plans and prospects	CPWB's assistance to Timor Leste has just begun. Further international assistance will be needed until the country can be more self-reliant in the water supply service.
Figures and photos	 ▲ CPWB offering operational training at water treatment plant  ▲ Local seminar

※4 "Access to safe drinking water" is defined by the World Health Organization as having 20 liters per person per day of water available within one kilometer radius from the residence.

※5 2015 statistics of the Joint Monitoring Project of the United Nations