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FY2019

Report on a Study of International Cooperation in the Water Supply Sector

—Water supply in Africa—

March 2020
Japan International Corporation of Welfare Services
JICWELS

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Chapter 1 Policy for the FY2019 Study on International Cooperation in the Water Supply Sector

1-1 Details of the Study

1) Studies conducted in the preceding years

Ever since its inception as war reparation toward Japan's Asian neighbors, the Japanese Official Development Assistance (ODA) has been undergoing repeated transitions by reflecting criticism from both inside and outside the country and evolving to respond to the changing world and its economy. With respect to the water supply sector, initially ODA focused on providing direct assistance for construction of waterworks facilities. But Japan noticed the limited effect of sole assistance for facility construction and maintenance. The country's redirection of focus toward human resource development subsequently proved to be fruitful. In recent years, ODA has also been tasked with strengthening the financial standing of target companies, which is the basis of business management, ensuring proper planning and adequate implementation of phased maintenance, and pursuing other activities to consolidate and enhance their business management.

Through the Study Committee on International Cooperation in the Water Supply Sector that was established under this project, Japan's Ministry of Health, Labour and Welfare (MHLW) has been conducting studies and making proposals focused on providing assistance for soft infrastructure development. In the fiscal year 2006, the Review Committee for International Cooperation Projects (Water Supply Sector) issued a report identifying issues to be studied[1)]. This report proposed two approaches for conducting necessary activities: (1) developing human resources who will engage in international cooperation and (2) designing a comprehensive assistance program. Since then, proposals have been constantly made to enhance the effectiveness of training programs, improve the way they are organized, and build the capacity of hosting organizations. The following study in the fiscal year 2012 explored desirable assistance in the planning and implementation of water supply projects. It pointed out the need for assistance in the operation and management of water projects for strengthening partner governments' vulnerable fiscal footing and possible infrastructural and financial assistance for phased development and planning according to the reality in target countries and regions. Another study in the fiscal year 2013 mainly compiled and analyzed financial data to propose assistance for better management of water utility business. Examples included measures for increasing service revenue, ideas for reducing costs by streamlining operations, and methods for utilizing external funding. The study in the fiscal year 2014 proposed an analytical method for assessing the business environment in the water utility industry in each country, which was a precondition of assistance to the management of water utility business, in terms of governance, personnel systems, and financial basis. According to this method, assistance incorporated findings from the assessment of these three conditions. The study in the fiscal year 2015 sorted out international cooperation projects conducted by Japan in the water supply sector and compiled recommendations for better communication and publication of project outcomes both in Japan and overseas.

The study in the fiscal year 2016 kept track of the environment for maintaining international cooperation in the water supply sector and the change in the development goals in the previous decade and researched actual circumstances in the countries that Japan had been continuously assisted in

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1) "March 2006 Report of the Review Committee for International Cooperation Projects (Water Supply Sector)" by the Ministry of Health, Labour and Welfare (MHLW)
https://www.mhlw.go.jp/shingi/2006/05/s0501-1.html

international cooperation in the water supply sector during the period. After examining how the proposed measures had been implemented, priority issues for further international cooperation were considered in terms of priority measures, priority regions, securing necessary human resources, and evaluation methods for international cooperation projects. The study in the fiscal year 2017 further examined specific measures for such priority issues and actual monitoring of the outcomes.

The study in the last fiscal year (2018), which conducted a field survey on the relationship between the water supply and sanitation sectors in the Democratic Republic of East Timor (East Timor) from the viewpoint of Universal Health Coverage (UHC), proposed that not only urban water supply but also rural water supply should be improved and that quasi-public sector entities set up with capital contribution from municipalities and private-sector companies engaged in water supply operation, maintenance and management services, such as corporate members of the Japan Waterworks Operation and Management Association, should be encouraged to participate in future international cooperation between water suppliers and improvement of environments for business activities of Japanese companies overseas.

2) Background to the theme selected for this study

As the result of many different efforts towards the Millennium Development Goals (MDGs), 2.6 billion people gained access to safe drinking water from 1990 to 2015. As of 2015, however, it was still estimated that about 660 million people remained without access to basic water supply services. The United Nations adopted new Sustainable Development Goals (SDGs) in the General Assembly in September 2015, one of the targets of which is to achieve universal and equitable access to safe and affordable drinking water for all by 2030.

The Japanese government reviewed the Official Development Assistance Charter (ODA Charter) in February 2015 and formulated the Development Cooperation Charter putting together the ODA concepts, fundamental principles, and other matters. The Japanese government selected independent development of developing countries as one important issue in this charter, stating that Japan would provide support comprehensively for intangible elements, such as operation, management, human resources, and systems, in addition to tangible elements. In addition, in the Japan's Infrastructure Export Strategy, the Japanese government aims at improving the lifestyles of partner countries through transfer of Japan's advanced technologies, expertise, systems, and other matters mainly to emerging countries. The government also aims at contributing to realizing sustainable development and to solving global issues on environments, disaster prevention, health, and other factors as preconditions for such sustainable development while contributing to enhancing Japan's soft power and upgrading Japan's diplomatic position at the same time.

In this way, there have been changes to the overall direction of international cooperation and contribution activities in Japan and abroad. Under such circumstances, it is necessary to review the past international cooperation and contribution activities and accordingly discuss future initiatives in order to more effectively and more efficiently provide international cooperation and contribution in the water supply sector in the future.

Taking the above into account, this fiscal year's study looked at Japan's efforts at the seventh Tokyo International Conference on African Development (TICAD VII), summarized its initiatives in the water supply sector in Africa and identified the current situations in respective African countries to analyze implementation strategies for more effective and more efficient international cooperation and make proposals mainly as to how Japan should carry out its international cooperation activities in the water supply sector in the future.

3) Direction of this study

The FY2016 Report on a Study of International Cooperation in the Water Supply Sector[2)] stated that Japan's international cooperation in the water supply sector, which had traditionally set Asia as its main target, should now advance to the stage of securing bases for international cooperation also in Africa. In line with the Japanese government's policy to continue to support comprehensive and sustainable development in Africa through efforts for economic, social, and security stability that was adopted at TICAD VII, this fiscal year's study summarized and analyzed efforts and themes required for international cooperation in the water supply sector in Africa.

Firstly, Japan has provided relatively less international cooperation in the water supply sector in African countries than in Asian countries in the past. As such, it was necessary to collect a wide range of accurate information about water supply in the region. The FY2017 Report on a Study of International Cooperation in the Water Supply Sector compiled "basic data and summary of the present conditions in the water sector of candidate countries to be surveyed in the African region," "comparison of current situations of Rwanda with two Asian countries (Laos and Cambodia) from the viewpoint of priority measures," and "current situations in each country and region from the viewpoint of priority measures." This fiscal year's study collected quantitative information from public sources about a larger part of the African region.

Secondly, this study selected a country to be surveyed by comparing different situations in different countries to identify the country most suitable for its theme and extracted items required to understand the water supply situation of the country before implementing a field survey in it.

Thirdly, it collected opinions as to actual needs and challenges through partnership with people with a travel history to the African region to provide organizations that had been carrying out international cooperation, for example in Southeast Asia, and other relevant parties, with information which would be of help to them when undertaking international cooperation in Africa in the future.

This fiscal year's study was done chiefly from the viewpoints listed below by organizing the factors listed above.

- Summarizing the efforts made in the water supply sector in Africa in this fiscal year

Sum up the latest situations surrounding the international cooperation-related policy objectives of the Japanese government and SDGs and other international commitments, as well as the latest status of TICAD and other activities.

- Exploring international cooperation needs in Africa

1. Update the latest information, mainly quantitative information, about situations in African countries by reflecting the results of the summarization and analysis of the conditions of the water supply sectors of the countries.
2. Conduct a fact-finding field survey in Africa to find out about difficulties that are peculiar to the region and cannot be identified from referential literature or other relevant data, as well as countermeasures against them. At the same time, carry out a questionnaire survey on people

2) "FY2016 Report on a Study of International Cooperation in the Water Supply Sector —Policy Direction for Measures Aimed at Meeting Targets for 2030—" by JICWELS
https://www.mhlw.go.jp/file/06-Seisakujouhou-10900000-Kenkoukyoku/0000163163.pdf

working in the water supply corporation industry, consultants and other related parties with a travel history to the region to obtain more specific information.

3. Summarize the situations in the respective countries by organizing the above information in such a way as to clarify differences between the countries and other factors.

- Making proposals for future international cooperation in the water supply sector

Examine the urban and rural water supply needs in Africa by reflecting the above survey results, summarize things that should be kept in mind when doing operations in the region, make proposals as to the direction and specific strategies of future international cooperation and contribution and suggest further initiatives for promotion of assistance in the region.

1-2 The Task Force for the Study

1) Committee structure

This study was conducted over a 1-year period, and the report of findings was drawn up through deliberations undertaken at three meetings held by the Study Evaluation Committee that was established in the fiscal year 2019 for this purpose. The committee members and the schedule of the committee meetings are presented as follows.

[Study committee members]

Hirokatsu Asakawa	Director, Contract and Inspection Division, Waterworks Management Department, Osaka Water Supply Authority
○ Hidetoshi Kitawaki	Vice President, Director, Center for Sustainable Department Studies, Professor, Faculty of Global and Regional Studies, Toyo University
Kazuhiro Sasada	Manager, International Project Division, International Project Department, Water and Sewer Bureau, City of Kitakyushu
Masahiro Sato	Deputy Director for International Affairs Team, Planning and Coordination Section, General Affairs Division, Bureau of Waterworks, Tokyo Metropolitan Government
Dai Shimazaki	Chief Senior Researcher, Water Supply and Management Section, Department of Environmental Health, National Institute of Public Health
Toshimitsu Takahashi	Senior Staff, Management and Planning Division, Operation Department, Saitama City Waterworks Bureau
Shigeyuki Matsumoto	Deputy Director General, and Group Director for Water Resources, Global Environment Department, Japan International Cooperation Agency (JICA)
(Late) Ikuo Mitake	Senior International Director, Training and International Department, Japan Water Works Association (JWWA)
Tatsuo Morimoto	Senior Advisor, Federation of Japan Water Industries, Inc.
Reiko Yoshii	Deputy Director, International Operations Division, Yokohama Waterworks Bureau

(○: Chairperson)

[Secretariat]

Kazuho Taguchi	Director, Office of Global Health Cooperation, Ministry of Health, Labour and Welfare (MHLW)
Ryuichi Morishita	Section Chief, Office of Global Health Cooperation, International Affairs Division, Minister's Secretariat, Ministry of Health, Labour and Welfare (MHLW)
Shigeru Sugawara	Director for Safe Drinking-water, International Cooperation and Training Department, Japan International Corporation of Welfare Services (JICWELS)

Takeo Yamaguchi	Technical Advisor, Japan International Corporation of Welfare Services (JICWELS)
Mayumi Kitajima	International Cooperation Section, International Cooperation and Training Department, Japan International Corporation of Welfare Services (JICWELS)

2) Schedule for committee meetings

The Study Evaluation Committee held meetings in the fiscal year 2019 on the following three dates.

- 1st meeting: Wednesday, October 2, 2019
- 2nd meeting: Wednesday, January 8, 2020
- 3rd meeting: Thursday, February 27, 2020

(Domestic research)

- From September 2019 to March 2020

(Overseas research)

- From November 26 to December 6, 2019

(Note) The Study Evaluation Committee member Ikuo Mitake passed away during this study project. May his soul rest in peace.

Chapter 2 Summary of Efforts in the Water Supply Sector in Africa

2-1 Policy Objectives of the Japanese Government in International Cooperation

The Official Development Assistance Charter (ODA Charter), which was approved by the Japanese Cabinet in 1992 and amended in 2003, was revised into the Development Cooperation Charter in 2015, as development issues faced by Japanese ODA became more and more diverse, complex, and far-reaching, non-ODA funds and activities began to play greater roles in the development of developing countries and international cooperation underwent different changes, including globalization. The Japanese government selected independent development of developing countries as one important issue in this charter, stating that Japan would provide support comprehensively for intangible elements, such as operation, management, human resources, and systems, in addition to tangible elements. For the respective priority policies declared by this new charter, priority targets were also identified. Regarding water supply, the charter set forth a policy to "provide necessary assistance for promoting human-centered development that underpins people's basic livelihood" as a part of the pursuit of "(A) quality growth and poverty eradication." One of the targets was ensuring access to "safe water and sanitation."

Under such circumstances, the study in the fiscal year 2017 first conducted a survey on the achievement status of the Millennium Development Goals (MDGs) of the United Nations, based on which the Sustainable Development Goals (SDGs) had been established, as well as SDGs monitoring systems, in line with the policies of the Japanese government. Then, the study summarized the water supply development situations in developing countries and examined future initiatives. The study in the fiscal year 2018 focused on the mutual relationship with other sectors, one of the characteristics of the SDGs, organized the mutual relationship between the water supply sector and other sectors in SDGs to clarify how the former could affect the latter and discussed how activities in the water supply sector could contribute to achieving the entire SDGs and what activities could be designed to contribute to this end.

1) Transition from MDGs to SDGs

The 1990s saw growing public concerns over the issue of poverty, which led the international community to establish the Millennium Development Goals (MDGs) in 2000 to pursue a common set of goals in the area of development. The MDGs consisted of eight clearly-defined goals which the international community should achieve by 2015, including eradication of poverty, universal primary education, access to safe drinking water, and improvement of health.

After the arrival of the target year of 2015 for the MDGs, the international community shifted their focus towards post-MDGs, which led to the adoption of "Transforming our World: the 2030 Agenda for Sustainable Development" at the United Nations Sustainable Development Summit in September of the same year. The international objectives set forth in this agenda are the SDGs, which comprise 17 goals, underpinned by 169 targets to help define progress, set for the target year of 2030. Table 2.1 shows an outline of the MDGs and SDGs.

While the MDGs were mainly about poverty reduction and development, the SDGs have many new targets for which developed countries are required to take domestic initiatives in their own countries, such as those about expansion of sustainable use of energy, protection of marine resources and climate action. The SDGs target not only developing countries but also all countries in the world, set targets for all countries, including both developing and advanced ones, expand the scope and targets and place emphasis on discussion-based process management, rather than leadership of the United Nations.

Furthermore, the SDGs can be said to be more evolved than the MDGs in many different ways, for example their attention to the mutual relationship between the goals.

Table 2.1 MDGs and SDGs

MDGs	
MDG 1	Eradicate extreme poverty and hunger ●Halve the proportion of people whose income is less than 1.25 USD a day ●Halve the proportion of people who suffer from hunger
MDG 2	Achieve universal primary education ●Ensure that children everywhere, boys and girls alike, will be able to complete a full course of primary schooling
MDG 3	Promote gender equality and empower women ●Eliminate gender disparity in all levels of education
MDG 4	Reduce child mortality ●Reduce by two thirds the under-five mortality rate
MDG 5	Improve maternal health ●Reduce by a quarter the maternal mortality ratio
MDG 6	Combat HIV/AIDS, malaria, and other diseases ●Halt and begin to reverse the spread of HIV/AIDS
MDG 7	**Ensure environmental sustainability** **●Halve the proportion of the population without sustainable access to safe drinking water and basic sanitation**
MDG 8	Develop a global partnership for development ●In cooperation with the private sector, make available benefits of new technologies, especially information and communications

SDGs	
SDG 1	End poverty in all its forms everywhere
SDG 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
SDG 3	Ensure healthy lives and promote well-being for all at all ages
SDG 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
SDG 5	Achieve gender equality and empower all women and girls
SDG 6	**Ensure availability and sustainable management of water and sanitation for all**
SDG 7	Ensure access to affordable, reliable, sustainable and modern energy for all
SDG 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
SDG 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
SDG 10	Reduce inequality within and among countries
SDG 11	Make cities and human settlements inclusive, safe, resilient and sustainable

MDGs	SDGs	
	SDG 12	Ensure sustainable consumption and production patterns
	SDG 13	Take urgent action to combat climate change and its impacts*
	SDG 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
	SDG 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
	SDG 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
	SDG 17	Strengthen the means of implementation and revitalize the global partnership for sustainable development

2) Transition from MDGs to SDGs in the water supply sector and current situations in Africa

Of the 17 SDGs, the one concerning water is SDG 6 (Ensure availability and sustainable management of water and sanitation for all), while the targets of SDG 3 (Ensure healthy lives and promote well-being for all at all ages) also include those related to water-borne diseases and water pollution.

Water supply, which was a target under an environmental goal in the MDGs, is now treated as an independent goal in the SDGs, which includes targets related not only to supply of drinking water and sanitation but also to management of wastewater and water resources and preservation of ecosystems. Furthermore, new qualitative and quantitative viewpoints, such as access to safe and affordable drinking water, water-use efficiency and sustainable withdrawals and supply of freshwater, have been added as well.

Table 2.2 shows the breakdown of Goal 6 and target indicators for their monitoring.

Table 2.2 Water-related SDG targets and indicators

SDG targets		Indicators	
6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all.	6.1.1	Proportion of population using safely managed drinking water services
6.4	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.	6.4.1	Change in water-use efficiency over time
		6.4.2	Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.	6.5.1	Degree of integrated water resources management implementation (0–100)
		6.5.2	Proportion of transboundary basin area with an operational arrangement for water cooperation
6.a	By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and program, including water harvesting, desalination, water efficiency, wastewater treatment, and recycling and reuse technologies.	6.a.1	Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan
6.b	Support and strengthen participation of local communities in improving water and sanitation management.	6.b.1	Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management

As shown in Table 2.3, a service ladder has been adopted for the SDGs to classify water sources into five levels. The "proportion of population using safely managed drinking water services (Indicator 6.1.1)" refers to the proportion of population using drinking water services defined in 1 in the table.

Table 2.3 Classification of water sources in the SDGs

Service level		Definition
1	Safely managed	Drinking water from an improved water source that is located on premises, available when needed and free from faecal and priority chemical contamination
2	Basic	Drinking water from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing
3	Limited	Drinking water from an improved source for which collection time exceeds 30 minutes for a round trip, including queuing
4	Unimproved	Drinking water from an unprotected dug well or unprotected spring
5	Surface water/ No service	Drinking water directly from a river, dam, lake, pond, stream, canal or irrigation canal

The goal of "halving, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation," which had been pursued under the MDGs since 1990, was achieved in 2010, as the result of expanded access to improved drinking water sources mainly in rural areas. Figure 2.1 shows the proportion of population using "safely managed drinking water services" in each country according to a report issued in 2019 by the WHO/UNICEF Joint Monitoring Program (JMP) for Water Supply, Sanitation and Hygiene. The proportion of population using at least "basic drinking water services" is shown in Figure 2.2 and regional drinking water coverage changes between 2000 and 2017 in Figure 2.3.[3)]

Figure 2.1 Proportion of population using "safely managed drinking water services" in each country

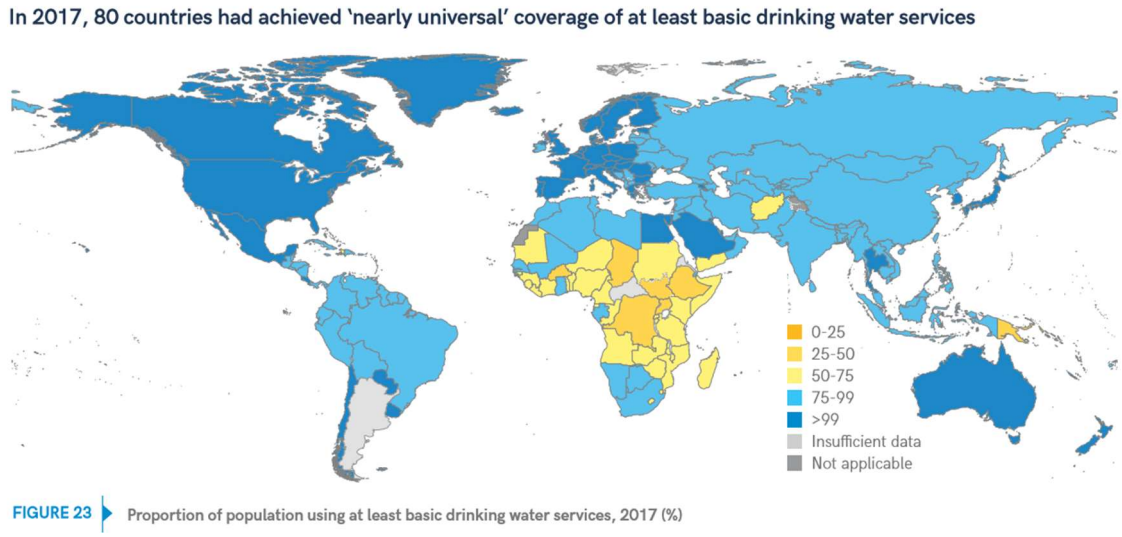


Figure 2.2 Proportion of population using at least "basic drinking water services"

In Figures 2.1 and 2.2, the darker the blue color of an area the higher the proportion is in the area, while the proportion is lower in yellow-shaded areas and even lower in orange-shaded areas. These figures show that evaluation needs to made based on data about "basic drinking water services" as no sufficient data is available as to "safely managed drinking water services" in Africa and that the

3) Progress on household drinking water, sanitation and hygiene 2000-2017: Special focus on inequalities, WHO/UNICEF Joint Monitoring Program, 2019

proportion of population using at least basic drinking water services is low in Africa compared to other parts of the world, particularly in Central Africa, while the trend is not observed in some countries in the northern and southern parts of African continent.

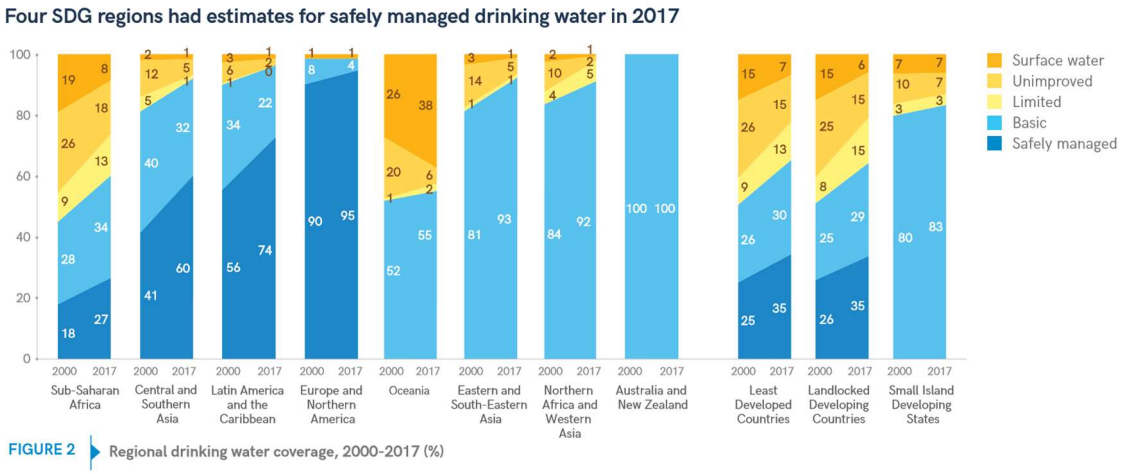


Figure 2.3 Regional drinking water coverage changes in the world

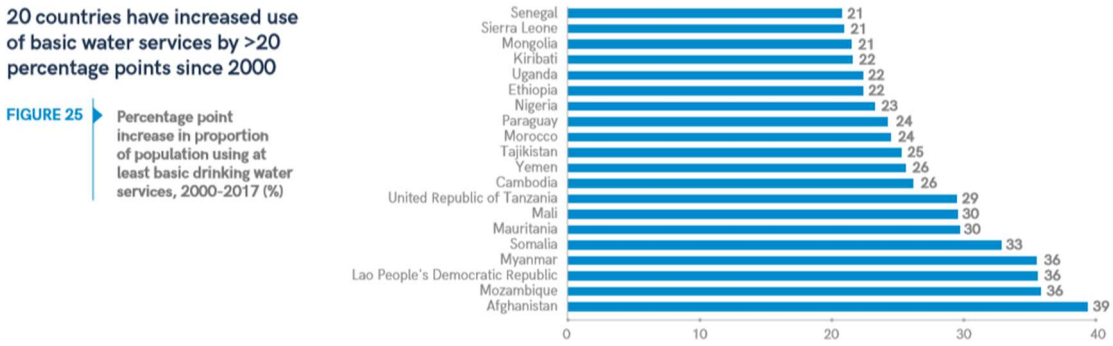


Figure 2.4 Countries that increased use of "basic water services" by 20% or more between 2000 and 2017

As shown in Figure 2.3, drinking water coverage improved in all regions between 2000 and 2017, during which use of "safely managed drinking water services" and "basic water services" increased by 15% in total. Figure 2.4 shows countries that increased use of "basic water services" by 20% or more between 2000 and 2017. It indicates that 11 African countries were included in the 20 countries in the world that increased use of basic water services by 20% or more, suggesting that recent years have seen a considerable improvement in drinking water coverage in Africa.

At the same time, however, the proportion of population using "safely managed drinking water services" was only 27% in Sub-Saharan Africa, the area of Africa that lies south of the Sahara Desert, even in 2017, the lowest between the eight regions of the world, while 18% and 8% were still using "unimproved drinking water services" and "surface water," respectively. This indicates that this is the most challenged region in the world in achieving the SDGs.

To evaluate drinking water coverage, urban-rural disparity evaluation is also needed. Figure 2.5 shows the urban and rural drinking water ladders in 2017. This figure indicates that there were disparities between the urban and rural parts of all regions, while the size of disparities varied from region to

region and Sub-Saharan Africa and Oceania showed markedly greater disparities than in the other regions. In order to improve the overall drinking water coverage of a country, a key task should be to improve water supply in both the urban and rural parts of the country.

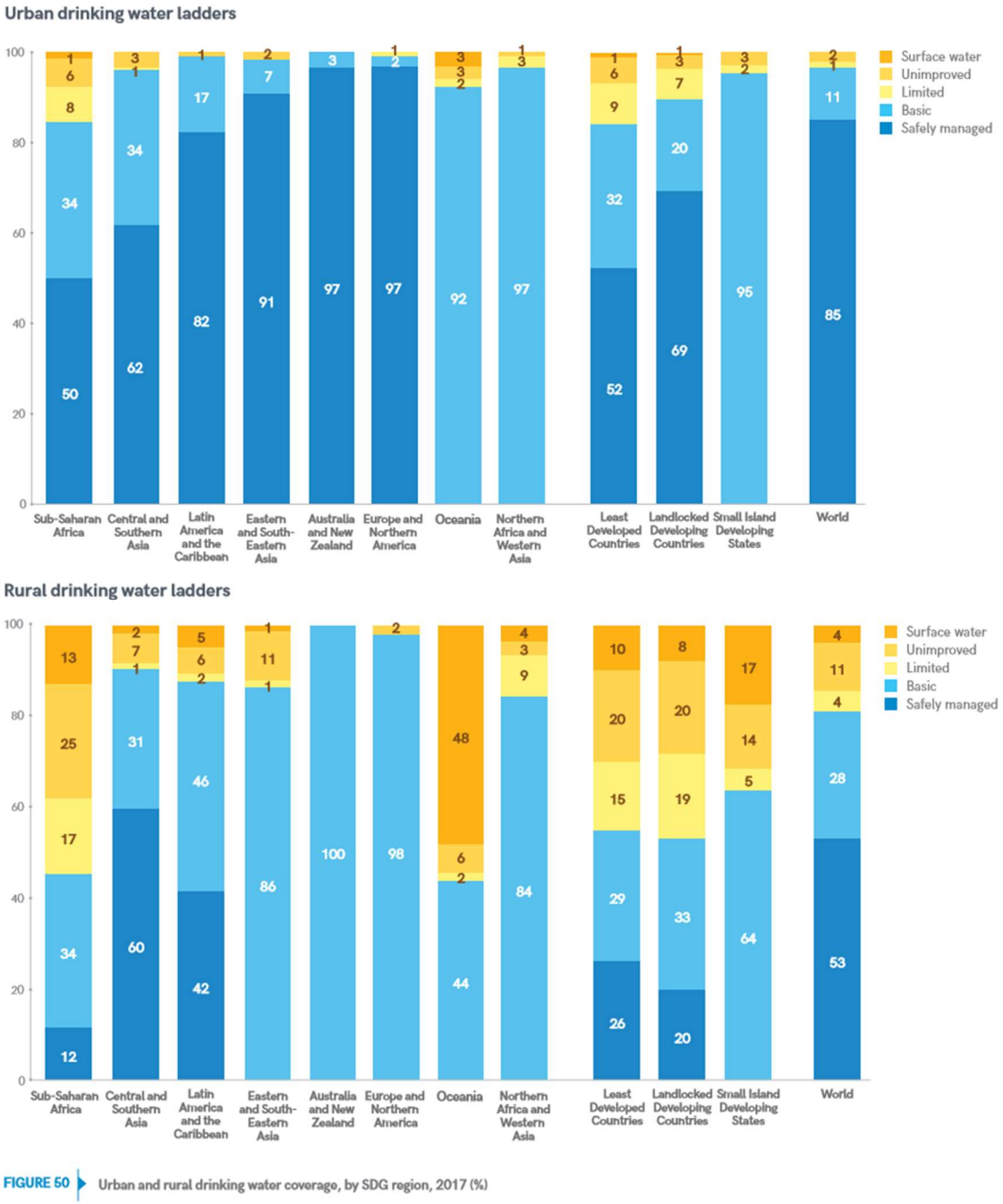


Figure 2.5 Urban and rural drinking water ladders in 2017

2-2 Water Supply-related Efforts of the Tokyo International Conference on African Development (TICAD)

The Tokyo International Conference on African Development (TICAD) is an initiative that particularly clearly advocates for cooperation with Africa. TICAD is an international forum for African development that has been co-organized with the United Nations (UN), United Nations

Development Programme (UNDP), World Bank and African Union Commission (AUC) under the leadership of Japan since 1993. In association with TICAD, ministerial follow-up meetings have also been held.

Table 2.4 provides an outline of TICAD. TICAD Summit Meetings had been held every five years in Japan until the fifth one (TICAD V) in 2013. It was then decided, in response to Africa's growing ownership of its own development agenda, to hold the conference every three years alternatively in Japan and Africa, starting with the sixth conference (TICAD VI) in 2016[4].

Table 2.4 Outline of TICAD

Year	Name	Place	Description
1993	First Tokyo International Conference on African Development (TICAD I)	Tokyo	●Adopted the Tokyo Declaration. ●Contributed to bringing people's attention to the development of Africa again immediately after the end of the Cold War, when the international community tended to lose interest in Africa.
1998	Second Tokyo International Conference on African Development (TICAD II)	Tokyo	●Adopted the Tokyo Agenda for Action, which set out priority policies and activities together with numerical targets. ●Established the fundamental principle of TICAD "ownership and partnership."
2003	Third Tokyo International Conference on African Development (TICAD III)	Tokyo	●Adopted the TICAD Tenth Anniversary Declaration, which indicated the future direction of the TICAD process and priority approaches. ●Promoted the "human security" approach, which attracted a lot of attention. ●Participated in by over 1,000 people, including 24 heads of state.
2008	Fourth Tokyo International Conference on African Development (TICAD IV)	Yokohama	●Adopted the Yokohama Declaration and published the Yokohama Plan of Actions and TICAD Follow-up Mechanism. ●Participated in by over 3,000 people from 51 African countries (including 41 heads of state), development partner countries and 34 Asian countries, including representatives of 77 regional and international organizations and people representing the private sector and civil society.

[4] "Japan and Africa," Ministry of Foreign Affairs, https://www.mofa.go.jp/mofaj/files/000087153.pdf

Year	Name	Place	Description
2013	Fifth Tokyo International Conference on African Development (TICAD V)	Yokohama	●Adopted the Yokohama Declaration 2013 and Yokohama Plan of Actions 2013-2017. ●Had the largest ever number of participants, over 4,500 participants, from 51 African countries (including 39 heads of state), development partner countries and 31 Asian countries, including representatives of 72 regional and international organizations and people representing the private sector and civil society, which made it one of the largest international conferences hosted by Japan.
2016	Sixth Tokyo International Conference on African Development (TICAD VI)	Nairobi	●Became the first TICAD to be held in Africa (Nairobi, Kenya). ●Adopted the Nairobi Declaration and Nairobi Implementation Plan, while Prime Minister Abe pledged that the Japanese government and private businesses combined would invest a total of 30 billion USD in Africa over the following three years. ●Had over 11,000 participants, including representatives of 53 African countries, development partner countries, Asian countries, international and regional organizations, the private sector and NGOs and other sections of the civil society, while people representing 77 organizations (businesses, universities, etc.) accompanied Abe on the mission.

Year	Name	Place	Description
2019	Seventh Tokyo International Conference on African Development (TICAD VII)[5]	Yokohama	●Conference period: August 28-30, 2019 ●Co-organizers: Japan, United Nations, World Bank, United Nations Development Programme (UNDP), and African Union Commission (AUC) ●Participated in by over 10,000 people from 53 African countries (including 42 heads of state) and 52 development partner countries, including representatives of 108 international and regional organizations and people representing the private sector and NGOs and other sections of the civil society. ●Implemented six plenary sessions and five thematic sessions under the theme of "Advancing African Development through People, Technology, and Innovation." ●Adopted the Yokohama Declaration 2019 and published its accompanying document Yokohama Plan of Actions 2019. Confirmed that comprehensive and sustainable development of Africa should continue to be supported through activities revolving around the three pillars of "economy," "society," and "peace and stability." ●Held the largest ever number of varied side events (about 140 seminars and symposiums and about 100 exhibitions).

Japan announced at the Fourth Tokyo International Conference on African Development (TICAD IV), held in Yokohama in May 2008, that it would dispatch personnel to contribute to improving access to safe water and sanitary conditions in Africa, and decided to start the dispatch of the Water Security Action Team (W-SAT), consisting of Japan Overseas Cooperation Volunteers (JOCVs) and experts from JICA, in November of the same year. Over the ten years up to June 2018, 260 W-SAT members were sent to 21 different countries in Africa[6].

At the Fifth Tokyo International Conference on African Development (TICAD V), held in June 2013, Japan announced that it would continue providing support for ensuring access to safe drinking water and basic sanitation facilities for approximately 10 million people for a period of five years, as well as provide support for fostering 1,750 waterworks engineers, which were set as specific numerical targets in the water and sanitation sectors.

The Sixth Tokyo International Conference on African Development (TICAD VI) became the first TICAD to take place in Africa and was held in Nairobi, Kenya, participated in by about 11,000 people, including representatives of African countries, development partner countries and international and

5) "Seventh Tokyo International Conference on African Development (TICAD VII)," Ministry of Foreign Affairs, https://www.mofa.go.jp/mofaj/files/000512916.pdf

6) "Gradually Taking Root in Africa: Ten Years after the Launch of the Water Security Action Team," JICA, https://www.jica.go.jp/topics/2018/20181015_01.html

regional organizations, as well as those representing the private sector, NGOs and other sections of the civil society. This TICAD adopted the Nairobi Implementation Plan[7], which was established around three pillars, namely i) promoting structural economic transformation through economic diversification and industrialization, ii) promoting resilient health systems for quality of life, and iii) promoting social stability for shared prosperity, with the goal of overcoming varied negative elements, such as volatile resource prices, Ebola virus outbreaks and frequent occurrences of violent extremism. These Japanese initiatives have been highly evaluated by many countries both inside and outside Africa, as well as its development partners.

The Seventh Tokyo International Conference on African Development (TICAD VII), which took place at Pacifico Yokohama from August 28 through 30, 2019 with the theme of "Advancing Africa's Development through People, Technology, and Innovation," held six plenary sessions (Opening Ceremony, Accelerating Economic Transformation and Improving Business Environment, Public Private Business Dialogue, Deepening Sustainable and Resilient Society, Peace and Stability and Closing Ceremony) and five thematic sessions (i) Science, Technology and Innovation, ii) Human Resource Development/Education for Youth, iii) Agriculture, iv) Climate Change/Disaster Risk Reduction, and v) Blue Economy). Besides them, varied side events (approximately 140 seminars and symposiums and approximately 100 exhibitions), which was the largest in numbers, were also held.

The "Yokohama Declaration 2019," adopted at TICAD VII, was established around the three pillars of accelerating economic transformation and improving business environment through innovation and private sector engagement (economy), increasing the sustainability and resilience of society (society), and strengthening peace and stability (peace and stability), while the Yokohama Plan of Actions 2019 was published as an accompanying document to promote efforts in the priority areas set under the three pillars[8][9]. It was also the first document adopted by TICAD to state that African leaders "take good care of" the Free and Open Indo-Pacific initiative.

Regarding the water supply and sanitation sectors, the above declaration confirms the significance of promoting investment in quality infrastructure in a way that sets the pace for other partnerships ("economy" pillar), acknowledges that health, water, sanitation, hygiene and nutrition are fundamental elements of human capital development ("society" pillar), and reiterates commitment to promoting universal health coverage (UHC) in Africa as agreed at TICAD VI.

2-3 Water Supply-related Cooperation Activities of Japan for Africa

1) Activities of Japan in the water supply sector in Africa

Although it was widely recognized in the past that Japanese water supply-related cooperation activities in Africa were mostly rural water supply projects and Japan provided only limited support in urban water supply in the region, recent years have seen dramatic changes, compared to the 1990s, in the level of water supply services achieved through Japanese grant aid for Africa. Particularly, urban water supply-related projects have significantly increased, while piped water supply has

7) "TICAD VI Nairobi Implementation Plan," Ministry of Foreign Affairs, https://www.mofa.go.jp/mofaj/af/af1/page3_001789.html
8) "Yokohama Declaration 2019," Ministry of Foreign Affairs, https://www.mofa.go.jp/mofaj/area/ticad/ticad7/pdf/yokohama_declaration_ja.pdf
9) "Outline of TICAD VII Yokohama Declaration," Ministry of Foreign Affairs, https://www.mofa.go.jp/mofaj/area/ticad/ticad7/pdf/yokohama_declaration_gaiyou_ja.pdf

replaced many hand-pump wells in rural areas. Given the recent rapid urbanization of Africa and the resulting soar in demand for urban water supply systems, which require large sums of investments, as well as growing demand for piped water supply in rural areas, it is necessary to organize activities in such a way as to meet the changing needs.

The "JICA Thematic Guidelines: Water Resources" set forth the following six policies for regional cooperation towards Africa (Sub-Saharan Africa) [10]:

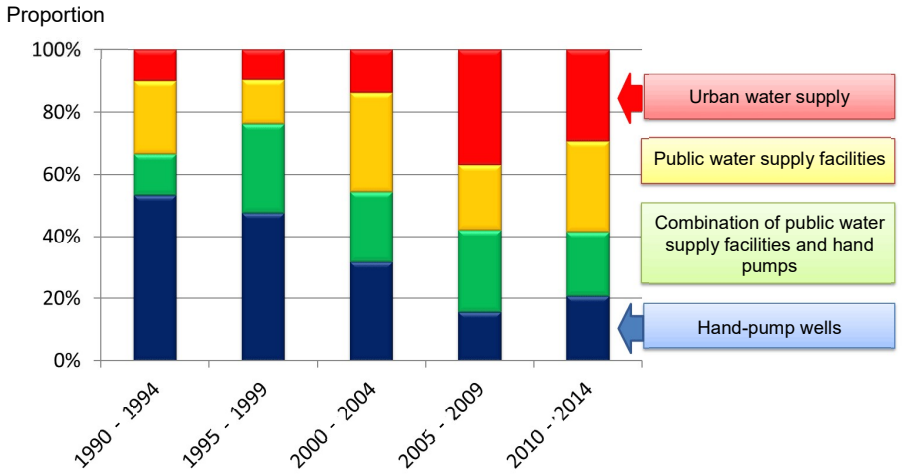
- JICA will work on the development and capacity building of urban water supply infrastructure in response to the region's expanding population and urbanization and the resulting increase in demand for cooperation for urban water supply;
- At the same time, however, rural water supply is still faced with serious problems, such as water drawing labor in rural villages, educational and gender challenges caused by water drawing labor imposed on children and women and a scarcity of water in the dry season. This is the reason that JICA should work to improve access to safe water and enhance the maintenance and management systems;
- It is clear that the region is left behind in terms of access to sanitation. JICA will promote assistance in increasing public awareness about sanitation and improving hygiene behavior through varied activities, including collaborations with other sectors, mainly health and nutrition and education
- As the region's water resources still leave room for development, it is necessary to continue with the development of water resources which will meet the increasing demand for water supply resulting from urbanization. Given the region's vulnerability to climate change, another important task should be to provide assistance to increase its resilience. JICA will help establish and implement a master plan for water resource management, including measures against floods, etc.;
- JICA will carry out cooperation activities to contribute to fulfilling the international pledges made in the TICAD process, including the development of human resources, development and improvement of water supply facilities, and dispatch of the Water Security Action Team (W-SAT); and
- JICA will promote human resource development programs, for example through the African Business Education Initiative for Youth (ABE Initiative).

The "ABE Initiative" is a program that offers opportunities for African young people to study at master's courses in Japanese universities as international students and to experience internships at Japanese enterprises, with the goal of developing human resources for African industries, as well as people who can act as local advisers for Japanese companies in the future to support them with their business activities in Africa. As of April 2019, a total of 1,219 people from the private sectors, governments, and educational institutions of 54 different African countries had participated in this program, at universities and enterprises in Japan. Of these participants, 775 people had already completed this program and returned to their home countries, where they played important roles in

[10] JICA Thematic Guidelines: Water Resources, https://www.jica.go.jp/activities/issues/water/ku57pq00002cybbn-att/guideline_water.pdf

many different fields. For example, one student from Zanzibar, Tanzania, became CEO of Zanzibar Water Authority (ZAWA) after coming back from Japan[11].

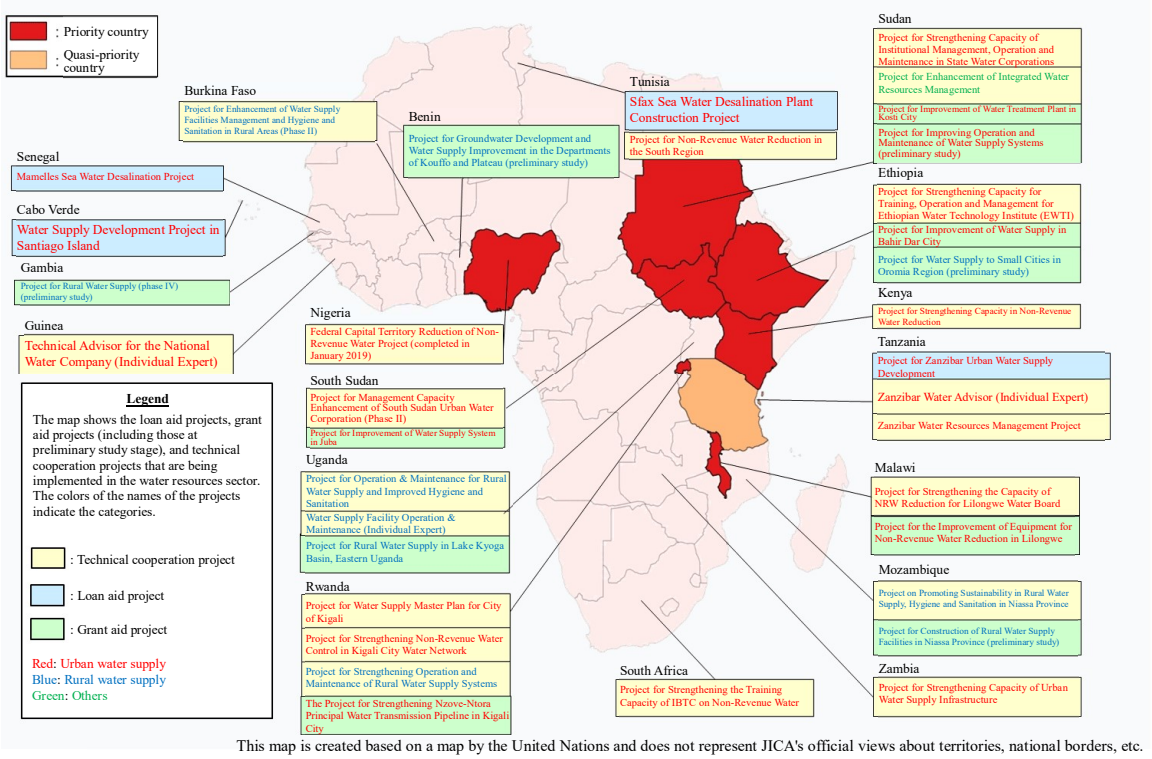
Figure 2.7 shows the JICA projects that are being implemented or planned for Africa right now. Nigeria, Sudan, Ethiopia, Kenya, Rwanda, and Malawi are designated as priority countries, and Tanzania a quasi-priority country. The proportion of urban water supply-related projects is higher in all types of cooperation projects (loan aid, grant aid, and technical cooperation projects).



Source: Data from JICA

Figure 2.6 Changes in the numbers of grant aid projects in Africa by water supply service level

[11] "ABE Initiative," JICA, https://www.jica.go.jp/africahiroba/business/detail/03/ku57pq00001jwm0b-att/abc_pamphlet_jp.pdf



Source: "JICA Developing Nations Issues Awareness Seminar (Urban Water Supplies & Rural Water Supplies)," Water Resources and Disaster Management Group, Global Environment Department, JICA, https://www.jica.go.jp/aboutoda/sdgs/news/ku57pq00002jdrb9-att/20190313_05.pdf

Figure 2.7 JICA projects being implemented or planned for Africa

3) Overseas engagement by water supply corporations in Africa

It was when the Yokohama City Government dispatched engineers to Kenya in 1977 that the first project by a Japanese water supply corporation in Africa was launched. After that, continued technical cooperation has been provided to Kenya for a long period of time by many different Japanese water utilities, including the Yokohama City Government, Kanagawa Water Supply Authority, Chiba Prefectural Government, and Osaka City Government[12].

Table 2.5 shows examples of recent overseas engagement by Japanese water supply corporations extracted from the official website of the Japan Water Works Association (JWWA) and other information sources, as well as the official websites of municipalities. In principle, these projects of water supply corporations are mainly about urban water supply. In this table, only projects the recipient countries of which are in Africa are shaded and are shown with their implementation periods.

Of these projects, the following are now being implemented in Africa: dispatch of staff members of the Yokohama Water Works Bureau to the Blantyre Water Board in Malawi using the volunteer system of JICA, dispatch of Long-term Experts to the Project for the Improvement of Equipment for Non-Revenue Water Reduction in Lilongwe in Malawi, Project for Strengthening Non-Revenue Water Control in Kigali City Water Network in Rwanda by Yokohama Water Co., Ltd., a partner company

12) "Water Man Walks around Kenya: 20-year History of Technical Cooperation for Water Supply in Kenya," June 1998, Japan International Corporation of Welfare Services (JICWELS)

of the Yokohama Water Works Bureau, Project for the Improvement of Equipment for Non-Revenue Water Reduction in Lilongwe in Malawi, undertaken in cooperation with the Yokohama Water Works Bureau, Technical Cooperation Project in Kenya by Tokyo Water Co., Ltd., a partner company of the Bureau of Waterworks of the Tokyo Metropolitan Government, and domestic support committee activities for the Project for Strengthening Non-Revenue Water Control in Kigali City Water Network in Rwanda by the Kobe City Waterworks Bureau.

The Yokohama City Government has long been involved in international cooperation since 1973, for example through supporting the dispatch of experts to developing countries, and has also sent out experts, survey mission members and other people to many African countries, including Egypt, Ghana, Tanzania, Senegal, Mali, Zimbabwe, Malawi, and the Republic of South Africa, since 1977, in which it dispatched its first mission members to Africa, to Kenya. Experts sent from the government are operating in Malawi at present as well. It also took part in the Second Workshop on Non-Revenue Water Reduction, a program for regional cooperation in Africa that was held from September 23 through 26, 2019 for water utilities of three African countries, namely Malawi, Rwanda, and Kenya, as "Team Yokohama."[13] Its proactive support activities for Africa also include accepting many training participants from Africa each year, which was launched in association with TICAD IV, held in the City of Yokohama in 2008.

The Kobe City Government's technical cooperation for Rwanda dates back to May 2016, in which the Mayor of Kobe City visited Rwanda to attend the World Economic Forum on Africa and was requested by the Mayor of Kigali City to provide cooperation for water supply and sewage systems of the city. After consultation with JICA, the government has begun to offer technical cooperation to Rwanda[14].

Besides them, Tokyo Water Co., Ltd., sent staff members to work for a non-revenue water reduction project of JICA in Kenya from 2010 through 2014[15]. This company has also been implementing a Technical Cooperation Project since 2019.

These water supply corporations have also been providing training programs in Japan, which have been participated in by many participants from Africa each year. Table 2.6 shows a list of training programs held by Japanese water utilities in fiscal year 2018 which had participants from Africa.

International cooperation in the water supply sector has begun to spread across Africa and there are Japanese water supply corporations that have been proactively engaged in this area. Compared to Asia, however, it can be said that more water utilities should send their staff members to work for water supply in Africa.

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[13] JICA website, "Water Supply Family in Africa! Work with Team Yokohama for Global Mutual Learning: Workshop for Urban Water Supply Personnel from Malawi, Rwanda and Kenya,"
https://www.jica.go.jp/information/seminar/2019/20190926_01.html
[14] Website of the City of Kobe, "Our Activities in Rwanda,"
https://www.city.kobe.lg.jp/a75879/mizbiz/water/rwanda.html
[15] "Project for Management of Non-revenue Water in Kenya: Project Completion Report,"
http://open_jicareport.jica.go.jp/pdf/12182275.pdf

Table 2.5 Overseas engagement by Japanese water supply corporations

No.	Water supply corporation	Recipient country	Project name
1	Sapporo City Government	Mongolia	JICA Grassroots Technical Cooperation Project
2	Saitama Prefectural Government	Kingdom of Thailand	Technical Cooperation for the Provincial Waterworks Authority (PWA) of Thailand
		Lao People's Democratic Republic	JICA Grassroots Technical Cooperation Project JICA Technical Cooperation Project
		Kingdom of Thailand and Lao People's Democratic Republic	JICA Grassroots Technical Cooperation Project
3	Saitama City Government	Lao People's Democratic Republic	JICA Grassroots Technical Cooperation Project JICA Technical Cooperation Project
4	Chiba Prefectural Government	Democratic Republic of East Timor	JICA expert dispatch
5	Tokyo Metropolitan Government (including projects by TSS Tokyo Water Co., Ltd.)	Republic of the Union of Myanmar	Project for Management of Non-Revenue Water in Yangon JICA Grassroots Technical Cooperation Project
		Socialist Republic of Vietnam	JICA Grassroots Technical Cooperation Project
		Malaysia	JICA Grassroots Technical Cooperation Project
		Republic of Kenya	JICA Technical Cooperation Project (November 2019 to October 2021)
6	Yokohama City Government	Republic of Malawi	Dispatch of staff members to the Blantyre Water Board in Malawi using the volunteer system of JICA (2014 to 2016, 2017 to 2019) JICA Technical Cooperation Project (Project for the Improvement of Equipment for Non-Revenue Water Reduction in Lilongwe) (June 2019 to June 2023)
		Socialist Republic of Vietnam	Memorandum of Understanding between Yokohama Waterworks Bureau and Thua Thien Hue Water Supply Joint Stock Company
		Republic of Indonesia	JICA Grassroots Technical Cooperation Project

No.	Water supply corporation	Recipient country	Project name
	Yokohama Water Co., Ltd.	Republic of Rwanda	JICA Technical Cooperation Project (Project for Strengthening Non-Revenue Water Control in Kigali City Water Network) (July 2016 to July 2020)
		Republic of Malawi	JICA Technical Cooperation Project (Project for the Improvement of Equipment for Non-Revenue Water Reduction in Lilongwe) (June 2019 to June 2023)
		Islami Jumhuriya Pakistan	Pilot activities in Faisalabad
7	Kawasaki City Government	Republic of Indonesia	JICA Grassroots Technical Cooperation Project
		Lao People's Democratic Republic	JICA Technical Cooperation Project
		Socialist Republic of Vietnam	Water environment improvement activities in Ba Ria-Vung Tau
8	Hamamatsu City Government	Republic of Indonesia	JICA Grassroots Technical Cooperation Project
9	Nagoya City Government	Democratic Socialist Republic of Sri Lanka	JICA Technical Cooperation Project Project for Enhancement of Operational Efficiency and Asset Management Capacity of Regional Support Center-Western South of NWSDB
			Technical cooperation in Sri Lanka
10	Toyohashi City Government	Republic of Indonesia	JICA Grassroots Technical Cooperation Project
11	Osaka City Government	Socialist Republic of Vietnam	Activities for water supply improvement in Ho Chi Minh
12	Kobe City Government	Democratic Socialist Republic of Sri Lanka	JICA Technical Cooperation Project Project for Enhancement of Operational Efficiency and Asset Management Capacity of Regional Support Center-Western South of NWSDB
			JICA expert dispatch Technical cooperation in Sri Lanka
		Republic of Rwanda	Domestic Support Committee for the JICA Technical Cooperation Project (Project for Strengthening Non-Revenue Water Control in Kigali City Water Network) (December 2016-)
13	Kitakyushu City Government	Kingdom of Cambodia	Water supply improvement activities across Cambodia

No.	Water supply corporation	Recipient country	Project name
		Socialist Republic of Vietnam	International operations in Hai Phong
		Republic of the Union of Myanmar	JICA Grassroots Technical Cooperation Project
14	Fukuoka City Government	Republic of the Union of Myanmar	JICA Technical Cooperation Project Preliminary study for the Greater Yangon Water Supply Improvement Project JICA Individual Expert
		Republic of Fiji	JICA Grassroots Technical Cooperation Project
15	Okinawa Prefectural Government	Independent State of Samoa	JICA Technical Cooperation Project
16	Nago City Government	Independent State of Samoa	JICA Technical Cooperation Project

*Only projects the recipient countries of which are in Africa are shaded and are shown with their implementation periods.
Source: "Collected Cases of Municipality Water Supply Corporations' Overseas Engagement," March 2019 from the Ministry of Internal Affairs and Communications website,
http://www.soumu.go.jp/main_content/000610019.pdf
"International Activities of Water Supply Corporations, Etc.," JWWA website,
http://www.jwwa.or.jp/jigyou/kaigai_file/wops_jp_2018.pdf
List of JICA Grassroots Technical Cooperation Project by Country,
https://www.jica.go.jp/partner/kusanone/country/index.html
"International Contribution," website of Tokyo Water Co., Ltd., https://www.tssk.jp/service/contribution/
"Cooperation Projects for Africa," website of the City of Yokohama,
https://www.city.yokohama.lg.jp/kurashi/sumai-kurashi/suido-gesui/suido/torikumi/koken/africa.html
"Our Activities in Rwanda," website of the City of Kobe,
https://www.city.kobe.lg.jp/a75879/mizbiz/water/rwanda.html
List created by the City of Yokohama

Table 2.6 Training programs held by Japanese water supply corporations in fiscal year 2018 which had participants from Africa[16)]

No.	Water supply corporation	Participating countries (Only those in Africa are named below.)	Project name
1	Sapporo City Government	Nigeria, Sudan	JICA Knowledge Co-Creation Program (Group and Region Focus) "Comprehensive Engineering on Water Supply Systems: Practical Training for Water Supply System (B)"

16) International Engagement by Water Utilities, Etc. 2018, JWWA, http://www.jwwa.or.jp/jigyou/kaigai_02.html

No.	Water supply corporation	Participating countries (Only those in Africa are named below.)	Project name
2	Yokohama Waterworks Bureau	Ethiopia, Iritriyya, Kenya, Nigeria, Malawi, Rwanda	JICA Knowledge Co-Creation Program (Group and Region Focus) "African Region Urban Waterworks Engineering"
3	Nagoya City Waterworks & Sewage Bureau	Malawi, Zimbabwe	JICA Knowledge Co-Creation Program (Group and Region Focus) "Comprehensive Engineering on Water Supply Systems: Leak Prevention (A)"
		Ethiopia, Guinea, Nigeria, Rwanda	JICA Knowledge Co-Creation Program (Group and Region Focus) "Comprehensive Engineering on Water Supply Systems: Leak Prevention (B)"
4	Toyohashi City Waterworks & Sewage Bureau	Malawi, Zimbabwe	JICA Knowledge Co-Creation Program (Group and Region Focus) "Comprehensive Engineering on Water Supply Systems: Leak Prevention (A)"
5	Kyoto City Waterworks & Sewage Bureau	Uganda, Nigeria	JICA Knowledge Co-Creation Program (Group and Region Focus) "Operation and Maintenance of Urban Water Supply System (Water Quality and Purification A)"
6	Kobe City Waterworks Bureau	Rwanda, Tunisia, Iritriyya, Benin	JICA Knowledge Co-Creation Program (Group and Region Focus) "Operation and Maintenance of Urban Water Supply System (Water Quality and Purification B)"
7	Hiroshima City Waterworks Bureau	Cote d'Ivoire, Iritriyya, Guinea, Liberia, Malawi, Mozambique	JICA Knowledge Co-Creation Program (Group and Region Focus) "Operation and Maintenance of Urban Water Supply System" (Water Distribution and Service) (B)
8	Fukuoka City Waterworks Bureau	Tanzania	JICA Knowledge Co-Creation Program (Group and Region Focus) "Comprehensive Engineering on Water Supply Systems: Leak Prevention"

*The table shows only the water supply corporations named in the source, besides which other water utilities have also cooperated with JICA Knowledge Co-Creation Programs (Group and Region Focus) and have been acting as hosts for study tours and lectures of JICA Knowledge Co-Creation Programs (Country Focus) associated with Technical Cooperation Projects in Africa.

Chapter 3 Study of Needs for International Cooperation in Africa

3-1 Study Policies

This fiscal year' study is what measures are useful to carry out international cooperation in the water supply sector in Africa more effectively and efficiently in the future. As shown above, the number of international cooperation projects in the water supply sector in Africa is by no means large even though the Japanese government shows clear policies. The survey in fiscal year 2017 reported that there were no essential differences between Asia and Africa as a whole while it suggested that the following points would have to be tackled in the future.

- People in Africa have not understood the situations well comparing to Asia. Therefore, water supply corporations should provide information so that chiefs and residents can understand the situations.
- There are backgrounds to be understood for natural conditions, social conditions, close relationship with Europe, understanding of the way of establishment of relationship with Japan, distance from Japan, and languages used in Africa.
- Support provided in Africa is mainly for rural water supply, so not many water supply corporations that are experts of urban water supply have participated in projects.

While keeping these issues in mind, this fiscal year's study was carried out to collect information that would be useful to get the outline of Africa. Specifically, the survey aimed at making it easier to get the outline of the situations of whole Africa and in turn making it possible for persons in charge in water supply corporations to think international cooperation in Africa more concretely. In addition, the survey was to allow chiefs and residents to understand the situations in Africa so that they would be able to support projects. Especially, attention was paid to include both urban and rural water supplies in the survey.

To that end, the following tasks were performed.

- Summary of the general conditions of African countries: Information on African countries was extracted from public information and other data and arranged to select target countries of the survey. The general conditions of the selected countries were summarized.
- Field survey: For one country among the target countries, information on situations in the country that were difficult to know only by documents was directly collected.
- Questionnaire on the water supply in Africa: Asked people who had participated in water supply projects in Africa about the situations in the countries that they had visited along with their opinions.

This chapter summaries the present situations in Africa, Chapter 4 describes the field survey, and Chapter 5 describes the questionnaire on the water supply in Africa into details.

3-2 Selecting Target Countries Based on Public Information

Africa has 54 countries[17] and the national strength and geographical conditions such as the area, population scale, and climate differ from region to region and the politics, society, and culture also widely vary. It is difficult at this point to consider international cooperation in the water supply sector

[17] Japan-Africa Relations by Ministry of Foreign Affairs of Japan, https://www.mofa.go.jp/mofaj/area/africa.html

for all the countries, so target countries were selected in consideration of the relationship with Japan up to the point, economic scale, and social and cultural backgrounds.

According to the United Nations Statistics Division (UNSD), the African continent is broadly divided into North Africa and Sub-Saharan Africa south of the Sahara Desert. Sub-Saharan Africa is further divided into Central Africa, West Africa, South Africa, and East Africa. In the economical aspect, in particular, there is a large difference between North Africa and Sub-Saharan Africa, so it is appropriate to select counties in Sub-Saharan Africa as target countries of international cooperation. Meanwhile, in North Africa, only Sudan is included in least developed countries (LDCs).[18)]

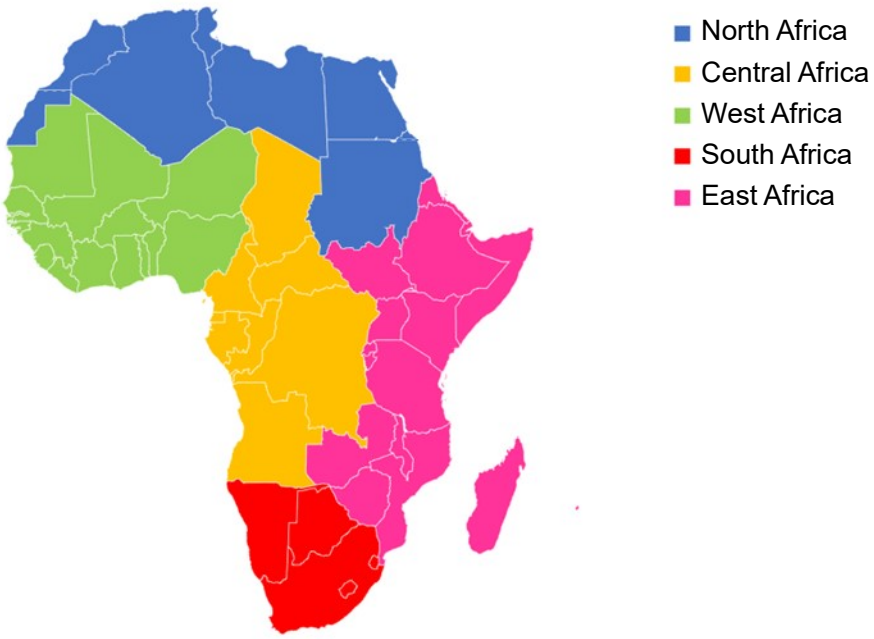


Figure 3.1 Classification of regions in Africa

Note: The description on the map is only for illustration and does not indicate any concept of the Ministry of Health, Labour and Welfare of Japan on the legal status or border line of any country or region.

A factor that affects society and culture significantly is differences in former colonial powers. Most African countries were colonized by European countries in the past and they still use the languages of the former colonial powers as their official languages or ones widely used. Figure 3.2 shows the African countries' former colonial powers. Seeing the number of colonies, France and the United Kingdom had many colonies. Broadly speaking, countries in the western part use French and those in the eastern part use English. Five countries use Portuguese as their official languages.

[18)] United Nations Statistics Division (UNSD), https://unstats.un.org/unsd/methodology/m49/

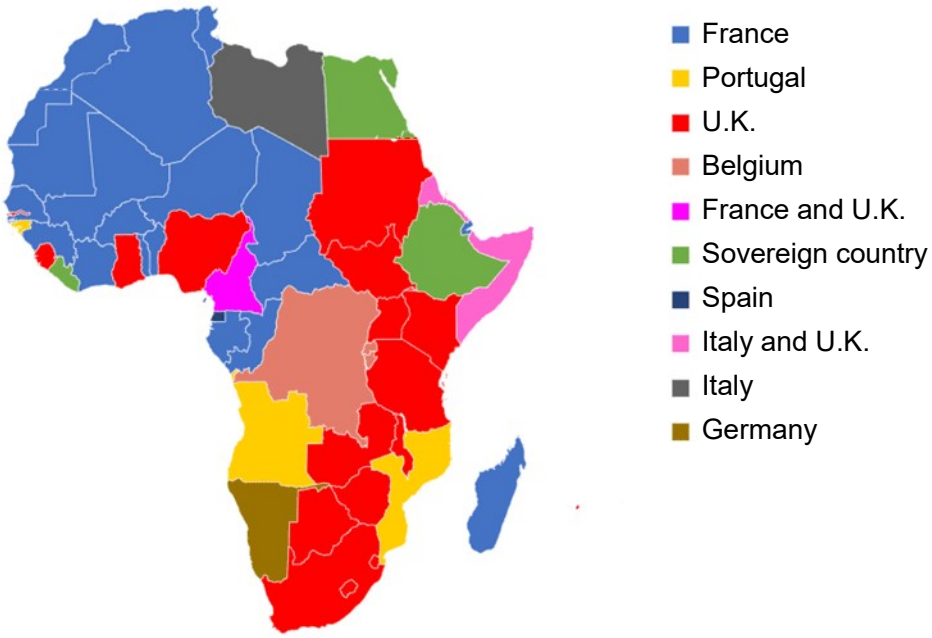


Figure 3.2 African countries' former colonial powers

Note: The description on the map is only for illustration and does not indicate any concept of the Ministry of Health, Labour and Welfare of Japan on the legal status or border line of any country or region.

The African continent spreads north and south with the equator as its center. The region immediately below the equator is a tropical climate and the climate changes as the region is away from the equator to a dry climate, such as desert climate and steppe climate, as shown in Figure 3.3. The climates of the north and south ends are a temperate climate, such as warm humid climate and Mediterranean climate. The atmospheric temperature and quantity of precipitation significantly vary from region to region, so it should be noted that the conditions of water resources also significantly vary from region to region.

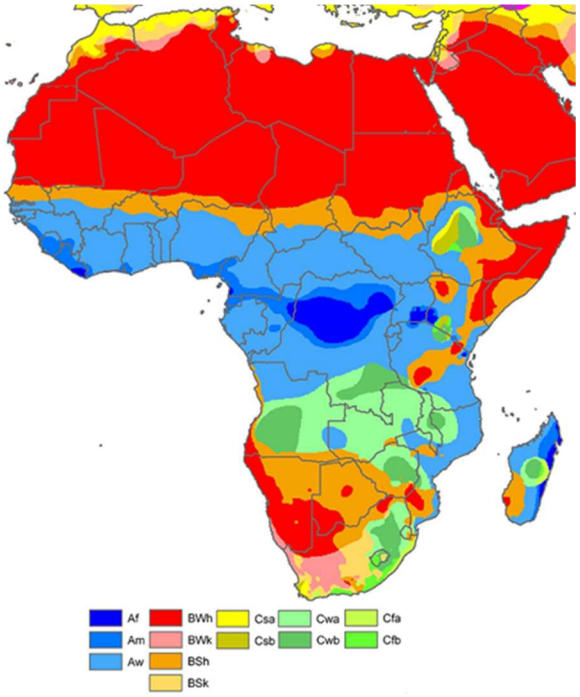
In countries with a tropical climate, it is hot and humid throughout the year and the temperature of the coldest month is 18°C or higher. Such countries have no seasonal changes and the annual quantity of precipitation reaches 1,500 to 2,000 mm in many such countries. A tropical climate is divided into a hot and humid tropical rain-forest climate (annual quantity of precipitation: 1,500 mm or more), tropical monsoon climate that has a weak dry season in winter due to the effect of seasonal winds, and savanna climate that has rainy and dry seasons and for which the annual temperature range is wide.

In desert climates, the quantity of precipitation is extremely small and no plants are seen except oases. The annual and daily temperature ranges are wide. A steppe climate is slightly more humid than a desert climate and a grassy plain with low grass is seen. Both desert and steppe climates are divided into a warm climate where the average annual temperature is 18°C or higher and a cold climate where it is lower than 18°C.

In Mediterranean climates, it is warm and rainy in winter and hot and dry in summer. A subtropical rainy-summer climate, which is also called dry-winter climate, has much rain in summer and less in

winter with a large difference in dryness and moisture between winter and summer. In warm humid climates, the annual temperature range is wide and it is rainy in summer and dry in winter. In marine west coast climates, the annual temperature range is smaller comparing to warm humid climates.

The African continent has some of the greatest rivers, lakes, and mountains in the world and its geographic features also vary having high plains, basins, and deserts. It should be noted that such elements affect the climates and water resources.



Af: Equatorial climate and tropical rain-forest climate
Am: Monsoon climate
Aw: Tropical savanna climate
BWh: Warm desert climate
BWk: Cold desert climate
BSh: Warm steppe climate
BSk: Cold steppe climate
Csa: Warm Mediterranean climate: average temperature in warmest months of 22°C or higher
Csb: Temperate Mediterranean climate: average temperature in warmest months of lower than 22°C
Cwa: Subtropical rainy-summer climate: average temperature in warmest months of 22°C or higher
Cwb: Subtropical rainy-summer climate and subtropical oceanic highland climate: average temperature in warmest months of lower than 22°C
Cfa: Warm humid climate
Cfb: Marine west coast climate

Figure 3.3 Climatic classification for the African continent[19)]

Note: The description on the map is only for illustration and does not indicate any concept of the Ministry of Health, Labour and Welfare of Japan on the legal status or border line of any country or region.

[19)] Peel, M. C. and Finlayson, B. L. and McMahon, T. A. (2007). "Updated world map of the Köppen-Geiger climate classification". Hydrol. Earth Syst. Sci. 11: 1633-1644. ISSN 1027-5606.

As indicators that show the economic situations, public safety, etc. of countries, the following items were researched. Table 3.1 lists the researched items and reliable sources for them.

The water supply rate here is the ratio of the population who can use at least basic drinking water that is released by the Joint Monitoring Programme for Water Supply, Sanitation, and Hygiene carried out by the World Health Organization (WHO) and UNICEF (hereinafter referred to as "WHO/UNICEF JMP"). This is the ratio of the population who uses safely managed drinking water services (drinking water services from an improved water source that is located on premises, available when needed, and free from faecal and priority chemical contamination); and who uses basic drinking water services (drinking water services from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing). (These sources, known as improved water sources, include piped water, boreholes or tube wells, protected dug wells, protected springs, and packaged or rainwater.)

The indicator for SDG 6 "Ensure availability and sustainable management of water and sanitation for all" is the ratio of the population who uses safely managed drinking water services of classification 1 in Table 2.3. However, for African countries, the data on safely managed drinking water is not sufficient, so the ratio of the population who uses at least basic drinking water services needs to be used for evaluation.

The literacy rate is the ratio of people who can understand, read, and write short and easy descriptions regarding daily life to the adult population (defined 15 years old or older). It was excerpted from the data issued by UNESCO.

The human development index (HDI) is a value defined by the United Nations Development Programme (UNDP) as a general economic and social indicator that shows the richness and advancement of each country's society and it is evaluated by the average attainment in the three sectors of health, education, and living standard. Annually issued Human Development Reports list the index and ranking of each country. In the 2018 report, the human development level of the group with the index of 0.700 or higher is high, that of a group with the index from 0.550 to less than 0.700 is moderate, and that of a group with the index of less than 0.550 is low.

Table 3.1 Items used as bases for selection and reliable sources for them

Item	Reliable resources
Population	State of World Population 2019[20)]
Population growth rate	World Bank, 2018[21), 22)]
GDP	Information on countries & Regions provided by the Ministry of Foreign Affairs of Japan[23)]
GNI per person	Information on countries & Regions provided by the Ministry of Foreign Affairs of Japan

20) UNFPA State of World Population 2019,
https://southafrica.unfpa.org/en/publications/state-world-population-2019-4

21) World Bank: Population growth, https://data.worldbank.org/indicator/sp.pop.grow

22) World Population Prospects 2019 Data Booklet (United Nations)

23) Ministry of Foreign Affairs of Japan: Countries & Regions-Japan-Africa Relations,
https://www.mofa.go.jp/mofaj/area/africa.html

Item	Reliable resources
Water supply rate* (Ratio of the population who can use at least basic drinking water)	WHO/UNICEF JMP 2019 (Data as of 2017)[24)]
Urbanization rate	United Nations Population Division, 2018[25)]
Literacy rate	UNESCO[26)]
Human development index (HDI)	UNDP, 2018 (Data as of 2017)[27)]
Danger level	Overseas safety website provided by the Ministry of Foreign Affairs of Japan[28)]

Note: that it is not the indicator of SDG 6 "the ratio of the population who uses safely managed drinking water."

Table 3.2 summaries the public information on the African countries.

The African countries are divided into priority countries, quasi-priority countries, countries where technical cooperation projects were implemented, and other countries as shown in Figure 2.7. The countries were sorted in the order of large population in each group.

The danger level varies even in a same country from region to region, so all danger levels set for a country are listed regardless of the area. As languages, English, French, Portuguese, Spanish, and Italian were specified including cases where they are not an official language. As tribes, the information on the number of tribes and races provided by the Ministry of Foreign Affairs of Japan was referred to. When specific numbers were available, they were specified. When no specific numbers were available, "small" was used for cases where the number is 5 or less, "medium" was used for 5 to 10, and "large" was used for 10 or more.

For comparison, the indicators for Sub-Saharan Africa, Asia, and world were also specified.

This table shows that the population growth rate is high as a whole; the GNI per person varies between countries and the largest difference is approximately 50 times; and the number of countries with the GNI per person of 1,025 dollars or less that the World Bank classifies as low-income countries is 27, being half of the total countries. The table also shows that the number of countries with the literacy rate of 70% or lower is approximately 40% and that with the literacy rate of 50% or lower is approximately 20%, which shows that the education levels of many countries are low; and many countries rank low in the ranking of the human development index. Regarding the human development index, seven countries (Seychelles, Mauritius, Algeria, Tunisia, Botswana, Libya, and Gabon) belong to the group with the high human development index and 14 countries belong to the medium level. The number of countries in the low human development level is 38 around the world; among which, 32 are African countries and all of them are located in Sub-Saharan Africa.

On the assumption that Japanese water supply corporations will carry out international cooperation projects, total 24 countries were selected considering population scale, economic scale, public safety,

24) Progress on household drinking water, sanitation and hygiene 2000-2017: Special focus on inequalities, WHO/UNICEF Joint Monitoring Program, 2019, https://www.who.int/water_sanitation_health/publications/jmp-report-2019/en/

25) United Nations Population Division: World Urbanization Prospects 2018, https://population.un.org/wup/

26) UNESCO eAtlas of Literacy, https://tellmaps.com/uis/literacy/#!/tellmap/-1003531175

27) UNDP: Human Development Indices and Indicators 2018 Statistical Update, http://hdr.undp.org/sites/default/files/2018_human_development_statistical_update.pdf

28) Ministry of Foreign Affairs of Japan: Overseas safety website, https://www.anzen.mofa.go.jp/

language, and other elements as possible conditions: In addition to the 19 countries of priority countries, quasi-priority countries, and countries where technical cooperation projects were carried, five Sub-Saharan African countries with a large population scale were selected (24 in total) (shaded in the figure). The Democratic Republic of Congo, Niger, and Mali are unsafe and thereby their danger levels are classified as 2 (suspension of unnecessary and non-urgent travel), 3 (advice against all travel), or 4 (evacuation advisory). Angola uses Portuguese. Therefore, these four countries were excluded from the targets.

Table 3.2 Public information on the African countries

Country	Population (million people)	Ranking in Africa	Population growth rate (%)	GDP (hundred million dollars)	Ranking in Africa	GNI per person (dollars)	Ranking in Africa	Water supply rate* (%)	Urbanization rate (%)	Literacy rate (%)	Human development index (HDI)	Ranking in the world	Language(s)	Number of tribes	Danger level	Remarks
Nigeria	201.0	1	2.6	3757	1	2100	17	71	50.3	62.0	0.532	157	English	250 or more	2 to 4	JICA priority country
Ethiopia	110.1	2	2.6	800	8	740	34	41	20.8	51.8	0.463	173	English	Approx. 80	1 to 4	JICA priority country
Kenya	52.2	7	2.3	792	9	1440	22	59	27.0	81.5	0.590	142	English	Small	1 to 4	JICA priority country
Sudan	42.5	10	2.4	1175	6	2378	16	60	34.6	60.7	0.502	167	English	200 or more	2, 3	JICA priority country
Malawi	19.7	20	2.6	63	36	320	53	69	16.9	62.1	0.477	171	English	Mainly 4	1	JICA priority country
Rwanda	12.7	29	2.6	91.37	32	720	35	58	17.2	73.2	0.524	158	English, French	3	1	JICA priority country
Tanzania	60.9	5	3.0	521	11	905	30	57	33.8	77.9	0.538	154	English	Approx. 130	0 to 2	JICA quasi-priority country
Republic of South Africa	58.1	6	1.4	3494.2	2	5430	7	93	66.4	87.0	0.699	113	English	Many races	0, 1	Country project implemented
Uganda	45.7	8	3.7	259	17	600	41	49	23.8	76.5	0.516	162	English	Small	1 to 3	Country project implemented
Mozambique	31.4	13	2.9	138	24	480	46	56	36.0	60.7	0.437	180	Portuguese	Approx. 40	0 to 2	Country project implemented
Burkina Faso	20.3	19	2.9	123.2	27	590	42	48	29.4	41.2	0.423	183	French	Medium	1 to 4	Country project implemented
Zambia	18.1	22	2.9	258	18	1300	25	60	43.5	86.7	0.588	144	English	73	1, 2	Country project implemented
Senegal	16.7	24	2.8	147.7	22	950	28	81	47.2	51.9	0.505	164	French	Small	1 to 3	Country project implemented
Guinea	13.4	27	2.8	63	35	490	45	62	36.1	32.0	0.459	175	French	Approx. 20	1 to 3	Country project implemented
South Sudan	13.3	28	0.6	29	45	390	50	41	19.6	34.5	0.388	187	English	Many	4	Country project implemented
Benin	11.8	30	2.7	92.47	31	800	31	66	47.3	42.4	0.515	163	French	46	1 to 3	Country project implemented
Tunisia	11.8	31	1.1	405.1	13	3500	11	96	68.9	79.0	0.735	95	French	Small	1 to 3	Country project implemented
Gambia	2.2	44	2.9	14.9	50	680	37	78	61.3	50.8	0.460	174	English	Medium	1	Country project implemented
Cape Verde	0.6	52	1.2	19.33	48	3300	12	87	65.7	86.8	0.654	125	Portuguese	Small	0	Country project implemented
Egypt	101.2	3	2.0	2860	3	2549	15	>99	42.7	71.2	0.696	115	English (in urban areas)	Small	1 to 3	
Democratic Republic of Congo	86.7	4	3.2	376.4	15	460	47	43	44.5	77.0	0.457	176	French	200 or more	2 to 4	
Algeria	42.7	9	2.0	1883	4	4450	9	94	72.6	81.4	0.754	85	French	Small	1 to 4	
Morocco	36.6	11	1.3	1118.5	7	3090	13	87	62.5	73.8	0.667	123	French	Small	1	
Angola	31.8	12	3.3	1245	5	4418	10	56	65.5	66.0	0.581	147	Portuguese	Small	1, 2	
Ghana	30.1	14	2.2	589.97	10	1880	18	81	56.1	79.0	0.592	140	English	Medium	1	Other country
Madagascar	27.0	15	2.7	115	28	400	49	54	37.2	74.8	0.519	161	French	Approx. 18	1	Other country
Ivory Coast	25.5	16	2.6	396.7	14	1579	21	73	50.8	47.2	0.492	170	French	60 or more	1, 2	Other country
Cameroon	25.3	17	2.6	347.9	16	1360	24	60	56.4	77.1	0.556	151	French, English	Approx. 250	1 to 4	Other country
Niger	23.2	18	3.8	81.2	34	360	52	50	16.4	30.6	0.354	189	French	Medium	2 to 4	
Mali	19.7	20	3.0	152.9	19	770	32	78	42.4	35.5	0.427	182	French	Small	3, 4	
Zimbabwe	17.3	23	1.4	152	20	940	29	64	32.2	88.7	0.535	156	English	Small	1	Other country

Country	Population (million people)	Ranking in Africa	Population growth rate (%)	GDP (hundred million dollars)	Ranking in Africa	GNI per person (dollars)	Ranking in Africa	Water supply rate* (%)	Urbanization rate (%)	Literacy rate (%)	Human development index (HDI)	Ranking in the world	Language(s)	Number of tribes	Danger level	Remarks
Chad	15.8	25	3.0	99.8	30	630	38	39	23.1	22.3	0.404	186	French	Small	3, 4	
Somalia	15.6	26	2.8	62.17	37	433	48	52	45.0	—	—	—		Small	4	
Burundi	11.6	32	3.2	34.8	42	290	54	61	13.0	68.4	0.417	185	French	3	2, 3	
Togo	8.2	33	2.4	44	40	540	43	65	41.7	63.7	0.503	165	French	Approx. 40	1 to 3	
Sierra Leone	7.9	34	2.1	37.75	41	510	44	61	42.1	43.2	0.419	184	English	Small	1	
Libya	6.6	35	1.5	509.84	12	6540	6	99	80.1	86.1	0.706	108	Italian	Small	4	
Republic of the Congo	5.5	36	2.6	87.01	33	1430	23	73	66.9	80.3	0.606	137	French	Small	1 to 3	
Eritrea	5.3	37	1.4	34.7	43	680	36	19*	40.1	76.6	0.440	179	Italian, English	9	1 to 3	
Liberia	5.0	38	2.5	32.9	44	620	39	73	51.2	48.3	0.435	181	English	Small	1	
Central African Republic	4.8	39	1.5	19.4	47	390	51	54*	41.4	37.4	0.367	188	French	Medium	4	
Mauritania	4.7	40	2.8	46.3	38	1120	27	71	53.7	53.5	0.520	159	French	Small	2 to 4	
Namibia	2.6	41	1.9	132.4	26	4600	8	83	50.0	91.5	0.647	129	English	Medium	0, 1	
Botswana	2.4	42	2.2	149.6	21	6610	4	90	69.4	87.7	0.717	101	English	Small	0	
Lesotho	2.3	43	0.8	27.1	46	1210	26	69	28.2	76.6	0.520	159	English	One tribe	0	
Gabon	2.1	45	2.6	142.1	23	7210	3	86	89.4	84.7	0.702	110	French	5	1	
Guinea-Bissau	2.0	46	2.5	11.65	52	620	40	67	43.4	45.6	0.455	177	Portuguese	Medium	2, 3	
Equatorial Guinea	1.4	47	3.7	101.8	29	6550	5	65	72.1	95.0	0.591	141	Spanish, French, Portuguese	Small	1	
Eswatini	1.4	48	1.0	45.5	39	2960	14	69	23.8	88.4	0.588	144	English	4	0	
Mauritius	1.3	49	0.1	132.7	25	10130	2	>99	40.8	91.3	0.790	65	English, French	Small	0	
Djibouti	1.0	50	1.6	18.45	49	1880	19	76	77.8	—	0.476	172	French	Small	1 to 3	
Comoros	0.9	51	2.2	6.49	53	760	33	80	29.0	58.8	0.503	165	French	Small	1	
Sao Tome and Principe	0.2	53	1.9	3.92	54	1770	20	84	72.8	92.8	0.589	143	Portuguese	Small	1	
Seychelles	0.1	54	1.0	14.89	51	14180	1	96	56.7	95.9	0.797	62	English, French	Small	0	
Sub-Saharan Africa	1,066		2.7	—		3,828		61	40.4		0.537				—	
Entire Asia	4,601		0.9	—					49.9						—	
South Asia						7,068					0.638					
East Asia/Pacific Ocean						19,288					0.733					
Central Asia/South Asia								93								
East Asia/Southeast Asia								93								
World	7,713		1.1	—		17,842		90	55.3		0.728				—	

Note: The JICA priority countries and quasi-priority countries are based on Figure 2.7. They are countries to which importance is attached among the countries where a project was implemented.
Note: In the countries with blue shading, no project was implemented and they were selected as targets in this survey.
Note: For the water supply rates, the ratios of the population who can use at least basic drinking water released by WHO/UNICEF JMP (2019) were used.
Note: For the literacy rates, the latest values among the data provided on the UNESCO's website as of November 2019 were used. The years in which the data was collected vary (2004 to 2018) from country to country.
Note: For Eritrea and the Central African Republic, no data on the water supply rates as of 2017 was obtained, so data as of 2015 was used.
Note: For the languages, languages collected from general information were added to those listed on the website of the Ministry of Foreign Affairs of Japan.

Figure 3.4 Selected 24 countries

Note: The colors correspond to those in Table 3.2.

Note: The description on the map is only for illustration and does not indicate any concept of the Ministry of Health, Labour and Welfare of Japan on the legal status or border line of any country or region.

3-3 Summary of the General Conditions of the Selected Countries

Next, for the general conditions of the selected African countries, the following items to be understood to carry out international cooperation were summarized.

1. Basic information: General information to understand the scale and culture of the target country
2. Economic situations: Economic conditions of the target country and their backbone
3. Water supply: Conditions of waterworks and rural water supply in the target country
4. ODA policies: Development cooperation policies and project plan
5. Relationship with Japan: Relationship between the target country and Japan

The basic information of 1 is summarized to understand the scale and characteristics of the target country roughly. The area, population, and population growth rate may serve as judgment standards for the necessity of infrastructure in the future. The government system, former colonial power(s), tribe(s), language(s), and religion(s) are important information to understand the culture. The climate

is related to conditions of water resources. The public safety, notes on the travel, and other security matters show the public safety of the country as of now.

The economic situations of 2 are basic information to consider the poverty level of the target country and possibility of its economic development. The GDP, GNI per person, economic growth rate, price increase rate, and unemployment rate are indicators that show the economic conditions of the target country directly. The literacy rate and human development index (HDI) can be regarded to indicate the cultural level.

The water supply of 3 is an item that summarizes conditions and needs of waterworks and water supply in regions. It is difficult to obtain reliable data on the water supply rate and population to which water is supplied when it is provided by a country itself. Therefore, as most reliable data to compare African countries, the afore-mentioned ratio of the population who can use at least basic drinking water reported by WHO/UNICEF JMP is used. Values for urban and rural areas, and entire country are specified in the SDGs reference indicator fields and they are regarded as the water supply rates to calculate the population to which water is supplied using the ratio of the population or urban population.

Regarding ODA policies of 4, details on the water supply sector are summarized from the development cooperation policies and project plan as information that shows the relationship between the target country and Japan and future policies.

The relationship with Japan of 5 shows the amount of trade with Japan, Japanese companies that expanded their business to the target country, and the number of Japanese people living in the country as indicators that show the relationship between the target country and Japan.

Table 3.3 summarizes the researched items for Malawi as an example. For the other 22 countries, data is provided as a reference material.

Table 3.3 Items showing the situations of an African country (Malawi)

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	118,000 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	19.7 million people (2019)	State of World Population 2019
		3 Population growth rate	2.6% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	The United Kingdom	Same as above
		3 Capital	Lilongwe	Same as above
	3 Society and culture	1 Ethnic groups	Bantu	Same as above
		2 Language	Chewa, English (official language), other tribal languages	Same as above
		3 Religions	Christianity (75%,) Islam, and traditional religions	Same as above
	4 Climate	1 Climate	Mainly tropical savanna climate with clear rainy and dry seasons. The temperature varies depending on the elevation.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1 (General caution is required.)	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GDP	6.3 billion USD (2017, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	320 USD (2017, World Bank)	Same as above
		3 Economic growth rate	4.0% (2017, World Bank)	Same as above
		4 Inflation rate	9.2% (2018, Reserve Bank of Malawi)	Same as above

Category	Item	Necessary Information	Survey Results	Survey Method
		5 Unemployment rate	5.9% (2017, World Bank)	Same as above
		6 Literacy rate	62.1% (2015)	UNESCO
		7 Human Development Index (HDI)	0.477 (171st in the world) (2017)	UNDP
	2 Overview	1 Economic overview	Typical agricultural country mainly exporting primary commodities such as tobacco, tea, and sugar	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	12,769,000 (Urban: 2,723,000; rural: 10,047,000) /18,622,000 (Urban: 3,116,000; rural: 15,456,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	Country: 69% Urban: 86% Rural: 65%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	Provided (formed in 2005)	Checked in the 2017 survey
		2 Water supply act	Water supply act (2006)	
		3 Water quality standards	National standards (conforming to the WHO standards)	
		4 Financial foundations	Semi self-financing, independent from the general account. Whether the fee can be revised is not known. No private financing.	
4 ODA policy	1 Development cooperation policy	Based on the national water resource master plan, encourage the management of sustainable water resources and efficient utilization of them to assist the government in improving the water supply rate stably. In addition, provide support to develop high-quality infrastructure (e.g., bases of urban areas) that contributes to economic activities (January 2018).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)

Category	Item	Necessary Information	Survey Results	Survey Method
	2 Project development plan	As a water resource management and water supply improvement program, sending of advisers on water resources, survey for planning measures against non-revenue water in Lilongwe, sending of volunteers in cooperation with Yokohama Waterworks Bureau, and training on issues in the water supply sector, etc. were done or will be carried out from 2016 to 2021 (October 2017).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	1.2 billion yen (leaf tobacco, coffee, tea, etc.) 2.43 billion yen (steel products, transportation machines, etc.)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	— 155 people (2017)	Same as above

Sources: World Bank: Population growth, https://data.worldbank.org/indicator/sp.pop.grow

ODA development cooperation policy (former assistance policies) and project plan by the Ministry of Foreign Affairs of Japan,

https://www.mofa.go.jp/mofaj/gaiko/oda/seisaku/kuni_enjyo_kakkoku.html

Note: Ratio of the population who uses safely managed drinking water services (drinking water services from an improved water source that is located on premises, available when needed, and free from faecal and priority chemical contamination); and who uses basic drinking water services (drinking water services from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing) (These sources, known as improved water sources, include piped water, boreholes or tube wells, protected dug wells, protected springs, and packaged or rainwater.)

Chapter 4 Overseas Field Survey in the Republic of Malawi

4-1 Selection of a Target Country

In this fiscal year's study, a field survey was carried out by visiting a developing country to study matters required for examinations, such as the current situation and problems of the country's water supply business.

In this study, based on the result of comparative examination with the study in fiscal year 2017, and also by using data of African countries organized in Chapter 3 as a reference, countries other than Rwanda, which had been already visited, were compared and examined. As a result, the Republic of Malawi was selected as a target country, which would be also important for activities for the SDGs in the future, considering the following conditions: a country that is included in important countries for the Japanese Government's assistance to African countries and for which cooperation to the water sector is mentioned by the assistance policy, a country in which a water supply project is currently in progress and an expert from a Japanese water supply corporation is stationed, and a country of which political and security situations are relatively stable.

4-2 Outline of the Target Country (Malawi)

Consisted of three regions of Northern Region, Central Region, and Southern Region, the Republic of Malawi is divided into 28 districts as administrative divisions. Urban water supply businesses are operated and managed by Water Boards (total five Boards: Lilongwe, Blantyre, Northern Region, Central Region, and Southern Region) that were established as semi-government corporations under the Water supply act (1995).

In rural areas, the Ministry of Agriculture, Irrigation and Water Development and development partners constructed water supply facilities, and residents, Water User's Association (WUAs), Water Point Committees (WPCs), etc. maintain those facilities.[29)]

Table 4.1 Relevant organizations for the water supply sector

Category	Organization Name	Jurisdiction	Duties related to Lilongwe Water Board
Central government agency	Ministry of Agriculture, Irrigation and Water Development (departments related to the Water Board are Department of Water Supply and Department of Water Resources)	Regulations, investment and policy development for the water sector, supply of safe drinking water in rural areas, irrigation plan formulation, hydrologic data collection/ monitoring, watershed conservation/policy development	Supervisory body for the Water Board for technical aspects. Directors of the Water Board are appointed by the Minister to conduct approval, etc. of water rate revision as a member of the board of directors.

[29)] JICA, "Report on the Survey for Formulation of Detailed Plan for the Project for Strengthening the Capacity of Non-Revenue Water Reduction for Lilongwe Water Board, July 2017"
http://open_jicareport.jica.go.jp/pdf/12292991_01.pdf

Category	Organization Name	Jurisdiction	Duties related to Lilongwe Water Board
Central government agency	Ministry of Finance, Economic Planning and Development	Economic and financial policy development, management of national finance/resources	A representative of the Finance has been appointed as a member of the board of directors of the Water Board to supervise the finance of the Water Board as well as review and approve applications for financial operation (including water rate revision). In addition, when the Water Board obtains a loan, it serves as a guarantor.
	Department of Statutory Corporations, Office of President and Cabinet	Utilization of semi-government sectors based on the regulation of the government, ensuring of resource management	A representative of the Department of Statutory Corporations has been appointed as a member of the board of directors of the Water Board to consult, review and approve applications for financial operation (including water rate revision) submitted from the Water Board. * A budget document of the Lilongwe Water Board (including water rate revision), which was approved by the Development of Statutory Corporations and the Ministry of Finance, Economic Planning and Development, is approved finally by the Office of President and Cabinet after approval of the Diet.
	Ministry of Natural Resources, Energy and Mining	Conservation and management of natural resources, hydraulic power generation/supply	Conservation and management of Dzalanyama Forest Reserve, which is a water conservation forest in the metropolitan area, by the Department of Forestry
	Ministry of Health	Public health, health education	Major organization for the water and sanitation sector
	National Water Resources Authority * Duties of the Water Resource Board were transferred upon establishment in December 2013.	Management of water resources, water rate setting, water rights, licenses	Establishment of principles, guidelines and procedures for water resource management; evaluation of monitoring of the National Water Policy and the Master Plan for national water resources; management of water rights; regulations for protection of the quality of water resources; liaison and coordination among relevant parties for regulations and management of water resources; advisory/assistance to the Minister for water resources. Management of water rights in public and private sectors (water use, sewage and drainage) and management of collection of bills.

Category	Organization Name	Jurisdiction	Duties related to Lilongwe Water Board
Local administrative organ	District office, City/town office	Planning and coordination of water supply and public health services (roles are allocated so that central areas of a city or town are covered by a city or town office and rural areas are covered by a district office)	The Chief Executive Officer has been appointed from Lilongwe City Office as a member of the board of directors of Lilongwe Water Board. A person in charge of planning and an engineer participate in the Technical Committee and the Land Allocation Committee held by Lilongwe City from Lilongwe Water Board.
Board	Water Board * Five Boards in the country (Lilongwe, Blantyre, Northern Region, Central Region, and Sothern Region)	Enforcement of water laws and regulations relating to facility development for water supply and health in specific areas, and promotion of sanitation projects	Implementation of water supply projects (Sewage projects are under the responsibility of the City Office.)
	Malawi Housing Corporation	Construction/maintenance of public housing/buildings, land development	It requests the Water Board to develop water distributing pipes to public housing.
Association	Water Services Association of Malawi (WASAMA) * Executive members of the council are the president of the Board of Water and the Minister of Agriculture, Irrigation and Water Development. Members are all five Boards.	Solving of problems that are common among the Water Boards	Duties of a secretariat for the benchmarking program for water supply service provided by the Water Board (from 2015). Operation and management of a training center (Chigweje Institute of Irrigation and Water Management).

Source: JICA, "Report on the Survey for Formulation of Detailed Plan for the Project for Strengthening the Capacity of Non-Revenue Water Reduction for Lilongwe Water Board, July 2017"
http://open_jicareport.jica.go.jp/pdf/12292991_01.pdf

The history of Japan's cooperation to the water sector in Malawi is shown in Table 4.2.

In Malawi, the Project for Strengthening the Capacity of Non-Revenue Water Reduction for Lilongwe Water Board and the Project for the Improvement of Equipment for Non-Revenue Water Reduction in Lilongwe are currently being implemented. Both of these projects support measures for non-revenue water reduction of Lilongwe Water Board (LWB) so as to contribute to the non-revenue water reduction and the improvement of water supply service in Lilongwe City. The former is for improvement of the capacity of planning and implementation, and the latter is for implementation of the improvement of equipment for non-revenue water reduction.[30] The survey for formulation of detailed plan for the Project for Strengthening the Capacity of Non-Revenue Water Reduction for

[30] JICA, "Ex-ante Evaluation Chart for the Project for Strengthening the Capacity of Non-Revenue Water Reduction for Lilongue Water Board" https://www2.jica.go.jp/ja/evaluation/pdf/2017_1602141_1_s.pdf、JICA, "Ex-ante evaluation chart for the Project for the Improvement of Equipment for Non-Revenue Water Reduction in Lilongue" https://www2.jica.go.jp/ja/evaluation/pdf/2017_1760770_1_s.pdf

Lilongwe Water Board (water supply planning/non-revenue water management) was entrusted to Yokohama Water Co., Ltd. that was established by Yokohama Waterworks Bureau.[31)]

Moreover, Yokohama Waterworks Bureau has been dispatching its personnel to Blantyre Water Board (BWB) in Malawi since fiscal year 2014, utilizing JICA's volunteer programs.[32)] It dispatched nine staffs to Blantyre Water Board for three years from fiscal years 2014 to 2016 and provided cooperation for the improvement, etc. of leakage control and collection of bills. After that, strongly requested by Blantyre Water Board for continuation of the dispatch, Yokohama Water Works concluded MoU with JICA for a new three-year project on April 27, 2017 and dispatched eight more staffs from fiscal year 2017.

In fiscal year 2017, Yokohama Waterworks Burau instructed methods for measurement and reduction of non-revenue water, setting Chiwembe area in Blantyre City as a model area, which reduced the non-revenue water rate to 35.8% from 69.3%. In addition, it conducted a customer satisfaction survey in the same area to identify issues for water supply service of Blantyre Water Board and held a workshop to advance the improvement of manuals for construction management and water rate control as well as the guidance of implementation method for visiting waterworks lessons.[33)]

Furthermore, in the Project for Strengthening the Capacity of Non-Revenue Water Reduction for Lilongwe Water Board, an expert of Yokohama Waterworks Bureau has been dispatched to Lilongwe Water Board from 2019. In this Project, a training program has been implemented also in Japan.

Table 4.2 History of Japan's cooperation to the water sector of the Republic of Malawi

Category	Project Name (period)	Scheme	Content	Budget Scale
Urban water supply	The Project for Strengthening the Capacity of Non-Revenue Water Reduction for Lilongwe Water Board (June 2019 to June 2023)	Technical Cooperation, Individual Expert, Training program in Japan, Equipment Supply (for pilot activities)	A field survey was carried out in 2017. After the non-revenue water reduction plan is prepared (result 1), pilot activities are conducted based on that plan (result 2), and the evaluation result of the activities are reflected upon renewal of the plan, as well as knowledge and lessons acquired through the activities are transmitted and shared within and outside LWB (result 3). Those will lead to the improvement of skills and knowledge of LWB for non-revenue water reduction measures, and the enhancement of the motivation for duties and the satisfaction degree of employees, and further, those will promote the improvement of the customer satisfaction degree and lead to the improvement of the non-revenue water rate in the future.	

31) Yokohama Waterworks Burau, "Yokohama Water Co., Ltd. is contributing to the improvement of water situation in Lilonque City, Malawi (the first overseas project ordered in this fiscal year)"
http://archive.city.yokohama.lg.jp/suidou/press/press-20170515.html
32) Yokohama Waterworks Bureau, "Cooperation project for African Region"
https://www.city.yokohama.lg.jp/kurashi/sumai-kurashi/suido-gesui/suido/torikumi/koken/africa.html
33) JICA "Volunteer Report 'Activities of Yokohama Waterworks Bureau in Blantyre Water Board'"
https://www.jica.go.jp/malawi/office/information/event/20181115.html

Category	Project Name (period)	Scheme	Content	Budget Scale
Rural water supply	The Project for Enhancement of Operation and Maintenance for Rural Water Supply (July 2011 to July 2015)	Technical Cooperation Project	Setting the Ministry of Water Development and Irrigation as C/P, the following were conducted: improvement of the implementation system for strengthening of the content of the existing "operation and maintenance framework" for rural water facilities; clarification of the current situation and issues for operation and maintenance of rural water supply facilities; enhancement of the content of the existing maintenance framework based on the field test at the test site in Mchinji District; application and dissemination of the maintenance framework in the entire Mchinji District.	440 million yen
	The Project for Safe Water Supply in Mangochi District (fiscal year 2014)	Official Development Assistance Grants (Grassroots/human security)	In order to supply safe and clean water to residents in Mangochi District, 20 wells were constructed in 18 villages. Project implementation organization: Gift of the Givers Foundation Malawi	107,259 USD
	The Project for Selected Market Centers and Rural Water Supply in Mchinji and Kasungu District (August 2012 to March 2015)	Official Development Assistance Grants	Pipeline system water supply facilities (Mkanda, Mchinji District and Santhe, Kasungu District), repair of boreholes or tube wells (276 villages in Mchinji District), raising awareness of residents.	563 million yen
	The Project for Groundwater Development in Mwanza and Neno (January 2011 to December 2013)	Official Development Assistance Grants	In Mwanza District and Neno District, Malawi, water supply facilities were constructed, and equipment was provided. (Boreholes or tube wells with hand pumps were developed in 120 places).	426 million yen

Category	Project Name (period)	Scheme	Content	Budget Scale
Rural water supply	The Project for Safe Water Supply in Santhe and Mwimba, Kasungu District (fiscal year 2011)	Official Development Assistance Grants (Grassroots/human security)	112,097 USD were granted to Pump Aid Malawi for construction of 85 elephant pumps (dug wells) and implementation of lecture classes for the well management committee consisted of residents.	9,976,633 yen
	The Project for Safe Water Supply in Katunga (fiscal year 2010)	Official Development Assistance Grants (Grassroots/human security	Construction of eight wells and implementation of well maintenance lecture classes for residents. Project Implementation organization: International NGO, Gift of the Givers Foundation Malawi	4,749,256 yen
	The Project for Well Construction in Njewa (2008)	Official Development Assistance Grants (Grassroots/human security)	Implementation of well construction	4,959,005 yen
	The Project for the Groundwater Development in Lilongwe West (2007)	Official Development Assistance Grants	Funds were granted for boreholes or tube wells construction (total 116 units) in two counties in the southwest of Lilongwe District, Central Region, which was implemented by the Ministry of Water Development for groundwater development.	287 million yen
	The Project for the Groundwater Development in Lilongwe (phase 2) (2006)	Official Development Assistance Grants	For Kalolo and Khongoni in the southwest of Lilongwe District as a target, the following were conducted: construction of boreholes or tube wells facilities with hand pumps; procurement of well-digging related equipment; technical guidance for a community-based maintenance program.	371 million yen
	The Project for the Groundwater Development in Lilongwe West (2005 to 2008)	Official Development Assistance Grants	For Kalolo and Khongoni in the southwest of Lilongwe District as a target, the following were conducted: construction of boreholes or tube wells facilities with hand pumps, procurement of well-digging related equipment, technical guidance for a community-based maintenance program.	988 million yen
	The Project for the Groundwater Development in Lilongwe-Dedza (phase 1/2) (2001 to 2004)	Official Development Assistance Grants	For the southeast of Lilongwe District and the west of Dedza District as a target, support was provided for procurement of digging equipment, etc. and construction of 36 boreholes or tube wells (phase 1) and 141 boreholes or tube wells (phase 2).	Phase 1: 498 million yen Phase 2: 518 million yen

Category	Project Name (period)	Scheme	Content	Budget Scale
Rural water supply	The Rural Water Supply Project in the West of Mzimba District (1996 to 1999)	Official Development Assistance Grants	In Mzimba District, support was provided for development of boreholes or tube well - digging equipment, vehicles, etc. and construction of 300 boreholes or tube wells.	1,201 million yen
	The Project for the Groundwater Development in Mchinji (1992 to 1994)	Official Development Assistance Grants	In Mchinji District, which is an important area for agricultural production but especially late in supply of daily life water, construction of 300 boreholes or tube wells was implemented.	1,154 million yen
	The Project for North Kawinga Groundwater Supply (1987 to 1989)	Official Development Assistance Grants	For North Kawinga, Machinga District, Southern Region as a target, construction and repair of 260 boreholes or tube wells were implemented.	989 million yen
Integrated water resources management	Water Resources Advisor (January 2016 to January 2018) (April 2009 to May 2011)	Individual Expert	Long-term dispatch of individual experts was implemented to the Department of Water Development in the Ministry of Agriculture, Irrigation and Water Development.	—
	The Project for National Water Resources Master Plan (March 2012 to September 2014)	Technical Cooperation for Development Planning	Setting the Ministry of Agriculture, Irrigation and Water Development as C/P organization, the ideal way of future water resources management and measures for the improvement of the capacity of C/P were proposed so that National Water Resources Master Plan of which target year is 2025 could be formulated and integrated water resources management could be carried out by C/P itself by clarifying issues of water resources management. Technical transfer for data collection/analysis and planning, etc. was implemented through OJT, training programs, workshops, etc. conducted during the survey.	400 million yen
	Japan Overseas Cooperation Volunteers for Water Resources Sector (-2016)	JOCV	Dispatch of volunteers to rural water supply (collaboration with the Project for Enhancement of Operation and Maintenance for Rural Water Supply) and to urban water supply (collaboration with Yokohama Waterworks Bureau).	-
	Knowledge Co-Creation Program for Water Resources Sector, etc.	Knowledge Co-Creation Program, etc.		-

Category	Project Name (period)	Scheme	Content	Budget Scale
Conservation of natural environment related to Water Board	The Project for Conservation and Sustainable Management of Dzalanyama Forest Reserve (August 2016 to August 2021)	Technical Cooperation Project	Setting the Department of Forestry, Ministry of Natural Resources, Energy and Mining and LWB as C/P organizations, the project aims at environmental improvement for conservation and sustainable management of Dzalanyama Forest Reserve. The following are conducted: construction of implementation system and fund mechanism required for conservation and sustainable management of Dzalayama Forest, which is a water conservation forest for metropolitan areas; identification and implementation of effective activities at the community level; awareness raising of persons concerned including communities.	500 million yen
Urban development including waterworks (Lilongwe City)	The Human Resource Development Project for Urban Planning and Development Management (November 2012 to March 2015)	Technical Cooperation	Setting the Ministry of Local Government and Rural Development and Lilongwe City Office as C/P, the following were supported: preparation of Lilongwe City urban structure plan; preparation of detailed land use plan in specific areas; proposal of utilization methods for new land use plan and development management guidelines established by the Ministry of Lands, Housing and Urban Development; establishment of new Lilongwe City development guidelines for proper urban planning and development management based on the Lilongwe City urban development master plan (housing development, public facilities, traffic, water supply and drainage), etc.	
	The Study on the Lilongwe City Urban Development Master plan (February 2009 toSeptember 2010)	Development Study	Setting the Ministry of Local Government and Rural Development and Lilongwe City as C/P, support was provided for formulation of urban development master plan of which target year is 2030. Preparation of short- and medium-term development programs for the traffic and urban environmental facility sector, as well as capacity development were implemented.	280 million yen

Source: JICA, "Report on the Survey for Formulation of Detailed Plan for the Project for Strengthening the Capacity of Non-Revenue Water Reduction for Lilongwe Water Board, July 2017"
http://open_jicareport.jica.go.jp/pdf/12292991_01.pdf

4-3 Content of the Field Survey

Based on the outcomes from summaries of materials mentioned so far, the existence and content of political guidelines toward SDGs of the target country, interrelationship with other sectors, and future needs in the light of possible cooperation of our country's water suppliers were surveyed through interviews. Information to be collected is as shown in Table 4.3. Items to be surveyed were arranged a little according to the items for collection of information on water services conducted in Rwanda in 2017, which also focused on rural water supply. This enabled us to make a comparison with the survey results in Rwanda of that period.

Concurrently, information was gathered from, and opinions were exchanged with, experts from JICA, water suppliers and private sectors, who have assumed practical operations of project planning and accomplishment report from the time of formation of that project until today, with respect to grasping of the sequence and results of activities, practical issues, future activities to be implemented, etc.

Table 4.3 Items to be surveyed in the field survey

Category	Item	Necessary Information	Content of Questions
1) Collection of basic information on water supply	1-a) Water-supply system coverage rate	Population calculation method, beneficiary population calculation method for each water supply service	How and by whom are population data (censuses) collected and how often? How and by whom are population served by waterworks, etc. collected and how often?
	1-b) Distribution of water supply businesses and rural water supply	Number of water supply businesses, number of rural water supply businesses, and their respective coverage areas	Request presentation of water supply area maps and confirm the population or number of connections, a water source, and the number of staffs for each service. (Make preparations by collecting information from the past survey and asking Japanese experts for provision of information, and check those against such information.)
	1-c) Number of connected households or connected population	Calculation method for the number of connections for each water supply project	For each service, how and by whom are connection numbers counted and how often? How do they grasp the difference between the number of connections and the number of households? How do they calculate the number of connected households and the connected population?
	1-d) Water supply time	Calculation method for water supply continuation time of the connection number for each water supply project	For each service, do they have a record of water supply time? If it is switched on an area-by-area basis, do they have a program for that?

Category	Item	Necessary Information	Content of Questions
1) Collection of basic information on water supply	1-e) Water rates	How to determine water rates for each water supply project	For each service, are grounds, etc. for water rates and setting clarified?
	1-f) Achievement level of water quality standards	Method of grasping the water quality, control items, frequency	Can they explain items to be inspected as water quality standards, the frequency of water quality inspections, and the inspection point?
	1-g) Others	Others (matters related to the SDGs monitoring)	Is there any other organization involved in the SDGs monitoring or any item to notice?
2) Grasping of important issues	2-a) Issues concerning water administration and needs for Japan	National goals and plans, water supply related legislation, division of duties between urban areas and rural areas	How are administrative systems and organizational structure for dissemination and promotion of the water supply development and rural water supply, and the situation of related legislation such as Water supply act? Is there any issue in these administrative systems?
	2-b) Issues in urban water supply and needs for Japan	Urban water supply system, dissemination and promotion, measures for NRW reduction, water quality control	How is the situation and what are issues concerning urban water supply, such as "measures for non-revenue water reduction" and "water quality control (chlorination)?" Are there issues, content, etc. for which cooperation is being expected from Japan and JICA?
	2-c) Issues in rural water supply and needs for Japan	Dissemination and promotion, measures for groundwater pollution control	How is the situation and what are issues concerning rural water supply, such as "dissemination of rural water supply" and "measures for groundwater pollution control?" Are there issues, content, etc. for which cooperation is being expected from Japan and JICA?
	2-d) Issues concerning water supply business management and needs for Japan	Improvement of business maintenance and operation	Are preparation of financial statements and budgetary control properly implemented? Have they achieved the full cost recovery? How do they determine rates? Furthermore, how is the current situation and what are issues concerning facility maintenance from the viewpoint of technology and finance? How are the business conditions and what are issues?

Category	Item	Necessary Information	Content of Questions
2) Grasping of important issues	2-e) Issues concerning public relations	Public relations system, relationship-building with customers	What are means of public relations, tools for communication with customers, and methods of handling problems such as complaints? How is the recognition degree, etc. of Japanese projects?
	2-f) Human resource development and personnel system	Employment and education of human resources for management and waterworks	How do they foster water supply technology personnel? What kind of system do they have for determination of employment, promotion, qualification, reward, etc. of management level and engineer level personnel? How is the current situation and what are issues in fostering of technology personnel?
	2-g) Current important issues	Relation between SDGs and policy objectives, issues to which a priority should be especially given	Which issue is considered as the highest priority issue toward achievement of SDG6, including the whole of the above-mentioned matters? What kind of cooperation content is expected from development partners as measures for that?
	2-h) Assistance from other countries	Relationship-building with other countries	How are relationships with countries other than Japan and the current status of their assistance? Is there any point that Japan should use as a reference in terms of amount of money, target sectors, involvement methods, a sense of urgency?

Source: JICWELS, "FY2017 Report on the Project to Review International Cooperation in the Water Supply Sector" https://www.mhlw.go.jp/content/10900000/000360547.pdf

4-4 Schedule for the Field Survey

The following tables show the schedule for the field survey, members of the survey team, and destinations.

Table 4.4 Schedule for the field survey

Date and Time		Content and Place	Purpose
Tuesday, November 26	02:05	Departure from Haneda Airport (Shimoda)	
	08:20	Arrival in Singapore	
	16:40	Departure from Haneda Airport (Morishita and Yamaguchi)	
	23:20	Arrival in Singapore	
	16:55	Departure from Kansai International Airport (Asakawa)	
	23:05	Arrival in Singapore	

Date and Time		Content and Place	Purpose
Wednesday, November 27	01:30 06:10 10:00 12:25	Departure from Singapore Arrival in Johannesburg Departure from Johannesburg Arrival in Lilongwe and transfer to a hotel	
	15:00	Interview with Mr. Itaya (JICA Expert)	Initial discussion, lecture on the water supply situation, dinner
Thursday, November 28	10:00 12:00	Embassy of Japan in Malawi	Initial discussion, lecture on the water supply situation and the SDG situation
	14:00 17:00	Water Services Association of Malawi (WASAMA) Interview with Mr. Dokani	Courtesy call, explanation of the purpose and permission of the site inspection, request for a guide, interview related to the survey
Friday, November 29	07:30 10:00	Lilongwe Water Board (LWB)	Courtesy call to CEO, explanation of the purpose and permission of the site inspection, request for a guide, interview related to the survey
	10:00 17:00 20:00	Site inspection of water treatment plant and other water supply facilities JICA Malawi Office, etc. Dinner meeting	Site inspection, NRW reduction site, etc.
Saturday, November 30	10:00 16:00	Inspection of rural water supply site in the suburbs of Lilongwe	
Sunday, December 1		Move to Blantyre Sorting out of documents	
Monday, December 2	10:00 12:00	Blantyre Water Board (BWB)	Courtesy call, explanation of the purpose and permission of the site inspection, request for a guide, interview related to the survey
	13:00 17:00	BWB, site inspection	Water treatment plant, NRW reduction site
Tuesday, December 3	08:00 15:00	Site inspection Move to Lilongwe	
	15:00 16:00	JICA Malawi Office	Report of the results and exchange of general opinions
Wednesday, December 4	09:00 10:00	Ministry of Finance, Economic Planning and Development	Collection of SDGs related information
	13:10 15:35 22:30	Departure from Lilongwe Arrival in Johannesburg Departure from Johannesburg	
Thursday, December 5	14:55 23:55	Arrival in Singapore Departure from Singapore	

Date and Time		Content and Place	Purpose
Friday, December 6	07:30 01:30 8:45	Arrival at Narita Airport Departure from Singapore Arrival at Kansai International Airport	

Table 4.5 Members of the survey team (honorifics omitted)

Member	Position	Remarks
Ryuichi Morishita	Assistant Director, Office of Global Health Cooperation, International Affairs Division, Minister's Secretariat, Ministry of Health, Labour and Welfare (MHLW)	Secretariat
Toru Shimoda	Director for International Operations Division, Yokohama Waterworks Bureau	
Hirokatsu Asakawa	Director, Contract and Inspection Division, Waterworks Management Department, Osaka Water Supply Authority	
Takeo Yamaguchi	Technical Advisor, Japan International Corporation of Welfare Services (JICWELS)	Secretariat

Table 4.6 List of destinations in the field survey

Target	Major Interview Target	Remarks
Water Services Association of Malawi (WASAMA)	Dokani Ngwira Executive Secretary Contact: Vitumbiko Mkandawire	
Lilongwe Water Board (LWB)	Alfonso Chikuni Chief Executive Officer Contact: Ernest NGAIVALE	
Blantyre Water Board (BWB)	Eng. Daniel Chaweza Chief Executive Officer Mavuto Chiiapanthenga Director of Technical Services Contact: Booker Waya	
Ministry of Finance, Economic Planning and Development	Mr. Venancio Mzonda Senior Economist	Responsible department for SDGs
Embassy of Japan in Malawi	H.E. Ms. Yanagisawa, Ambassador Extraordinary and Plenipotentiary of Japan to Malawi, Mr. Hirotsugu Ikeda, Deputy Head of Mission/ Counselor Contact: Ms. Ayumi Hirano, Researcher	
JICA Malawi Office	Mr. Yoshikazu Wada, Deputy Director General Contact: Ms. Arimi Mitsunaga, in charge of water supply	

The questionnaire used in the field survey is shown in Table 4.7. Based on the content of Table 4.3, items for 1) grasping of each country's situation paying attention to the indicator of SDGs, and 2) evaluation of needs and activities in the water and sanitation sector were prepared.

Table 4.7 Questionnaire used in the field survey

Questionnaire for "Study of International Cooperation in the Water Supply Sector"

Topic	Question
1) Information collection The objective of this section is to know the SDG 6 related situation in Malawi and to obtain actual data necessary for its monitoring in the water supply sector.	
1-a) Water coverage ratio in target area	-Population in target area How population data (CENSUS data, etc.) are collected? Who is responsible of collecting them and how often it is revised? -Population served by water service (In case of rural area, population covered by protected and safe water source) How the population served by water service is counted? Who collects the data in what way? How often the data is revised?
1-b) Distribution of urban water supply and rural water supply	Please provide us a water supply area diagram. Is there data on the population or number of connections, water sources, and staff numbers for each water supply service?
1-c) Number of connections, population served (No. of household)	- Number of connections for each water supply service Who counts number of connections to water service system? How to know the gap between number of connections and household number obtained by census? How to calculate number of households connected, and population served?
1-d) Hour of water supply (hours/day)	How many hours per day is water supplied in each water supply service? Please provide us the record of supply hours, the scheduled program to switch distribution area and related information if there are any.
1-e) Water tariff, tariff system	What is the formula/method to calculate water tariff for each water supply service? Please provide us the regulation/guideline for fixing tariff if there are any, and explain if the method is clearly written.
1-f) Water quality monitoring	What is the status of water quality standards achievement? Please provide us the monitoring methods such as items for monitoring, frequency, monitoring points etc. Is the monitoring record stored?
1-g) other	If there are any other organizations/actors, who participate in the process of SDG 6 monitoring, please specify the name of actors and their role in the process.
>To be continued to next page	

Topic	Question
2) Priority issues The objective of this section is to understand current issues in specific areas, such as urban water supply, rural water supply, organizational management and public relationship, and aim to seek the possibility of further cooperation based on Japan's expertise.	
2-a) Issues related to water governance and needs for Japan's cooperation	How is the progress of expanding water supply network in urban area and rural water supply? What is the policy, governing system, institutional arrangement for implementation? What is the issue related to governing system of water supply?
2-b) Issues related to urban water supply	What is your current situation in terms of "Non-Revenue Water reduction" and "water quality management?" Are there any other priority issues to be addressed? What do you expect from Japan's cooperation in tackling with those issues?
2-c) Issues related to rural water supply	What is your current situation in terms of "expanding rural water supply" and "groundwater contamination" in your area? Are there any other priority issues to be addressed? What do you expect from Japan's cooperation in tackling with those issues?
2-d) Issues related to water supply management and needs for Japan's cooperation	Is the preparation of financial statements and budget management appropriate? Has full cost recovery been realized? How is the water tariff determined? What are the current status and issues related to facility maintenance from the technical and financial aspects? What are the management conditions and issues? What do you expect from Japan's cooperation in tackling with those issues?
2-e) Issues related to public relationship and customer communication	- What is the means of communication with your customers? How do you deal with complaints and other trouble with customers? - What is the perception of Japan's cooperation? Is it widely known? In your opinion, does Japan's cooperation have positive/negative impact? If so, what kind of impact does it have?
2-f) Securing human resource, its improvement	- How do you recruit the head, management executives and technical experts in water utilities? How do you train and secure them in the organization? What are the current situation and issues in technical human resource development?
2-g) Priority issues considering current situation	In your opinion, what is the most important issue and progress for achieving SDG 6 in your country? What kind of assistance do you expect from cooperation partners to deal with those issues?
2-h) Assistance from other countries	Are there any bilateral/multilateral cooperation partners other than Japan? If so, what are the characteristic and status of those assistance? Are there significant characteristics of those assistance?

4-5 Summary of Results of the Field Survey

In regard to the results of the field survey, the content of replies to the questionnaire from Lilongwe Water Board (LWB), Blantyre Water Board (BWB), and Water Services Association of Malawi (WASAMA) is summarized in Table 4.8 and Table 4.9 in the form of a comparison chart. Details of interviews are shown in the reference material.

Table 4.8 Survey results in the field survey: Basic information on water supply

Item	Necessary Information	LWB (Lilongwe)	BWB (Blantyre)	WASAMA
1-a) Water supply system coverage rate	Population calculation method, beneficiary population calculation method for each water supply project	● Water supply system coverage rate: 85% (June 2019) ● Water supply target population: about 1.03 million people (June 2019) ● Water supply population: about 870,000 people (June 2019) ● Population data are collected through the national census taken every 10 years. The latest data were taken in 2018. ● LWB calculates annual changes in the population during the 10 year-period by using the forecasted growth rate.	● Water supply system coverage rate: 85% (April 2019) ● Water supply target population: about 1.41 million people (April 2019) ● Water supply population: about 1.2 million people (April 2019) ● Population data are collected through the national census taken by National Statistics Office (NSO) every ten years. The latest data were taken in 2018. ● BWB collects data through a survey every five years. ● Dissemination is limited due to a water source.	
1-b) Distribution of water supply businesses and rural water supply	Number of water supply businesses, number of rural water services, and their respective coverage areas	● The water source is one dam and groundwater which are available at many places. ● Lilongwe River: 99.4%, groundwater: 0.6%	● The water source is one dam and surface water (river) at one place. ● There are data on the population, the number of connections, the water source, and the number of staffs. ● BWB has no data for places other than Blantyre City.	● WASAMA cannot provide the accurate number of water supply businesses now and requests us to check the report. (The accurate number cannot be obtained unless they have individual water supply lists. Therefore, it is assumed that they have probably not grasped individual situations in the entire picture of water supply businesses.)
1-c) Number of connected households or connected population	Calculation method for the number of connections for each water supply project	● The number of connections: 73,788 (November 2019) ● There is a billing system into which detailed information of all customers were entered, and the number of connections is controlled by this system. ● The service target population is calculated from the average number of people per household in the national census data taken every ten years, with consideration given to the coverage rate of joint supply areas. ● Prepaid meters have been established for about 6,000 households. Unlike BWB, those are still on a trial basis. *Prepaid meter: a system that requires purchase of certain amount of money in advance and registration to the meter using a rented terminal and stops water supply when all the charged money is spent.	● The number of connections: about 55,000 (April 2019) Numerical data are available for both deferred payment and prepayment. Charge systems of EDAMS (postpaid) and LAPIS (prepaid) are used. ● A prepaid system named LAPIS provided by a company called EDAMS (having its head office in Cyprus and offices in Egypt, South Africa, Botswana, and India) has been used for two years. Equipment being used is made in China. ● There are a few wells in urban areas. ● Some areas are depending on a kiosk (water station).	
1-d) Water supply time	Calculation method for water supply continuation time of the connection number for each water supply project	● Although water is supplied for 24 hours, low water pressure and water outage sometimes occur at a peak period of demand. ● It continues for about six hours at maximum on the average. Planned water outage is sometimes carried out when pipes are repaired. ● Water distribution control is not implemented.	● A supply time per day is 22 hours on the average. However, there is a variation. ● There is no data on the supply time. The amount of flowing water is measured by operation hours of a pump station and its operation data is available. There is a flowmeter, but it is not working. Improvement is currently being attempted.	

Item	Necessary Information	LWB (Lilongwe)	BWB (Blantyre)	WASAMA
1-e) Water rates	How to determine water rates for each water supply project	● Water rates are calculated annually based on the forecasted value which adds the assumed non-revenue water amount to the water consumption. This assumes usage fees for customers of each category (housing, commerce, kiosk, etc.) ● It is required that the rate level covers maintenance and operation expenses and capital investment related expenses in the budget for the fiscal year. ● It is necessary to obtain an approval from the relevant ministries and agencies (agriculture, water, irrigation ministries) to raise (drop) the rates. Regulations are entrusted to the government under the relevant ministries and agencies. The regulations are based on the Water supply act. The current rate is about 160 yen/m^3.	● Water rates are determined by production costs + conveyance costs of water per m^3. ● There is no regulation nor guidelines to revise the water rates. The rate is determined by the government annually after the Board prepares the rate on its own and proposes it. Currently, revision of the rates is being applied to the government. The current rate is 160 yen/m^3.	● It is shown in the report.
1-f) Achievement level of water quality standards	Method of grasping the water quality, control items, frequency	● In regard to the quality of tap water, about 99% fall within the scope of WHO guidelines for drinking water. ● The water quality is monitored in terms of physical properties (turbidity, temperature, pH, etc.), chemical properties (cation, anion, residual chlorine, etc.) and biological properties (fecal coliform, algae, etc.), which covers a water source area to a faucet. ● Water quality tests are conducted four times a day at a water treatment plant. Information is stored in both of hard (meaning a sample?) and electronic forms and analyzed daily, weekly, monthly, and quarterly. ● LWB Water Quality Division also conducts a field sampling of treated water. Residual chlorine, EC, fecal coliform, and turbidity of a water conveyance system (service reservoir and booster station) are monitored, and the hydrant water quality is tested every day.	● The water quality standards are in accordance with national (Malawi Bureau of Standards (MBS)) standards and WHO guidelines. ● Monitoring method: colorimetric method, titration method, spectroscopy ● Frequency: physical parameter at a treatment plant = hourly, bacteriological analysis = daily, chemical analysis = monthly ● Monitoring point: water source, treatment plant, storage tank, faucet of a customer ● Monitoring records have been stored. ● Technical cooperation of South Africa. Water quality tests are conducted every three months.	● In regard to water quality control, a team goes around gathering samples in large cities. Those are checked quarterly. If it is found particularly necessary, extra inspections are conducted. ● Water supply businesses and regulatory agencies form a joint team. WASAMA makes coordination.
1-g) Others	Others (matters related to SDGs monitoring)	● The Government of Malawi (Ministry of Agriculture, Irrigation and Water Development) monitors rural water service and the progress toward implementation of the goals. ● The Water Board takes charge of urban environment and water supply service for urban areas. It also conducts monitoring of SDG 6 to the extent allowed by resources. ● Local administrative organizations take charge of monitoring of communities for water and health control.	● The Ministry of Agriculture, Irrigation and Water Development – The government compiles the report on the progress toward the agreed goals and dissemination. ● BWB sends data. This year's report can be provided. ● WASAMA is only in charge of coordination and has no authority of control.	● A report for the 2018–19 benchmark report is being compiled. WASAMA will provide reports for the past three years later. ● The report is sent to Eastern and Southern Africa Water and Sanitation for multilateral comparison and evaluation. Bill Gates Foundation has also provided funds to this organization. It also collaborates with AFRICAN WATER ASSOCIATION. ● The report is finally reported to the Ministry of Finance, Economic Planning and Development, which controls SDGs for each sector, and published in the national annual report. JICA Malawi Office and NGOs, etc. also participate in the compilation. The report is also shared with JICA.

Table 4.9 Survey results in the field survey: Important issues

Item	Necessary Information	LWB (Lilongwe)	BWB (Blantyre)	WASAMA
2-a) Issues concerning water administration and needs for Japan	National goals and plans, water supply related legislation, division of duties between urban areas and rural areas	● Currently, many projects and policies are being implemented for extension of water supply networks within the jurisdiction. There are two types of approvals for extension programs, which are internal approval proposed by water supply projects and development approval applied by real estate/land developers. A project carried out by a donor requires the former approval. ● In the case of an internally approved project, LWB contributes funds through its own capital budget, or funds are provided by support from development partners. ● New villages of which water supply system is undeveloped are created, and therefore, there are always areas which require extension of water supply service. ● In the case of extension approved by real estate/land developers after negotiation with the government, LWB receives a request for extension of service to each area from the developers. In this case, the developers invest their capital to the extension they requested. ● LWB is the only service provider that is entrusted with water supply to Lilongwe City and its surrounding supply area.	● Although there were some projects aiming at improvement of the production capacity, extension of water supply networks makes little progress. The cause of that is lack of funds. ● JICA supported the formulation of National Master Plan. ● System such as national goals, etc.: National Water Policy, Water Service Act. ● Problems related to a management system for water supply: Water in urban areas is managed by Water Boards of the urban areas, and local Water Boards manage towns and market centers. Rural areas are managed by the Ministry of Water Development. ● Rapid growth in demand is an issue. ● How is mutual cooperation between organizations and suppliers? (Mr. Morishita): There is no arrangement, however, they cooperate each other. They collaborate and support each other for parts, etc.	● Things are going well in two large cities, but Water Boards in local areas still need to make more progress. They have been individually developed and founds of the government have not been fully invested. Five associations have been prepared so far in the water supply improvement program phase 1. Those will be improved in phase 2 to be started in the future. ● WASAMA is acting in various ways, however, there is no data for rural water supply and information is not accurate. There is no goal to strengthen the capacity of people. They are not treated in such a way that if they produce results, they will be promoted. ● The Water Policy has been established, but it is being reviewed. WB employed a consultant and a draft of the proposal has been made, but it is being reviewed. They are looking for another consultant. ● The low priority of water and sewage service in the national policy is another problem. ● There is almost no problem with both commission and motivation in the water supply system for large cities, however, there is no independent inspection agency and thereby it is likely to be affected by political pressure. Government agencies and military forces do not pay water rates. ● WASAMA has no authority to determine water rates properly. A license is renewed every five years, but it is not working well.

Item	Necessary Information	LWB (Lilongwe)	BWB (Blantyre)	WASAMA
2-b) Issues in urban water supply and needs for Japan	Urban water supply system, dissemination and promotion, measures for NRW reduction, water quality control	● The average annual non-revenue water rate is 37.7% as of September 2019. ● The objective is to reduce the non-revenue water rate to 26% by 2024. ● Major issues are aging pipelines, aging water meters, pressure management and control, and fostering of technology personnel. ● Priority activities are protection of a catchment area in which forest conditions are getting worse due to increasing demand of firewood and charcoal, as well as equipment for online water quality measurement to collect real-time data from a water source to a treatment plant and a reservoir (in order to use the data for decision making of the response at the treatment plant).	● The non-revenue water rate is 37%. It used to be 50%. It has been kept challenging from 2014 until now. The target is 28% in three years. ● In regard to water quality control, planned activities that regularly monitor a water source, a treatment plant, tanks, and water conveyance networks are carried out in order to ensure compliance. It is necessary to formulate a water safety plan. ● Other priority items to be responded: Reduction of physical and commercial losses. ● Expectations for Japan's cooperation to tackle these problems: Investment to the strategy for physical and commercial losses. ● Replacement of aging pipes. ● The project for replacement of aging pipes and NRW reduction which was worked on with Yokohama produced results. BWB participated in the "Second Workshop on Non-Revenue Water Reduction" held in Lilongwe from September 23 to 26, 2018.	● Customers have no idea about measures for NRW reduction. In order to promote their understanding, an activity to show them a water system in the Water Week has just been examined and implemented in accordance with the Water Week. Customers get to know that it costs money to supply water. ● Water rates are to be calculated and prepaid every two months to let them understand the rates. It makes customers grasp how much it costed for water. ● Water leakage is not reported. They think as if water was available for free. ● Water quality control is extremely important. If the water quality is bad, customers will make a complaint about it. Bottled water companies have a policy for water quality control. Tap water also needs it.
2-c) Issues in rural water supply and needs for Japan	Dissemination and promotion, measures for groundwater pollution control	● Villages are rapidly expanding, and there is a great demand. ● Currently, the usage rate of pit latrines is high, and therefore, it is difficult to utilize groundwater resources in unofficial villages.	● BWB does not control rural areas.	● Residents in rural areas use groundwater. There are problems of fluorine and chlorination partially. ● Rural water supply is mainly from wells, although surface water is used infrequently. Only 80 of 100 wells are working. The major reason is decline in the well capacity.
2-d) Issues concerning water supply business management and needs for Japan	Improvement of business maintenance and operation	● Although financial statements and budget are properly prepared, it is difficult to incorporate proper investment budget due to limitation on the rate adjustment. Costs cannot be recovered from the sales to low-income customers. ● Currently, utilization of technologies, cost management (austerity measures), and investment by partnership with a donor and loans from a donor to satisfy investment needs are being carried out.	● The business is started in 1927. ● Preparation of financial statements and budgetary control are properly made. ● BWB made a proposal toward realization of the complete full cost recovery, but it has not been realized. ● Although preventive maintenance is conducted, its implementation is restricted due to financial constraints. Water conveyance networks need rehabilitation, but funds cannot be used. ● The non-revenue water rate is still high, which requires further reduction. ● Expectations for Japan's cooperation to tackle these problems: Financial support for none-revenue water reduction.	● WASAMA is promoting cost recovery operation, and two large services have been conducting (are conducting?) self-management for CAPEX. Small services are at the stage of borrowing funds from the government. Those funds must be repaid later. ● The level of rates is approximately 180% to 150% of OPEX. ● The rates were increased by 50% owing to the government's policy (to make it possible to bear CAPEX). ● The rates are generally not enough. ● Services are relying on funds of overseas donors.

Item	Necessary Information	LWB (Lilongwe)	BWB (Blantyre)	WASAMA
2-e) Issues concerning public relations	Public relations system, relationship-building with customers	● Communication with customers is made by both of electronic and paper media. ● There are groups called Friends of LWB consisted of community members, group leaders, and members of various organizations in all supply areas, which assume a role to spread messages to communities. ● There is a 24-hour call center with toll free numbers. LWB service center can also provide services. (Details of complaints include matters concerning payment, water outage, water pressure, etc. There are only a few complaints about water quality.) ● Japanese companies are focusing on the capacity development for non-revenue water reduction and having a positive impact. Japan has been making continuous efforts also for the development of education, infrastructures, and health of the country as well as the water sector, and therefore, Japan's cooperation is recognized very positively and well. Since they are acting in Malawi, it is assumed that they are widely known. ● In order to respond to the expansion of deforestation in Dzalanyama Forest Reserve (mainly by production of a large amount of charcoal), JICA, LWB, and the Department of Forestry have been cooperating for recovery of a water source of Lilongwe City under the Project for Conservation and Sustainable Management of Dzalayama Forest Reserve (Cosma-DFR) (2016 to 2021). In this project, skills for living, such as beekeeping, were taught to community members. ● JICA dispatched Ms. Saki Yoshinaga, a volunteer, to LWB based on the JOCV system. She is a responsible person for environmental education who aims at access to drinking water for all residents in Lilongwe City, by increasing the efficiency of water through both smart use of water and reduction of consumption through her activities.	● Means for communication with customers: newspaper, radio, television, website, mobile van ● There is a standard for the customer service level which is observed when complaints from customers are resolved. Inquiries from customers are logged into a customer management system so that those are ensured to be traced and resolved. There is a call center. After resolution, feedbacks are also provided to customers. ● Japan provides technical support which assists overcoming of problems that would affect the improvement and development of the living standard of people. Japan's cooperation has contributed to engineering design, non-revenue water reduction, water quality control, and improvement of skills of BWB staffs for billing, ● Japan's cooperation is beneficial to assistance for the achievement of development goals of developing countries and agencies and recognized by many agencies participated in the cooperation.	● Public relations are being promoted actively by establishing a call center or otherwise.
2-f) Human resource development and personnel system	Employment and education of human resources for management and waterworks	● CEO of the Board mainly has authority to appoint staffs. ● The board of directors and the Government of Malawi has authority to appoint CEO and directors. ● CEO approves recruitment of other members.	● When a responsible person, management, and technical experts for water supply businesses are employed, they are appointed through open interviews (open recruitment) and according to their abilities. ● Two-stage selection (Minister/directors-Board) ● Training needs are analyzed annually so that staffs can receive proper training to improve their productivity. ● BWB has a training center, but it is located outside Blantyre. ● Current status and issues: Financial resources are limited to implement important training needs.	● It is carried out fairly by each system. However, it requires support from the Water Board.

Item	Necessary Information	LWB (Lilongwe)	BWB (Blantyre)	WASAMA
2-g) Current important issues	Relation between SDGs and policy objectives, issues to which a priority should be especially given	● The most important problem in Malawi concerning implementation of SDG 6 is a problem of infrastructures, such as an insufficient number of reservoirs for the Water Board and a shortage of sanitary facilities (appropriate garbage dump, toilet, sewage site, sanitation treatment plant). Those issues are supervised by the Ministry of Water. ● Financial support from cooperation partners to the Water Board is required for improvement, conservation and restoration of a water-related ecosystem.	● The most important problem and the progress to achieve SDG 6: To improve the production capacity and extend water supply to all districts in the water supply area. Furthermore, it is necessary to improve the conditions of a water source (catchment) through a sustainable environmental management strategy. ● Expectations for cooperation partners: Technical and financial support	● WASAMA considers that the Institution and improvement of the water sector system are important. ● 90% of citizens have not enjoyed safe and clean water environment yet. There is not enough capacity nor manpower for problem solving in the Water Board. The independence from the government is also important.
2-h) Assistance from other countries	Relationship-building with other countries	● UNDP - Provision of guidance for implementation mechanism of SDGs (support for the mainstreaming process of SDGs) ● WB (World Bank) ● EIB (European Investment Bank) ● EU ● UNICEF – Safe management of drinking water service ● WHO – Safe management of sanitation service ● GLAAS (The Global Analysis and Assessment of Sanitation and Drinking – Water: UN Water Initiative implemented by WHO) – Supply of drinking water, provision of sanitation service, and health promotion activities	None	● Method for rate setting: Wells are often used for free. At best, membership fees (fixed usage fees) are collected. For urban water supply, rates are determined based on the full cost recovery.

Chapter 5 Implementation of Questionnaire Survey of Water Supply Status in Africa

5-1 Survey Purpose

To identify water supply-related needs and issues in African countries more accurately, officials conducted a questionnaire survey of: i) persons who had visited Africa; and, in particular, ii) relevant entities such as water supply corporation and consultants that had engaged in water supply mission activities in Africa, including technical cooperation projects, project surveys and expert dispatching. The officials thus obtained experience-based specific information and feedback on basic information and water supply status. They sought to discover noteworthy points unique to Africa by asking survey participants to answer on local characteristics needing to be particularly noted in comparison to South East Asia and other regions. This was by having them include, in basic information, points that would likely be required to be considered and noted when working in Africa for a certain period of time. The officials asked prisons who had visited multiple African counties to give answers on a nation-by-nation basis.

5-2 Questions on Water Supply Status in Africa

Officials determined questions on basic information and water supply status while taking into account the fact that the data would be used as an information source intended for persons in charge of water supply corporation to specifically ponder international cooperation for Africa. Shown in Table 5.1 are questions on water supply status in Africa.

Survey participants were asked to answer generally on local characteristics needing to be particularly noted in comparison to South East Asian and other states, by including in basic information points that would likely be required to be considered and noted when working in Africa for a certain period of time. Regarding water supply status, questions were set on both urban and rural water supplies.

Before answering, participants were asked to put down countries and cities visited as well as their visit timing (period, visit count, timing, etc.), work engaged in and their position.

Table 5.1 Questions on water supply status in Africa

Category	Item	Questionnaire Item
1 Basic information	1 Overview of the country	In a nutshell, what kind of nation is the country? What are its characteristics?
	2 Politics	Political stability, conflict risk, fraud and corruption risks, reputational risk, and public order
	3 Society and culture	Noteworthy points such as religious rules and taboos, gender-friendliness, and slums
		Local citizens' working attitude
	4 Living	Key languages Japanese can use in work
		Journey means other than rental car
		Whether alcoholic beverages are allowed to be had and hygienically noteworthy points about foods and water
		Diseases about which care must be taken and need for drugs and preventive injection

Category	Item	Questionnaire Item
		Noteworthy points about currency securement, settlement methods, purchasing of essential goods, goods prices, hotel, and telecommunication contract
		Interaction with the local Japanese embassy and other expatriates from Japan
2 Water supply status	2-a) Water supply government	The state of the country's national goals and plans, development of a government system, organizational structure and laws that are each related to water supply and segregated control over urban and rural areas as well as whether these government systems are beset with issues
	2-b) Urban water supply	The state of adequate local engineering such as urban water supply platform, penetration promotion, NRW response measures and water quality control
	2-c) Rural water supply	The state of penetration of rural water supply, underground water pollution response measures, and adequate local engineering
	2-d) Water supply management	The state of creation of financial statements and budget control, whether full cost recovery is possible, rates decision methods, the current status of facilities maintenance/control and issues, and management conditions and issues
	2-e) Public relations	Public relations means, tools for communication with customers, methods to deal with trouble such as complaint, and levels of awareness about Japanese projects
	2-f) Staff development and personnel affairs system	The current status of staff development and issues such as the development method for water supply engineers and the personnel system for manager level staff and engineer level staff
	2-g) Top priority issues	Relation between the country's SDGs and its policy goals, issues to be prioritized particularly and cooperation expected of development partners
	2-h) Aid from other countries	The current status of the country's relation with nations other than Japan and aid from them and whether there is anything Japan must draw on

5-3 Answers to Questions on Water Supply Status in Africa

Answers to the questionnaire came to seven and the number of countries visited stood at six, excluding redundancies. Shown in Table 5.2 are the description of work engaged in by respondents as well as their visit timing and countries they visited.

Table 5.2 Questionnaire respondents

Respondent	Work Engagement Description	Visit Timing	Country Visited
A	Chief for engineering professional consultant service for non-revenue water reduction	1.5 months from June 2019 One visit	Malawi
B	Deputy chief for engineering professional consultant service for non-revenue water reduction	From July 2016 to the present Five visits	Rwanda
C	Was in charge of water supply and sewage projects in the feasibility investigation for the Kigali City water supply and sewage master plan and priority projects that have 2050 as the goal year	March 2019 (about three weeks), April 2019 (about two weeks), July 2019 (about three weeks), and October 2019 (about two weeks)	Rwanda
D	1. Zambezian Province underground water development project Duties in the charge of the person: Addition and work plan, equipment plan and work management 2. Gaza Province Rural Water Supply Project follow-up cooperation Work in the charge of the person: Excavation equipment repair plan	A total of ten times or so from November 2000 to November 2005	Mozambique
E	Provided approximate design service for free as an engineering professional	Tens time or more from 2009 intermittently	Sudan
F	Engineering guidance on water treatment plant operation	Once from September 2 to 13, 2015	Côte d'Ivoire
G	Ran a pump system trial operation	July 2017 (one week), July 2018 (three weeks), and May 2019 (one month)	Zimbabwe

Shown in Table 5.3 are answers to individual questions on basic information and water circumstances in countries answered about. The descriptions of work engaged in by respondents and their local stay timings and periods were not identical and their stay spots were limited to locations close to the project implementation places. For certain work descriptions, the answers were diverse as it was all too often difficult to know water supply status to an extent allowing the respondent to answer to the questions.

It should be noted that the answers represent purely personal impressions in a place where the respondents stayed and did not intend to evaluate each target country as a whole.

Table 5.3 Answers to questions on water supply status in Africa

Item	Necessary Information	Malawi	Rwanda	Mozambique	Sudan	Côte d'Ivoire	Zimbabwe	Overall
1 Overview of the country	In a nutshell, what kind of nation is the country? What are its characteristics?	Malawi is not accustomed to aid in both good and bad senses. The nation relies on imports for most of products in the absence of industries.	Although being a small country, Rwanda appears to be a nation worthwhile being given technical cooperation as both its male and female citizens are hardworking by nature.	Mozambique is dubbed as a South African good performer as it is on economic growth track by tapping into a wealth of underground resources.	Many Sudanese intend to do things on their own (albeit it could vary from one segment to another), so they would grow depending on how they do it.	I am under the impression that care must be taken about security although locals are friendly—an impression from a limited local community and people.	The nation has yet to leverage its resources as I saw it. Locals tend to work relatively hard. In addition to human resources, industries are in place (agriculture, mining, and tourism), but they would not probably keep growing, affected by political and economic instability.	These are respondents' personal impressions in individual countries of stay, it was not possible to sum them up as a whole.
2 Politics	Political stability, past developments, war risk, fraud and corruption risks, reputational risk and public order	Malawi has not experienced any major civil war while having been a dictatorship country since becoming independent. Cases of election-related fraud and police corruption have been committed.	Many of public agencies as well as President are changed on a top-down basis. Since the 1994 genocide, fraud and corruption cases have been handled sternly, which has led to good security in general. Care must be taken about risks such as security near national borders Ebola hemorrhagic fever.	Civil war continued until 1992. In projects, we were exposed to risks such as robbery, theft, fraud and corruption as well as a risk for being subjected to a litigation.	The year 2019 saw a coup set up a tentative administration under a military-civilian joint rule. A turmoil took place just after its inception, but has since subsided. Key officials in office in the previous administration have been dismissed one after another, making it difficult to predict what would happen in the future.	Care must be taken about security. Although I took accommodation in a luxurious residential area, I was instructed not to go out due to frequent cases of crime. I stay away from districts that are home to many poor people and make me feel risk.	Although a change of power took place in 2017 as a result of a coup, the new president continues to control the nation with an authoritarian rule, giving rise to frequent strikes.	Many of these countries experienced a severe turmoil such as civil war or coup in recent years, and are generally beset with challenges for politics and security.
3 Society and culture	Noteworthy points such as religious rules and taboos, gender-friendliness and slums	No negative factors exist. Female participation is in progress.	It is a taboo to talk about tribes involved in a genocide. Christians abound but Muslims are also living in a certain proportion. Retched slums are non-existent in particular. The nation is advanced in female social participation in comparison to nearby states.	Although Christians and Muslims account for a predominant portion of the total population, an indigenous religion is seemingly mixed with them in rural areas. As long as you behave reasonably, no taboo exists in particular.	Many nations and tribes exist in rural areas. Impartiality is important. Some people still strongly see it improper for a young woman to go out.		Most of locals are Christians. There is nothing to care about in particular.	If you behave reasonably, nothing untoward happens, but a certain level of consideration should be given in a country of complicated nations.

Item	Necessary Information	Malawi	Rwanda	Mozambique	Sudan	Côte d'Ivoire	Zimbabwe	Overall
	Are there any points to be noted about local workers' work attitude (work perception and break)	Locals' work attitude is much earnest.	Although employees at the workplace were much earnest, there were limits to the motivation of low-level staff members since an upper limit on one's job grade set according to his/her academic background, resulting in a big gap in salary. It appeared only a few employees showed a momentum going beyond what is instructed.	Although local citizens are generally friendly, working them hard or damaging their pride could potentially result in a dispute. An improper document processing could be committed routinely.	Citizens appeared to be earnest people, but they differed greatly in tendency depending on the organization each of them belongs to. It is advisable to consider what to do in light of their circumstances and background without treating them uniformly.	Workers were cooperative for conducting tasks and training although being somewhat loose timewise. They were friendly.	Although locals essentially engaged in tasks in earnest, many of them were talkative, using their mouth more than their hands.	I find many of locals to be earnest without exception and cooperative in general. Some countries and classes are somewhat loose.
4 Living	What were key languages Japanese could use in work (such as English, French and Portuguese)? How communicable was the language (it varied from one region to another or it was hardly communicable)?	English was fine.	There was no particular problem. Elderly citizens were more fluent in French than English.	Although Portuguese had been an official language of the country, English penetrated gradually, enabling senior officials of regional government agencies to fully communicate in it. However, Portuguese is necessary for communicating with local citizens.	Staff members equipped with a certain level of intelligence can communicate in English, but they vary markedly in skill. Arabic translation if possible.	I communicated fully by way of an English-to-French translator.	I communicated fully in English.	Although persons at a counterpart level manage English, communication with local staff members must be prepared for according to their individual circumstances.
	What was a journey means available? Was there any noteworthy point (such as journey time bands and gasoline buying methods)?	Vehicles bought for project and taxi. Air flight service to the country was not much available.	Vehicles bought for project and taxi. Route bus could be taken within the city.	Nothing other than rental car with a driver can be recommended. Still traffic accident occurred frequently.	For a foreigner to journey in the country, a journey permit is required. Although bus service is available, it is difficult to use the service safely unless you are well aware of local circumstances and understand Arabic. Airlines are in existence, but flights do not take place as scheduled.	Unknown as I journeyed in a local employee's car.	Unknown as I used no journey means other than rental car. Long haul bus service is available.	Vehicle arrangement is essential. Care should be taken as a journey permit is required in countries like Sudan.

Item	Necessary Information	Malawi	Rwanda	Mozambique	Sudan	Côte d'Ivoire	Zimbabwe	Overall
4 Living	What were foods (restaurant availability extent and whether alcoholic beverages are allowed to be had) and hygienical noteworthy points about foods and water?	Fish products were limited and options were not wide.	Although fish products were limited and options were not wide, there is no major problem. There was no restriction on alcoholic beverages and foods, in particular. Living was convenient as security was good and big supermarkets were available with membership sports facilities being abundant.	Alcoholic beverages were able to be obtained even in rural areas. Food materials were deficient, so there was no choice but to have local food roasted chicken as a staple food item (dressed after being ordered for).	Alcoholic beverages are prohibited. Even one brings them in, they must not be had in front of other people on the outdoor street.		Alcoholic beverages can be bought at shops across the town.	Alcoholic beverages can be bought in countries other than Sudan, a Muslim-centric nation. Any person who cannot put up with local foods should prepare individually.
	What were diseases for which care must be taken and was there need for any drugs preventive injection required to be had in preparation?	Care about malaria only	There was risk for malaria and dengue fever.	It was important to prepare against malaria, a tropical fever. Others include poisonous snakes and scorpions and poisonous spiders. For regional reasons, HIV positive ratio was high and care had to be taken about cholera, rabies, and tenants.	Care must be taken at an ordinary developing country level.	It is recommended one take preventive injection for yellow fever, tetanus, and rabies.	No hospital happed to be available near the site on occasion.	Care must be taken about endemics such as malaria.
	What were points to be noted about acquisition of currencies, payment by with cash or credit card, restriction on buying of daily necessities for living, price of goods and service, hotels, and telecommunication contracts?	Transactions took place in a bundle of cash. The internet environment was not so good.	Money conversion shops were numerous and credit cards were able to be used relatively properly. Although touting itself as an IT nation, the country had yet to have a good mobile communication environment of much quality.	As moneychangers were in existence in regional cities as well, it was normal to carry credit cards and dollar bills ordinarily when on the move. Local currency underwent a redenomination in 2006.	The exchange rate for a local currency and the dollar fluctuated widely and prices in the local currency swung markedly. Inflation was high. Bank remittance was instable. The situation changed constantly, so it was necessary to check things whenever a change occurred.		Although US dollars were able to be used at the time of the visit in 2018, they were subjected to use restriction when visiting in 2019.	Currency circulation, credit card, and telecommunication circumstances were diverse and change constantly, so you must work to identify the latest developments.

Item	Necessary Information	Malawi	Rwanda	Mozambique	Sudan	Côte d'Ivoire	Zimbabwe	Overall
2-a) Water supply government	Did each country properly develop national goals and plans, water supply government systems, organizations and laws and have segregated control of urban and rural areas? Were they any issues for theses government systems?	National plans failed to be clearly stated. A completely independent corporation was in charge of urban water supply and the central government barely made adjustment.	The government aimed to achieve a 100% access rate for safe water by 2024 (regardless of pipeline or non-pipeline water supplies), aiming to attain a 100% access rate for piped water by 2050. Although a completely independent corporation was in charge of urban water supply, the agency was reliant on the central government in many respects. One future challenge would likely be a collaboration between the water resources control organization and the water supply infrastructure development agency (the Water Infrastructure Ministry).	No noticeable information is available now after the passage of ten years or so. Government officials engaging in water and water supply government are extremely small in number at both the central and municipal offices probably due to a structural reform pursued drastically then. Thus, they were found to be reliant on the donor almost entirely from planning to facility expansion.	The National 25 Year Water Supply Project (from 2007 to 2031) was formulated as a top priority plan. At issue is a yawning gap between provinces due to power decentralization. As they were responsible for water supply service, they differed from each other in the scope of water facilities control and responsibility.	I contacted some officials of the National Water Supply Committee (ONEP) in the country. They appeared to have only insufficient knowledge about safety for source water used for treatment of drinking water.		Different countries have different circumstances. It is possible to obtain national plans as a general rule.
2-b) Urban water supply	What was the state of adequate local engineering such as urban water supply platform, penetration promotion, NRW response measures, and water quality control?	The country's platform for operation and maintenance-management was more or less satisfactory. The country's penetration and promotion were not known. The Nether lands assisted its NRW response measure. Water treatment management was done properly but was not totally thorough. The country verified GIS and prepayment meters.	The country's platform for existing operation and maintenance-management was satisfactory. Proactive investments were in progress with development plans making headway. At issue was the nation's water distribution management and its NRW response measures were not highly reviewed although experts were much aware of them. Personnel did not have skills enough to leverage leading-edge engineering.	The country's urban water supply was not known in general. In Mocumbi, a small rural city, river water was distributed without being treated, so it was high in turbidity and not sterilized.	Water supply service was provided by a water authority, a provincial government agency. At issue were aged pipelines and water treatment management. Operation improvement efforts must be made simultaneously.			Many countries were beset with operational platform issues, relevant systems were in the process of being developed in Malawi and Rwanda.

Item	Necessary Information	Malawi	Rwanda	Mozambique	Sudan	Côte d'Ivoire	Zimbabwe	Overall
2-c) Rural water supply	What was the state of penetration of rural water supply, underground water pollution response measures, and adequate local engineering?	Even in local service areas, densely-populated districts and sparsely populated ones varied from each other in development level and differed markedly in water receipt environment (individual homes, joint water faucet, dug well, and hand pump). As the definition of penetration rate is a vague one, such phenomena were unable to be known with statistical materials.	Rural water supply came in the form of one by WASAC and a private operator. Water was supplied in rural areas typically via a well or spring water source in the main. In some non-penetration areas, rainfall water was in use. Different areas varied from each other significantly.	Wells were developed in areas where river water and spring water were in the main. For underground water pollution, iron was discovered in some cases. The country had in place distribution of pump repair products.	Compared to urban areas, rural areas were only lowly supplied with water, so the demand for wells was still high. However, locals began to use joint faucets based on powered water tapping and elevated tanks instead of hand pumps. The country did not have any fundamental measure for underground water pollution.	Areas away from central Abidjan did not seem to have water supply.	Locals used water drawn from wells or rivers. Most of them carry water on foot.	Different areas even in one single country differed from each other markedly, making it difficult to summarize them in short.
2-d) Water supply management	Did the country control its financial statement creation budget appropriately? Did it practice a full cost recovery successfully? How did it determine water rates? What were its current state and challenges for the maintenance and control of its facilities in relation to engineering and finance as well as the status of its operation and challenges?	The country's water supply management was run on a self-supporting basis. However, as water rates were set highly with the result that penetration rate was low and water supply was suspended often and unlawful connections were committed. Efforts were underway to deliver higher service quality in earnest and gain customer confidence.	Approved corporations and businesses created financial statements to control their budgets. For construction investments, they obtained subsidy from the government on the basis of its budget. They frequently suspended water supply due to cash shortage. They hiked water rates from 2015 to 2016.		The country's urban water supply was in the process of shifting gradually from a flat rate scheme to a pay-per-use one. Water rates were determined politically at payable levels. The Water Authority in capital Khartoum did not manage to meet demand, so efforts were underway to strengthen its platform, improve its facilities and finances.			It is difficult to identify circumstances unless being involved a broad-based investigation. Given that making financial statements will enable us to know problems, doing so will likely be the first goal for us.
2-e) Public relations	What were public relations means, the tools for communicating with customers, ways of dealing with trouble such as complaint and the extent of locals' awareness about Japanese projects?	Local officials worked actively on public relations in relation to the above-mentioned. Although being actively involved in Japanese projects as well, one challenge was the fact that effective media were limited in number.	Although local officials used social networks to engage in public relations activities, they were not much effective yet. Complaint desks were available, but they were not often used as customers were accustomed to water supply disruption.	Regional government officials were extremely small in number, they had no option but to rely on animators (rural water supply penetration promoters) as the interface with customers. Japanese were seen as Orientals (China) as a whole.	While response varied greatly from one province to another, some had a customer center in place. Officials received inquiries by telephone and take action each time in accordance with its description. Aid from Japan was well known and seen favorably.			Although things varied greatly from one country to another, officials sought to communicate actively in accordance with their circumstances.

Item	Necessary Information	Malawi	Rwanda	Mozambique	Sudan	Côte d'Ivoire	Zimbabwe	Overall
2-f) Staff development and personnel affairs system	How did officials develop water supply engineers? What programs did they have as the ones to determine the recruitment, promotion, qualifications, and compensation of manager-levels and engineer-level employee? What were the current state of engineer development and challenges involved?	Officials held seminars regularly due to being also active for human resource development.	Project officials were aware of the importance of human resource development and reflect budget spending in the project plan. However, such development was not done due to staff shortage and insufficient planning. One challenge was to raise skills.	For rural water supply, competent persons had high skills due to having taken training courses in Japan. However, as officials were small in number, they failed to share and hand down experience and training content. Officials were occasionally poached by an NGO.	From 2008, Japan gave the nation technical project-based aid for human resource development system and hardware. Some provinces conducted training tenaciously while some others failed to go so far as to develop.	I only contacted some officials of the National Water Supply Committee (ONEP) in the country and found it necessary to provide basic education on water treatment before handling facilities and engineering.		Although many countries actively worked on human resource development, they were still far from achieving their goals.
2-g) Top priority issues	What were the relation between the country's SDGs and its policy goals and challenges required to be prioritized in particular? What was cooperation expected of a development partner as a response measure?	The concept of SDGs had yet to spread at a practical work level.	The concept of SDGs had yet to spread at a practical work level. Given that the country's population was predicted to triple, one challenge was to expand the water system as a whole.	Projects by Japan were implemented in relation to SDGs.	Water supply rate for safe water was an urgent challenge and quality was prioritized, but it was not known whether officials see their efforts as something related to their SDGs.		None	Working-level officials were not much aware of their SDGs, which were a state goal level matter.
2-h) Aid from other countries	What was the existing relationship between the country and states other than Japan and how was aid from them? Was there any point Japan should draw on concerning value, target areas, involvement methods and a sense of speed?	For non-revenue water response measures, the Netherlands provided aid on an advance basis. Local pipelines and water distribution reservoirs were planned to be renewed with World Bank loans. In both good and bad senses, Malawi was not accustomed to aid. In the absence of industries, the nation relied on imports for most of products.	African Development Bank was actively involved. Under planning by the project entity, contracts were awarded on a design-build basis, enabling an early implementation. However, officials were unable to secure consistency with overall facilities as their supervision system was unsatisfactory one. While the World Bank had been promoting investments via PPP, projects ended up being disadvantageous ones for customers. Aid from Japan was seen as mediocre in a sense of speed although being satisfactory in quality.	Local officials hoped that Japan would collaborate with DFID, UNICEF, and Switzerland that had been developing human resource consistently and aid Mozambique synergistically, coupled with the borehole or tube well digging projects for 400 sites, a cash assistance from the Indian government.	Aid from Arab countries involved an extremely high budget, but they did not have much idea as to what to invest in, pointing to a further room for aid harmonization. Sudanese officials praised aid from Japan for being attentive to engineering mastery.		Aid from China was said to be numerous.	There was no generalized picture as various entities worked on activities in ways suiting individual countries. This is something you fail to understand unless inquiring persons who have extensively worked locally.

Chapter 6 Chapter 6 Proposal for Future International Cooperation in Water Supply Sector

6-1 Summary of Survey Results

This fiscal year's study is to promote international cooperation in the African water supply sector, under the assumption that persons and organizations that are considering participation in international cooperation of the water supply sector. The purpose of the study is to provide easy guidance for satisfying water supply needs in Africa, attend to related points to note, etc. Specifically, the aim of the survey is to present answers to the following, etc. in a simplified manner: (i) What water needs exist in Africa in the course of conducting water supply?; (ii) What salient characteristics exist in Africa?; and (iii) What points should be noted for caution?

For this purpose, in light of results from efforts such as organization of background information, collection of data on each country, gathering of knowledge and experience by experienced travelers, on-site visits, and the like, thus far, views that allow Africa to be understood will be organized as follows.

1) Urban water supply (water services) and rural water supply (well) needs

Challenges related to water services in Africa do not greatly differ from those related to water services in Asia. As is the case with Asia, needs have shifted from rural water supply to urban water supply accompanying the advancement of urbanization even in Africa. ODA cooperation involving Japan has mainly focused on water service projects for urban areas.

Shared needs for water services, which constitute infrastructure for urban areas, are to improve overall services starting from human resource development. Thus, it can be confirmed that activities based on intangible factors in Japan thus far have matched with needs. In relation to tangible factors, there exist few examples in which, "despite a need for water services, no specific measures have been initiated at all." However, in many cases, it can be observed that relevant measures have not been undertaken to handle rapid demand increases. Water services maintenance based on collaboration with other countries is effective. However, countries that have proactively developed relevant measures and ways to move ahead with relevant projects differ from each other. Therefore, activities considering the circumstances of each country will be necessary.

- Looking at a monitoring the status of SDGs, delay in maintenance of water services in the region of Sub-Saharan Africa is remarkable, and international cooperation for this region will be continuously required.
- Each country has created its respective national goals. However, in many cases, such goals have not necessarily taken actual conditions into consideration, and there is a lack of consciousness of on-site conditions. Basically, SGDs are not considered at actual sites. Moreover, the definition of "water supply penetration rate" is slightly ambiguous. Therefore, there exist some cases in which accurate situations cannot be understood based on statistical data figures (See Table 5.2: 2019 Malawi and 2016 Rwanda).
- There do not exist many major cities with waterworks or without any water services. However, the level of waterworks is varied, and there exist many waterworks in such cities that are old, for the most part. Issues related to deteriorated pipelines, water quality control, cultivation of staff members, establishment of financial foundations, etc. can be observed in a shared manner. Due

to the expected increases in population, there exist many cases in which ensured water resources are deemed necessary. Water resource development projects are considered to be large projects. Thus, it is difficult to propose projects involving water services (i.e., roughly put, such projects are handled as water resource development projects).

- Rural water supply situations largely differ in different regions, and related issues cannot be evaluated in a quantitative manner. Therefore, it is remarkably difficult to identify the nature of issues as a whole. Fetching water from rivers is a heavy labor; however, females and children tend to be tasked with this duty in many cases (see Table 5.2: 2019 Zimbabwe). Many rural water supplies stem from wells and springs, and risks of contamination due to domestic wastewater exist (see Table 5.2: 2019 Rwanda). In order to maintain rural water supply, management of well pump parts and consumables is important. However, related situations differ among different countries and regions in a diversified manner. There exist some cases in which distribution channels have been established (see Table 5.2: 2005 Mozambique). There also exist some cases in which the aforementioned parts and consumables may fail and then remain neglected.
- Human resource development is problematic in many cases. Japanese assistance is strongly focused on human resource development rather than assistance from other countries. In this regard, on-site evaluation is high. Therefore, it is important to continuously pay attention to this sector (see Table 5.2: 2019 Sudan).
- In relation to rural water supply, skilled personnel (i.e., executive personnel and persons in charge in local governments) have taken advantage of training opportunities in Japan. Thus, the level of such personnel is not low. However, there exist the following problems: (i) since the number of staff members is limited, neither sharing of knowledge from experience and the content of training nor passing on the same may occur in some cases; and (ii) further, staff member fostered through capacity building including other donors cannot stay in the same positions if they are being scouted by associated NGOs, etc. (see Table 5.2: 2005 Mozambique)
- Cases in which there is low motivation for residents to pay relevant money for safe water are general even in Africa. It is necessary to have the residents extensively understand importance of bearing burdens for maintenance and management costs at least in order to sustainably operate, maintain, and manage water service facilities (see Table 5.2: 2019 Malawi). PR activities for such purpose have been proactively incorporated, relatively speaking.
- Collaboration with residents is important for rural water supply and hygiene management as well as for information supply in an easily comprehendible manner for residents, and skillfulness for construction of management organizations have been conducted. Case examples are: (i) fence maintenance for preventing of livestock invasion (i.e., when livestock intrudes upon surrounding rural water supply facilities (such as wells) for drinking water) has taken place such that water quality deterioration should be prevented surrounding animal excrement (see Table 5.2: 2019 Malawi); and (ii) drainage water infiltrating basins have been maintained for preventing of waterborne infectious diseases via mosquito breeding through contaminated well water and stagnant water (see Table 5.2: 2019 Malawi).
- Various countries and organizations conduct support activities in each country of Africa, and it is not even easy to typify their efforts. It is difficult for even those who have experienced residing in the relevant countries to understand the whole picture. However, subjects in each country are matched with each other in accordance with recognition related to the importance of

collaboration.

Recently, Japanese efforts in Africa related to water utility have included approaches in Malawi, etc. by Yokohama Waterworks Bureau, acceptance for orders of technical cooperation projects in Kenya via water services by the Bureau of Waterworks of the Tokyo Metropolitan Government, support for Rwanda via water services by the Kobe City Waterworks Bureau, and the like. Moreover, many trainees from the region of Africa have visited Japan to participate in training opportunities held in Japan each year, and they have taken training in municipalities. Furthermore, there exist international student projects, and connections with personnel related to water services in Africa is increasing. It is significant to appropriately understand and assess the relationships as described above and use the knowledge gained for activities in the region of Africa.

2) Points to be noted in the course of performance of on-site services

It is difficult to recognize whether or not outcomes have been fruitful in Africa compared with those in Asia, and there exist many people who have resistant feelings about them. Based on the instruction described above, opinions, etc. were collected on particularly points where caution would be particularly necessary for activities in Africa. In general, as long as basic self-defense measures that would be necessary for overseas operations can be undertaken, no problems will occur. Caution will be required for states in civil wars based on political instability. However, in countries that are experiencing the aforementioned conditions, to begin with, it would be difficult to form ODA projects for water supply or to consider such countries to be targets for water utility development. Therefore, we believe it is unnecessary to be excessively apprehensive.

- There are many politically instable countries experiencing the effects of various internal dictatorships, coups d'état, internal conflicts, and the like. Political stability will directly lead to deterioration of authority in many cases. Thus, in the corresponding countries, it is relatively difficult to construct relationships with counterparty governments and persons in charge of local administration. However, there is an example in which governance of Rwanda was improved, driven by its own experience.
- In relation to religions, customs, etc., in general, no problems will occur when the common-sense behavior of Japanese people is exercised. Communication with parties of counterpart governments can be sufficiently achieved in English or French.
- The personalities of confronted people are always serious issues. They are normally sincere. However, there is a wall formed by class societies, and only people in the upper class can be expected to participate in voluntary activities. Furthermore, the severity of employment agreements may differ remarkably from the norms of Japan, and hatred may occur due to reprimanding in some cases. Thus, cultural differences should be considered carefully (see Table 5.2: 2005 Mozambique).
- There are some countries in which the concept of younger females being overly "put on display" is not acceptable. It should be noted that publication of project photos, use of photos for calendars, etc. are conducted. When associated parties recognize issues arising from the use of photos, it is important to be conscious of the matter so as to avoid troubles (see Table 5.2: 2019 Sudan).
- Economic development has progressed in the region of Africa, and living environments have improved in urban areas. Restrictions on overall lifestyles exist. However, as far as urban areas targeted by water services are concerned, there hardly exist any regions in which extreme poverty

is faced. Communication situations and currency situations differ depending upon the country. Examples include blackout frequency (see Table 5.2: 2019 Zimbabwe) and poor mobile network environments (see Table 5.2: 2019 Malawi and 2019 Rwanda). The aforementioned situations change constantly. Thus, it is necessary to collect the most up-to-date information at all times.

- Attention should be paid to endemic diseases unique to tropical regions. Malaria is a deadly disease. When exposed to abnormal conditions, prompt examination is recommended. If a positive reaction has been detected, hospital care must be given without hesitation. As a measure, choosing either prophylactic administration of medicaments or a "silver bullet" following onset depends on the region and environment. Thus, it would be better to review the issue in advance (see Table 5.2: 2005 Mozambique).
- There are many counties that include within them many ethnic groups and tribes. Therefore, when certain support is provided, it should be noted that a fair viewpoint is emphasized so that support will not be a cause of conflict that would generate new unfairness (see Table 5.2: 2019 Sudan). Moreover, close attention should be paid to certain other related matters, such as not talking about tribes that have been involved in genocide (see Table 5.2: 2016 Rwanda).
- Circumstances and backgrounds of local people are diverse. Some local people act for monetary benefit instead of attempting to achieve quality. On the other hand, some local people are admired by residents, are proud of their own jobs, and exhibit superior behavior without involving high wages. It seems desirable to respond to such people in light of their circumstances and backgrounds (see Table 5.2: 2019 Sudan).

6-2 Future Activities to be Undertaken

Lastly, in response to review results of this year, in order to promote international cooperation of the water supply sector, review results for measures to move ahead with in the future will be summarized. In light of discussions, etc. at the Committee, according to the survey in question, the following two reviewed themes have been organized: (i) "Further analysis for situations and needs in Africa"; and (ii) "Response measures to be prepared by Japan for cooperation necessary in Africa."

1) Further analysis for situations and needs in Africa

According to this fiscal year's study, differences in international cooperation activities of the water supply sector depending upon country and region have been understood roughly. Although this information covers wide targets and scope exhaustively, such information is not thoroughly sufficient to handle structures and measures contributing to solutions. In order to review measures that lead to improvement of SDG 6 water supply, based on the results of this year, there is a room to further deeply analyze types and distribution of water supply needs as well as the structures of problems. Specifically, the following views are possible.

- Political instability can be often observed in Africa. Specific proposals regarding how relevant support is to be provided is effective by bearing in mind the influence of political instability on activities of the water supply sector, and in particular, water service supply as a public health issue related to refugee problems.
- The previous two surveys thus far have targeted countries whose local conditions were relatively

superior. If it is possible to conduct surveys for countries in which projects have not moved along well, authentic results could be further obtained.

- Water resources are influenced by climate change. Therefore, it is highly possible that this matter would cast a shadow on activities of the water supply sector. Prospectively, based on research outcomes concerning changes in the amount of precipitation, thorough observation of water supply conditions and response viewpoints as measures for famine arising from droughts would be effective.
- Moreover, the following actions would be effective for expanding the range of Japanese water supply corporation, etc. that review technical cooperation and the like: (i) surveying of specific approaches in urban and rural areas of each country for achievement of SDGs (regardless of whether or not such approaches are to be initiated by nations or water supply corporation) and issues accompanying implementation of the aforementioned approaches; and (ii) supplying of information for assistance and technical cooperation where directly fruitful results can be expected.

2) Response measures to be prepared by Japan for cooperation necessary in Africa

According to this fiscal year's study, rough characteristics regarding African circumstances which would become prerequisites in the course of problem solution in the water supply sector have been organized. In light of such information, specific cases in which water utility experts in Japan are to be dispatched to local regions will be assumed. It is possible to think about a direction for observing what strength of Japan would be developed and what cooperation, considering such strength, should be provided, or in what sector relevant knowledge and experience would be deficient.

- Bearing in mind the contribution given in Africa, portraying of Japanese areas of specialty in the water supply sector would be effective for forming and performing projects. Organizing the points concerning in what sectors comparative advantages exist as well as organizing information compared with Southeast Asia in which experiences have been relatively accumulated would encourage easy understanding of the aforementioned matters.
- Importance for support from the perspective of intangible factors (and in particular, human resource development) has been reconfirmed. Such support was originally focused by Japanese water supply corporation. A new organization of what "menu" would be important through training and education, including fee collection for customer services, etc., would be effective.
- On the other hand, there exist needs for sectors in which the Japanese central government or water supply corporation are poor performers, such that no sufficient know-how has been accumulated. There is no sufficient know-how related to rural water supply using groundwater by water supply corporation. Moreover, there has been no sufficient knowledge or experience regarding prepaid meters, smart meters, etc. disseminated in Africa. Training menus for such sectors are necessary. To tackle such necessity, information on such matters will be shared. In this way, opportunities for further collection of relevant information will be created and awareness for those who have existing knowledge and experience will be awakened in the future. This attempt would be effective for expansion of a range for Japanese water supply corporation, etc. reviewing technical cooperation and the like.
- There are factors that restrict the deployment of appropriate technologies in Africa. Therefore, it is necessary to make relevant efforts considering this situation. For example, the population of

Africa is currently less dense than that of Asia. Thus, piped water is relatively difficult to be established in a manageable way.

- Development in the region of Africa has been long conducted by European governments, institutions, and organizations. Therefore, it is also important to know about technical systems in Europe.

The aforementioned situations differ by country. Thus, it is difficult to identify specific problems unless experts visit local areas for investigations, in addition to conducting bibliographic surveys. There are limits to what water supply corporation can implement. Thus, it would be effective to use systems that allow the aforementioned matters to be easily distinguished (e.g., adoption of a system for dispatching a small-size investigating team of experts in water supply corporation to conduct prior sector surveys.)

Reference Data (Basic Information for Countries Targeted by Survey)

Table 6.1 Basic information on Nigeria

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	924,000 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	201 million (2019)	State of World Population 2019
		3 Population growth rate	2.6% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic (governed by president)	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	The United Kingdom	Same as above
		3 Capital	Abuja	Same as above
	3 Society and culture	1 Ethnic groups	Hausa, Yoruba, Ibo, etc. (the number of ethnic groups is assumed to be 250 or more)	Same as above
		2 Languages	English (public language) and ethnic languages	Same as above
		3 Religions	Islam (northern part), Christianity (southern part), and traditional religions (all areas)	Same as above
	4 Climate	1 Climate	The southern part is tropical rainforest and the northern part is a semi-desert region called the Sahel. Regions near the norther national border have steppe climates, the coastal regions have monsoon climates, and other regions have savanna climates, in which the rainy season and the dry season are clearly distinguished.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 2 to 4	MOFA's "Overseas Travel Safety Information" webpage
2	1 Indictors	1 GDP	39.73 billion USD (2018, World Bank)	Ministry of Foreign Affairs: Country and Regional Information

Category	Item	Necessary Information	Survey Results	Survey Method
Economic conditions		2 GNI per person	1,960 USD (2018, World Bank)	Same as above
		3 Economic growth rate	1.9% (2018, World Bank)	Same as above
		4 Inflation rate	12.1% (2018, World Bank)	Same as above
		5 Unemployment rate	6.03% (2018, World Bank; ILO's assumption)	Same as above
		6 Literacy rate	62.0% (2018)	UNESCO
2 Economic conditions		7 Human Development Index (HDI)	0.532 (157th place worldwide) (2017)	UNDP
	2 Overview	1 Economic overview	Main industries: agriculture, crude oil, natural gas, communications, etc. Nigeria has the highest GDP in Africa. In recent years, the growth of service industries has been remarkable. About 70% of national revenue and about 80% of total exports depend upon crude oil.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	136,483,000 (Urban: 83,035,000; rural: 53,448,000)/190,886,000 (Urban: 95,443,000; rural: 95,443,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 71% Urban: 87% Rural: 56%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	Vison20: 2020 (2009)	JICA report[34)]
		2 Water supply act	Unknown	
		3 Water quality standards	Nigerian Standard for Drinking Water Quality	

[34)] Study Report on Formulation of Detailed Plan for the Project for Non-Revenue Water (NRW) Reduction in Federal Capital Territory, Nigeria (July 2014):
https://libopac.jica.go.jp/images/report/12153573.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		4 Financial foundations	Federal Capital Territory Water Board (FCTWB) converted its policy for waterworks into that for independent management business in 2004.	
4 ODA policy	1 Development cooperation policy	In relation to "creation of foundation for high-quality economic growth," as a priority area, urban infrastructure (in particular, urban water supply and hygiene) which becomes a basis of economic activities are to be supported (September 2017).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As a "water resource management programme," during the period from 2014 to 2018, the project for Non-Revenue Water (NRW) Reduction in Federal Capital Territory, Nigeria (technical cooperation project) was implemented (April 2018).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	About 99.026 billion yen (liquefied natural gas, sesame, etc.) About 33.2 billion yen (steel, passenger vehicles, etc.)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	40 (2017) 141 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary," as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.1 Basic information on Ethiopia

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	1,097,000 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	110.1 million people (2019)	State of World Population 2019
		3 Population growth rate	2.6% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	None	Same as above
		3 Capital	Addis Ababa	Same as above
	3 Society and culture	1 Ethnic groups	About 80 tribes, such as Oromo, Amhara, and Tigrai	Same as above
		2 Languages	Amharic, Oromo, English, etc.	Same as above
		3 Religions	Christianity, Islam, etc.	Same as above
	4 Climate	1 Climate	Ethiopia is located in a tropical zone; however, the climate differs depending upon elevation. The Ethiopian Plateau has heavy rainfall and includes many rivers. The eastern plateau is dry and the region near the national border with Somalia is characterized by a desert climate.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1 to 4	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GDP	84.3 billion USD (2018, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	790 USD (2018, World Bank)	Same as above
		3 Economic growth rate	6.8% (2018, World Bank)	Same as above
		4 Inflation rate	12.5% (2018, World Bank)	Same as above
		5 Unemployment rate	1.8% (2018, World Bank)	Same as above
		6 Literacy rate	51.8% (2017)	UNESCO

Category	Item	Necessary Information	Survey Results	Survey Method
		7 Human Development Index (HDI)	0.463 (173rd in the world) (2017)	UNDP
	2 Overview	1 Economic overview	While attempting economic growth with a central focus on agriculture, the economic structure focusing upon industry has shifted. Ethiopia aims at becoming a middle income country by 2025. On the other hand, the GNI per capita is 790 USD, which is considered to place it at the level of the poorest countries. In addition to chronic food shortages, impacts accompanying inflation, global financial crises, rise in international prices for crude oil, etc., have been exposed.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	42,822,000 (Urban: 16,793,000; rural: 26,029,000) /104,957,000 (Urban: 20,991,000; rural: 83,966,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 41% Urban: 80% Rural: 31%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	National strategies available Formulation of the Universal Access Plan 2 (UAP2), which is a five-year development plan for the water and sanitation sector (2011)	JICA report[35)36)]
		2 Water supply act	Unknown	
		3 Water quality standards	Compulsory Ethiopian Standard for Drinking Water Specification	

[35)] Study Report on the Detailed Design Survey on the Project for Strengthening Capacity for Training Operation and Management for the Ethiopian Water Technology Institute (EWTI) (January 2017): https://libopac.jica.go.jp/images/report/12287942.pdf

[36)] Preparatory Survey Report on the Project for Improvement of Water Supply in Bahir Dar City (February 2017): https://libopac.jica.go.jp/images/report/12289831_01.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		4 Financial foundations	The Ethiopian Water Technology Institute (EWTI) is under the supervision of the Ministry of Water, Irrigation, and Energy, and budget is issued by such Ministry and the Ministry of Finance. Administration is positioned as being independent.	
4 ODA policy	1 Development cooperation policy	In relation to "infrastructure development" as a priority area, water and sewer services leading to investment promotion through use of Japanese technologies were included. Cooperation contributing to high-quality infrastructure improvement is to be implemented (April 2017).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	During the period from 2017 through 2022, as " programmes for improvement of accessing safe drinking water and urban sanitation measures," the project for strengthening capacity for training operation and management for the Ethiopian Water Technology Institute (EWTI), the Project for Strengthening Non-Revenue Water Management Capacity in Addis Ababa City, the Project for Improvement of Water Supply in Bahir Dar City (under the Grant), dispatching of Japan Overseas Cooperation Volunteers (JOCV)/Senior Japan Overseas Cooperation Volunteers related to the Project for Rural Water Supply (Water Quality Examination, Community Development, etc.), training classified by issue for improvement of accessing safe drinking water and urban sanitation measures are to be scheduled and implemented (April 2018).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	5.16 billion yen (e.g., coffee, and rawhide, and skin) 11.68 billion yen (e.g., vehicles and machinery)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	- 204 (2018)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including

drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.2 Basic information on Kenya

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	583,000 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	52.2 million (2019)	State of World Population 2019
		3 Population growth rate	2.3% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	The United Kingdom	Same as above
		3 Capital	Nairobi	Same as above
	3 Society and culture	1 Ethnic groups	Kikuyu tribe, oluLuhya, Calenjin, Luo, etc.	Same as above
		2 Languages	Swahili and English	Same as above
		3 Religions	Traditional religions, Christianity, and Islam	Same as above
	4 Climate	1 Climate	Kenya is located precisely on the equator. Most of the national land is on a plateau, and it is a dry plateau savanna zone. Most of the land is characterized by a savanna climate. Some of the regions near the national border with Zambia have a temperate climate, the eastern plain areas have a steppe climate, and some areas have dessert climates.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1 to 4	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GDP	79.2 billion USD (2017, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	1,440 USD (2017, World Bank)	Same as above
		3 Economic growth rate	4.9% (2017, World Bank)	Same as above
		4 Inflation rate	8.0% (2017, World Bank)	Same as above

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		5 Unemployment rate	-	Same as above
		6 Literacy rate	81.5% (2018)	UNESCO
		7 Human Development Index (HDI)	0.590 (142nd in the world) (2017)	UNDP
	2 Overview	1 Economic overview	Kenya plays a central role as a local economy of entrance for East African countries. Despite the fact that Kenya has been comparatively industrialized, agriculture occupies about 36% of its GDP. In recent years, steady growth has continued.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	29,547,000 (Urban: 11,406,000; rural: 18,141,000) /49,700,000 (Urban: 13,419,000; rural: 36,281,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 59% Urban: 85% Rural: 50%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	National water supply service strategy (2007 to 2015)	JICA report[37] National Assembly of the Republic of Kenya webpage[38]
		2 Water supply act	Water Act of 2014 (approved in 2015)	
		3 Water quality standards	The Water Services Regulatory Board (Wasreb) established standards related to water supply businesses. The compliance rate for water quality standards (i.e., performance indicators) is included. A formal name of water quality standards is unknown.	

[37] Study Report on Formulation of Detailed Plan for Non-Revenue Water (NRW) Reduction, the Republic of Kenya (December 2015)
https://libopac.jica.go.jp/images/report/12253597.pdf
[38] The Water Bill, 2014
http://www.parliament.go.ke/sites/default/files/2017-05/The_Water_Bill2015.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		4 Financial foundations	In relation to water utility WSPs (Water Sanitation Programmes), business licenses from the WASREB have been obtained, and consignment agreements were with the WSB having jurisdiction over relevant regions. The country has provided WSPs (Water Sanitation Programmes) that cannot obtain profits with subsidy money.	
4 ODA policy	1 Development cooperation policy	In relation to "environmental conservation" as a priority emphasis area, in order to respond to climate fluctuation becoming more serious or severe, water supply and water resource management are to be supported (April 2012).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	In relation to the development issue of "water resource conservation," in the water supply and water resource management programme, during the period from 2015 through 2020, the Project for Rural Water Supply in Baringo County, the Project for Augmentation of the Water Supply System in Narok (under the Grant), dispatching of water resource management advisers, projects for strengthening capacity in non-revenue water reduction (technical cooperation projects), pervasion of and experiments with water purification systems using solar power generation in non-electrified villages (small- to medium-sized enterprise assistance projects), training classified by issues for the water sector (e.g., measures for water leak detection), dispatching of Japan Overseas Cooperation Volunteers (JOCV)/Senior Volunteers (e.g., water supply and water quality examinations) are to be scheduled and implemented (April 2016).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	7.69 billion yen (e.g., cut flowers, red tea, coffee, fish fillet, and nuts) 9.9 billion yen (e.g., passenger cars, trucks, steel, and machinery)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	- 728 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.3 Basic information on Sudan

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	1.88 million km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	42.5 million (2019)	State of World Population 2019
		3 Population growth rate	2.4% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	The United Kingdom	Same as above
		3 Capital	Khartoum	Same as above
	3 Society and culture	1 Ethnic groups	Mainly, Arabs, Nubians, Nubas, Fur people, Bejas, etc. (200 tribes or more are mixed)	Same as above
		2 Languages	Arabian (official language), English, and many more minority tribal languages	Same as above
		3 Religions	Islam, Christianity, and traditional religions	Same as above
	4 Climate	1 Climate	Most of the national land has a dessert climate. Desserts of the northern part and the Red Sea Coast have high temperatures throughout the year. Advancing southward, the amount of rainfall increases and there is a steppe climate. During the rainy season, agriculture and livestock farming are also conducted.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 2 to 3 Public peace and order in some regions of the country are so unstable that consideration is necessary for ensuring safety.	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GDP	117.5 billion USD (2017, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	2,378 USD (2017, World Bank)	Same as above

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		3 Economic growth rate	4.3% (2017, estimated by the World Bank)	Same as above
		4 Inflation rate	52.37% (2018, Central Bureau of Statistics of the Government of Sudan)	Same as above
		5 Unemployment rate	13.3% (2017, estimated by the World Bank)	Same as above
		6 Literacy rate	60.7% (2018)	UNESCO
		7 Human Development Index (HDI)	0.502 (167th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	Major industries are mining, agriculture, forestry, livestock, and fishery. National revenue and external receipts have decreased due to independence of the Republic of South Sudan in 2011. Sudan has water resources, such as gold and iron, water resources from the Nile River, and cultivated arable land. However, important issues include preservation of alternative income sources and processing of external debts. Using economic demand worsening and inflation as an opportunity, protest demonstrations have increased in various locations and provisional authority has been established.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	24,377,000 (Urban: 10,198,000; rural: 14,178,000) /40,533,000 (Urban: 13,781,000; rural: 26,752,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 60% Urban: 74% Rural: 53%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	National 25-year Water Supply Plan (2003 to 2027) → National Water Supply and Sanitation Plan (formulated in 2011)	JICA report[39)]

[39)] Study Report on Formulation of Detailed Plan for Project for Strengthening Capacity of Institutional Management, Operation and Maintenance in State Water Corporations (September 2015) https://libopac.jica.go.jp/images/report/12263760.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		2 Water supply act	Law of Drinking Water Corporation, 1996, Kassala State Council	
		3 Water quality standards	There are water quality standards (turbidity: 5NTU, etc.).	
		4 Financial foundations	Responsibilities and authority related to water supply projects are transferred to the SWC. No funding assistance has been provided by central government ministries and agencies. Investment in new equipment is provided by the federal and state governments. However, it is necessary to apply fee income to costs for operation and maintenance as well as facility operating costs.	
4 ODA policy	1 Development cooperation policy	In relation to "support for the basic living sector" as a priority area, through infrastructure services that are remarkably insufficient, support of the water and environmental sectors with support achievements would be continuously implemented (May 2018).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	In relation to the "water and sanitation support programme," during the period from 2017 through 2021, the Project for Improvement of Water Treatment Plant in Kosti City (under the Grant), the Project for Enhancement of Integrated Water Resources Management, the Project for Strengthening Capacity of Institutional Management, Operation and Maintenance in State Water Corporations (technical cooperation project), training classified by issue for the water and sanitation sector, dispatching of Japan Overseas Cooperation Volunteers (JOCV) for the water and sanitation sector, and the Project for Improvement of Water, Sanitation and Hygiene in Kassala State (Japanese NGO) are to be scheduled and implemented (April 2018).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	About 2.819 billion yen (crude oil, etc.) About 5.392 billion yen (buses, trucks, passenger cars, tires, etc.)	Ministry of Foreign Affairs: Country and Regional Information

Category	Item	Necessary Information	Survey Results	Survey Method
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	3 (2017) 134 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.
* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.4 Basic information on Rwanda

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	26,300 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	12.8 million (2019)	State of World Population 2019
		3 Population growth rate	2.6% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	Belgium	Same as above
		3 Capital	Kigali	Same as above
	3 Society and culture	1 Ethnic groups	Hutus, Tutsi, and Twa	Same as above
		2 Languages	Rwandan, English, French, and Swahili (all official languages)	Same as above
		3 Religions	Christianity (Catholic and Protestant) and Islam	Same as above
	4 Climate	1 Climate	Rwanda is an inland country of the Central African region, and it comprises a grassy plain, gently rolling hills, and a mountainous western region. Lake Kivu, located in the western part, constitutes a national border with the Democratic Republic of the Congo. The country is characterized by a savanna climate and experiences both rainy and dry seasons. There are two rainy seasons each year. The annual average temperature of Kigali at a higher altitude is 20°C.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GDP	9.137 billion USD (2017, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	720 USD (2017, World Bank)	Same as above

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		3 Economic growth rate	6.1% (2017, World Bank)	Same as above
		4 Inflation rate	7.3% (2017 IMF)	Same as above
		5 Unemployment rate	-	Same as above
		6 Literacy rate	73.2% (2018)	UNESCO
		7 Human Development Index (HDI)	0.524 (158th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	Agriculture accounts for 30% or more of GDP (and about 70% (coffee and tea) of the working population). Through such policy, the high quality products noted above enhance international competitiveness. Transportation fees are high due to it being an inland country. The government pays attention to the maintenance of special economic zones and promotion of the ICT industry. Microeconomic management has been conducted stably since 2010. The country obtained second place in Africa in the Ease of Doing Business index of the World Bank in 2019.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	7,072,000 (Urban: 1,702,000; rural: 5,370,000) /12,208,000 (Urban: 2,075,000; rural: 10,133,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 58% Urban: 82% Rural: 53%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	National Policy and Strategy for Water Supply (approved in 2016)	JICA report[40)]
		2 Water supply act	Unknown	
		3 Water quality standards	Rwanda water quality standards pursuant to the WHO standards	

[40)] Final Report on Survey for Collection and Confirmation of Basic Information Related to Urban Water Supply in the Republic of Rwanda (February 2017): https://libopac.jica.go.jp/images/report/12286373.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		4 Financial foundations	The aim of the country is to adopt a self-supporting accounting system by 2020. However, finance is supported by subsidies from the Ministry of Finance and Economic Planning and donors as well as revenue from water service fees.	
4 ODA policy	1 Development cooperation policy	In relation to "improvement of social services (sustainable provision of safe water and sanitation services)" as a priority area, with a central focus on the Eastern Province (which has a low coefficient of water absorption), improvement of local water supply has been initiated. In addition, with a central focus on the City of Kigali, which is rapidly becoming urbanized, issues related to urban water supply are also being treated. In this way, the water supply business is comprehensively supported, including enhancement of the system for maintenance and management. Moreover, Japan is a lead donor of the sectors of water, sanitation, and ICT (July 2017).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	In relation to the "programme for improvement of water supply and sanitation," during the period from 2017 through 2020, the Project for strengthening operation and maintenance of rural water supply systems in Rwanda, the Project for Strengthening Non-Revenue Water Control in the Kigali City Water Network (technical cooperation project), the Project for Strengthening the Nzove - Ntora Principal Water Transmission Pipeline in the Kigali City survey (*kyojun* (general)), the Project for the Water Supply Master Plan for the City of Kigali (development plan), training classified by issue for the water and sanitation sector (Japan Overseas Cooperation Volunteers (JOCV)), and Grant Aid for Grassroots Human Security for water and sanitation sector are to be scheduled and implemented (April 2018).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2017)	About 0.619 billion yen (coffee and miscellaneous goods) About 1.31 billion yen (cars and medicine-related machinery)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	- 134 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.5 Basic information on Tanzania

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	945,000 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	60.9 million (2019)	State of World Population 2019
		3 Population growth rate	3.0% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic (federal republic created through the merger of the United Republic of Tanganyika (mainland) and Zanzibar (islands); Zanzibar has its own judicial, legislative, and administrative autonomy separately from the Federal Republic, and it has its own president.)	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	The United Kingdom	Same as above
		3 Capital	Dodoma (its economic center is Dar es Salaam)	Same as above
	3 Society and culture	1 Ethnic groups	Sukuma tribe, Nyakyusa tribe, Haya tribe, Chagga tribe, Zaramo tribe, etc. (about 130)	Same as above
		2 Languages	Swahili (national language) and English (official language)	Same as above
		3 Religions	Islam (about 40%), Christianity (about 40%), and indigenous belief (about 20%)	Same as above
	4 Climate	1 Climate	Most of the national land has a savanna climate, the central part has a steppe climate, and plateau parts of the southern and norther parts have monsoon-influenced humid subtropical climates. There is a mountain called Kilimanjaro in the northeastern part, Lake Victoria in the northern part, Lake Tanganyika in the western part, and Lake Niassa in the southern part.	Peel, M. C. (2007), Geographic information, etc.

Category	Item	Necessary Information	Survey Results	Survey Method
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning Areas surrounding Lake Tanganyika: 1 to 2 Coastal areas of the Indian Ocean/Zanzibar: 1	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GDP	57.4 billion USD (2018, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	1,020 USD (2018, World Bank)	Same as above
		3 Economic growth rate	5.2% (2018, World Bank)	Same as above
		4 Inflation rate	4.0% (2018, World Bank)	Same as above
		5 Unemployment rate	1.9% (2018, World Bank)	Same as above
		6 Literacy rate	77.9% (2015)	UNESCO
		7 Human Development Index (HDI)	0.538 (154th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	Major industries are agriculture (30% of GDP), mining, manufacture/construction, etc. (about 26%), and services (about 37%). Steady economic growth since 2000 can be observed. Efforts for growth of the agriculture sector that accounts for 70% of the working population and improvement of productivity of the same for poverty reduction have been made.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	32,776,000 (Urban: 16,265,000; rural: 16,511,000) /57,310,000 (Urban: 18,912,000; rural: 38,398,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 57% Urban: 86% Rural: 43%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	Water Sector Development Program (WADP) (2002 formulation: 2007 through 2025)	JICA report[41)] Ministry of Water and

[41)] Report on Completed Services for the Project for Pervasion and Demonstration Project for Water Supply Business via Simplified Water Purification Systems Targeting Rural Villages in Tanzania (February 2019):

Category	Item	Necessary Information	Survey Results	Survey Method
3 Water supply status		2 Water supply act	Water Resource Management Act (WARMA) and Water Supply and Sanitation Act Nr. 12 of 2009 (WASSA)	Irrigation webpage[42)]
		3 Water quality standards	There are water quality standards (Tanzania standards).	
		4 Financial foundations	Private organization for water business has moved ahead. After registration with local administrative agencies, water resource management, water supply, fee collection, etc. are conducted. The financial condition is unknown.	
4 ODA policy	1 Development cooperation policy	In relation to "improvement of governance and administrative services" as a priority area, interest in regional disparities and income disparities progressing based on the recent economic growth and urbanization has been enhanced. In the midst of such situation, improvement of basic administrative services (including water) would be continuously engaged in from the viewpoint of fairness (September 2017).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As "Water Supply Strengthening Programmes," during the period from 2017 through 2022, the Project for Water Resource Management of Zanzibar (technical cooperation project and the Project for General Terms and Conditions for Japanese ODA Loans), Zanzibar water advisers (individual experts and the Project for General Terms and Conditions for Japanese ODA Loans), training classified by issue for the sector of water supply and water resources, Grant Aid for Grassroots Human Security for the water supply sector, and the Pervasion and Implementation Project for Water Supply Business via Simplified Water Purification Systems Targeting Rural Villages in Tanzania (small- to medium-sized enterprise assistance projects) have been scheduled and implemented (April 2018).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	About 9.986 billion yen (metal mining, coffee, sesame, tobacco, and seafood) About 32.767 billion yen (transportation machinery, such as vehicles, steel, and machinery products)	Ministry of Foreign Affairs: Country and Regional Information

https://libopac.jica.go.jp/images/report/12339339.pdf

42) The United Republic of Tanzania Ministry of Water: https://www.maji.go.tz/

Category	Item	Necessary Information	Survey Results	Survey Method
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	31 (2019) 306 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.6 Basic information on the Republic of South Africa

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	1.22 million km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	58.1 million (2019)	State of World Population 2019
		3 Population growth rate	1.4% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	The United Kingdom	Same as above
		3 Capital	Pretoria	Same as above
	3 Society and culture	1 Ethnic groups	Black (79%), White (9.6%), Interracial (mixed) (8.9%), and Asian (2.5%)	Same as above
		2 Languages	11 official languages in total, including English, Afrikaans, and Bantu (as well as Zulu, Sotho, and others)	Same as above
		3 Religions	Christianity (about 80%), Hinduism, Islam, etc.	Same as above
	4 Climate	1 Climate	The country has a mild and comfortable climate throughout the year, and snow accumulation can be observed on the top of the high mountains. The central and western parts have a dry dessert climate and a steppe climate. The eastern part has a temperate climate with a rainy summer. The southwestern coastal areas have climates resembling that of the Mediterranean and also have heavy rain in winter.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning Pretoria, Johannesburg, Durban, and Cape Town: 1	MOFA's "Overseas Travel Safety Information" webpage

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions	1 Indicators	1 GDP	366.3 billion USD (2018, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	5,720 USD (2018, World Bank)	Same as above
		3 Economic growth rate	0.6% (2018, World Bank)	Same as above
		4 Inflation rate	3.6% (2018, World Bank)	Same as above
		5 Unemployment rate	27.0% (2018, World Bank)	Same as above
		6 Literacy rate	87.0% (2017)	UNESCO
		7 Human Development Index (HDI)	0.699 (113th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	The Republic of South Africa accounts for about 20% of the entire GDP of Sub-Saharan Africa, and it leads the African economy as the second major economic power among Sub-Saharan African countries. Industrial structure has fluctuated mainly from mining into expanded finance and insurance, etc., and the percentage accounted for by tertiary industry is high. Trade still highly depends upon the export of mineral resources.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	52,679,000 (Urban: 37,059,000; rural: 15,620,000) /56,717,000 (Urban: 37,433,000; rural: 19,284,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 93% Urban: 99% Rural: 81%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	National development plan 2030 and national water resource strategy II (2013)	JICA report[43)]
		2 Water supply act	Water Services Act (1997) and National Water Act (1998)	
		3 Water quality standards	South African National Standard, Drinking water	

[43)] Report on Formulation of Detailed Plan for the Project the Enhancement of Water Training of the Republic of South Africa (December 2016): https://libopac.jica.go.jp/images/report/12283818_01.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		4 Financial foundations	All water resources belong to the nation and are collectively controlled by the Department of Water and Sanitation (DWS) and Cathchment Management Authority (CMA). Nine Water Boards (WBs) were established nationwide along with Water Service Authorities (WSAs) for each municipality, and bulk water supply/sale are conducted for the Water Service Authorities (WSAs) of each municipality, WSPs (Water Sanitation Programmes) of government and private sectors, public, and private sectors. The rate of collection for water service fees has declined and the financial foundation has been vulnerable.	
4 ODA policy	1 Development cooperation policy	In relation to "support for enhancement of human foundation and infrastructure development promotion for accelerated growth" as a priority area, in order to accelerate high-quality infrastructure improvement, including with regard to water for sustainable economic growth, project formation and plan formulation are to be supported with consideration given to implementation of projects through private capital, including that of Japanese corporations, as well as public funds (October 2017).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As "infrastructure improvement and support programmes for public and economic foundations (enhancement programmes)," during the period from 2017 through 2020, the Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water (technical cooperation project) is to be scheduled and implemented (April 2018).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	About 569.8 billion yen (platinum, machinery, and vehicles, etc.) About 281.4 billion yen (transportation machine (vehicles, parts, etc.))	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	140 (2017) 1,505 (2017)	Ministry of Foreign Affairs: ODA development cooperation policy by country

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.7 Basic information on Uganda

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	241,000 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	45.7 million (2019)	State of World Population 2019
		3 Population growth rate	3.7% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	The United Kingdom	Same as above
		3 Capital	Kampala	Same as above
	3 Society and culture	1 Ethnic groups	Baganda, Lango, Acholi, etc.	Same as above
		2 Languages	English, Swahili, and Luganda	Same as above
		3 Religions	Christianity (60%), traditional religions (30%), and Islam (10%)	Same as above
	4 Climate	1 Climate	The country is located in the East African plateau, and the average altitude is 1,100 m. Lake Albert is located in the west, Lake Kyoga is located in the center, and Lake Victoria is located in the south. Basins are located in the central and southern parts. The country is located precisely on the equator, mainly with a tropical savanna climate having both rainy and dry seasons. The southern part has heavy rainfall, and many northern regions are dry. The eastern part has a steppe climate.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1 to 3	MOFA's "Overseas Travel Safety Information" webpage

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions	1 Indicators	1 GDP	25.9 billion USD (2017, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	600 USD (2017, World Bank)	Same as above
		3 Economic growth rate	4.0% (201, estimated by the World Bank)	Same as above
		4 Inflation rate	6.0% (2017, World Bank)	Same as above
		5 Unemployment rate	2.1% (2017, estimated by the World Bank)	Same as above
		6 Literacy rate	76.5% (2018)	UNESCO
		7 Human Development Index (HDI)	0.516 (162nd in the world) (2017)	UNDP
	2 Overview	1 Economic overview	The major industries are agriculture, forestry, stockbreeding, hunting and fishing, manufacturing, construction, service industry, etc. A relatively high rate of growth is maintained. The country is located in an important place of the Northern Corridor, has participated in the East African Community and the Common Market for Eastern and Southern Africa, and has progressed with oil development in recent years.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	20,926,000 (Urban: 7,394,000; rural: 13,532,000) /42,863,000 (Urban: 9,858,000; rural: 33,005,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 49% Urban: 75% Rural: 41%	WHO/UNICEF JMP (Data as of 2017)
3	3 Governance	1 National water supply strategy	The Second Five-Year National Development Plan (2015) National Water Policy (1999) Rural Water and Sanitation Strategy and Investment Plan (2000 to 2015) Strategic Investment Plan for the Water and Sanitation Sector in Uganda (2009)	

Category	Item	Necessary Information	Survey Results	Survey Method
Water supply status		2 Water supply act	Water Statute 1995, Water Act 1997	JICA report[44)45)]
		3 Water quality standards	Uganda Standard, Potable water-Specification	
		4 Financial foundations	Funds for water and environmental sectors are divided into three types: government budgets, funds from development partners, and private funds (e.g., revenue from water and sewage fee income).	
4 ODA policy	1 Development cooperation policy	In relation to "living environment maintenance (health and water supply)" as a priority area, improvement of the local coefficient of water absorption is to be engaged in through construction of water supply facilities and enhancement of the operation and maintenance system (July 2017).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As "local water supply maintenance programmes," during the period from 2017 through 2022, the Project for Rural Water Supply in Lake Kyoga Basin, Eastern Uganda (under the Grant), the Project for Operation & Maintenance for Rural Water Supply and Improved Hygiene and Sanitation (technical cooperation project), water supply facility maintenance and management (individual experts), training classified by issues for the sector of rural water supply, and dispatching of Japan Overseas Cooperation Volunteers (JOCV) for the sector for rural water supply are to be scheduled and implemented (April 2018).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2016)	About 1.122 billion yen (coffee, sesame, communication equipment, and seafoods) About 17.66 billion yen (used cars, buses, trucks, steel, and pharmaceuticals)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	22 (2017) 311 (2017)	Same as above

44) Preparatory Survey Report on the Project for Rural Water Supply in Lake Kyoga Basin, Eastern Uganda (March 2017): https://libopac.jica.go.jp/images/report/12285110_01.pdf

45) Report on Formulation of Detailed Plan for the Project for Operation & Maintenance for Rural Water Supply and Improved Hygiene and Sanitation, the Republic of Uganda (June 2015): https://libopac.jica.go.jp/images/report/1000022689.pdf

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.
* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.8 Basic information on Mozambique

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	799,000 km^2	Ministry of Foreign Affairs Ministry of Foreign Affairs: Country and Regional Information
		2 Population	31.4 million (2019)	State of World Population 2019
		3 Population growth rate	2.9% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	Portugal	Same as above
		3 Capital	Maputo	Same as above
	3 Society and culture	1 Ethnic groups	About 40 tribes, such as Makhuwa and Lomwe	Same as above
		2 Languages	Portugal	Same as above
		3 Religions	Christianity (about 40%), Islam (about 20%), and traditional religions	Same as above
	4 Climate	1 Climate	Coastal areas along the Indian Ocean have tropical savanna climates, regions near the national border with Malawi located in the northwestern part have humid temperate climates, and the southern part has a dry climate. The capital Maputo, located in the southern part, has an annual average temperature of 22.9°C, with about 800 mm in annual precipitation. Beira, near the central seashore, maintains an annual average temperature of 24.4°C, with about 1,600 mm of annual precipitation.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning Sofala Province and Maputo Province: 1 Cabo Delgado Province: 2	MOFA's "Overseas Travel Safety Information" webpage

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions	1 Indicators	1 GNI	13.8 billion USD (2016, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	480 USD (2016, World Bank)	Same as above
		3 Economic growth rate	3.6% (2016, World Bank)	Same as above
		4 Inflation rate	19.8% (2016, World Bank)	Same as above
		5 Unemployment rate	24.5% (2017, World Bank)	Same as above
		6 Literacy rate	60.7% (2017)	UNESCO
		7 Human Development Index (HDI)	0.437 (180th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	The major industries are agriculture, forestry, stockbreeding, hunting and fishing, fishery, and mining. Economic growth has been achieved together with stably established peace. Despite the currently temporary decline from economic growth of 7% to 8% a year that had been in place until recent years, against a backdrop of rich resources (i.e., natural gas and coal), investment intentions are strong and future stable growth can be expected.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	16,437,000 (Urban: 8,723,000; rural: 7,714,000) /29,669,000 (Urban: 10,384,000; rural: 19,285,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 56% Urban: 84% Rural: 40%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	National Water Policy (revised in 2016)	JICA report[46)]
		2 Water supply act	Water acts and regulations 16/91	
		3 Water quality standards	Unknown	

[46)] Report on Completed Services for the Project on Promoting Sustainability in Rural Water Supply, Hygiene and Sanitation in Niassa Province in the Republic of Mozambique (February 2017): https://libopac.jica.go.jp/images/report/12300984_01.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
3 Water supply status		4 Financial foundations	Privatization of the water business had moved ahead. However, it was returned to the management of the provinces. Two public corporations (large cities: FIPAG; small cities: AIAS) own domestic water services. (The World Bank stated that FIPAG would achieve complete cost collection and would not be required to obtain governmental assistance. However, public investment in the water divisions of external doors continues.)	
4 ODA policy	1 Development cooperation policy	In relation to "human resource development" as a priority area, with the aim of Human Development Index improvement and achievement of MDGs, assistance for reinforced access to safe drinking water would be provided through maintenance of water supply facilities (March 2013).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As "water supply, hygiene and sanitation programmes," during the period from 2015 through 2017, training classified by issues for the water and sanitation sector, the Project for Sanitation of Cities Near Maputo (JSDF: Japan Social Development Fund), the Japan Overseas Cooperation Volunteers (JOCV) of the water and sanitation sector, and the Grant Aid for Grassroots Human Security for the water sector are to be implemented (April 2016).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2017)	About 21.59 billion yen (timber/related products, mineral fuels, seed production/fruits) About 11.31 billion yen (vehicles, steel products, etc.)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	- 176 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.9 Basic information on Burkina Faso

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	274,200 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	20.3 million (2019)	State of World Population 2019
		3 Population growth rate	2.9% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	France	Same as above
		3 Capital	Ouagadougou	Same as above
	3 Society and culture	1 Ethnic groups	Mossi, Gourmanche, Jarce, Grunsi, Bobo, etc.	Same as above
		2 Languages	French (official language), Mossi, Dioula, and Gourmanche	Same as above
		3 Religions	Traditional religion (57%), Islam (31%), and Christianity (12%)	Same as above
	4 Climate	1 Climate	The Volta River flows in the Western part. The southern part has a savanna climate and the northern part is the Sahel region, which has a steppe climate. Desertification of the northern part is progressing.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1 to 4 Regions near the national border with Mali and Niger: 4	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GNI	12.323 billion USD (2017, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	590 USD (2017, World Bank)	Same as above
		3 Economic growth rate	6.3% (2017, World Bank)	Same as above
		4 Inflation rate	0.4% (2017, World Bank)	Same as above
		5 Unemployment rate	6.3% (2017 ILO estimates, World Bank)	Same as above

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		6 Literacy rate	41.2% (2018)	UNESCO
		7 Human Development Index (HDI)	0.423 (183rd in the world) (2017)	UNDP
	2 Overview	1 Economic overview	Most of the working population is involved in agriculture (accounting for 35% of GDP). In 2000, the country was the second in Sub-Saharan Africa to have formulated a PRSP (Poverty Reduction Strategy Paper). Economic reform and democratization efforts by Burkina Faso have been highly evaluated by given partners. The country's position on the Human Development Index is extremely low (183rd out of 189 countries (2017)).	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	9,222,000 (Urban: 4,453,000; rural: 4,769,000) /19,193,000 (Urban: 5,566,000; rural: 13,627,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 48% Urban: 80% Rural: 35%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	"PN-AEP 2016-2030" related to water supply and sanitation for 2030 (formulated in 2015)	JICA report[47)48)]
		2 Water supply act	2001 Water Management Act	
		3 Water quality standards	Unclear	
		4 Financial foundations	70% to 80% of the government budget related to the water sector business has been funded by development partners (e.g., international institutions such as the AfDB and bilateral assistance agencies).	

47) Study Report on the Middle Review for the Project for Enhancement of Water Supply Facilities Management and Hygiene and Sanitation in Rural Areas Phase 2 in Burkina Faso (April 2017): https://libopac.jica.go.jp/images/report/12288700_01.pdf

48) Plan for Local Drinking Water Supply in the Central Plateau and the South and Central Regions (Grand Aid) (External Subsequent Report in 2015 of Burkina Faso): https://www2.jica.go.jp/ja/evaluation/pdf/2015_0960130_4_f.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
4 ODA policy	1 Development cooperation policy	No particular information (August 2018)		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As "other individual projects," during the period from 2016 through 2018, the Plan for Local Drinking Water Supply in the Central Plateau and the South and Central Regions (under the Grant), the Project for enhancement of water supply facilities management and hygiene and sanitation in rural areas Phase 2 (technical cooperation project), and Grant Aid for Grassroots Human Security for the water and sanitation sector are to be implemented (April 2017).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	About 4.616 billion yen (oil seeds (sesame) and raw cotton) About 2.005 billion yen (general machine, rice, vehicles, tire inner tubes, and seafood)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	2 (2018) 92 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.10 Basic information on Zambia

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	752,600 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	18.1 million (2019)	State of World Population 2019
		3 Population growth rate	2.9% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	The United Kingdom	Same as above
		3 Capital	Lusaka	Same as above
	3 Society and culture	1 Ethnic groups	73 tribes (Tonga, Nyanja, Bemba, and Lunda)	Same as above
		2 Languages	English (official language), Bemba, Nyanja, and Tongan	Same as above
		3 Religions	Christianity (close to 80%), Islam, Hinduism, and traditional religions	Same as above
	4 Climate	1 Climate	Most of the national land has a temperate climate with a rainy summer. The southern edge of the national land steppe climate features low precipitation, and the partial western and eastern regions have a savanna climate.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1 Regions near the national border with Angola and the Democratic Republic of the Congo: 2	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GNI	26.7 billion USD (2018, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	1,430 USD (2018, World Bank)	Same as above
		3 Economic growth rate	3.8% (2018, World Bank)	Same as above
		4 Inflation rate	9.3% (2018, World Bank)	Same as above
		5 Unemployment rate	7.2% (2018, World Bank)	Same as above

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		6 Literacy rate	86.7% (2018)	UNESCO
		7 Human Development Index (HDI)	0.588 (144th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	The major industries are mining (coppers and cobalt), agriculture, and sightseeing. The country has a monoculture economy (i.e., about 60% of the exporting amount) that depends upon copper production, and one of the priority policies is industrial restructuring with a central focus on promotion of overseas investment, agriculture, sightseeing, etc.	Ministry of Foreign Affairs: Country and Regional Information

Category	Item	Necessary Information	Survey Results	Survey Method
3 Water supply status	1 Service pervasion	Population served	10,267,000 (Urban: 6,174,000; rural: 4,092,000) /17,094,000 (Urban: 7,350,000; rural: 9,744,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 60% Urban: 84% Rural: 42%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	Vision 2030 Revised Sixth National Development Plan (2013 to 2016)	JICA report[49)50)]
		2 Water supply act	Unknown	
		3 Water quality standards	Zambian Standard (First Revision) DRINKING WATER QUALITY - Specification	
		4 Financial foundations	Financial resources for implementation of programs for water supply, etc. come from government budgets, donor support, financial resources unique to county municipalities, etc. The percentage accounted for by donor support is high.	
4 ODA policy	1 Development cooperation policy	In relation to "infrastructure and social service improvement that supports economic activities" as a priority area, in order to contribute to economic diversification, infrastructure improvement, which constitutes a foundation for various economic activities, would be supported. Moreover, improvement of social services (including water supply and sanitation) which constitutes a foundation for economic growth of Zambia would be assisted (June 2018).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)

[49)] Report on Completed Services for the Project for Support in National Roll-out of Sustainable Operation and Maintenance Programme, the Republic of Zambia (February 2017): https://libopac.jica.go.jp/images/report/12293130_01.pdf

[50)] Report on Survey for Information Collection and Confirmation Related to the Sector of Urban Water Supply, the Republic of Zambia (January 2014): https://libopac.jica.go.jp/images/report/12148144.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
	2 Project development plan	In relation to the "programme for the sector of water supply and sanitation," during the period from 2017 through 2018, the Project for Strengthening Capacity of Urban Water Supply Infrastructure (technical cooperation project) and cooperation preparation study for improvement business for water services in Lusaka (*kyojun*) and training classified by issue for the sector of water supply and sanitation are to be implemented (June 2018).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	About 18.51 billion yen (tobacco, copper, and cobalt) About 6.43 billion yen (vehicles, parts, tires, etc.)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	- 252 (2018)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.11 Basic information on Senegal

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	197,161 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	16.7 million (2019)	State of World Population 2019
		3 Population growth rate	2.8% (2018)	World Bank
	2 Politics	1 Form of government	Unicameral legislative	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	France	Same as above
		3 Capital	Dakar	Same as above
	3 Society and culture	1 Ethnic groups	Wolof, Peul, Serere, etc.	Same as above
		2 Languages	French (official language), and ethnic languages, such as Wolof	Same as above
		3 Religions	Islam, Christianity, and traditional religion	Same as above
	4 Climate	1 Climate	The southern part has a tropical savanna climate and most of the part has a dry climate. The central part has a steppe climate and the northern part has a dry climate. exist due to monsoons from the northeast in winter and monsoons from the southwest in summer.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1 to 2	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GNI	24.12 billion USD (2018, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	1,410 USD (2018, World Bank)	Same as above
		3 Economic growth rate	6.6% (2018, World Bank)	Same as above
		4 Inflation rate	1.7% (2017, World Bank)	Same as above

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		5 Unemployment rate	4.8% (2018, World Bank)	Same as above
		6 Literacy rate	51.9% (2017)	UNESCO
		7 Human Development Index (HDI)	0.505 (164th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	In relation to the tertiary industry that occupies two thirds of GDP, the commercial, logistics, and communication sectors have developed. Growth of the mineral resource sector, involving material such as gold, titanium, and phosphorus ore, is also expected. On the other hand, there are many unresolved issues, such as the large gap between the rich and poor and youth unemployment.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	17,235,000 (Urban: 6,854,000; rural: 5,881,000) /15,851,000 (Urban: 7,450,000; rural: 8,401,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 81% Urban: 92% Rural: 70%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	Project for National Water Resources Master Plan (2010)	JICA report[51)]
		2 Water supply act	Unknown	
		3 Water quality standards	In addition to the WHO Standards, there are standard values set by Senegal's water utility, Sénégalaise Des Eaux (SDE) (water service provider).	

51) Final Report on Survey for Collection and Confirmation of Basic Information Related to Urban Water Supply in the Republic of Senegal (March 2014): https://libopac.jica.go.jp/images/report/12148573.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		4 Financial foundations	Sources of funds for each business based on the Five-Year Water Resources Master Plan, as well as investment from Société Nationale des Eaux du Sénégal (SONES), the West African Development Bank, Agence Française de Développement, European Investment Bank, the EU, and the JICA, are included.	
4 ODA policy	1 Development cooperation policy	There are no particular statements. However, in relation to "maintenance of a foundation for economic development" as a priority area, the particularly impending expansion of the capacity for metropolitan water supply was mentioned as a priority issue to contribute to the enhancement of urban functions (April 2014).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	In relation to the "programme for enhancement of metropolitan urban functions in Dakar," during the period from 2016 through 2021, the Mamelles Sea Water Desalination Project (with compensation), as well as training classified by issue for the sector of urban planning, road infrastructure, urban water supply, and harbors are to be scheduled and implemented (April 2017).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	About 3.2 billion yen (seafoods, metal mining, etc.) About 6.11 billion yen (synthetic fiber, transportation equipment, etc.)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	15 (2017) 227 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.12 Basic information on Guinea

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	245,857 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	13.4 million (2019)	State of World Population 2019
		3 Population growth rate	2.8% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	France	Same as above
		3 Capital	Conakry	Same as above
	3 Society and culture	1 Ethnic groups	About 20 tribes, such as Wolof, Malinke, and Soussou	Same as above
		2 Languages	French and ethnic languages (Wolof, Malinke, Soussou, etc.)	Same as above
		3 Religions	Islam, Christianity, and traditional religion	Same as above
	4 Climate	1 Climate	Some regions of the country have monsoon climates. Coastal areas are tropical rainforest plains. Beyond inland mountainous regions comprising watersheds, a highland region called the Upper Guinea exists. This is the location of the source of the Niger River and the Senegal River.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1 to 3	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GNI	10.99 billion USD (2018, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	830 USD (2018, World Bank)	Same as above
		3 Economic growth rate	8.7% (2018, World Bank)	Same as above

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		4 Inflation rate	9.8% (2018, World Bank)	Same as above
		5 Unemployment rate	3.6% (2018, World Bank)	Same as above
		6 Literacy rate	32.0% (2014)	UNESCO
		7 Human Development Index (HDI)	0.459 (175th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	The country has fertile soil and enriched mineral resources. However, economic development has been delayed due to infrastructure improvement, etc. Political instability has influenced the stagnant economic growth. Declaration of containment of the Ebola hemorrhagic fever outbreak occurring in 2014 was announced in December 2015, and the economy has been included as one that has been recovering since then.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	7,925,000 (Urban: 3,937,000; rural: 3,988,000) /12,717,000 (Urban: 4,578,000; rural: 8,139,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 62% Urban: 86% Rural: 49%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	The Third Poverty Reduction Strategy Paper: PRSP (2013)	JICA report[52)]
		2 Water supply act	Loi L/94/005/CTRN (1994)	

[52)] Preparatory Survey Report on the Project of Improvement of Drinking Water Supply in the Highland of the Central Region of the City of Conakry, Republic of Guinea (December 2014): https://libopac.jica.go.jp/images/report/12233383.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		3 Water quality standards	There are SEG water quality standards for groundwater's water sources. Water quality inspections regarding items that are subject to the WHO guidelines for drinking-water quality are to be conducted.	
		4 Financial foundations	The World Bank and China (unscheduled) supported the Project for Improvement of Drinking Water Supply in the City of Conakry. Donors, such as the Islamic Development Bank and the African Water Association (collaborating with USAID), supported the Programmes for Non-revenue Water Reduction. Cashflow of the Urban Water Company of Guinea (SEG); the Republic of Guinea shifted to a trend of increase in 2012. For cashflow improvement, it is important to collect outstanding water fees.	
4 ODA policy	1 Development cooperation policy	In relation to "economic infrastructure maintenance" as a priority area, keeping in mind connectivity improvement, etc. regarding the Economic Community of West African States (ECOWAS), there are descriptions for infrastructure improvement contributing to stable social life and investment promotion for improvement of sable water access (October 2017).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As "economic and social infrastructure," during the period from 2017 through 2019, Follow-up Cooperation for the Plan for Improvement of Water Supply in the Metropolitan Area of Guinea, the Project of Improvement of Drinking Water Supply in the Highland of the Central Region of the City of Conakry (under the Grant), water utility company advisers (individual experts), and Grant Aid for Grassroots Human Security for the sector of infrastructure are to be implemented and organized (April 2018).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	0.18816 billion yen (gold, copper, seafoods, etc.) 1.9524 billion yen (machinery for construction and mining, rubber tires, motorcycles, etc.)	Ministry of Foreign Affairs: Country and Regional Information

Category	Item	Necessary Information	Survey Results	Survey Method
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	- 45 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.13 Basic information on South Sudan

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	640,000 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	13.3 million (2019)	State of World Population 2019
		3 Population growth rate	0.6% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	The United Kingdom	Same as above
		3 Capital	Juba	Same as above
	3 Society and culture	1 Ethnic groups	Dinka people, Nuer, Shilluk, Murle, Bari, and many more	Same as above
		2 Languages	English (official language), Arabic, many other minority tribal languages	Same as above
		3 Religions	Christianity, Islam, and traditional religions	Same as above
	4 Climate	1 Climate	The northern part has a steppe climate and the south central part has a tropical savanna climate. The further one moves to the south, the heavier rainfall becomes. The White Nile runs through almost the center of the country. There exists a wetland called the "Sudd" which is located from the north of Juba up to the national border. The Sudd is an intense heat flat lowland and due to evaporation from such lowland, the flow rate of the Nile River considerably declines.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 4	MOFA's "Overseas Travel Safety Information" webpage

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions	1 Indicators	1 GNI	About 2.9 billion USD (2016, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	390 USD (2016, World Bank)	Same as above
		3 Economic growth rate	-13.8% (2016, estimated by the World Bank)	Same as above
		4 Inflation rate	273% (2016, estimated by the World Bank)	Same as above
		5 Unemployment rate	11.5% (2017, estimated by the World Bank)	Same as above
		6 Literacy rate	34.5% (2018)	UNESCO
		7 Human Development Index (HDI)	0.388 (187th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	Most government revenue depends on crude oil production and exporting. Governmental finance is in a critical state due to the influence of the decline in oil prices and the unstable public peace and order. Rapid inflation has occurred. Fuel shortages are serious as well.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	5,118,000 (Urban: 1,553,000; rural: 3,565,000) /12,576,000 (Urban: 2,389,000; rural: 10,187,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 41% Urban: 65% Rural: 35%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	Water & Hygiene (WASH) Strategic Framework (draft), 2011	JICA report[53)]
		2 Water supply act	The Southern Sudan Urban Water Corporation Provisional Order, 2011	
		3 Water quality standards	Water quality standards for drinking water of South Sudan	

[53)] Report on Completed Services for the Project for Management Capacity Enhancement of South Sudan Urban Water Corporation (October 2013):
https://libopac.jica.go.jp/images/report/12126553_01.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		4 Financial foundations	It is difficult to for the South Sudan Urban Water Corporation (SSUWC) to become financially independent. Financial foundations depend upon government subsidies.	
4 ODA policy	1 Development cooperation policy	None		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	In relation to the "water and sanitation programme" from among "support for improvement of basic living" as emphasized priority areas, the Plan for Improvement of the Water Supply System of Juba City (preparatory survey/under the Grant), the Project for Management Capacity Enhancement of South Sudan Urban Water Corporation (*gipuro*), and education for Water Supply Facility and Sanitation Education at the local areas of South Sudan (Japan NGO) are to be implemented during the period from 2011 through 2015 (October 2011).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2016)	About 45 million yen (re-export products, honey, etc.) About 966 million yen (used passenger cars, buses, trucks, switchboards, pharmaceuticals, tires, etc.)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	3 (2017) About 30 (2018)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.14 Basic information on Benin

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	112,622 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	11.8 million (2019)	State of World Population 2019
		3 Population growth rate	2.7% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	France	Same as above
		3 Capital	Porto-Novo	Same as above
	3 Society and culture	1 Ethnic groups	46 tribes, such as the Fon people, Yoruba (southern part), Aja (basins of the Mono River and the Kufo River), Barita, Pul (northern part), and Somba (between Atakora Mountains and Togo)	Same as above
		2 Languages	French (official language)	Same as above
		3 Religions	Islam (27.7%), Catholic (25.5%), Protestant (13.5%), Voodooism (11.6%), Christianity (9.5%) and other traditional religions (2.6%)	Same as above
	4 Climate	1 Climate	Most of the country other than scarce coastal areas are highlands. Most of the national land is a savanna climate, and the northern region has a steppe climate in part. The country has a climate of high temperature and high humidity, with two rainy seasons from April to July and from September to November.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1 to 3	MOFA's "Overseas Travel Safety Information" webpage

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions	1 Indicators	1 GNI	9.247 billion USD (2017, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	800 USD (2017, World Bank)	Same as above
		3 Economic growth rate	6.0% (2018, World Bank)	Same as above
		4 Inflation rate	0.03% (2017, World Bank)	Same as above
		5 Unemployment rate	2.5% (2017, World Bank)	Same as above
		6 Literacy rate	42.4% (2018)	UNESCO
		7 Human Development Index (HDI)	0.515 (163rd in the world) (2017)	UNDP
	2 Overview	1 Economic overview	The main industries are primary industries that account for one quarter of GDP (e.g., cotton agriculture) and harbor services conducted at the Port of Cotonou. In recent years, relatively steady economic growth has been realized. However, chronic power shortages and stagnant cotton prices constitute causes for concern. The impact from Nigeria is large. About half of national citizens lead their lives on 1.9 dollars or less a day.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	7,428,000 (Urban: 3,992,000; rural: 3,436,000) /11,176,000 (Urban: 5,253,000; rural: 5,923,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 66% Urban: 76% Rural: 58%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	Government Action Programme (PAG2016-2021) National strategy for urban water supply 2016-2030 (2015) National strategy for rural drinking water supply 2016-2030 (2016)	

Category	Item	Necessary Information	Survey Results	Survey Method
3 Water supply status		2 Water supply act	Benin Environmental Law (LOI No 98-030 Loi-Cadre sur l'Environnement), Guideline of water supply projects (Gudie Sectoriel d'Etude d'Impact sur l'Environnement des Projects d'Adduction d'Eau)	JICA report[54)]
		3 Water quality standards	SONEB's water quality standards	
		4 Financial foundations	Donors related to the urban water supply plan of SONEB (water utility of Benin) are Kreditanstalt für Wiederaufbau (KfW), Holland, the EU, the World Bank, the African Development Bank, the West African Development Bank, the European Investment Bank, the JICA, and China.	
4 ODA policy	1 Development cooperation policy	In relation to "improvement of the life environment of the people" as a priority area, as a specific example of basic social services, there exist "attempts for enhancement of administrative capacity for improvement of access to safe drinking water and the corresponding sectors (October 2017). "		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As parts of the "programme for improvement of accessing safe drinking water," during the period from 2017 through 2021, the Projet d'Approvisionnement en Eau Potable par l'Exploitation des Eaux Souterraines des Communes de Glazoué et de Dassa-Zoumé under the Grant, training classified by issue for the water sector, and Grant Aid for Grassroots Human Security for the water sector are to be scheduled and implemented (April 2018).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	0.19 billion yen (metal mining, scrap, etc.) 1.042 billion yen (machinery and transportation equipment (e.g., vehicles))	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	1 (2017) 104 (2017)	Same as above

54) Survey on Collection and Confirmation of Basic Information regarding the Plan for Underground Water Development and Improvement of Water Supply in Provinces of Kouffo et du Plateau, Benin (April 2018): https://libopac.jica.go.jp/images/report/12306403.pdf

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.
* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.15 Basic information on Tunisia

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	163,610 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	11.8 million (2019)	State of World Population 2019
		3 Population growth rate	1.1% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power	France	Same as above
		3 Capital	Tunis	Same as above
	3 Society and culture	1 Ethnic groups	Arabs (98%) and others (2%)	Same as above
		2 Languages	Arabic (official language) and French	Same as above
		3 Religions	Sunni Islam (very small Jewish, Shiite Muslim, and Christian populations)	Same as above
	4 Climate	1 Climate	Mediterranean coastal areas in the northern part have a "Mediterranean" climate. When going further to the south along the Mediterranean coast, there is a steppe climate. Moreover, the Sahara Desert is a desert climate.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1 to 3	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GNI	40.51 billion USD (2018, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	3,500 USD (2018, World Bank)	Same as above
		3 Economic growth rate	2.5% (2018, World Bank)	Same as above
		4 Inflation rate	6.5% (2018, World Bank)	Same as above
		5 Unemployment rate	15.5% (2018, World Bank)	Same as above
		6 Literacy rate	79.0% (2014)	UNESCO

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		7 Human Development Index (HDI)	0.735 (95th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	Entering 2015, there has been an economic impact from the occurrence of successive terror attacks. However, since the second quarter of 2016, no large-scale terror attacks have taken place, and circumstances are relatively stable. A current issue for resolution is a dissolution of inter-regional discrepancy and a steep decline in job creation.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	11,059,000 (Urban: 7,878,000; rural: 3,182,000) /11,532,000 (Urban: 7,957,000; rural: 3,575,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 96% Urban: 99% Rural: 89%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	Five-year plan for socio-economic development (2016 to 2020) Five-year plan for national water saving (2016 to 2020)	JICA report[55]
		2 Water supply act	Water Act (1975)	
		3 Water quality standards	Water quality standards (NT09.14 (2013)) of Tunisia	

[55] Report on Survey for Information Collection and Confirmation Related to Support for Non-revenue Water Measures, the Republic of Tunisia (June 2016): https://libopac.jica.go.jp/images/report/12265609.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		4 Financial foundations	SONEDE (the National Water Distribution Company) is a financially independent entity that runs on a stand-alone basis over which the Ministry of Agriculture, Water Resources and Fisheries has jurisdiction. Soundness has been maintained; however, the burden of outstanding fees is large. Support from donors (e.g., Agence Francaise de Développement, the World Bank, Kreditanstalt für Wiederaufbau, KfW, and KuwaitLand) has been obtained for non-revenue water measure activities.	
4 ODA policy	1 Development cooperation policy	There have been no particular statements. However, water-related policies are included in infrastructure improvement for "stable domestic reform for operation of fair politics and administration" as emphasized priority areas and "correction of regional disparity of urban regions and local regions" as development issues.		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As "local infrastructure improvement programmes," during the period from 2015 through 2020, the Project for Rural Water Supply (with compensation) of Jendouba Governorate, the Project for Local Cities Water Supply Network Improvement Project (with compensation), the Local Cities Water Environment Improvement Project (with compensation), and the Preparatory Survey on the SFAX Sea Water Desalination Plant Construction Project in the Republic of Tunisia (*kyojun*) are to be scheduled and implemented (April 2016).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2017)	About 10 billion yen (clothes, electric appliances, and tuna) About 15.2 billion yen (vehicles, machinery (motors, boilers, etc.), electrical equipment (communication equipment, electronic parts, etc.))	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	18 (2019) 133 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.16 Basic information on Gambia

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	11,300 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	2.2 million (2019)	State of World Population 2019
		3 Population growth rate	2.9% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	The United Kingdom	Same as above
		3 Capital	Banjul	Same as above
	3 Society and culture	1 Ethnic groups	Mandingo, Hula, Wolof, Jola, Serafuri, etc.	Same as above
		2 Languages	English (official language), Mandingo, Wolof, Hula, etc.	Same as above
		3 Religions	Islam (90%), and Christianity and traditional religion (10%)	Same as above
	4 Climate	1 Climate	Most of the national land is a savanna zone and has a very flat terrain. The country has a savanna climate, with a rainy season during the period from June to October and dry seasons during the periods other than the rainy season.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GNI	1.49 billion USD (2017, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	680 USD (2017, World Bank)	Same as above
		3 Economic growth rate	4.6% (2017, World Bank)	Same as above
		4 Inflation rate	8.0% (2017, World Bank)	Same as above

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		5 Unemployment rate	9.5%	Same as above
		6 Literacy rate	50.8% (2015)	UNESCO
		7 Human Development Index (HDI)	0.460 (174th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	The country is a Least Developed Country (LDC). Its economy is established through agriculture and sightseeing. Due to economic sanctions imposed by western countries such as those of the EU, in 2016, the economic growth rate declined. However, in response to the birth of new administration by Barrow, the economic growth rate has recovered.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	1,631,000 (Urban: 1,115,000; rural: 516,000) /2,101,000 (Urban: 1,282,000; rural: 819,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 78% Urban: 87% Rural: 63%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	National development plan 2020 (including updated version) National water policy of the water and sanitation sector 2006	JICA report[56)]
		2 Water supply act	The National Environment Management Act of 1994	
		3 Water quality standards	Gambia's water quality standards (pursuant to the WHO's Guidelines for Drinking-water Quality)	
		4 Financial foundations	Assistance from national budget and donor(s) Main donors: European Development Fund (EDF) and Saudi Arabia	

56) Preparatory Survey Report on the Project for Rural Water Supply (Phase 3), Gambia (January 2010): https://libopac.jica.go.jp/images/report/12004289_01.pdf ~https://libopac.jica.go.jp/images/report/12004289_30.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
4 ODA policy	1 Development cooperation policy	In relation to sustainable development and improvement of basic living environment" as a priority area, in order to improve the basic living environment, appropriate operation, maintenance, and management of water supply facilities would be supported (October 2014).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As "programs for improvement of basic living environments," during the period from 2016 through 2017, training classified by issue for improvement of basic living environments are to be implemented (April 2017).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	6.9 million yen (art pieces, collectibles, and antiques) 562.38 million yen (cars, motors, pharmaceuticals, and rubber products)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	0 (2017) 3 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.17 Basic information on Cape Verde

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	4,033 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	0.6 million (2019)	State of World Population 2019
		3 Population growth rate	1.2% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	Portugal	Same as above
		3 Capital	Praia	Same as above
	3 Society and culture	1 Ethnic groups	About 70% of mixed-race Portuguese and Africans	Same as above
		2 Languages	Portuguese (official language) and Creole language	Same as above
		3 Religions	Christianity (Catholicism)	Same as above
	4 Climate	1 Climate	The temperature is high throughout the year, and due to influence by the Canary Current, which is a cold current, the country is very dry. The amount of rainfall is about 300 mm at most.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 0	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GNI	1.933 billion USD (2017, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	3,300 USD (2017, World Bank)	Same as above
		3 Economic growth rate	4.0% (2017, World Bank)	Same as above
		4 Inflation rate	0.8% (2017, World Bank)	Same as above
		5 Unemployment rate	10.3% (2017, World Bank)	Same as above
		6 Literacy rate	86.8% (2015)	UNESCO

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		7 Human Development Index (HDI)	0.654 (125th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	The country has achieved steady economic growth through stable politics and a free economy. The country graduated from a Least Developed Countries (LDC) at the end of 2007 and joined the WTO in July 2008. On the than hand, the rate of poverty is high.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	475,000 (Urban: 330,000; rural: 145,000) /546,000 (Urban: 355,000; rural: 191,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 87% Urban: 93% Rural: 76%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	National development plan (2006 to 2011) (Phase 7) Creating a Vision for Water, Life and the Environment (Goal Year: 2025) (2000) Integrated Water Resources Management and Action Plan (2009)	JICA report[57)]
		2 Water supply act	Water Act (1984) Amended Water Act (Decreto-Legislativo No5/99)	
		3 Water quality standards	There are no water quality standards for drinking water, and establishment of the same is being prepared. Such standards will be required to be pursuant to the standard values defined by the WHO.	

[57)] Preparatory Survey Report on the Water Supply System Development Project in the Republic of Cabo Verde (January 2011):
https://libopac.jica.go.jp/images/report/12015145_01.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		4 Financial foundations	About 80% of revenue of ELECTRA (changed from a public corporation to a limited liability company), which provides electricity and water, is from the electric power business and about 20% of it is from the water business. The revenue is growing; however, deficits remain chronic. Administration and finance of the municipal Autonomous Water and Sanitation Service (SAAS) are independent; however, deficits remain due to many uncollected debts.	
4 ODA policy	1 Development cooperation policy	In relation to "enhancement of the economic and social foundation" as a priority area, in particular, enhancement of socioeconomic infrastructure with a central focus on the sectors for electricity and water essential for economic development would be supported (April 2014).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As "programmes for economic infrastructure improvement," during the period from 2016 through 2021, the Water Supply System Development Project in Santiago Island (with compensation) and training classified by issue for the sector of economic infrastructure improvement are to be scheduled and implemented (April 2017).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	8.29 million yen (animal fat, furniture, etc.) 944.9 million yen (machinery, transportation equipment, and chemical products)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	0 (2017) 0 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.18 Basic information on Ghana

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	238,537 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	30.1 million (2019)	State of World Population 2019
		3 Population growth rate	2.2% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	The United Kingdom	Same as above
		3 Capital	Accra	Same as above
	3 Society and culture	1 Ethnic groups	Akan, Ga, Ebe, Dagomba, Mamprusi, and others	Same as above
		2 Languages	English (official language) and other ethnic languages	Same as above
		3 Religions	Christianity (about 70%), Islam (about 17%), other traditional religions, etc.	Same as above
	4 Climate	1 Climate	The country faces the Gulf of Guinea, the basin of the Volta River occupies 67% of the national land, and most of the national land is almost entirely lowland. The whole lands belong to a tropical zone, the western part and the southeast part belong to a tropical monsoon climate, and areas ranging from the central part to the northern part belong to savanna climate. When going further to the north, the amount of rainfall decreases.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GNI	65.556 billion USD (2018, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	2,130 USD (2018, World Bank)	Same as above
		3 Economic growth rate	6.5% (2017, World Bank)	Same as above

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		4 Inflation rate	9.8% (2018, World Bank)	Same as above
		5 Unemployment rate	6.71% (2018, World Bank (ILO's estimate))	Same as above
		6 Literacy rate	79.0% (2018)	UNESCO
		7 Human Development Index (HDI)	0.592 (140th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	The country is completely dependent upon primary products from agriculture and mining. In relation to major imported goods, gold, oil, and cocoa beans are top-listed, and they are subject to international markets and weather impacts. About 20% of GDP and about a half of employment occupy agriculture. In 2010, commercial production of oil commenced and the economic growth rate increased. Moreover, GNI per capita amounted to 1,190 dollars in 2019, which resulted in classification as a middle income country.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	23,572,000 (Urban: 14,749,000; rural: 8,823,000) /28,834,000 (Urban: 15,859,000; rural: 12,975,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 81% Urban: 93% Rural: 68%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	Ghana Water Policy (2007)	Water supply and sanitation in Ghana (Wikipedia), etc.[58]
		2 Water supply act	There exists a water supply act (details unknown).	
		3 Water quality standards	Unclear	

[58] Minister of Land, Infrastructure, Transport and Tourism "The Republic of Ghana" : http://www.mlit.go.jp/common/001131543.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		4 Financial foundations	The foreign country had managed an urban water supply system for five years since 2006. However, the relevant contract became invalid. At present, Ghana Water Company Limited (GWCL) is in charge of urban water supply and Community Water and Sanitation Agency (CWSA) is in charge of rural water supply. Water service fees are inexpensive and cost recovery is impossible, depending upon external funds.	
4 ODA policy	1 Development cooperation policy	There are no particular descriptions about the water sector (April 2012).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	There are no particular descriptions about the water sector (April 2017).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	About 13.7 billion yen (cocoa beans and seafoods) About 16.73 billion yen (cars, seafood, and general machinery)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	44 (2017) 361 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.19 Basic information on the Republic of Madagascar

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	587,295 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	27 million (2019)	State of World Population 2019
		3 Population growth rate	2.7% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	France	Same as above
		3 Capital	Antananarivo	Same as above
	3 Society and culture	1 Ethnic groups	African Continent, Malay, about 18 tribes (Melina, Bechileo, and others)	Same as above
		2 Languages	Malagasy and French (both of which are official languages)	Same as above
		3 Religions	Christianity, traditional religions, and Islam	Same as above
	4 Climate	1 Climate	The Central Highlands of Madagascar are located in the southeast direction in the center of the island, which blocks the wind. Therefore, climates greatly differ in the eastern part, the central part, and the western part of the island. The central part in which the capital is located has a subtropical and mountainous climate, the eastern part has a tropical climate influenced by monsoons, and the southwestern area has a dry climate.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning 1	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GDP	12.1 billion USD (2018, World Bank)	Ministry of Foreign Affairs: Country and Regional Information

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		2 GNI per person	440 USD (2018, World Bank)	Same as above
		3 Economic growth rate	5.2% (2018, World Bank)	Same as above
		4 Inflation rate	7.3% (2018, World Bank)	Same as above
		5 Unemployment rate	—	Same as above
		6 Literacy rate	74.8% (2018)	UNESCO
		7 Human Development Index (HDI)	0.519 (161st in the world) (2017)	UNDP
	2 Overview	1 Economic overview	About 74% of the working population engages in agriculture. However, due to the low agricultural productivity and unarranged infrastructure, agriculture accounts for 24.7% of GDP (EIU 2016). Following an economic slump due to a coup in 2009, support (the RCF) by IMF has been granted since 2016. The World Bank and other donor counties commenced loans (with Japan providing assistance through yen loans for the Toamasina Port Development Project for ports of shipment for resources). The government engages in reconstruction of the textile industry and the sightseeing business. In the future, the integrated production business for nickel, cobalt, and bullion (in which Japanese companies are the largest stockholders) is expected to be a leading force for the economy.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	13,936,000 (Urban: 8,137,000; rural: 5,800,000) /25,571,000 (Urban: 9,461,000; rural: 16,110,000)	WHO/UNICEF JMP (Data as of 2017)

Category	Item	Necessary Information	Survey Results	Survey Method
3 Water supply status	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 54% Urban: 86% Rural: 36%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	The political or economic function has not been established, and the country depends on support from international institutions, such as the International Development Association (IDA) and Water & Sanitation for the Urban Poor (WSUP). Jirama (Jiro Sy Rano Malagasy) has implemented a government service provider for water supply. However, the percentage of water supply accessibility is extremely low. Moreover, Jirama confronts debts for low fees.	Madagascar (Wikipedia), etc.
		2 Water supply act		
		3 Water quality standards		
		4 Financial foundations		
4 ODA policy	1 Development cooperation policy	—		
	2 Project development plan	"Agriculture and rural development," "economic infrastructure development," "social sector development," and "governance improvement" as emphasized priority areas have been mentioned. From among the "programmes for enhancing food security," the Preparatory Survey on the Improvement Agricultural River Basin Management & Development Project (-2017) and the Project for Rehabilitation of Irrigation System in South-West of Alaotra Lake (-2016) have been implemented. However, there are no descriptions related to water services. Infrastructure improvement targets transportation and traffic (April 2017).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	26.88 billion yen (nickel, cobalt, spices (vanilla and cloves), clothes, and seafoods) 1.73 billion yen (vehicles, pharmaceuticals, rubber products, such as tires)	Ministry of Foreign Affairs: Country and Regional Information

Category	Item	Necessary Information	Survey Results	Survey Method
	Corporations operating in the country, etc.	Japanese companies operating in the country	8 (2019)	Same as above
		Number of Japanese residents in the country	140 (2017)	

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.20 Basic information on Côte d'Ivoire

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	322,436 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	25.5 million (2019)	State of World Population 2019
		3 Population growth rate	2.6% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	France	Same as above
		3 Capital	Yamoussoukro (Abidjan serves substantial capital functions.)	Same as above
	3 Society and culture	1 Ethnic groups	The country comprises 60 or more tribes, which are roughly divided into the Akan people (the Baoule people, the Anyi people, etc.) in the southeastern part, the Kru people (the Bete people, the Gere people, the Tida people, etc.), the Volta people (the Senufo people, the Grango people, the Lobi people, etc.) in the northeastern part, and the Mande people (the Malenke people, the Dan people, etc.) in the northwestern part.	Same as above
		2 Languages	French (official language) and other ethnic languages	Same as above
		3 Religions	Christianity (39.1%), Islam (33.7%), traditional religions (4.4%), other religions (0.6%), and non-religious (22.2%)	Same as above
	4 Climate	1 Climate	Some coastal areas have a high-temperature climate and high humidity, and most of the other regions have a savanna climate with rainy and dry seasons.	Peel, M. C. (2007), Geographic information, etc.

Category	Item	Necessary Information	Survey Results	Survey Method
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1 to 2	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GNI	39.67 billion USD (2017, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	1,579 USD (2017, World Bank)	Same as above
		3 Economic growth rate	7.8% (2017, World Bank)	Same as above
		4 Inflation rate	0.7% (2016, World Bank)	Same as above
		5 Unemployment rate	9.3% (2016 ILO estimates)	Same as above
		6 Literacy rate	47.2% (2018)	UNESCO
		7 Human Development Index (HDI)	0.492 (170th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	The key industry is agriculture, with about 50% of the population engaging in this pursuit (and accounting for about 30% of GDP), and accounting for most exports. Oil production commenced in 1993, and oil and oil products are the main trade items, in addition to coffee and cocoa. Since around 2016, due to declines in international prices of cocoa beans, financial reconstruction has been attempted. At the same time, efforts for poverty-related measures, ensured employment opportunities for the youth, solicitation of private investments, and industrial diversification have been conducted.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	17,735,000 (Urban: 10,690,000; rural: 7,046,000) /24,295,000 (Urban: 12,148,000; rural: 12,148,000)	WHO/UNICEF JMP (Data as of 2017)

Category	Item	Necessary Information	Survey Results	Survey Method
3 Water supply status	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 73% Urban: 88% Rural: 58%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy 2 Water supply act 3 Water quality standards 4 Financial foundations	Support by organizations such as UNICEF and Nestle was received for infrastructure enhancement for water and sanitation with the collaboration of countries in Sub-Saharan Africa. Subject to consignment agreements with the central government, Sodeci, a private company, operates the waterworks business. Private water distributors play important roles for reason of water outages, short-time supply, etc.	Ivory Coast (Wikipedia) World's Water Services No. 608, 2016-11[59)]
4 ODA policy	1 Development cooperation policy	In relation to "promotion of sustainable economic growth" as a priority area, infrastructure improvement for water and sewer services would be supported. Notable matters: The country is a hub of transportation into inland countries, playing a central role for the "Project on the Corridor Development for West Africa Growth Ring Master Plan." Thus, proactive efforts for extensive infrastructure development and promotion of customs clearance that contribute to regional integration would be engaged in and cooperation and collaboration with other donors would be reviewed (March 2018).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As a "programme for improvement of administrative reliability," during the period from 2017 through 2018, Grant Aid for Grassroots Human Security for education and water supply was implemented. In addition, as an "infrastructure improvement programme," during the period from 2017 through 2020, the Plan for Improvement of Friendship Intersection between Japan and Côte d'Ivoire (under Grant, *kyojun*, and detailed design) is to be scheduled and implemented (April 2018).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2016)	1.574 billion yen (cocoa beans, cocoa butter, seafoods, etc.) 5.540 billion yen (cement, fiber products, etc.)	Ministry of Foreign Affairs: Country and Regional Information

[59)] World's Water Services No. 608 (2006-11) Côte d'Ivoire: http://www.jwrc-net.or.jp/chousa-kenkyuu/comparison/wl11.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	— 152 (2018)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.21 Basic information on Cameroon

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	47,544 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	25.3 million (2019)	State of World Population 2019
		3 Population growth rate	2.6% (2018)	World Bank
	2 Politics	1 Form of government	Federal republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	France/the United Kingdom	Same as above
		3 Capital	Yaounde	Same as above
	3 Society and culture	1 Ethnic groups	About 250 tribes, such as Bamileke, Fang, Douala, Fulbe, etc.	Same as above
		2 Languages	French and English (both of which are official languages), and other minority tribal languages	Same as above
		3 Religions	Catholicism, Protestantism, Islam, nature worship, etc.	Same as above
	4 Climate	1 Climate	Almost all regions are in a tropical zone. The northern part has a steppe climate and a savanna climate, and the southern part has a tropical rainforest climate. When going to the south, the climate becomes wet.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1 to 4	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GNI	38.5 billion USD (2018, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	1,440 USD (2018, World Bank)	Same as above
		3 Economic growth rate	3.9% (2018, World Bank)	Same as above
		4 Inflation rate	1.3% (2018, World Bank)	Same as above

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		5 Unemployment rate	3.4% (2018, World BankILO estimates)	Same as above
		6 Literacy rate	77.1% (2018)	UNESCO
		7 Human Development Index (HDI)	0.556 (151st in the world) (2017)	UNDP
	2 Overview	1 Economic overview	The country is a driving force for the economy within the Communauté Économique et Monétaire de l'Afrique Centrale (CEMAC). Despite the fact that the country has been influenced by the fall of the crude oil prices since 2014, the economy has been relatively stable. The economy depends upon primary industry, and agricultural products account for 15% of GDP. Development of liquefied natural gas has moved ahead since 2018. However, exports still depend upon primary products, and the economics of diversification are problematic.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	14,500,000 (Urban: 10,372,000; rural: 4,128,000) /24,054,000 (Urban: 13,470,000; rural: 10,584,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 60% Urban: 77% Rural: 39%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	Poverty Reduction Strategy Paper (DSRP (Abbreviation in English: PRSP)) (2003) Rural Water Supply Project by Initiative (PPTE) (Hydraulique Rurale II) National Action Plan	JICA report[60)]
		2 Water supply act	Water Cameroon Act (No. 98/005 of April 14, 1998)	
		3 Water quality standards	There are no water quality standards for drinking water unique to the country, which is pursuant to the standard values defined by the WHO.	

[60)] Project for Rural Water Supply (Phase V), the Republic of Cameroon (May 2004): http://open_jicareport.jica.go.jp/pdf/11769486_01.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		4 Financial foundations	The Water Management Committee bears all monetary burdens related to maintenance and management of water supply facilities, in principle.	
4 ODA policy	1 Development cooperation policy	There are not particular descriptions for the water sector (December 2012).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As the "other individual project cooperation programmes," during the period prior to 2015 to 2016, the Project for Rural Water Supply (Phase 5) (under Grant for measures against environment and climate changes), the Plan for Improvement of Water Supply and Sanitation Far North Diamaré and Mayo Cani Mayo-Kani Regions(under Grant for measures against environment and climate changes), training classified by issues for the sector related to rural development and water supply, Grant Aid for Grassroots Human Security of the water and sanitation sector are to be implemented (April 2016).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	0.436 billion yen (timber, aluminum, etc.) 2.19 billion yen (machinery, transportation equipment, fibers, pharmaceutical drugs, rubber products, etc.)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	6 (2017) 112 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources

Table 0.22 Basic information on Zimbabwe

Category	Item	Necessary Information	Survey Results	Survey Method
1 Basic information	1 Overview of the country	1 Area	386,000 km^2	Ministry of Foreign Affairs: Country and Regional Information
		2 Population	17.3 million (2019)	State of World Population 2019
		3 Population growth rate	1.4% (2018)	World Bank
	2 Politics	1 Form of government	Republic	Ministry of Foreign Affairs: Country and Regional Information
		2 Former colonial power (or system similar thereto)	The United Kingdom	Same as above
		3 Capital	Harare	Same as above
	3 Society and culture	1 Ethnic groups	Jonah people, Ndebele people, and White	Same as above
		2 Languages	English, Shona, and Ndebele	Same as above
		3 Religions	Christianity and traditional religions	Same as above
	4 Climate	1 Climate	The country is in a tropical zone and is a highland. Therefore, it is slightly warm and has a temperate humid climate. The southern part has a dry steppe climate. The country is an inland country and a plateau occupies most of the country. The eastern part is a mountainous area. The Victoria Falls (world heritage site) is located on the national border with Zambia.	Peel, M. C. (2007), Geographic information, etc.
	5 Traveling	1 Points to note when traveling, such as regarding public peace and order	Travel Advice and Warning: 1	MOFA's "Overseas Travel Safety Information" webpage
2 Economic conditions	1 Indicators	1 GNI	25.81 billion USD (2018, World Bank)	Ministry of Foreign Affairs: Country and Regional Information
		2 GNI per person	1,790 USD (2018, World Bank)	Same as above
		3 Economic growth rate	6.2% (2018, World Bank)	Same as above

Category	Item	Necessary Information	Survey Results	Survey Method
2 Economic conditions		4 Inflation rate	28.0% (2018, World Bank)	Same as above
		5 Unemployment rate	4.91% (2018, World Bank)	Same as above
		6 Literacy rate	88.7% (2014)	UNESCO
		7 Human Development Index (HDI)	0.535 (156th in the world) (2017)	UNDP
	2 Overview	1 Economic overview	The multicurrency system was adapted in 2009, the central bank suppressed quasi-financial activities, and efforts for cash budgeting were made. As a result, after 2012, extreme economic confusion became ended. Due to financial stringency based on colonic trade deficit, enormous external foreign debts, salaries for public servants, etc., economic growth has slowed down.	Ministry of Foreign Affairs: Country and Regional Information
3 Water supply status	1 Service pervasion	Population served	10,592,000 (Urban: 4,972,000; rural: 5,620,000) /16,530,000 (Urban: 5,290,000; rural: 11,240,000)	WHO/UNICEF JMP (Data as of 2017)
	2 SDG reference indicator	SDG reference indicator (Percentage of population using "basic drinking water")*	National: 64% Urban: 94% Rural: 50%	WHO/UNICEF JMP (Data as of 2017)
	3 Governance	1 National water supply strategy	Zimbabwe Interim Poverty Reduction Strategy Paper: I-PRSP (2016) National Water Policy: NWP (2012)	JICA report[61)]
		2 Water supply act	Water Act Zimbabwe National Water Authority Act	
		3 Water quality standards	Unknown	

[61)] Study Report on Information Collection and Confirmation Related to Water Supply and Sewage Sector *in* Harare City Area in Zimbabwe (April 2018): http://open_jicareport.jica.go.jp/pdf/12307088.pdf

Category	Item	Necessary Information	Survey Results	Survey Method
		4 Financial foundations	Usage fees have been established based on the basic principles for bearing the same by users. Related activities are undertaken by donors, such as the African Development Bank the World Bank, and Conference for Ministers in Charge of Water-related Matters in Africa.	
4 ODA policy	1 Development cooperation policy	In relation to "supports for ensured human security for poor people" as a priority area, approaches for accessing safe drinking water and improvement of sanitation environments would be supported (March 2016).		Ministry of Foreign Affairs: ODA development cooperation policy by country (former support policy by country)
	2 Project development plan	As the "programmes for improvement of insurance, water, and sanitation," during the period from 2017 through 2018, the Report on Survey for Information Collection and Confirmation Related to Water Supply and Sewage Sector in Harare City Area in Zimbabwe (basic survey) was implemented (August 2018).		Ministry of Foreign Affairs: ODA project development plan
5 Relationship with Japan	Volume of trade	Exports to Japan Imports from Japan (2018)	1.64 billion yen (steel, crude mineral, and leaf tobacco) 3.24 billion yen (vehicles and chemical products)	Ministry of Foreign Affairs: Country and Regional Information
	Corporations operating in the country, etc.	Japanese companies operating in the country Number of Japanese residents in the country	4 or more (NEC, FUJIFILM Corporation, Toyota Tsusho Corporation, Kansai Paint Co., Ltd., etc.) 91 (2017)	Same as above

* At least basic value (i.e., estimated value for a country that has not been able to provide the percentage of population using "safely managed" drinking water that should originally have been provided) is included.

* The percentage of population of using the "safely managed services (i.e., "safely managed"): Services for supplying water without contamination via fecal coliform indicator and high-priority chemical indicator, which can be obtained within the premises as necessary", as well as "basic services (i.e., "basic"): Services for supplying water, including drawing water for less than 30 minutes (including the round trip and waiting time) with regard to piped water, boreholes or tube wells, protected dug wells, protected spring water, and rainwater" from improved water resources