The Republic of Iraq

DATA COLLECTION AND COMMUNICATIONS STRATEGIES SURVEY ON PUBLIC INFRASRUCTURE PROJECTS IN THE REPUBLIC OF IRAQ

FINAL REPORT SUMMARY

November 2019

JAPAN INTERNATIONAL COOPERATION AGENCY

CROWN AGENTS JAPAN LIMITED

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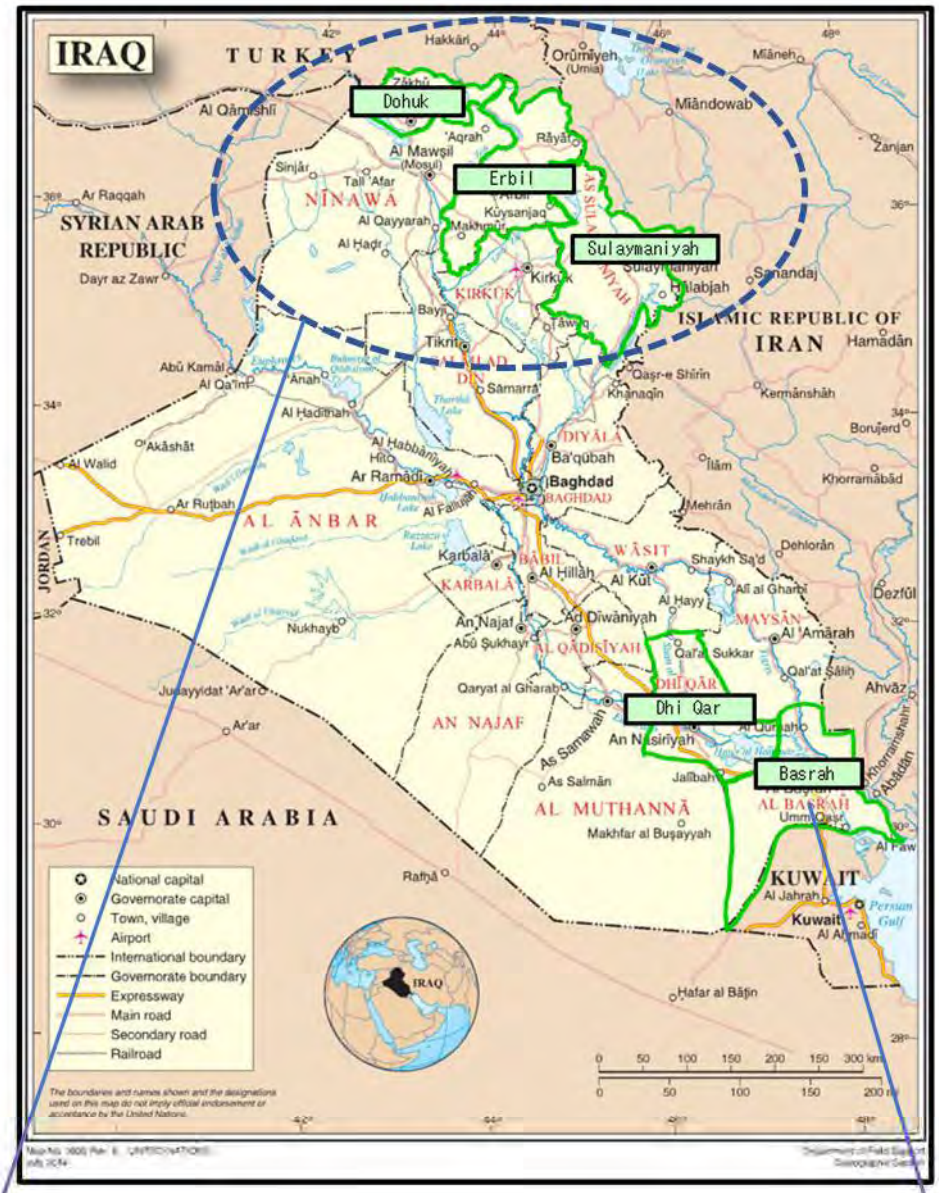
Location Map of Target Projects of the Survey



Kurdistan Region
- Water Supply Improvement Project in Kurdistan Region
- Project Horticulture Technology Improvement and Extension
- Electricity Sector Reconstruction Project in Kurdistan Region
- Deralok Hydropower Plant Construction Project

Basrah Governorate
- Khor Al-Zubair Fertilizer Plant Rehabilitation Project
- Port Sector Rehabilitation Project
- Hartha Thermal Power Station Rehabilitation Project

All Iraq / Multiple Regions
- Project for Sustainable Irrigation Water Management through Water Users Associations
- Irrigation Sector Loan

Abbreviations

BBG	Broadcasting Board of Governors
ISIL	Islamic State in Iraq and the Levant
KOICA	Korean International Cooperation Agency
kWh	Kilowatt-hour
lcd	liters per capita per day
NRW	Non-Revenue Water
O&M	Operation and Maintenance
ODA	Official Development Assistance
UNDP	United Nations Development Programme

Currency

Iraqi Dinar (ID) ID1.00 = ¥0.090790
US Dollar (US$) US$1.00 = ¥107.990
(JICA official rate / Oct 2019)

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Final Report Summary

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1. Outline of Study

1.1 Background to Study

In Iraq, due to the effects of three wars since the 1980s and long-term economic sanctions, much of the socio-economic infrastructure has been disrupted or deteriorated, causing a remarkable decline in public services. At a conference held in Madrid in 2003, Japan announced support for reconstruction in Iraq of up to 5 billion USD, including the implementation of grant assistance for the provision of emergency infrastructure (1.5 billion USD), ODA (Official Development Assistance) loan projects for mid-term support for reconstruction and development (3.5 billion USD), and technical cooperation for training courses for a total of 9,600 people or more. Regarding the socio-economic infrastructure, including the 3.5 billion USD ODA loan projects mentioned above, Japan has been engaged in 31 projects in various fields such as electricity, water supply/sanitation, and irrigation, and has contributed more than 830 billion yen in total.

The Government of Iraq has gradually improved public services by promoting the development of socio-economic infrastructure through various projects including the ODA projects, yet the people of Iraq have little awareness or satisfaction regarding public services, which causes social insecurity seen as the poor ratio of the collection of public utility charges, and civil unrest due to dissatisfaction with public services.

One of the reasons why the relevant government agencies cannot set about raising public utility charges is that the public works and the development of infrastructure being implemented by the fovernment have not been well perceived by the citizens. Due to the lack of such understanding, the gradual improvement of public sevices is not widely recognized, and this is not leading to an awareness of or motivation toward the payment of public utility charges. Also, while it is necessary for the government of Iraq to promote awareness-raising activities that encourage the awareness of the people with regard to public works and public utility charge payments, efficient and effective PR and awareness-raising activities are not being performed, which carries the risk of fostering antagonism among the people of Iraq.

From the perspectives of infrastructure management, operations and maintenance and regional stability and national reconstruction and development, an important and unavoidable challenge for the government of Iraq, which is promoting the development of socio-economic infrastructure under the National Development Plan (2018 - 2022), is to encourage an understanding of public works among the people of Iraq and to improve their awareness of public utility charge payments. Raising the understanding and awareness of the people regarding these projects by means of initiatives by the Government of Iraq will lead to the promotion of JICA development cooperation project implementation and an improvement in development outcomes from the perspectives of improving the collection ratio of public utility charges and securing the budget for management, operations and maintenance.

This study aims to identify the status of public utility charges and public infrastructure management,

operations and maintenance in Iraq, to contribute to initiatives related to securing the expenses needed by agencies that implement public services for awareness-raising activities and operations and maintenance, and to improve the development outcomes of JICA development and cooperation projects.

1.2 Objectives of Study

1.2.1 Public utility charges and public infrastructure management, operations and maintenance study

- In order to make public infrastructure management, operations and maintenance sustainable and stable, it is necessary to cover the expenses needed for management, operations and maintenance by means of public utility charges in compensation for the supplied services. Also, setting appropriate public utility charges and reliably collecting the public utility charges is the basis of securing management, operations and maintenance expenses by means of public utility charges. In order to do so, it is necessary to improve the common understanding of public works and the development of infrastructure, and to raise motivation toward public utility charge payments. The present status of public utility charges payment and public infrastructure management, operations and maintenance in Iraq is being identified with the aim of contributing to initiatives by the Government of Iraq to promote the improvement of the relevant understanding and motivation. The main study items are as follows.
- System for public utility charges
- Status of public utility charge collection
- Public infrastructure management, operations and maintenance systems
- Structure of budget for public infrastructure management, operations and maintenance

1.2.2 Special study for PR related to public works

This study, which covers the six ODA loan projects and two technical cooperation projects shown in Table 1, verifies the initiatives and methods used to gain the understanding of local people regarding public works, and the connection between these awareness-raising activities, the collection of public utility charges and management, operations and maintenance. The results of this are presented to Iraq governmental agencies with the aim of promoting awareness-raising activities by individual implementing agencies and formulating policies to secure operations and maintenance costs, as well as improving the development outcomes of JICA development and cooperation projects in Iraq.

1.3 Scope of Study

1.3.1 Study of public utility charges and the management, operations and maintenance of public infrastructure assets

(1) Sector

- Electricity
- Water supply

(2) Target agencies

- Government of Iraq
  - Ministry of Electricity
  - Ministry of Construction, Housing, and Municipalities and Public Works
- Kurdistan Regional Government
  - Regional Ministry of Electricity in Kurdistan
  - Regional Ministry of Municipalities and Tourism in Kurdistan

1.3.2 Special study of PR related to public works

Information gathering and analyses have been conducted regarding plans for awareness-raising activities by the Government of Iraq, the implementation status of those plans, and the recognition of public works among local people with regard to public works including the ODA loan and technical cooperation projects shown in Table 1.

Table 1 Target ODA Loan/Technical Cooperation Projects

ODA Loan：Irrigation Sector Loan Year of L/A : 2008　JPY9,500 mil
ODA Loan：Khor Al-Zubair Fertilizer Plant Rehabilitation Project Year of L/A : 2008　JPY18,100 mil
ODA Loan：Port Sector Rehabilitation Project Year of L/A : 2008　JPY30,200 mil
ODA Loan：Electricity Sector Reconstruction Project in Kurdistan Region Year of L/A : 2008　JPY14,700 mil
ODA Loan：Water Supply Improvement Project in Kurdistan Region Year of L/A : 2009　JPY34,300 mil
ODA Loan：Hartha Thermal Power Plant Rehabilitation Project Year of L/A : 2015　JPY20,200 mil
Technical Cooperation：The Project for Sustainable Irrigation Water Management through Water Users Associations Project Duration : Apr 2017 – Dec 2020　Total Amount approx.. JPY620 mil
Technical Cooperation：The Project on Horticulture Technology Improvement and Extension Project Duration : Aug 2011 – Aug 2016　Total Amount Approx. JPY 800 mil

2. Public Works in Iraq

2.1 Ministry of Electricity in the Government of Iraq

2.1-1 System for Electricity Charges

The rate of electricity charges from the Government of Iraq is established through a proposal by the Ministry of Electricity with the approval of the Council of Ministers. Revisions to the rate are drafted by the Directorate of Distribution in the Ministry. There is no time limitation to the revision of the rate and it can be revised as and when necessary. The current rate was applied in January 2018.

The application of electricity rates is uniform throughout all directorates rather than having a fluctuating rate according to season, region or time of use. Equally, there is no reduced rate with respect to low-income earners.

(1) Rate table for electricity charges

The rate of electricity charges is established on a monthly basis. The rate is shown in Table 2 below.

Consumers are divided into five categories, namely, Household Type, Commercial Type, Industrial Type, Agricultural Type and Governmental Type, with rates being established uniquely for each category. In the Household Type and Commercial Type, divisions are made according to the amount of electricity consumed, and, as the amount of electricity consumed increases, the rate charge arises according to the measured rate system. On the other hand, in the Industrial Type, Agricultural Type and Governmental Type, a standard rate is applied regardless of the amount of electricity consumed.

Table 2 Rate of Electricity Charge: Government of Iraq

Consumer Type	Range (kWh)	Price (IQD/kWh)
Household	1 - 1,500	10
	1,501 - 3,000	35
	3,001 - 4,000	80
	4,001 over	120
Commercial	1 - 1,000	60
	1,001 - 2,000	80
	2,001 over	120
Industrial	1 over	60
Agricultural	1 over	60
Governmental	1 over	120

(Source: Ministry of Electricity)

(2) Jurisdiction for charge collection

The jurisdiction for charge collection is divided into 17 directorates under the remit of the Directorate

of Distribution. The Ministry of Electricity has established General Electricity Distribution Company in Baghdad, the middle, the north and the south, and electricity distribution in each directorate is presided over by these four state own companies.

The directorates are formed on a governorate-basis in 15 of the 18 Governorates in Iraq (excluding the three Governorates in the Kurdistan Region of Erbil, Duhok and Sulaymaniyah), but the Baghdad Governorate is divided into three directorates (Rusafa, Sadr and Al-Karkh), making a total of 17 directorates.

The divisions of the directorates mentioned above were reorganized in fiscal 2019 based on revisions to the directorates, with the Baghdad directorate being divided into three (Rusafa directorate, Sadr directorate and Al-Karkh directorate), and former Northern Nasiriyah directorate being integrated with the Thi-Qar directorate.

(3) Number of subscribers to electricity distribution network

The Table 2.1-3 shows the number of electricity distribution subscribers (those who have installed power meters) in each directorate as of January 2019. Regarding the five directorates in the middle (Babylon, Najaf, Diwaniyah, Karbala and Wasit), data regarding the number of subscribers to electricity distribution that could not be obtained (only data for the number of users without power meters installed was obtained), and estimate values (light blue background on the table) were used for the complement by finding the ratios for the remaining 12 directorates and each of the five directorates using population data for each of the Governorate administrative districts in Iraq (in 2017, Central Statistical Organization of Ministry of Planning, from the Investment Map of Iraq 2019[1]), and by multiplying the ratios by the total number of subscribers to electricity distribution in the 12 directorates. For that reason, except for the number of uninstalled users, the data for the five directorates are estimate values, and, equally, the relevant totals including these figures are estimate values.

The total number of subscribers to electricity distribution in the 17 directorates is estimated to be approximately 4.01 million. In the Baghdad General Electricity Distribution Company, the number of subscribers is estimated to be 1,500.9 thousand at 37.4%, 1,017.2 thousand at 25.4% in the Middle General Electricity Distribution Company, 804.5 thousand at 20.1% in the North General Electricity Distribution Company and 685.2 thousand at 17.1% in the South General Electricity Distribution Company. The total of the three directorates (Rusafa, Sadr, and Al-Karkh) in the Baghdad Governorate is approximately 1,098.4 thousand, which comprises 27.4% of the total number of subscribers.

The ratio of the total number of subscribers at the five categories of electricity rate, is is estimated that the Household Type is the highest at 80.9%, followed by the Commercial Type at 15.9%, Agricultural

[1] http://investpromo.gov.iq/wp-content/uploads/2019/05/investment-Map-2019-En.pdf

Type at 1.4%, Governmental Type at 1.0% and the Industrial Type at 0.7%.

Table 3 Number of Subscribers to Electricity Distribution in Each Directorate

(highlited numbers are estimate values)

Distribution Company	Directorate	Number of Subscribers (Number of Mater Installation)					
		Household	Commercial	Industrial	Govt. Org.	Agricultural	Total
Baghdad General Electricity Distribution Company	Rusafa	213,406	107,887	895	2,343	2,263	326,794
	Sadr	207,320	94,755	396	1,213	219	303,903
	Al-Karkh	383,425	71,723	7,703	4,402	473	467,726
	Anbar	151,683	21,475	1,116	3,488	7,148	184,910
	Diyala	188,876	24,433	785	1,930	1,505	217,529
	Subtotal	**1,144,710**	**320,273**	**10,895**	**13,376**	**11,608**	**1,500,862**
The Middle General Electricity Distribution Company	Babylon	203,108	40,019	1,731	2,621	3,510	250,989
	Najaf	145,584	28,685	1,240	1,879	2,516	179,904
	Diwaniyah	127,264	25,075	1,084	1,642	2,199	157,264
	Karbala	120,431	23,729	1,026	1,554	2,081	148,821
	Wasit	135,971	26,791	1,159	1,755	2,350	168,026
	Muthana	96,186	10,073	380	1,474	4,061	112,174
	Subtotal	**828,544**	**154,372**	**6,620**	**10,925**	**16,717**	**1,017,178**
The North General Electricity Distribution Company	Nineveh	340,917	49,180	3,051	5,385	2,752	401,285
	Kirkuk	177,371	24,041	1,247	2,975	5,897	211,531
	Saladin	158,245	15,521	3,507	2,235	12,135	191,643
	Subtotal	**676,533**	**88,742**	**7,805**	**10,595**	**20,784**	**804,459**
The South General Electricity Distribution Company	Basra	281,849	40,823	1,431	2,718	3,845	330,666
	Maysan	101,560	10,184	341	1,774	2,401	116,260
	Thi-Qar	209,996	24,620	542	2,463	695	238,316
	Subtotal	**593,405**	**75,627**	**2,314**	**6,955**	**6,941**	**685,242**
Total		**3,243,192**	**639,014**	**27,634**	**41,851**	**56,050**	**4,007,741**

(Source: Ministry of Electricity)

(4) Ratio of electricity users and subscribers

The total number of electricity users in the 17 directorates is estimated to be approximately 4.449 million. In the Baghdad General Electricity Distribution Company, the number of subscribers is estimated to be 1,624.6 thousand at 36.5%, 1,148.1 thousand at 25.8% in the Middle General Electricity Distribution Company, 912.8 thousand at 20.5% in the North General Electricity Distribution Company and 763.3 thousand at 17.1% in the South General Electricity Distribution Company. The total of the three directorates (Rusafa, Sadr, and Al-Karkh) in the Baghdad Governorate is approximately 1,176.1 thousand, which comprises 27.4% of the total number of subscribers.

The population of Iraq is approx. 38.85 million (38,854,563 people[2]), or approx. 33.65 million people after removing the population of the Kurdistan Region of approx. 5.2 million people (2019, the Kurdistan Regional Government website[3]).

In accordance with the five categories of electricity charge, the number of electricity users in the Household Type is estimated to be 3,643.7 thousand at 81.9%, with an average of 10.8 people per user. The number of users in the Commercial Type is estimated to be 665.7 thousand at 15.0%, 68.7 thousand at 1.5% in the Agricultural Type, 41.9 thousand at 0.9% in the Governmental Type and 28.7 thousand at 0.6% in the Industrial Type.

The ratio of the total number of subscribers to electricity distribution among the total number of electricity users is approx. 90.1%, and, looking at the five categories of electricity rate, the Governmental Type is the highest at 99.9%, followed by the Industrial Type at 96.2%, the Commercial Type at 96.0%, the Household Type at 89.0% and the Agricultural Type at 81.6%. In the Household Type, the Wasit directorate comprises 79.3% (estimate value), the Kirkuk directorate comprises 79.7% and the Sadr directorate 82.0%, while in the Agricultural Type, the Al-Karkh directorate comprises 9.0%, the Diyala directorate 52.1% and the Kirkuk directorate 73.0%, which is the cause of a reduction in the ratio of electricity distribution subscribers. Looking at the ratio by directorate, the highest ratios are comprised of the Al-Karkh directorate at 96.4%, the Rusafa directorate at 96.0%, the Saladin directorate at 95.8% and the Anbar directorate at 95.4%, while the Kirkuk directorate is 80.1% and the Wasit directorate is 81.6%, which is the cause of a reduction in the ratio of electricity distribution subscribers.

Table4　Number of Electricity Users and Ratio of Subscribers

(highlited numbers are estimate values)

Directorate	Number of Users						Ratio of Subscribers (Meter Installation)					
	House hold	Commercial	Industrial	Govt. Org	Agricultural	Total	House hold	Commercial	Industrial	Govt. Org	Agricultural	Total
Rusafa	226,246	108,008	895	2,343	2,891	340,383	94.3%	99.9%	100.0%	100.0%	78.3%	96.0%
Sadr	252,693	95,737	441	1,218	248	350,337	82.0%	99.0%	89.8%	99.6%	88.3%	86.7%
Al-Karkh	395,812	72,193	7,703	4,409	5,267	485,384	96.9%	99.3%	100.0%	99.8%	9.0%	96.4%
Anbar	159,539	22,034	1,147	3,495	7,667	193,882	95.1%	97.5%	97.3%	99.8%	93.2%	95.4%
Diyala	219,926	28,928	908	1,948	2,888	254,598	85.9%	84.5%	86.5%	99.1%	52.1%	85.4%
Subtotal	**1,254,216**	**326,900**	**11,094**	**13,413**	**18,961**	**1,624,584**	**91.3%**	**98.0%**	**98.2%**	**99.7%**	**61.2%**	**92.4%**
Babylon	230,861	40,403	1,732	2,622	3,539	279,157	88.0%	99.0%	99.9%	100.0%	99.2%	89.9%
Najaf	171,041	28,976	1,276	1,879	2,941	206,113	85.1%	99.0%	97.2%	100.0%	85.5%	87.3%
Diwaniyah	136,531	25,226	1,085	1,642	2,261	166,745	93.2%	99.4%	99.9%	100.0%	97.3%	94.3%

[2] Investment Map of Iraq 2019 http://investpromo.gov.iq/wp-content/uploads/2019/05/investment-Map-2019-En.pdf

[3] http://previous.cabinet.gov.krd/p/page.aspx?l=12&p=214

Karbala	137,253	24,066	1,027	1,554	2,089	165,989	87.7%	98.6%	99.9%	100.0%	99.6%	89.7%
Wasit	171,443	28,459	1,191	1,755	2,942	205,790	79.3%	94.1%	97.3%	100.0%	79.9%	81.6%
Muthana	106,709	11,368	393	1,474	4,301	124,245	90.1%	88.6%	96.7%	100.0%	94.4%	90.3%
Subtotal	**953,838**	**158,498**	**6,704**	**10,926**	**18,073**	**1,148,039**	**86.9%**	**97.4%**	**98.7%**	**100.0%**	**92.5%**	**88.6%**
Nineveh	381,212	55,323	3,417	5,399	3,252	448,603	89.4%	88.9%	89.3%	99.7%	84.6%	89.5%
Kirkuk	222,483	29,217	1,418	2,975	8,079	264,172	79.7%	82.3%	87.9%	100.0%	73.0%	80.1%
Saladin	165,258	16,374	3,556	2,236	12,592	200,016	95.8%	94.8%	98.6%	100.0%	96.4%	95.8%
Subtotal	**768,953**	**100,914**	**8,391**	**10,610**	**23,923**	**912,791**	**88.0%**	**87.9%**	**93.0%**	**99.9%**	**86.9%**	**88.1%**
Basra	327,266	42,742	1,596	2,719	4,539	378,862	86.1%	95.5%	89.7%	100.0%	84.7%	87.3%
Maysan	108,322	10,498	363	1,774	2,443	123,400	93.8%	97.0%	93.9%	100.0%	98.3%	94.2%
Thi-Qar	231,126	26,182	564	2,463	748	261,083	90.9%	94.0%	96.1%	100.0%	92.9%	91.3%
Subtotal	**666,714**	**79,422**	**2,523**	**6,956**	**7,730**	**763,345**	**89.0%**	**95.2%**	**91.7%**	**100.0%**	**89.8%**	**89.8%**
Total	**3,643,721**	**665,734**	**28,712**	**41,905**	**68,687**	**4,448,759**	**89.0%**	**96.0%**	**96.2%**	**99.9%**	**81.6%**	**90.1%**

(Source: Ministry of Electricity)

(5) Unofficial electricity consumers

The total number of unofficial consumers in the 17 directorates is estimated to be approximately 441.0 thousand. In the Baghdad General Electricity Distribution Company, the number of unofficial consumers is estimated to be 123.7 thousand at 28.1%, 130.9 thousand at 29.7% in the Middle General Electricity Distribution Company, 108.3 thousand at 24.6% in the North General Electricity Distribution Company and 78.1 thousand at 17.7% in the South General Electricity Distribution Company. The total of the three directorates (Rusafa, Sadr, and Al-Karkh) in the Baghdad Governorate is approximately 77.7 thousand, which comprises 17.6% of the total number of unofficial consumers.

In accordance with the five categories of electricity charge, the number of unofficial consumers in the Household Type is estimated to be 400.5 thousand at 90.8%, 26.7 thousand at 6.1% in the Commercial Type, 12.6 thousand at 2.9% in the Agricultural Type, 1.1 thousand at 0.2% in the Industrial Type and 54 in the Governmental Type.

Looking at the ratio of unofficial consumers, the level is high in the following directorates: 52,641 cases at 19.93% in the Kirkuk directorate, 37,764 cases at 18.35% in the Wasit directorate, 37,069 cases at 14.56% in the Diyala directorate, 46,434 cases at 13.25% in the Sadr directorate, 26,209 cases at 12.73% in the Najaf directorate and 48,196 cases at 12.72% in the Basra directorate. By the numbers, Niveveh directorate is high of 47,318 cases at 10.55%.

The cost required for power meter installation is charged to electricity distribution subscribers.

Table 5 Number of Unofficial Consumers and Ratio

Directorate	Unofficial Consumer (Meter Uninstalled)						
	House hold	Commercial	Industrial	Govt. Org	Agricultural	Total	Ratio of Uninstalled
Rusafa	12,840	121	0	0	628	13,589	3.99%
Sadr	45,373	982	45	5	29	46,434	13.25%
Al-Karkh	12,387	470	0	7	4,794	17,658	3.64%
Anbar	7,856	559	31	7	519	8,972	4.63%
Diyala	31,050	4,495	123	18	1,383	37,069	14.56%
Subtotal	**109,506**	**6,627**	**199**	**37**	**7,353**	**123,722**	**7.62%**
Babylon	27,753	384	1	1	29	28,168	10.09%
Najaf	25,457	291	36	0	425	26,209	12.72%
Diwaniyah	9,267	151	1	0	62	9,481	5.69%
Karbala	16,822	337	1	0	8	17,168	10.34%
Wasit	35,472	1,668	32	0	592	37,764	18.35%
Muthana	10,523	1,295	13	0	240	12,071	9.72%
Subtotal	**125,294**	**4,126**	**84**	**1**	**1,356**	**130,861**	**11.40%**
Nineveh	40,295	6,143	366	14	500	47,318	10.55%
Kirkuk	45,112	5,176	171	0	2,182	52,641	19.93%
Saladin	7,013	853	49	1	457	8,373	4.19%
Subtotal	**92,420**	**12,172**	**586**	**15**	**3,139**	**108,332**	**11.87%**
Basra	45,417	1,919	165	1	694	48,196	12.72%
Maysan	6,762	314	22	0	42	7,140	5.79%
Thi-Qar	21,130	1,562	22	0	53	22,767	8.72%
Subtotal	**73,309**	**3,795**	**209**	**1**	**789**	**78,103**	**10.23%**
Total	**727,749**	**49,645**	**1,947**	**107**	**24,485**	**803,933**	**18.07%**

(Source: Ministry of Electricity)

(6) Plan of improvement in electricity charge system

With the aim of improving the billing and collection of electricity charges, investigations are being promoted into a new system for electricity charge billing and charge collection called Smart System, and tentative plans are being studied as followings.

- Introduction of digital power meter
- Introduction of advance payment system (Supply of a prepaid amount of electricity)

- Application of punitive measures for non-payment
- Introduction of private subcontracting system

(7) Comparison of prior electricity rates and current electricity rates

In the revision of the electricity rates in January 2018, there were no price increases in any of the rated items in the five categories, whereas there was a general price reduction of around 30-40%, except for 1,000 kW or below (same rate), 1,501 - 2,000 kW (8% reduction) and 4,001 kW or more (same rate) in the Household Type, 2,001 - 3,000 kW (20% reduction) in the Commercial Type, 5,000 kW or below (4% reduction) and 5,001 - 10,000 kW (20% reduction) in the Governmental Type. The rated items with a price reduction of more than 40% were 1,001 - 1,500 kW (50% reduction) and 2,001 - 3,000 kW (56% reduction) in the Residential Type, 4,001 or more (47%) in the Commercial Type and 40,001 or more (47% reduction) in the Governmental Type.

Table 6 Electricity rates: Comparison with Prior Electricity Rates

	Former Tariff		Tariff	
	Range (kWh)	Price (ID/kWh)	Range (kWh)	Price (ID/kWh)
Household	1 - 500	10	1 – 1,500	10
	501 – 1,000	10		
	1,001 – 1,500	20		
	1,501 – 2,000	40	1,501 – 3,000	35
	2,001 – 3,000	80		
	3,001 – 4,000	120	3,001 – 4,000	80
	4,001 over	200	4,001 over	200
Commercial	1 – 1,000	100	1 – 1,000	60
	1,001 – 2,000	125	1,001 – 2,000	80
	2,001 – 3,000	150	2,001 over	120
	3,001 – 4,000	200		
	4,001 over	225		
Industrial	0.416kV	125	1 over	60
	11kV	150		
	33kV	175		
	132kV	200		
Agricultural	1 over	100	1 over	60
Governmental Organization	1 – 5,000	125	1 over	120
	5,001 – 10,000	150		
	10,001 – 20,000	175		
	20,000 – 40,000	200		
	40,001 over	225		

(Source: Framed by survey team based on collectd information)

2.1-2 Status of the collection of public utility charges

(1) Department managing the collection of electricity charges

The authority responsible for the collection of electricity charges is the Directorate of Distribution.

(2) Proportion of total amount of charge collection in the total cost

The structure of cost recovery is divided into Physical Loss, Unphysical Loss, Unpaid and Paid. The Physical Loss and Unphysical Loss are categorized in Unbilled and the Unpaid and Paid are categorized in Billed. The ratio of cost recovery from the collection of electricity charges comprising the total cost of electricity supply is recognized to be around 20%.

Table 7 Electricity Supply Cost Recovery Structure

Cost Recovery	Unrecovered			Recovered
Billing	Unbilled		Billed	
Power Loss & Unpaid	Physical Loss	Unphysical Loss	Unpaid	Paid

(Source: Framed by survey team based on collectd information through interview)

The structure of cost is divided into Operation of Power Generation, Operation of Electricity Transmission, Operation of Electricity Distribution and Administration.

Table 8 Electricity Supply Cost Structure

Cost Structure	Cost of Electricity Supply			
	Operation of Power Generation	Operation of Electricity Transmission	Operation of Electricity Distribution	Cost of Administration

(Source: Framed by survey team based on collectd information through interview)

(3) Electricity charge collection method

A door-to-door visit method is used as the method of collecting electricity charges whereby the electricity charge collectors from each directorate visit each house, check the power meter and issue a bill for the collection of charge.

The electricity charge collector issues a bill at the visit, and the recovery of charge is based on the following two methods. Charges that cannot be collected are brought forward and a bill for the total is issued the following month.

- Collection at the time of the visit by an electricity charge collector
- Collection at any time at an electricity charge payment location at the directorate (Payment is made by subscribers themselves by paying a visit to the charge collection locations in the case that they are not at home or they do not have enough money to pay the bills when the electricity charge collector visits.)

(4) Difficulty and challenges for charge collection

The following points have been raised as the difficulties and challenges for charge collection.

- Dissatisfaction of people due to unstable electricity supply
- Decline in ability to pay due to economic slump/reduced income
- Presence of regions where charge collection is difficult
- Morals of electricity charge collectors

(5) Awareness regarding citizen's motivation to make electricity charge payments

It is recognized that the default/non-payment of electricity charges is due to an insufficient and unstable supply of electricity, and that people have a particularly high dissatisfaction during the summer when demand is at its highest.

(6) Plan for the improvement of people's motivation toward paying electricity charges

In order to improve people's motivation to make payments, efforts are being made to improve the status of the electricity supply.

2.2 Regional Ministry of Electricity in Kurdistan

2.2-1 System for electricity charges

Electricity charges in the Kurdistan Regional Government are established through a proposal by the Regional Ministry of Electricity with the approval of the Council of Ministers. Revisions to the rate are drafted by the Directorate of Distribution in the Ministry. There is no time limitation to the revision of the rate and it can be revised as and when necessary. The current rate was adopted in January 2018.

The application of electricity rates is uniform throughout the entire electricity directorate rather than having a fluctuating rate according to season, region or time of use. Equally, there is no reduced rate with respect to low-income earners.

(1) Rate table for electricity charges

The rate of electricity charges is established on a monthly basis. The rate is shown in Table 9 below.

Electricity consumers are divided into five categories, namely, Residential Type, Commercial Type, Industrial Type, Agricultural Type and Governmental Type, with rates being established uniquely for each category. In the Residential Type, divisions are made according to the amount of electricity consumed, and, as the amount of electricity consumed increases, the rate charge arises according to the measured rate system. On the other hand, in the Commercial Type, Industrial Type, Agricultural Type and Governmental Type, a standard rate is applied regardless of the amount of electricity consumed.

Note that the charge is set in the Industrial Type according to the electrical voltage.

Table 9 Rate for Electricity Charges: Kurdistan Regional Government

Consumer Type	Range (kWh)		Price (ID/kWh)
Residential	1 - 450		15
	451 - 900		20
	901 - 1,500		35
	1,501 - 2,100		60
	2,101 - 3,000		75
	3,001 - 5,000		150
	5,001 over		200
Commercial	1 over		130
Industrial	0.416kV	1 over	120
	11kV		100
	33kV		100
	132kV		100
Agricultural	1 over		30
Governmental	1 over		150

(Source: Regional Ministry of Electricity in Kurdistan)

(2) Directorates for charge collection

Charge collection is under the jurisdiction of the Directorate for Distribution and is presided over by the four directorates of Erbil, Duhok, Sulamaniyah and Garmian.

Table 10 Directorates and Number of Subscribers to Electricity Distribution: Kurdistan Regional Government

Directorate	Number of Subscribers					
	Residential	Commercial	Industrial	Agricultural	Gov. Org.	Total
Erbil	467,000	62,780	1,819	6,247	7,946	545,792
Duhok	284,247	46,362	700	3,264	5,838	340,411
Sulaymaniyah	496,137	69,524	7,475	9,059	7,382	589,577
Garmian	56,644	7,585	138	1,050	922	66,339
TOTAL	**1,304,028**	**186,251**	**10,132**	**19,620**	**22,088**	**1,542,119**

(Source: Regional Ministry of Electricity in Kurdistan)

(3) Number of subscribers to electricity distribution

The number of subscribers is 1,542,119, and, looking at the number of contracts, the highest number is 598,577 at 38.2% in the Sulaymaniyah directorate, followed by 545,792 at 35.4% in the Erbil directorate, 340,411 at 22.1% in the Duhok directorate and 340,411 at 4.3% in the Garmian directorate.

In accordance with the five categories of electricity charge, the total number of Residential Type is 1,304,028 at 84.6%, which, divided by the approximate population of the Kurdistan Region of 5.2 million, makes an average of 4.0 people per subscription. By the highest number of subscribers following the Residential Type, 186,251 at 12.1% in the Commercial Type, 22,088 at 1.4% in the Governmental Type, 19,620 at 1.3% in the Agricultural Type and 10,132 at 0.7% in the Industrial Type. The number of Industrial Type consumers is extremely large in the Sulaymaniyah directorate, which is the center of the oil industry in northern Iraq.

(4) Ratio of the five rate categories among the total amount collected

In Erbil, the Commercial Type comprises 38%, the Residential Type comprises 33% and the Governmental Type comprises 20%, and these three categories comprise 91% of the total amount. In Duhok, the Residential Type comprises 50%, which comprises 96% of the total together with the Commercial Type: 28% and Governmental Type: 18%. In Sulaymaniyah, the Industrial Type is outstanding comprising 94% of the total. In Garmian, the Residential Type comprises 56% and the Commercial Type comprises 24%, so that these two categories comprise 80% of the total amount.

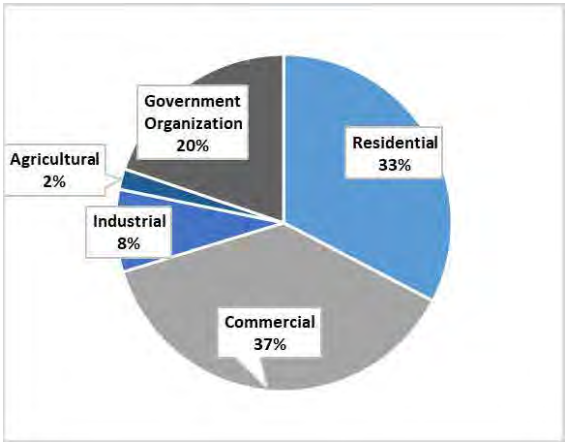

Fig. 1 Ratio of 5 rate categories in Erbil directorate

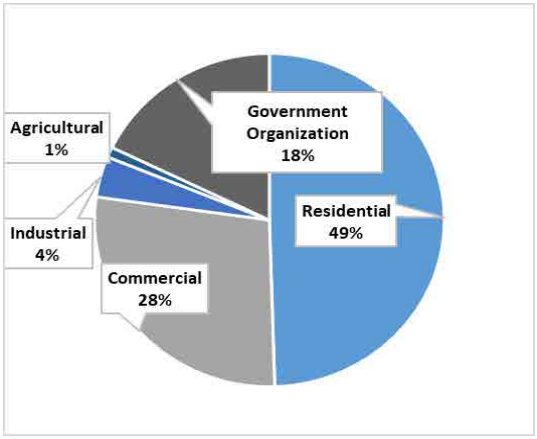

Fig. 2 Ratio of 5 rate categories in Duhok directorate

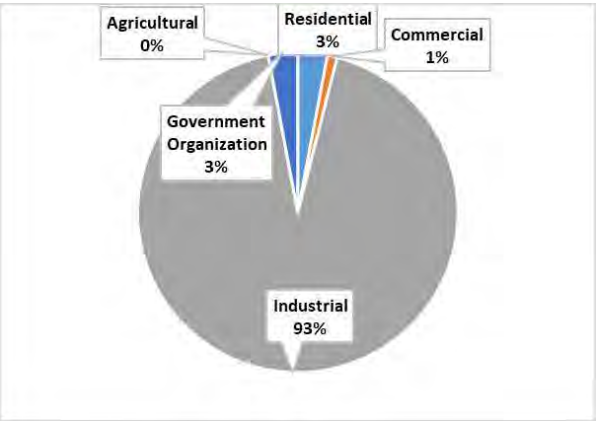

Fig. 3 Ratio of 5 rate categories in Sulaymaniya directorate

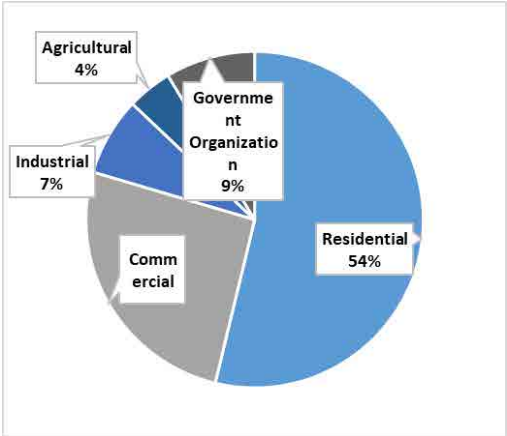

Fig. 4 Ratio of 5 rate categories in Garmian directorate

(5) Plan of improvement in electricity charge system

The project to introduce the new meter reading system, called Smart Meter, has been underway since January 2019. The aim is to cover all Residential Type electricity supply subscribers within fiscal 2020, and a pilot project to install 200 Smart Meters in Erbil city is underway. In the pilot project, a verification test for operation and data collection is being implemented. 40,000 Smart Meters have already been procured, and now there is a plan to install them. Smart Meters switch from an analog method by reading the dials on the meters to a digital method, and the expected improvements due to Smart Meter installation include the acquisition of a variety of data by the central administration system.

Along with the introduction of Smart Meters, with the objective of resolving the issues of non-payment and overdue payments, the following two specific measures are being investigated. Initially, it was expected that the policy would be determined by the end of 2019, but it is anticipated that another 1-1.5 years will be required.

- Conversion of the charge collection method from the current post-payment method to a complete prepaid method
- Introduction of a method of gradually lowering the usable consumer electricity (ampere) in the case of overdue payments (until the payment is made)

(6) Comparison of electricity rates: Government of Iraq and Kurdistan Regional Government

The following Table 11 shows a comparison of electricity rates in the Government of Iraq and the Kurdistan Regional Government.

Except for the Agricultural Type, in the four categories of Residential Type, Commercial Type, Industrial Type and Governmental Type, the rate of the Kurdistan Regional Government has a higher unit than the rate of the Government of Iraq. In particular, in the Residential Type, except for the range of 4,001 kWh or more, the unit price is generally 100% higher, and in the Industrial Type it is 67-100% higher.

Table 11 Comparison of Electricity Rates:
Government of Iraq and the Kurdistan Regional Government

Consumer Type	Federal Gov. of Iraq		Kurdistan Regional Gov.		
	Range (kWh)	Price (ID/kWh)	Range (kWh)		Price (ID/kWh)
Household / Residential	1 - 1,500	10	1 - 450		15
			451 - 900		20
			901 - 1,500		35
	1,501 - 3,000	35	1,501 - 2,100		60
			2,101 - 3,000		75
	3,001 - 4,000	80	3,001 - 5,000		150
	4,001 over	200	5,001 over		200
Commercial	1 - 1,000	60	1 over		130
	1,001 - 2,000	80			
	2,001 over	120			
Industrial	1 over	60	0.416kV	1 over	120
			11kV		100
			33kV		
			132kV		
Agricultural	1 over	60	1 over		30
Governmental Organization	1 over	120	1 over		150

(Source: Framed by survey team based on collected information)

2.2-2 Collection status of public utility charges

(1) Department responsible for the collection of electricity charges

The department responsible for the collection of electricity charges is the Directorate of Distribution in Ministry of Electricity.

(2) Total amount of charges collected against total costs

Regarding the total cost of electricity supply, the Directorate for Distribution has made a request to JICA for study support due to the need to perform a basic study to clarify the cost of electricity generation, electricity transmission and electricity distribution as the basis of a policy investigation because the current data is too old and is insufficient.

The structure of cost recovery is divided into Physical Loss, Unphysical Loss, Unpaid and Paid. The Physical Loss and Unphysical Loss are categorized in Unbilled and the Unpaid and Paid are categorized in Billed. The ratio of costs recovered by collecting electricity charges comprised in the total cost is recognized to be around 20%.

Table 12 Electricity Supply Cost Recovery Structure :Kurdistan Regional Government

Billing	Unbilled		Billed	
Power Loss & Unpaid	Physical Loss	Unphysical Loss	Unpaid	Paid

(Source: Framed by survey team based on collected information through interview)

The structure of cost is divided into Operation of Power Generation, Operation of Electricity Transmission, Operation of Electricity Distribution and Administration.

Table 13 Electricity Supply Cost Structure

Cost Structure	Cost of Electricity Supply			
	Operation of Power Generation	Operation of Electricity Transmission	Operation of Electricity Distribution	Cost of Administration

(Source: Framed by survey team based on collected information through interview)

(3) Electricity charge collection method

A door-to-door visit method is used as the method of collecting electricity charges whereby the electricity charge collectors from each directorate visit each house, check the power meter and issue a bill for the collection of charges.

The electricity charge collector issues a bill at the visit, while the recovery of charges is based on the following two methods. Charges that cannot be collected are brought forward and a bill for the total is issued the following month.

- Collection at the time of the visit by an electricity charge collector
- Collection at any time at an electricity charge payment location at the directorate (Payment is made by subscribers themselves by paying a visit to the charge collection locations in the case that they are not at home or they do not have enough money to pay the bills when the electricity charge collector visits.)

(4) Status of the collection of electricity charges

Ratio of subscribers from whom charges are collected among the total number of electricity supply subscribers is approx. 70%. Ratio of total amount of charges collected against the total billed amount for electricity charges is also approx. 70%.

(5) Difficulties and challenges for charge collection

Prior to the increase in terrorist activities by ISIL in 2014, the ratio of the collection of electricity charges

was higher than 95%, and there were no major issues with the collection of electricity charges. After that, the economic condition worsened due to, for example, the interruption to transport routes caused by military conflicts with ISIL, and, with the rise of domestic refugees and their influx into the Kurdistan Region, the capacity of people to pay electricity charges declined. For those reasons, electricity charges are now sometimes unpaid. It is recognized that the issue of non-payment is not due to a change in the awareness of people with regard to electricity charge payments, and rather it is recognized that the collection ratio will improve if the economic status improves.

(6) Plan for the improvement of people's motivation toward paying electricity charges

There are no plans as of month/year.

(7) Awareness regarding people's motivation to make electricity charge payments

While the worsening economic situation due to military conflicts with ISIL has affected people's capacity to make electricity charge payments, there is not recognized that people are less motivated toward making payments. It is recognized that the electricity charge collection ratio will recover as the economic status recovers.

2.3 Ministry of Construction, Housing, and Municipalities and Public Works in the Government of Iraq

2.3-1 System for water and sewerage charges

The rate of water and sewerage charges from the Government of Iraq is established through a proposal by the Ministry of Construction, Housing, and Municipalities and Public Works with the approval of the Council of Ministers. Within the Ministry, drafts are formed by the General Directorate of Water. There is no time limitation for the revision of the rate and it can be revised as and when necessary. The current rate was applied in January 2018.

The application of water and sewerage rates is uniform throughout the entire electricity directorate rather than having a fluctuating rate according to season, region or time of use. Equally, there is no reduced rate with respect to low-income earners.

(1) Rate table for water and sewerage charges

The rate of water and sewerage charges is established on a monthly basis. The rate is shown in Table 14.

Water and sewerage charges are composed of the water supply charge, sewerage charge and the fixed charge for cleaning. Water supply charge is largely divided into Government Sector and Non-government Sector. The rate for Non-government Sector is stratified by usage volume of 30m³ under a measured rate system in which the rate arises as the usage volume increases. The rate for Government

Sector is fixed at 120 Iraq Dinar per 1m³. As for the sewerage charge, the same amounts as the water supply charge is added uniformly for subscribers located in regions with access to the sewerage network. Also, the cleaning charges of 1,000 Iraq Dinar and 500 Iraq Dinar are added to all subscribers in central areas of the Governorates and in rural areas, respectively. The basic water and sewerage charges are shown below.

Water and sewerage charges = (Water supply charge) + (Sewerage charge) + (Cleaning charge)

Table 14 Rate for Water and Sewerage Charges

1. Water Supply Charge

1-1. For Non-government Sector

	Usage	Rate (IQD/m³)
1	1st 30m³	12.0
2	2nd 30m³	30.0
3	3rd 30m³	40.0
4	4th 30m³	70.0
5	5th 30m³ and more	70.0

1-2. For Government Sector

1	1 m²	120.0

2. Sewerage Charge

1	100% of Water Charges

100% Sewage Wages to be added to subscribers who live in the areas which have networks to Sewage.

3. Cleaning Charge (Fixed amount)

1	Center of Province	1000
2	Districts	500

(Source : Ministry of Construction, Housing, and Municipalities and Public Works)

(2) Directirates for charge collection

Jurisdiction for water supply and sewerage is divided into the City of Baghdad region under the jurisdiction of the Mayoralty of Baghdad, and all other regions except for the city of Baghdad under the jurisdiction of the Ministry of Construction, Housing, and Municipalities and Public Works. Charge collection in regions under the jurisdiction of the Ministry of Construction, Housing, and Municipalities

and Public Works is presided over by the General Directorate of Water in the Ministry. Water supply directorates are based on Governorates, with the Baghdad Governorate divided into regions excluding the Mayoralty of Baghdad, and the Anbar Governorates divided into the Western Desert region and all other regions. There are 16 water supply directorates in total based on the 15 Governorates excluding the Kurdistan Region, with the Anbar Governorate being divided into the Western Desert and all other regions. The water supply directorates for the collection of water and sewerage charges are as shown in Table 15 below.

Table 15 Water Supply Directorates and the Number of Subscribers to Water Supply

Ministry	Directorate	Number of Subscribership				Bypassing Water Net work	
		House hold	Business	Governmental Organization	Total		
Ministry of Construction, Housing, and Municiparities and Public Works General Directorate of Water	Nineveh	230,129	24,059	24,902	279,090	No Data	
	Kirkuk	127,795	1,057	8,352	137,204	33,650	26.3%
	Saladin	61,412	1,522	982	63,916	No Data	
	Anbar	75,587	1,600	1,101	78,288	No Data	
	Diyala	96,675	2,968	797	100,440	12,000	12.4%
	Babylon	152,351	4,663	1,745	158,759	No Data	
	Najaf	102,773	7,200	811	110,784	35,150	34.2%
	Diwaniyah	86,798	2,913	1,003	90,714	4,359	5.0%
	Thi Qar	104,463	2,363	1,056	107,882	No Data	
	Wasit	74,811	2,605	922	78,338	No Data	
	Karbala	95,685	5,161	811	101,657	36,800	38.5%
	Muthanna	46,106	1,107	634	47,847	3,093	6.7%
	Maysan	48,093	1,503	501	50,097	No Data	
	Baghdad	65,731	1,110	574	67,415	No Data	
	Basra	169,032	1,922	2,416	173,370	66,500	39.3%
	Western Desert	3,000	27	54	3,081	7,000	233.3%
Total		**1,540,441**	**61,780**	**46,661**	**1,648,882**		
Mayoralty of Baghdad	Baghdad City	545,517	72,674	6,877	625,068	107,007	19.6%
Total		**2,085,958**	**134,454**	**53,538**	**2,273,950**		

(Source : Ministry of Construction, Housing, and Municipalities and Public Works)

(3) Number of subscribers to water supply

The number of subscribers is 1,648,882, and, looking at the number of contracts, the highest number is 279,090 at 16.9% in the Nineveh directorate, followed by 173,370 at 10.5% in the Basra directorate and 158,759 at 9.6% in the Babylon directorate.

The water supply subscribers are divided into Household, Business, and Government Organization. The number of subscribers is 1,540,441 at 93.4% in the Household, 61,780 at 3.4% in the Business and 46,661 at 2.8% in the Governmental Organization.

Table above also shows the data for the Mayoralty of Baghdad extended from the General Directorate of Water. When looking at the number of subscribers, the Mayoralty of Baghdad has the overwhelming majority with 625,068 at 27.5%, followed by at 12.3% in the Nineveh directorate, at 7.6% in Basra directorate and at 7.0% in the Babylon directorate.

In addition, the Table above shows data extended from the General Directorate of Water regarding the number of those bypassing the water network. The data is uneven distributed across the directorates but, in the data that has been supplied, the Mayoralty of Baghdad has 107,007 cases at 19.6%, Basra has 66,500 cases at 39.3%, Karbala has 36,800 cases at 38.5%, Najaf has 35,150 cases at 31.7% and Kirkuk has 33,650 cases at 24.5%.

(4) Transition in collected water supply charge and sewerage charge

In the water supply sector, although there was a decline in the total amount collected in 2014, the total amount in fiscal 2016 was approx. 47.9 billion Iraq Dinar, which is an increase of 23.5% over fiscal 2013. Equally, in the sewerage sector, although there was a decline in the total amount collected in 2014, the total amount in fiscal 2016 was approx. 8.38 billion Iraq Dinar, which is an increase of 103.9% over fiscal 2013. For the total of water supply and sewerage, the total amount collected in fiscal 2016 was approx. 56.28 billion Iraq Dinar, which is an increase of 31.2% over fiscal 2013.

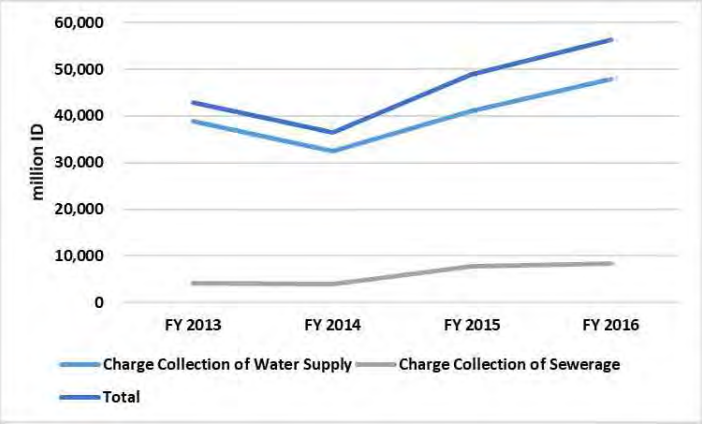

Fig. 5 Transition in collected water supply charges and sewerage charges

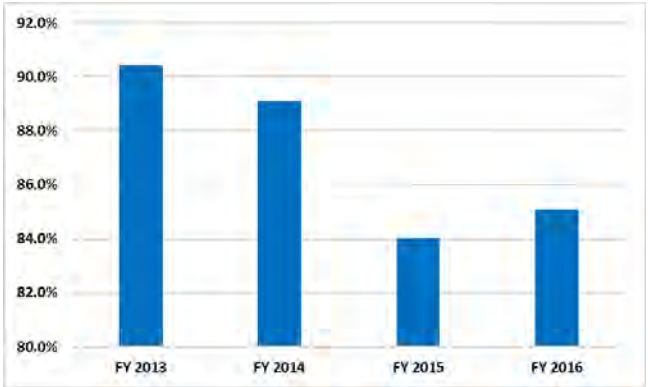

Fig. 6 Ratio of water supply charge against total charge collection

(5) Plan of improvement in electricity charge system

Although there are no plans to change the current system, following measures are under consideration.

- Introduction of Electronic Meter Reading System
- Application of punitive measure for late or non-payment
- Introduction of Private Subcontracting System

(6) Comparison of previous rates and current rates of water supply charge

Table 2.3-4 shows a comparison of the rates of water supply charge until December 2017 and the current rates that were revised in January 2018. In these revisions, there is no change to the fixed cleaning charge, and a charge system was brought over in which an equal sewerage charge was added to the water supply charge. In the previous rate, a flat rate that had been applied to the Household was also applied to the non-government water consumers, which was 1,305 Iraq Dinar for homes with a total floor space of $100m^2$ or less, and 3,105 Iraq Dinar for $100m^2$ or more. In the current rate system, the flat rate for the Household is abolished, and the same rate as the Non-Government Sector is applied to them.

A 100% increase was made to the rate applied to Government Organizations, while, in the rates for the Non-Government Sector, a 100% increase was also made for the 1st $30m^3$ and to the 2nd $30m^3$. In the rates for the Non-Government Sector, the 3rd $30m^3$ almost doubled (77.8% increase), and the 4th $30m^3$ and thereafter increased by 16.7%. In these revisions, remarkable increases can be seen in the water supply and sewerage charges, with the moderate difference in water consumption among the Non-Government Sector consumers, and a tendency toward widely seeking to share the cost burden of water supply and sewerage services even with the low-income earners is also seen.

Table 16 Comparison of Previous and Current Rates of Water Supply Charges: Government of Iraq

	Water Comsumption (30m³ each)		Previous Rate	Current Rate (ID/m³)
Non-Government	1	1st 30m³ : 0.01 - 30.00	6.0	12.0
	2	2nd 30m³ : 30.01 - 60.00	15.0	30.0
	3	3rd 30m³ : 60.01 - 90.00	22.5	40.0
	4	4th 30m³ and Above : 90.00 ＜	60.0	70.0
Government	1	1m³	60.0	120.0

(Source : Framed by survey team based on collected information)

2.3-2 Status of the collection of water and sewerage charges

(1) Department managing the collection of water and sewerage charges

The authority responsible for the collection of water and sewerage charges is the General Directorate of Water.

(2) Total amount of charges collected against total expenditure

(a) Water supply

Total expenditure in fiscal 2013 was approx. 770 billion Iraq Dinar and the total amount of charges collected was approx. 38.8 billion Iraq Dinar, so the ratio of the total amount collected against total expenditure was 5.0%. From fiscal 2014 and thereafter, operation costs have been reducing, and capital investment also greatly reduced by around 90% year-on-year across the two-year period from fiscal 2015 and fiscal 2016. Meanwhile, despite signs of a slight decrease in the total collected amount in fiscal 2014, there was an increase in fiscal 2015 and thereafter, and, as a result, the ratio of the total amount collected against total expenditure increased by more than double in fiscal 2015 and fiscal 2016 in comparison to fiscal 2013.

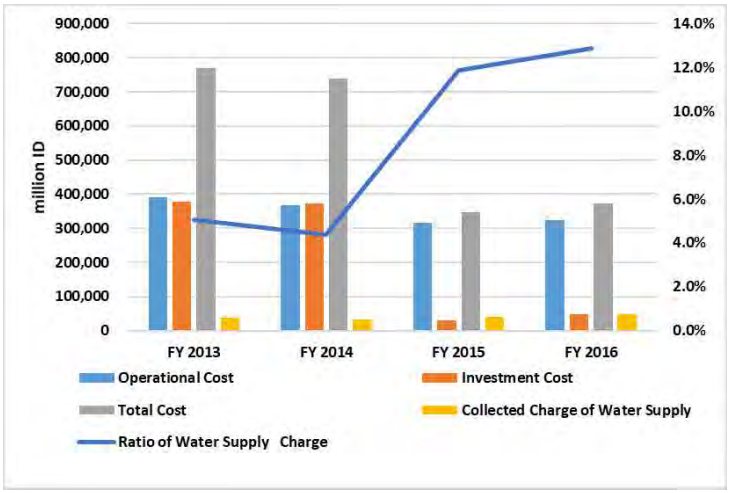

Fig. 7 Ratio of water supply charge in total cost

(b) Sewerage

Total expenditure in fiscal 2013 was approx. 141.6 billion Iraq Dinar and the total amount of charges collected was approx. 4.1 billion Iraq Dinar, so the ratio of the total amount collected against total expenditure was 2.9%. From fiscal 2014 and thereafter, total expenditure has been steadily decreasing every year, and, despite the slight decrease in fiscal 2014, the total amount collected in fiscal 2015 increased 97.2% year-on-year, which was followed by a year-on-year increase of 7.2% in fiscal 2016.

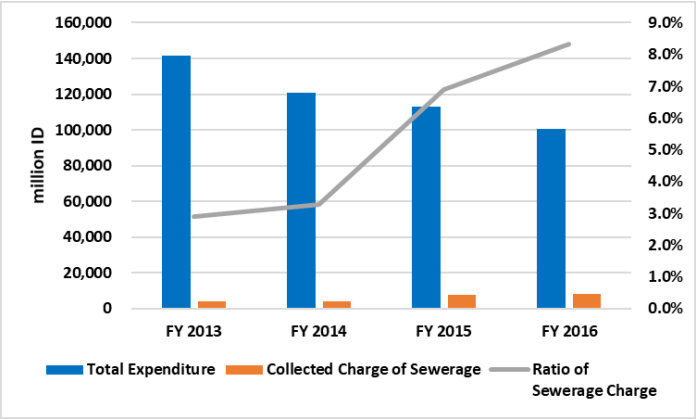

Fig. 8 Ratio of sewerage charge in total expenditure

(3) Water and sewerage charge collection method

A door-to-door visit method is used as the method of collecting water and sewerage charges whereby the water and sewerage charge collectors from each directorate visit each house, check the water meter and issue a bill for the collection of charges.

The water and sewerage charge collector issues a bill at the visit, while the recovery of charges is based on the following two methods. Charges that cannot be collected are brought forward and a bill for the total is issued at the following visit.

- Collection at the time of the visit by a water and sewerage charge collector
- Collection at any time at a water and sewerage charge payment location at the directorate (Payment is made by subscribers themselves by paying a visit to the charge collection locations in the case that they are not at home or they do not have enough money to pay the bills when the water and sewerage charge collector visits.)

(4) Status of the collection of water and sewerage charges

Ratio of charges collected among water supply and sewerage service subscribers is recognized as “Very high” by the General Directorate of Water. Ratio of total amount of charges collected against the total billed amount for water and sewerage charges is also recognized as “Very high”.

The total amount collected for water supply is almost the same as the estimated amount except for 2014 (2013: 97.0%; 2015: 98.2%). In fact, the estimated amount was exceeded by 16.8% in 2016.

(5) Plan for the improvement of people’s motivation toward paying water and sewerage charges

There are no plans or investigations as of June 2019.

(6) Awareness of the General Directorate of Water regarding people’s motivation toward paying water

and sewerage charges

Regarding the water supply services (water outage and water quality), while it is recognized that people are dissatisfied, non-payment of charges is not an issue. Because the water and sewerage charges are cheap (approx. 30 USD per household every 6 months), and there is a recognition that these charges are generally not a burden.

2.4 Regional Ministry of Municipalities and Tourism in Kurdistan

2.4.1 System for water supply charges

The rate of water supply charges in the Kurdistan Regional Government is established through a proposal by the Regional Ministry of Municipalities and Tourism with the approval of the Council of Ministers. Within the Ministry, drafts are formed by the General Directorates of Water and Sewerage. There is no time limitation for the revision of water supply rate, and it can be revised as and when necessary. The current rate of water supply charges was adopted in January 2018.

The application of water supply rate is uniform throughout the entire water and sewage directorate rather than having a fluctuating rate according to season, region or time of use. Equally, there is no reduced rate with respect to low-income earners.

In the Kurdistan Region, there are no sewerage charges since the sewerage facilities have yet been under development. Also, there is no fixed cleaning charge as established by the Government of Iraq.

(1) **Rate table for water supply and sewerage charges**

The rate of water charges is established on a monthly basis. The rate is shown in Table 17.

Water supply charges are obtained by multiplying the usage amount by the rate established for the respective type of subscriber. There are six types of subscriber, including Residential Areas, Places of Worship, Governmental Institutions, Semi-government Sectors, Commercial, Industrial & Tourism, and Shop Washing of All Kinds. Shop Washing of All Kinds include such as hotels, cleaning and car washing businesses. The rate for residential areas is classified by five stages of usage volume, and a measured rate is applied whereby the rate increases according to higher usage volumes. The highest rate for 1 cubic meter is 2,000 Iraq Dinar for a monthly usage volume of 60.01m³ or more, which is 40 times more than the lowest rate at 50 Iraq Dinar for 5.00m³ or less. As for the five other categories, the rate for 1 m ^{3} for Places of Worship and Governmental Institutions is 500 Iraq Dinar, the rate for Semi-Government Sectors is 750 Iraq Dinar, the rate for Commercial, Industrial & Tourism is 1,000 Iraq Dinar and the rate for Shop Washing of All Kinds is 2,000 Iraq Dinar. The rate for Shop Washing of All Kinds, which has the highest rate, is four times greater than that of Places of Worship and Governmental Institutions, which has the lowest rate other than Residential Areas.

Table 17 Rate for Water Supply Charges: Kurdistan Regional Government

	Type of Subscribers	Monthly Usage (m^3)		Wages (ID/m^3)
1	Residential Areas	A	0.01 - 5.00	50
		B	5.01 - 15.00	150
		C	15.01 - 30.00	400
		D	30.01 - 60.00	600
		E	60.01 above	2,000
2	Place of Worship	1		500
3	Governmental Institutions	1		500
4	Semi-government Sectors	1		750
5	Commercial, Industrial & Tourism	1		1,000
6	Shop Washing All Kinds	1		2,000

(Source : Regional Ministry of Municipalities and Tourism in Kurdistan)

(2) Directorates for charge collection

Jurisdiction for water supply and sewerage is divided into three general directorates, namely, Erbil General Directorate, Duhok General Directorate and Sulaymaniyah General Directorate. Erbil General Directorate comprises 6 directorates, Duhok General Directorate comprises 3 directorates and Sulaymaniyah General Directorate comprises 6 directorates, with a total of 15 directorates shared between the General Directorates in the Kurdistan Regional Government. The collection of water supply charges is separately presided over by 13 directorates excluding the Hawler sewerage directorate under Erbil General Directorate and the Duhok sewerage directorate under Duhok General Directorate.

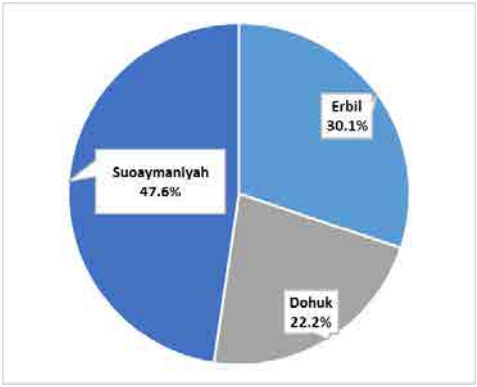

Fig. 9 Ratio of subsucribers in each dierctorates

(3) Number of water supply service subscribers

Water supply service subscribers are divided into Residential Areas, Places of Worship, Governmental Institutions, Semi-government Sectors, Commercial, Industrial & Tourism, and Shop Washing of All Kinds. The total number of subscribers is 835,415, with Erbil comprising 251,839 subscribers (30.1%), Duhok comprising 185,874 (22.2%) and Sulaymaniyah comprising 397,702 (47.6%) (As of January

2019).

(4) Plan of improvement in electricity charge system

The following two plans are moving toward implementation.

In billing and collecting systems, in order to study subcontracting to private companies that will lead to greater employment, the General Directorate of Water and Sewerage has made a request for JICA support and recommendation for the improvement of billing and collecting systems.

(a) Since January 2019, the introduction of new digital meter has been promoted as a method for collecting water supply charges. The new meter is installed with GPS positional information chips that are connected to the central control system with the aim of ascertaining the status of individual subscribers and the status of charge collection by region, for example. The installation of the new meter has been consigned to private companies and the ratio of installation as of March 2019 was 35-50% of all subscribers. The cost of installing the new meters is approx. 40 USD, which is charged to the subscribers. In order to promote the installation of the new meters, by providing fixed discounts against the monthly amount of water supply charges up to a maximum of the cost of installation for subscribers who have installed the new meter, consideration is being given so that the burden on subscribers for the cost of installation of the meters is essentially eliminated.

(b) Consideration is also being given to the privatization of water supply and sewerage services. As of March 2019, financial analyses and management simulations are being conducted in the case of privatization. Next, after preparation of a definite plan by performing studies into managing company structures, including representatives, officers and organization systems, with the approval of the Prime Minister of the Kurdistan Regional Government, it is expected that privatization will be implemented.

(5) Water supply and sewerage rate: Comparison between the Government of Iraq and the Kurdistan Regional Government

The following Table shows a comparison of water supply and sewerage rates in the Government of Iraq and the Kurdistan Regional Government. There are neither sewerage charges nor fixed cleaning charge laid in the Kurdistan Regional Government.

Looking at the water supply rate, in the non-governmental categories, except for the rate applied to water supply usage volumes of 5.00m³ or less in residential areas, the rate applied by the Kurdistan Regional Government is more than 10 times greater than that of the Government of Iraq. In the same way, a rate that is approx. 4.2 times greater than that of the Government of Iraq is applied to government institutions and 6.25 times greater to semi-government sectors.

Table 18 Water Supply and Sewerage Rate Comparison

<table>
<tr><td colspan="2" rowspan="2"></td><td colspan="2" rowspan="2">Government of Iraq</td><td colspan="5">Kurdistan Regional Government</td></tr>
<tr><td></td><td>Residential Area</td><td>Place of Worship</td><td>Commercial, Industrial & Tourism</td><td>Shop Washing All Kinds</td></tr>
<tr><td rowspan="9">Water Supply Charges</td><td rowspan="6">Non-Government</td><td>Water Consumption (per 30 m³)</td><td>Rate (ID/m³)</td><td>Water Consumption (m³)</td><td colspan="4">Rate (ID/m³)</td></tr>
<tr><td rowspan="3">0.01 - 30.00</td><td rowspan="3">12</td><td>0.01 - 5.00</td><td>50</td><td rowspan="5">500</td><td rowspan="5">750</td><td rowspan="5">2,000</td></tr>
<tr><td>5.01 - 15.00</td><td>150</td></tr>
<tr><td>15.01 - 30.00</td><td>400</td></tr>
<tr><td>30.01 - 60.00</td><td>30</td><td>30.01 - 60.00</td><td>600</td></tr>
<tr><td>60.01 - 90.00</td><td>40</td><td rowspan="2">60.01 over</td><td rowspan="2">2,000</td></tr>
<tr><td>90.00 over</td><td>70</td></tr>
<tr><td rowspan="2">Government</td><td rowspan="2">1m³</td><td rowspan="2">120</td><td>Government</td><td colspan="4">500</td></tr>
<tr><td>Semi-Government</td><td colspan="4">750</td></tr>
<tr><td colspan="2">Sewerage Charges</td><td colspan="2">100% of Water Charges</td><td colspan="5">N/A</td></tr>
<tr><td colspan="2">Cleaning Charges</td><td colspan="2">Central Area : 1,000
Rural Area : 500</td><td colspan="5">N/A</td></tr>
</table>

(Source : Framed by survey team based on collected information)

2.4.2 Status of collection of water supply charges

(1) Department managing the collection of water supply charges

The authority responsible for the collection of water supply charges is the General Directorate of Water.

(2) Total amount of charges collected against total expenditure

Data regarding the total amount of charge collected were not available, so the ratio against total expenditure is not known.

In the “Water Supply and Sanitation Policy for the Kurdistan Regional Government: Policy Document April 2017,” “Non-Revenue Water” (NRW) is the difference between “Supplied Water” and “Sold Water,” which is defined as the volume of lost water. NRW is water that is produced in a network but never reaches the consumer, and this might be due to water leakage, water theft or unmetered authorized consumption, or non-payment of charges by water supply subscribers. The water supply volume of the Kurdistan Regional Government in fiscal 2016 was 380 lcd, whereas the volume of water consumed by water supply subscribers was approx. 222 lcd, so approx. 150 lcd, which equals 35-40% of the produced water supply, was lost water for which no bill is issued. In the same document, it is recognized that NRW accounts for more than 40% of the produced water.

(3) Method of collecting water supply charges

A door-to-door visit method is used as the method of collecting water supply charges whereby the water charge collectors from each directorate visit each house, check the water consumption meter and issue a bill for the collection of charges.

The water supply charge collector issues a bill at the visit, while the recovery of charge is based on the following two methods. Charges that cannot be collected are brought forward and a bill for the total is issued at the following visit.

- Collection at the time of the visit by a water supply charge collector
- Collection at any time at a water supply charge payment location at the directorate (Payment is made by subscribers themselves by paying a visit to the charge collection locations in the case that they are not at home or they do not have enough money to pay the bills when the water supply charge collector visits.)

(4) Status of the collection of water supply charges

Ratio of charges collected among water supply service subscribers is “Very high” and the collection is made from more than the majority. Ratio of total amount of charges collected against the total billed amount for water supply charges is “Very high” and the collection is made from more than the majority.

(5) Difficulties and challenges for the collection of water supply charges

In the collection of water supply charges, although there are no particular issues, there are the following causes for concern.

- Presence of consumers who refuse to install a water meter
- Presence of subscribers who delay in making payments
- In the suburbs, in particular, there is a limited awareness of the system of water supply charge collection

(6) Plan for the improvement of people’s motivation toward paying water supply charges

There are no plans or investigations.

(7) Awareness of the General Directorate of Water and Sewerage regarding people’s motivation toward paying water supply charges

Regarding the water supply services (water outage and water quality), while it is recognized that people are dissatisfied, non-payment of charges is not an issue. Water supply charges are cheap (approx. 30 USD per household every 6 months), and there is a recognition that these charges are generally not a burden.

2.5 Management, operations and maintenance systems for public infrastructure

There has been no designated department in charge of operation and maintenance (O&M) of infrastructure in electricity and water supply sector in Iraq. There is not a structured plan for O&M of electric power and water supply / sewerage infrastructure, and the reality is that O&M is being carried out within the scope for which a budget can be secured in the operation of the directorates respectively. The absence of departments exclusively responsible for O&M of infrastructure, the absence of structured O&M plan and the insufficient budget are causing the fragile situation on O&M.

(1) Organizational structure for O&M of electric power infrastructure

There is no designated department responsible for O&M of electric power and water supply / sewerage infrastructure.

(2) Department responsible for electric power infrastructure O&M

O&M of infrastructure is presided over through the individual operation of the Directorate, and is performed by the Regional Companies in each region under the jurisdiction of each Directorate or separately administered by General Directorate.

(3) O&M administration area

It is divided into directorates in each region.

(4) Plan to improve electric power infrastructure O&M

There are no plans for the improvement of O&M as of June 2019.

2.6 Budgetary provision for O&M of public infrastructure

(1) Budget of the jurisdictional directorates for O&M of infrastructure

There are no data available regarding the budget and annual expenditure for O&M.

(2) Budget to raise people's awareness toward making electricity charge payments

There is no specified budget to raise people's awareness toward making charge payments.

(3) Measures to raise people's awareness toward making electricity charge payments

There are no specified measures to raise people's awareness toward making charge payments.

(4) Use of collected electricity charges for O&M

All or part of collected charges are included in their entirety as the state revenue managed by the Ministry of Finance. The O&M of infrastructure is performed by using the budget of each Ministry.

(5) Difference between collected electricity charges and annual expenditure

The difference between collected charges and annual expenditure is covered by the national treasury.

3. Communication Strategies Study and Advocacy Campaign

3.1 Outline of targeted projects

JICA selected six ODA Loan Projects and two Technical Cooperation Projects as target projects of communication strategies and advocacy campaign. Following table 19 shows overview of each target project.

Table 19 Target ODA Loan / Technical Cooperation Projects Outline

Project	Outline
Irrigation Sector Loan	Agriculture based on irrigation is indispensable in Iraq because most of the coutry belongs to the desert climate. The project aims to improve and upgrade the existing irrigation systems, by rehabilitation of pumps and related facilities and provision of necessary equipment and machineries for operation and maintenance, thereby contributing to increasing agricultural production and economic / social recovery.
Khor Al-Zubair Fertilizer Plant Rehabilitation Project	Through supplying urgently necessary equipment to an aged fertilizer plant, this project expanded the production capacity of the plant. Also, the project aims to contribute to the improvement of the agricultural productivity in Iraq and the socia-economic reconstruction through increased fertilizer supply.
Electricity Sector Reconstruction Project in Kurdistan Region	Due to lack of new investment and insufficient operation and maintenance caused by the chronic budget shortfall, electricity supply meets only 40% of the power demand in the Kurdistan Region. This project aimed to contribute to recover the electricity network in the Kurdistan region by providing the necessary equipment and machinery for rehabilitation of the transmission and distribution systems, thereby contributing to improved levels of reliability and availability of the electricity development.
Water Supply Improvement Project in Kurdistan Region	Because the infrastructures for water service were greatly neglected in Kurdistan region under the former regime, the facilities have aged, markedly decreasing the capacity to draw and purify water. The project aims to improve water supply services by constructing and expanding water intake and treatment facilities and constructing water transmission and distribution facilities in the Kurdistan region, thereby contributing to economic and social reconstruction in the region.
Hartha Thermal Power Plant Rehabilitation Project	The electricity sector in Iraq is facing a lack of capacity in generation, transmission and distribution due to insufficient operation and maintenance in the past. The electricity sector is thus one of the most important sectors for socio-economic reconstruction in the country. This project rehabilitated exsiting Al-Hartha Thermal Power Plant constructed through Japan's assistance in 1982 and aimed to contribute to the stable electric power supply, additionally, to revitalize economic activities which is indispensable for social development and reconstruction in this country.
Port Sector Rehabilitation Project	The Umm Qasr Port and the Khor Al-Zubair Port in southern Iraq are two of the most important freight transit port facilities, with no alternative port of such scale in the country. The project aimed to contribute revitalizing economy and social reconsttruction in Iraq through supporting port facilities and route development.
The Project for Sustainable Irrigation Water Management through Water Users Associations	This project aimed to achieve development of sustainable water management model and spread of efficient irrigation water management by Water Users Associations (WUAs) through basic training such as water management for WUA Management Team (WMT) and implement participatory irrigation project plans at model sites in southern Iraq.
The Project on Horticulture Technology Improvement and Extension	Horticultural crops (fruit trees and vegetables) can be used as a means of obtaining cash income for small scale farmers. The overall goal of this project is to contribute to increase income from horticultural crops of farmers in the Kurdistan region through introduction and dissemination of suitable horticulture technologies and promotion of marketing strategies.

(Source : Framed by survey team based on information from JICA HP)

As for the target ODA loan project, “Basra Water Supply Improvement Project” was assumed as one of the target projects at the project preparation stage. However, in southern Iraq, which is the target area of the project, there was a shortage of infrastructure such as water and electricity. In addition, due to the drinking water pollution problem, intense protests by local residents have continued. Considering such ciecumstances, “Port Sector Rehabiliation Project” which is implemented in the same area was selected as an alternative project. In addition, the technical cooperation project, “Project for Spreading Water Users Associations for the Efficient Use of Irrigation Water” (ended March 2015) was planned to be one of target projects. Since the “The Project for Sustainable Irrigation Water Management through Water Users Associations”, the subsequent project, was being implemented when shooting short films and was suitable for photography, this project was selected as the target project.

3.2 Advocacy Campaign

3.2-1 Production of Short Films

A total of 25 short films of about 70 to 120 seconds were produced for the six ODA loan projects and two technical cooperation projects based on three different themes such as 1. Overview, 2. Human element and 3. Influencers’ visit. The language used in shor films is basically Arabic narration with English subtitles. In addition, for Kurdistan narration video, both English and Arabic subtitles are added.

Following Table 20 shows breakdown of producted short films.

Table 20 Short Films Breakdown

Project	Short Film Products (length of film)
Irrigation Sector Loan	• Overview 1 (1:31) • Overview 2 (1:29) • Human Element (1:13) • Influencer’s visit (4:46)
Khor Al-Zubair Fertilizer Plant Rehabilitation Project	• Overview (1:19) • Human Element (1:27) • Influencer’s visit (4:32)
Port Sector Rehabilitation Project	• Overview 1 (1:39) • Overview 2 (Port Sector Rehabilitation Project (II)) (1:17) • Human Element (1:20) • Influencer’s visit (6:27)
Electricity Sector Reconstruction Project in Kurdistan Region	• Overview 1 (1:27) • Overview 2 (1:08) • Human Element (2:26) • Influencer’s visit (3:07)

Deralok Hydropower Plant Construction Project[4]	• Overview (2:00)
Water Supply Improvement Project in Kurdistan Region	• Overview 1 (1:55) • Overview 2 (1:34) • Human Element (1:39)
Hartha Thermal Power Plant Rehabilitation Project	• Overview (1:11) • Human Element (1:10) • Influencer's visit (4:35)
The Project for Sustainable Irrigation Water Management through Water Users Associations	• Overview (2:05)
The Project for Horticulture Technology Improvement and Extension	• Overview (1:59) • Human Element (1:14)

3.2-2 Social Media

(1) Internet and social media use in Iraq

Due to Iraq war since 2003, internet environment had been significantly deteriorated and therefore its development lagged behind other middle east nations. However, with rapid development in digital infrastructure, the ratio was improved to 13% between 2014 and 2016 and progress has been continuously seen until today. Meanwhile, mobile devise and its network system were comparatively developed much faster as 87% of population was covered already in 2011, according to the survey the Broadcasting Board of Governors (BBG) and Gallup. Also, BBG-Gallup survey found that 92.2% of Iraqi own mobile phone in 2014. Despite deterioration of internet environment has been seen since 2014 due to terrorism act by ISIL, the situation has recovered the post-ISIL level as major terror act is now somewhat under control.

The most widely used social media tool in Iraq is Facebook. According to BBG-Gallup survey, 94.3% of respondents reported that they made access to Facebook in last seven days.

Table 21 Number of followers of social media in Iraq
(government organization and civil society organization)

Organization	Facebook	Twitter
Government of Iraq	1,198,255	89,377
Ministry of Electricity	45,880	7
Ministry of Construction, Housing and Municipalities and Public Works	1,991	Not found
Kurdistan Regional Government	174,069	454,509
Regional Ministry of Agricultiure and Water Resources in Kurdistan	50,955	N/A?
Regional Ministry of Electricity in Kurdistan	Not Accessible	N/A?

[4] This project was not one of target projects originally, however, filming team visited the site and created video through the introduction by PMT.

Regional Ministry of Municipalities and Tourism in Kurdistan	Not Accessible	N/A?
UNDP Iraq office	186,504	17,220
KOICA Iraq Office Baghdad	1,799	Not found
Human of Mosul[5]	130,438	525
New Anbar Youth (NAY)[6]	49,519	41

(Source : Framed by survey team based on collected information) As of 16 Octobr 2019

Comparing the number of followers of Facebook and Twitter at Iraqi federal government and related institutions, the difference is more than obvious. As seen at Table 21, the number of followers of Iraqi federal government Facebook exceeds 1.2million while its Twitter followers are less than 90,000. As some ministerial institution including the Ministry of Construction & Housing, Municipalities and Public Works, do not even have Twitter account nor have not yet actively engaged in its service, it is reasonable to see that Twitter is not being used as the most important social media tool for public relations. Only exception may be the Kurdistan Regional Government which has three times more followers of Twitter than Facebook.

Considering the above mentioned, it can be concluded that the most effective social media tool in Iraq for the moment is Facebook. However, as social media platform has been diversified in recent year as not only Twitter, but Instagram and Snapchat also gained more users. Therefore, it is not certain whether the Facebook can maintain its advantage in Iraq and therefore it must be advised to follow carefully the trend of followers at each platform.

(2) Advantage of videos on internet (social media) in Iraq

One of the characteristics in internet usage among Iraqi people is that they have heavy access to video related page compare to non-video (text oriented) website. According to BBG-Gallup survey, 73.9 respondents accessed some sort of video programme (TV programmes, news reports, etc.,) whereas 63.3% of respondents accessed to internet for text-oriented news or other content. This can be an important aspect when it comes to consider and determine social media strategy for public relations in Iraq. In fact, many of Iraqi governmental institution engage in posting video related information for publication of their news and announcements.

(3) Key findings and impact of the online campaign

Taking above (1) and (2) into consideration, the project set up a platform on JICA Iraq Office Facebook page for posting the videos. Dissemination to related organization and civil groups were then followed.

[5] Human of Mosul: Local civil organization in Mosul and Nieve established in August 2019. An independent media platform focused on the Mosul community, seeking to create a conscious youth generation that contributes to the restoration of life in the city. The total number of staffs is 23 and its facebook followers are 131,082.

[6] New Anbar Youth (NAY): Local civil organizationin Anbar region. A media platform based on Facebook that shares moderate ideas and news regarding reconstruction and restorationof the region. The total number of staffs is 23 and its facebook followers are 53,582.

ARK Group, subcontractor for advocacy campaign, and its outreach team ran quantitative and qualitative analysis on all videos posted across different platforms including YouTube, Instagram and Facebook pages such as JICA Iraq Office Facebook page, New Anbar Youth (NAY) and Humans of Mosul (HoM). Qualitative data was gathered in the form of content analysis through posts and comment analysis during the reporting period from 3rd of September 2019 to 22nd of September 2019. Current Key Performance Indicators (KPI) Summary is as shown in Table 22. Throughout the survey by posting 15 videos in total, JICA Iraq Office's Facebook page gained 211,681 total reach for the videos which indicate that the video had more than 14,000 reach on average. This is 2.6 times higher than the number of the followers of the page and therefore it can be said that posting video saw successful impact to some degree.

Table 22 KPIs to uploaded videos at JICA Iraq office facebook page in total

Number of Page Fans	5,241
Number of Page Followers	5,438
Percent of Engaged Female Audience	14%
Page Engagement rate	1.90%
Number of Posts	15
Total Reach for the videos	211,681
Total impressions	242,068

Key Definitions
Fans: People who liked the Facebook page.
Reach: People who had the Page's post enter their screen. Posts include statuses, photos, links, videos and more.
Impressions: The number of times the Page's post entered a person's screen. Posts include statuses, photos, links, videos and more
Engagement: Unique people who engaged in certain ways with the Page post, for example by commenting on, liking, sharing, or clicking upon particular elements of the post over the number of reached people.

(Source : Framed by survey team based on collected information)

The project assigned well-known figures as "Influencer" for dissemination strategy. Each influencer went to the project site for reporting and introducing the project and their work was recorded in the form of videos. On 12th September 2019, one of Influencers posted the video onto his Instagram which has around 82,000 followers. As the video gained about 12,000 views and this figure is well above the number for the videos posted on JICA Iraq Office Facebook (on average 540 times), it can be said that the impact and the dissemination effect of the influencer were huge.

On the other hand, the survey ran Facebook Advertising. That is, to post related materials to targeted Facebook users who are likeky to show their interest. The overall result is as follow.

Table 23 Effect of Facebook Advertising

Project	Advertising date	Duration	Clicks	Reach	Male (%)	Female (%)
Irrigation Sector Loan Project: Overview:	4 - 6 Sept.	2 days	438	31,360	94.6	5.4
Irrigation Sector Loan Project: Overview	4 - 6 Sept.	2 days	401	24,008	85.6	14.4
Irrigation Sector Loan Project: Human Element	6 - 8 Sept.	2 days	878	29,240	98.9	1.1
Port Sector Rehabilitation Project – Human Element	16 - 18 Sept.	2 days	3,173	27,552	96.9	3.1
Port Sector Rehabilitation Project – Overview	16 - 18 Sept.	2 days	4,943	33,719	94.7	5.4

Hartha Thermal Power Plant Rehabilitation Project-Overview	17 - 19 Sept.	2 days	2,636	23,217	96.9	3.1
Hartha Thermal Power Plant Rehabilitation Project - Human Element	17 - 19 Sept.	2 days	2,183	21,712	94.9	5.1
	Average		**2,093** (a)	**27,258** (b)		

Video without Advertising		Click	Reach
Khor Al-Zubair Fertilizer Plant Rehabilitation Project (Overview)		**59 (c)**	**925 (d)**
Khor Al-Zubair Fertilizer Plant Rehabilitation Project (Human element)		**16 (e)**	**1518 (f)**

Effect of Advertising

(a)/(c)	**35.5**
(a)/(e)	**130.8**
(b)/(d)	**29.5**
(b)/(f)	**18.0**

(Source : Framed by survey team based on collected information)

The posts which ran Facebook Advertising gained more than 20,000 Reach on average while Port Sector Rehabilitation Project – Overview viedo gained the most Reach of 33,719. This video also gained the most Clicks of 4,943 clicks where the average was 2,093. Comparing this result with the videos WITHOUT Advertising, the effect is obvious. Both Overview and Human Element video of Khor Al-Zubair Fertilizer Plant Rehabilitation Project which did not ran the Advertising only had Reach of 925 and 1,518 respectively. Also, the number of Clicks did not exceed 59 and 16 respectively. The average number of Clicks and Reach with and without the Advertising can be found at "Effect of Advertising" on the same table. The result is clear that the Click with the Advertising had 130 times and the Reach had nearly 30 times of those without the Advertising. Comparing the results, the posts WITH the Advertising service gained significantly more views and access. It can be therefore concluded that the Advertising is one of the effective tools for communication strategies.

Since it is generally believed that the lack of awareness and dissatisfaction of Iraq public over public works is causing low utility charge payments, one of the aims of this project is to examine whether effective PR and awareness-rising activities could result in the improvement of such attitude.

Within the survey period, such verification, that media campaign through social media site affected positively on improvement in awareness on public utility payment, has yet to be seen. As explained above, total of 15 videos were posted on JICA Iraq Office Facebook page (as well as on civil groups media platform). Most responces by users/viewers are appreciation to JICA for their effort on assisting public works in Iraq while we could not confirm any comments nor responces regarding awareness-rising on utility charge payments.

This could be due to the following reasons. Frist, the videos (Overview and/or Human Element) did not specifically focus on improvement of utility charge payments nor explicitly emphasize the importance of paying the bill. Rather, the contents and the purpose of the video remains the scope of introducing the overall project (public works) and did not largely go beyond that. Although some of those who appear in the videos

mention about utility charge payement, those parts are very much limited. Therefore, the viewers were not necessarily motivated to show their strong interest and/or affirmative response on the improvement of utility charge payment. Secondly, the lead sentences of the videos on the post only contained the name and the outline of the project. Should the explanation of the post have explicitly and directly mentioned about its purpose of questioning the awareness of the beneficiaries, the viewers were more likely to have responded accordingly. (Such response includes commenting on utility charge payment, agree or disagree). This also can be assumed from the result of questionnaires from the screening event. 98% of participants answered that they could understand the importance of paying utilities after watching short films of JICA's projects. It is therefore considered to be possible to intentionally enocourage viewers to recognize importance and necessity of being aware of public utlity payment by adding related explanation and/or setting up query in addition to the videos.

(4) Issues over social media use for public relations:

(a) Posting methods: JICA Iraq Office Facebook page initially posted videos in the form of linking to YoutTube. That is, audiences must be re-directed to YouTube site to watch the video. This way of playing the video had rather negative effect in terms of gaining viewers. JICA Iraq Office was therefore advised to directly show videos on its Facebook page. This method was applied from the foruth video (Khor Al-Zubaiar Fertilizer Plant Rehabilitation Project-Overview) and had significant effect as video gained more than few hundred views since then. This indicates that using Facebook as the platform of posting videos, the format needs to be user friendly.

(b) Wider dissemination: Some of the civil group platforms were used for dissemination of the videos. It can be advised to expand its dissemination site to Iraqi governmental Facebook. As mentioned above, Iraqi central government has more than one million followers at its Facebook, posting video there would result in gaining more access and therefore better dissemination.

(c) Political instability and internet blackout: Political instability in Iraq can be occurred in the future time and accordingly it can be easily predicted that internet blackout might happen. It is extremely difficult to make pre-measurements to avoid the blackout especially if it is related to the Iraqi government operation. This is one the major regulations and/or external factor for any organization or institution to face in public relation strategy with social media.

3.2-3 Screening Event

For the purpose of introduction of the filmed projects funded and implemented by JICA and the government of Iraq, the screening events were held in the southern and northern (Kurdistan) region in the country. At the beginning of this study, it was planned to hold event in the middle region including Baghdad as well. However, it was decided to carry out only in the southern and Kurdistan regions after consideration that higher interests, specific reaction and publicity can be obtained from the areas where

the pilot projects have been implemented.

（1） Methodology

In each region where the screening event were held, community member and public affiliation staff who are directly benefitted by the pilot projects were invited. In the notice of the event, the invitation was distributed directly by ARK with the civil society organization in each region, considering that there is no bias in specific party, sect, religion and political trends, etc.

At the event, several short films were screened after explanation of each project's outline by the moderator. Then, after the short film screening ended, participants answered to the questionnairs which includes both general questions and project specified questions. Through those answeres and comments, changes of feelings and concisousness before and after the offline screening event were investigated. The questionnairs were rougly divided into four categories such as 1) awareness of JICA's projects, 2) government role in implementation and sustainable development, 3) changes of attitude (paying taxes for sustaining projects), and 4) links to stabilization and peacebuilding. The collected data was uploaded to a data intelligence platform called Social Cops Collect for analysis.

（2） Results

Table 24 shows the results of each screening event.

Table 24 Results of Screening Event

	Basra city, Basra	Nassiriyah city, Thi Qar	Erbil city, Erbil
Date	28 September 2019 18:00 – 20:00	30 September 2019 11:30 – 13:30	2 October 2019 12 :00 – 14 :00
Venue	Mnawi Bash Hotel	Orkida Restaurant	Krestal Hotel
Participants	Total 31 （Male 26、Female 5）	Total 32 （Male 25、Female 7）	Total 39 （Male 30、Female 9）
Screened films	• Irrigation Sector Loan Project– Overview • Hartha Thermal Power Plant Rehabilitation Project – Overview • Port Sector Rehabilitation Project – Overview	• Irrigation Sector Loan Project-Overview • The Project for Sustainable Irrigation Water Management through Water Users Associations-Overview, • Khor Al-Zubair Fertilizer Plant Rehabilitation Project-Overview	• The Project on Horticulture Technology Improvement and Extension-Human Element • Water Supply Improvement Project in Kurdistan Region-Overview • Deralok Hydropower Plant Construction Project-Overview

（3） Feedback from the audience

In general, feedback gathered reflected a positive assessment of the three screening events; the audience reported a positive shift in their awareness of the prevalence and diversity of JICA's projects, an appreciation of the government's role in sustaining these projects, and an understanding of the public's role in sustaining these projects and their linkages to post conflict stability and peacebuilding. The following sections represent a detailed analysis and key findings of the video screenings according to the four main outcomes/ objectives as follows:

- Awareness of JICA's Projects

The survey indicated that 55% of the events' participants had no awareness of JICA's project prior to the screening, however, 88% of the participants noted that the screening events somewhat to substantially helped them to understand the variety of projects JICA implementing in their respective communities. Additionally, when asked about some of the most important aspects that caught their attention in terms of JICA's work, prevalence and diversity of the projects (57%), the implementation of large-scale projects (52%), and impact on local communities (49%) were rated the highest among others.

- Government Role in Implementation and Sustainable Development

After the screening, the audience was asked to indicate whether they had prior awareness/knowledge of the Iraqi government's role in sustaining such projects and only 38% reported awareness of the government's efforts/involvement. However, awareness and confidence in the Iraqi government's role have increased as a result of the screening. The government's role, according to the targeted audience, mainly focuses on: creating effective tax collection methods (**52%**), raising awareness of the importance of similar projects (**18%**), and the proper utilisation of taxes (**14%**) among others (**16%**).

- The Iraqi Public's Role in Sustaining and Supporting Development Projects

The surveys revealed that the video screening helped 98% of the events' participants to somewhat to substantially understand the importance of paying utilities as part of their role in sustaining these projects. Reflecting on their role after attending the events, respondents answered the following.

The majority of participants indicated that the videos facilitated a better understanding through explaining how paying taxes and bills ensure the sustainability of public services (79%), demonstrating

the success of these projects and their impact on communities (78%), and raising awareness of the funding mechanisms of these projects (73%).

- Links to Stabilization and Peacebuilding

The majority of respondents (95%) believe that the screened projects somewhat to substantially target major obstacles to post-conflict stability and peace. Various ways were reported by respondents on how they perceive the impact of JICA's projects on targeted communities and post-conflict peacebuilding efforts including: 1) improving the quality of life, 2) providing essential services for daily lives; 3) revitalizing the local economy; 4) building technical knowledge and expertise; 5) supporting post-war reconstruction in Iraq; 6) contributing to national unity and peacebuilding; 7) building a foundation for livelihoods; 8) strengthening basic economic infrastructure; 9) promoting and diversifying industry for economic growth.

4. Findings and Recommendations

This project conducted 1) the studies of public utility charges and management of O&M on the public infrastructure and, 2) PR and awareness-raising actiivites through social networking sites. The scope is to improve understanding of Iraqi citizens for the public works including the development of public infrastructure, and the awareness of paying public utility charges, which are all expected to lead to better management on the operation and maintenance of sustainable public infrastructure.

For awareness-raising activities, short films were produced. The major scope of the videos is to show the overview of JICA's engagements in public infrastructure development in Iraq and those films were introduced and played at the screening events with civil society organizations as well as posted on the JICA's Facebook page and social media networking sites.

The social media campaign was found very effective and successful to execute the awareness-raising activities in the purposes of improving citizens' understanding of importance on public infrastructure and willingness to pay the public utility charges. It should be valued of the fact that 98% of the participants in the public viewing answered that it was useful to be sensitized the importance of paying public utility charges.

It should also be valued of the fact that, throughtout the posting of produced films via social media, the number of "Like" which shows favorable reaction from the viewer was accumulated over 14,000 among the total number of REACH of which was accumulated over 210,000. In addition to the favorable responses, it was confirmed that the number of negative comments was only two. It is an evidence that JICA's engagements on the public infrastructure development in Iraq is very well received by the viewers in Iraq.

The internet connection was cut off several times in Iraq during this survey. It was reported that it had happened due the instability caused by the protest activities against vulnerable infrastructure. The awareness-raising activities such as posting to social media in this survey were proved to be fragile and seriously interfered with the plan. Although security situation in Iraq saw improvement over the last coupole of years, there seems to be a certain level of discontent against the government remaining among the public. There will be the social environment risk that this kind of unexpected civil disorder may be borne at least for the time being.

However, such risk cannot be an appropitate reason for the government to either hesitate or withdraw from the PR activities and/or awareness-raising. Since the major cause of popular discontent is seemed to be rooted in insufficient quality of public services, it is rather necessary to expand such PR activities through social media, which is increasingly prevalent, by the government agencies in Iraq although appropriate risk management and caution for unexpected political situation are needed.

Annex Data Analysis

Awareness of JICA's Projects

Have you heard about JICA's projects prior to this screening?

	Percentage
Yes	45%
No	55%

To what extent did the video screening help you understand JICA's work in Iraq?

	Percentage
Substantially	26%
Somewhat	62%
Not at all	12%

What was the most thing that caught your attention in terms of JICA's work?

	Percentage
Prevalence and diversity of JICA's projects	57%
The implementation of large-scale projects	52%
Relevance to local needs	33%
Impact on local communities	49%
Focus on essential services	43%
Impact on local economy	8%
Sustainability of projects	25%

Government Role in Implementation and Sustainable Development

Were you aware of the Iraqi government role is similar projects prior to this screening?

	Percentage
No	62%
Yes	38%

To what extent did this screening help you to understand the role of the Iraqi Government in providing such services?

	Percentage
Substantially	28%
Somewhat	60%
Not at all	12%

To what extent did the screening help to increase your confidence in the government efforts to provide similar services?

	Percentage
Substantially	38%
Somewhat	52%
Not at all	10%

In your opinion, what is the role of the government in sustaining such projects?

	Percentage
Effective tax collections methods	52%
Proper utilization of taxes to pay for maintenance of projects	14%

Raise awareness on how to sustain projects	18%
Other	16%

Change of Attitude (paying taxes for sustaining projects)

Did this screening make you understand the importance of paying taxes and bills in order to sustain these projects?

	Percentage
Substantially	76%
Somewhat	22%
Not at all	2%

After the screening, how do you rate your role as a citizen in sustaining these projects?

	Percentage
Strong role	66%
Somewhat strong	29%
No role at all	5%

How do these projects influence your perception of the importance of paying taxes and bills for obtaining public services?

	Percentage
Through explaining how paying taxes and bills ensure the sustainability of public services.	79%
Through demonstrating the success of these projects and their impact on communities.	78%
Through raising awareness on the funding mechanisms of these projects.	73%
Other (Please specify:	0%

To what extent this screening creates awareness and influences people's perception of the importance of paying taxes and bills for public services?

	Percentage
To a large extent	28%
To some extent	56%
No at all (Reason	16%

As a result of attending this event, I see the value to me in the following ways

	Percentage
I gained one or more specific ideas about JICA work in my community	38%
I gained more knowledge of the impact of these projects on my community	35%
I am more aware of the importance of paying taxes and bills	24%
I do not see any impact of this event on my understanding of JICA's work nor the importance of the projects	3%

Links to Stabilization and Peacebuilding

Do you think that this type of projects helps with the stabilization and development of Iraq?

	Percentage
Substantially	59%
Somewhat	37%
Not at all	4%

In your opinion, to what extent did the screened projects target major obstacles to post conflict stability and peace?	
	Percentage
Substantially	65%
Somewhat	30%
Not at all	5%

To the extent of your knowledge and/or based on the video screening, please describe the impact of JICA's work on you and in Iraq?	
	Percentage
Provided essential services for daily lives	17%
Improved the quality of life	36%
Revitalized local economy	15%
Built technical knowledge and expertise	9%
Supported post-war reconstruction in Iraq	6%
Contributed to national unity and peacebuilding	9%
Strengthened basic economic infrastructure and livelihood	8%

Overall

I would rate this screening as:	
	Percentage
Excellent	38%
Good	45%
Average	13%
Poor	3%

Facility

	Percentage
Was the facility adequate and appropriate for video screening?	89%
Was the facility comfortable and did it provide adequate space?	89%

General

	Percentage
Video contents were presented clearly and effectively	89%
Video contents presented were useful for me	85%
Content met expectations	87%