

**Ministry of Public Works and Housing
Republic of Indonesia**

**The Project on Strengthening COE
(Center of Excellence) Program for
PDAMs in the Republic of Indonesia**

Project Completion Report

November 2018

Japan International Cooperation Agency (JICA)

**Koei Research & Consulting Inc.
Nihon Suido Consultants Co., Ltd.
Yokohama Water Co., Ltd.**

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Project Completion Report

Project Title: The Project on Strengthening COE
(Center of Excellence) Program for PDAMs in
the Republic of Indonesia

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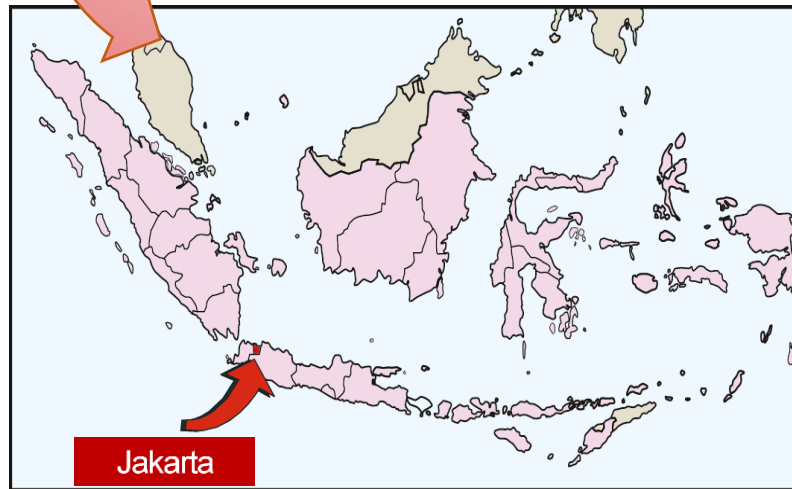
Abbreviations

AKATIRTA	<i>Akademi Teknik Tirta Wiyata (Tirta Wiyata Engineering Academy)</i>
APBN	Indonesian Central Government Budget
BINTEK	Technical Guidance (Training)
BPPSPAM	Agency for Improvement of Water Supply System Development
BTAM	<i>Balai Teknik Air Minum (Water Supply Technical Training Center)</i> , i.e. the MPWH's training center for the water supply sector located in Bekasi city, West Java province. BTAM implements Regular Trainings for PDAMs and other central and local authorities and belongs to the Secretariat General of DGHS in the MPWH organization.
COE	Center of Excellence
CR	Customer Relations
DGHS	Directorate General of Human Settlements
DMA	District Metered Area
DWSD	Directorate of Water Supply System Development
EE	Energy Efficiency
FAM	Financial Analysis and Management
GIS	Geographic Information System
HRD	Human Resource Development
IDR	Indonesian Rupiah
IUWASH	Indonesia Urban Water, Sanitation and Hygiene Program (USAID)
JICA	Japan International Cooperation Agency
Kab/Kota	<i>Kabupaten/Kota (Regency/City)</i>
KMP	<i>Konsultan Manajemen Pelaksana (COE Management Consultant)</i>
LSP	Professional Certification Agency (<i>Lembaga Sertifikasi Profesi</i>)
LSP-AMI	Professional Certification Agency – Indonesian Water Supply
M/P	Master Plan
MPWH	Ministry of Public Works and Housing (<i>Kementarian Pekerjaan Umum & Perumahan Rakyat: PUPR</i>)
MOU	Memorandum of Understanding
NT	National Training
NRW	Non-Revenue Water
NUWAS	National Urban Water Supply Program (World Bank)
PAMSIMAS	<i>Program Penyediaan Air Minum dan Sanitasi Berbasis Masyarakat (Water Supply and Sanitation Program for Low Income Communities)</i>
PDAM	Water Supply Company (<i>Perusahaan Daerah Air Minum</i>)
PD PERPAMSI	Regional Board of Indonesian Water Supply Association
PERPAMSI	<i>Persatuan Perusahaan Air Minum Seluruh Indonesia (Indonesian Water Supply Association)</i>
PIP2B	<i>Pusat Informasi Pengembangan Permukiman dan Bangunan (Information Center for Housing and Building Development)</i>
PT	Provincial Training
SAK-ETAP	Indonesian Accounting Standards for Non-Publicly-Accountable Entities
SKKNI	<i>Standard Kompetensi Kerja Nasional Indonesia (Indonesian National Work Competency Standards)</i>
TUK	<i>Tempat Uji Kompetensi (Competence Examination Place)</i>

UPTD	<i>Unit Pelaksana Teknis Dinas Daerah</i> (Technical Local Service Implementation Unit) of local governments
WB	World Bank
WG	Working Group
WOPs	Water Operators' Partnerships
WTP	Water Treatment Plant
YPTD	<i>Yayasan Pendidikan Tirta Dharma</i> (<i>Tirta Dharma</i> Educational Foundation)

Target Area Map

Republic of Indonesia



Chapter 1. Basic Information of the Project

1.1 Country

Republic of Indonesia

1.2 Title of the Project

The Project on Strengthening COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia

1.3 Duration of the Project

- Planned: Three years from commencement of the Project in August 2015
- Actual: August 10, 2015 to August 9, 2018 (three years)

The duration of the project was three years from August 2015 through August 2018 in accordance with the plan.

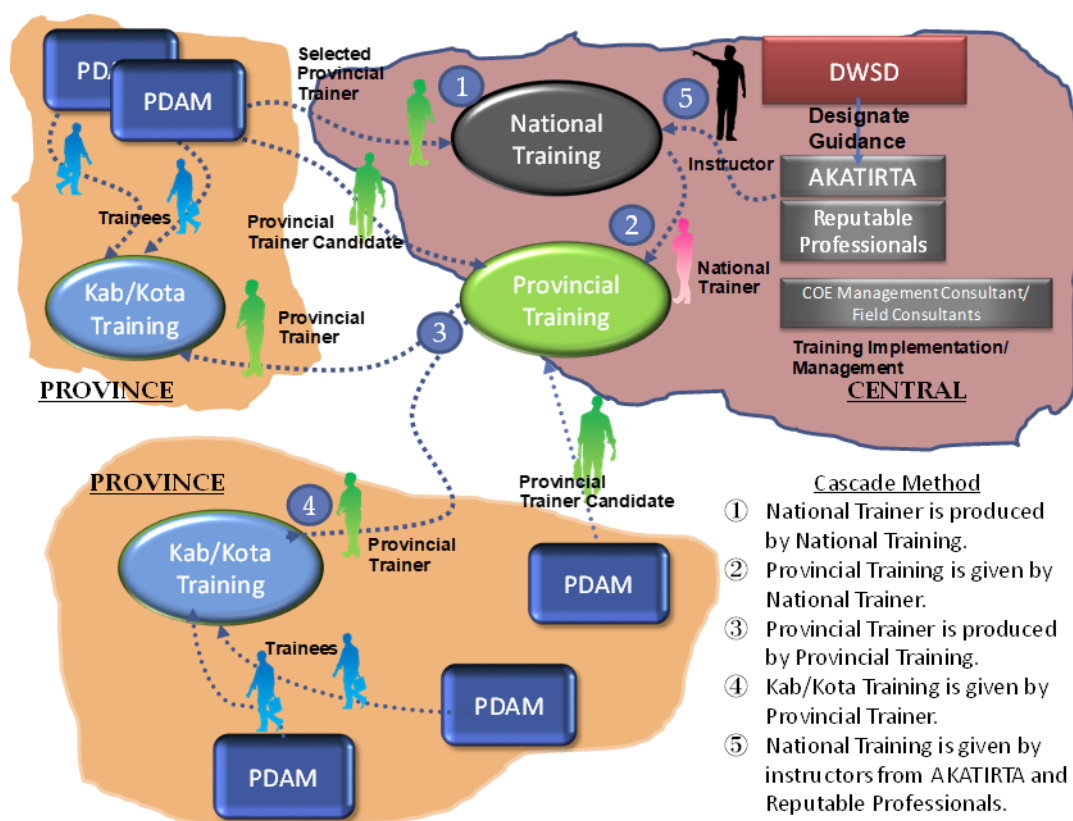
1.4 Background at the Time of Project Planning

The ratio of population with sustainable access to safe drinking water in Indonesia was still low. The ratio of population with access to safe water through piped water was 27% in 2011 against the goal of 2015 by 41% in the Millennium Development Goals (MDGs).

Water supply services in Indonesia are operated and managed by water utilities (PDAMs) in each district and city under the local government. However, this water sector had problems and challenges such as (i) many PDAMs were not able to get investment funds due to the bad financial status, and (ii) good practices and lessons learnt were not disseminated nationwide due to decentralization in Indonesia. In addition, good interventions could not be continued due to the limited human capacity of PDAMs. Ministry of Public Works and Housing (MPWH) had struggled with the challenges on shortage of human resources of PDAMs and need for improvement of the capacity of existing human resources. In 1990, MPWH established BTAMS (Water Supply and Environmental Sanitation Training Center) with the support of Japan. Since then, MPWH started to supply trainings to staff of PDAMs. However, capacity of BTAMS such as capacity of providing reliable mentors/trainers as well as capacity of existing facility/equipment was limited for the number of PDAMs.

These problems and challenges led MPWH to start the new program for developing the capacity of human resources in PDAMs across the country from 2012, which was named "Center of Excellence (COE) Program".

COE Program applies a unique cascade training structure involving PDAM staff as trainers, which is composed of (i) National Trainers who train other PDAM staff to produce Provincial Trainers on central level; and (ii) Provincial Trainers, who got training from National Trainers and provide training to PDAM staff in their respective provinces as Kabupaten/Kota (Kab/Kota) Training (See Figure 1). This approach aims at massive and speedy dissemination of operational knowledge and technique among PDAMs nationwide. Currently, the training implementation is carried out by COE Management Consultant and Field Consultant hired by DWSD



Source: JICA Expert Team

Figure 1: Cascade Method Training Structure of COE Program

However, PDAMs faced many challenges, for example, the effects of the COE Program were very limited because the COE Program was just started and its training modules were also limited to just three, i.e. non-revenue water, energy efficiency, and financial accounting for non-public enterprises.

For improving this situation, MPWH requested for support to strengthen the COE Program to Japan.

1.5 Overall Goal and Project Purpose

The Overall Goal and Project Purpose determined in the Record of Discussions (R/D) dated January 30, 2015 are described below. They have been modified throughout the project period as detailed in Section 2.3.

1.5.1 Overall Goal

Capacity of PDAMs on improvement of PDAM management is enhanced.

1.5.2 Project Purpose

Implementation capacity of the COE Program for PDAMs in the Directorate General of Human Settlement is enhanced.

1.6 Implementing Agency

- Directorate General of Human Settlement (DGHS), Ministry of Public Works and Housing (MPWH)

Under DGHS, the Directorate of Water Supply System Development (DWSD) has directly executed the project activities in cooperation with JICA Expert Team. See Section 2.1.2 for detail.

Chapter 2. Results of the Project

2.1 Results of the Project

2.1.1. Input by the Japanese Side

[Experts deployed]

A total of 10 experts were deployed as JICA expert team. They were deployed in accordance with the plan with the total actual man/months worked of 59.77 Man-month (MM) from August 2015 to September 2018.

Table 1: Experts Deployed

No	Assignment Area	Name of Expert	MM		
			Indonesia	Japan	Total
1	Chief/ Capacity Development and Human Resource Development (1)	Yusaku MAKITA	13.83	1.58	15.41
2	Deputy Chief/ Capacity Development and Human Resource Development (2)	Yoshiaki YOKOTA	9.97	0.25	10.22
3	Non-revenue Water 1	Kenji NAKANOSONO	4.17	-	4.17
4	Non-revenue Water 2	Masuji IDE	2.03	-	2.03
5	Energy Efficiency 1	Kozo OBARA	2.27	-	2.27
6	Energy Efficiency 2	Yuichi Matsumoto	2.57	-	2.57
7	Customer Relations	Ken YOKOYAMA	9.47	2.40	11.87
8	Financial Analysis and Management	Mitsuhiro DOYA	8.90	-	8.90
9	Training Plan	Akihiro Natori	2.13	-	2.13
10	Training in Japan	Yusaku Makita	-	0.20	0.20
TOTAL			55.34	4.43	59.77

Source: JICA Expert Team

[Local Operational Expenses]

Operational expenses borne by the Japan side were approximately 50 million yen.

[Equipment Provision]

Equipment Provision by the Japan side is shown in the table below.

The following NRW and EE equipment was handed over in May 2018 to the counterpart and relocated in September 2018 to BTAM from the counterpart. (See Annex 2)

Table 2: NRW Equipment Provision (Procured by JICA Indonesia Office)

No.	Item	Model	Qty	Unit Prices (IDR)	Total Prices (IDR)	Date of Delivery D/M/Y	Place to keep
1	PVC Pipe Leakage Detector	Goodman D305	10	152,600,000	1,526,000,000	March 2017	BTAM Bekasi
2	Leak Noise Correlator with Transmit Sensors	Gutteman Aquascan 620L	2	221,060,000	442,120,000	March 2017	BTAM Bekasi

No.	Item	Model	Qty	Unit Prices (IDR)	Total Prices (IDR)	Date of Delivery D/M/Y	Place to keep
3	Portable Ultrasonic Flowmeter	Ultraflux	5	137,500,000	687,500,000	April 2017	BTAM Bekasi
4	Pressure Data Logger	Dickson	5	13,000,000	65,000,000	April 2017	BTAM Bekasi
5	Digital Type Compact Leak Detector	Gutteman	5	40,800,000	204,000,000	April 2017	BTAM Bekasi
6	Acoustic Bar with Electrical Amplifier	Sewerin	2	33,850,000	67,700,000	April 2017	BTAM Bekasi
7	Acoustic Bar made of steel bar	12mm × 1,200mm	50	100,000	5,000,000	April 2017	BTAM Bekasi
TOTAL(IDR)					2,997,320,000		

*Price in the list are excluding VAT.

Source: JICA Expert Team

Table 3: EE Equipment Provision (Procured by JICA Expert Team)

No.	Item	Model	Qty	Unit Prices (IDR)	Total Prices (IDR)	Date of Delivery D/M/Y	Place to keep
1	Power Quality Analyzer	Kyoritsu 6315-03	5	40,500,000	202,500,000	May 2017	BTAM Bekasi
2	AC/DC Digital Clamp Meter	Kyoritsu 2056R	3	2,200,000	6,600,000	May 2017	BTAM Bekasi
3	Infrared Thermometer	Kyoritsu 5510	5	2,800,000	14,000,000	May 2017	BTAM Bekasi
4	Tachometer	Extech RPM40	2	3,200,000	6,400,000	May 2017	BTAM Bekasi
TOTAL(IDR)					229,500,000		

*Price in the list are excluding VAT.

Source: JICA Expert Team

Table 4: Office Equipment Provision (Procured by JICA Expert Team)

No.	Item	Model	Qty	Unit Prices (IDR)	Total Prices (IDR)	Date of Delivery D/M/Y	Place to keep
1	Photocopy & Printing Machine	Kyosera TASKarfa 2551ci	1	50,000,000	50,000,000	August 2015	DWSD Office
2	Desktop PC	Lenovo Ideacentre C20-30	1	8,600,000	8,600,000	August 2015	DWSD Office
3	Laptop PC	Dell Inspiron 14	1	10,590,000	10,590,000	August 2015	DWSD Office
4	Projector	EPSON EB-X200	1	5,150,000	5,150,000	August 2015	DWSD Office
TOTAL(IDR)					74,340,000		

*Price in the list are excluding VAT.

Source: JICA Expert Team.

[Counterpart Training in Japan]

Three training sessions in Japan were held in this project.

The first training was held from April 18 to 27, 2016, for executives with the objective to introduce them to the human resources policies in Japan and study cases of the water supply projects.

The second training was conducted from 16 to 25 May, 2017 in which technical training on Non-Revenue Water (NRW) and Energy Efficiency (EE) was given to technical staff members. The third training was conducted from 7 to 16 May, 2018 in which technical training on Customer Relations (CR) was given to the members of COE related organizations.

The details of the participants of the three trainings are listed in the following table.

Table 5: Participant names and Organizations of the First Counterpart Training

No.	Name	Post	Organization
1	Ali Abdullah BAJUBER	Technical Staff	Technical Unit - Water Supply System Management, Public Works Agency of Central Sulawesi Province
2	Antonius LOLON (Anton)	Staff	Directorate of Water Supply System Development, Ministry of Public Works and Housing
3	Anggar PRATITIS	Staff	Water Supply and Sanitation Training Center, Ministry of Public Works and Housing
4	Djaya MULYA	Staff	Provincial Water Supply Project, Central Sulawesi Province, Ministry of Public Works and Housing
5	Tiasti Wening PURWANDARI	Staff	Directorate of Water Supply System Development, Ministry of Public Works and Housing
6	Zikra Syafwan ANWAR	Staff	Directorate of Water Supply System Development, Ministry of Public Works and Housing
7	Ashari MARDIONO	Executive Director	PERPAMSI (Indonesia Water Supply Association)

Source: JICA Expert Team

Table 6: Participant names and Organizations of the Second Counterpart Training

No.	Name	Post	Organization
1	Mr. Anwar Fadhly	Director	PDAM Kabupaten Polewali Mandar
2	Mr. Sundana Hari	Head	PDAM Kabupaten Bandung Production and Distribution Section
3	Mr. Supian	Senior Manager	PDAM Kota Banjarmasin Human Resources and Procurement
4	Mr. Asmara Gigih Yuli	Water Balance and NRW Supervisor	PDAM Kota Malang
5	Mr. Wirawan Tomi	Head	PDAM Kota Padang Planning Section
6	Mr. Ibrohim Sucipno Kustiya	Head	PDAM Kabupaten Bondowoso Maintenance and Equipment Section
7	Ms. Hastuti Dian Suci	Staff	DWSD Functional Position of Environmental Engineering
8	Mr. Rahardjono	Production Manager	PDAM Kota Malang
9	Mr. Fahrurodzy Muhamad Hasan	Head	PDAM Kabupaten Bogor Sub Division, Production / Mechanical Electrical
10	Mr. Ansori Arip	Head	PDAM Kabupaten Bangkalan Technical Planning Section
11	Mr. Siregar Risdom Rafiadi	Branch Head	PDAM North Sumatera Province Waste Water Marketing
12	Mr. Nugroho Abisua Setia	Staff	PDAM Kota Palangkaraya Production, maintenance and technical planning

Source: JICA Expert Team

Table 7: Participant names and Organizations of the Third Counterpart Training

No.	Name	Post	Organization
1	Ms. Noviasari Riche	Section Head	Directorate of Water Supply System Development, Ministry of Public Works and Housing
2	Mr. Raharjo Slamet	Manager	PDAM Kota Malang
3	Ms. Amelia Eliza Bhakti	Manager	BPPSPAM (Agency for Improvement of Water Supply System Development)
4	Ms. Dewi Restiana	Technical Analysis Officer	BPSDA (Human Resources Development Agency)
5	Mr. Agus Sunara	Expert	PERPAMSI (Indonesia Water Supply Association)

Source: JICA Expert Team

[COE Training Expensed by JICA Fund]

COE training is managed and conducted by DWSD, however, because of the significant budget cut for the training in 2017, DWSD requested to JICA to support fund of a part of the trainings. Through the discussion between DWSD and JICA, both parties agreed to conduct the COE trainings listed below with JICA fund.

Table 8: COE Training Expensed by JICA Fund

Name of Training	Period	Venue	Module
Trial Training	August 8 -10, 2017	Jakarta	CR/FAM
Provincial Training	January 29-February 2, 2018	Jakarta	CR/FAM
Kab/Kota Training	April 9 -11, 2018	Solo	CR/FAM

Source: JICA Expert Team

2.1.2. Input by the Indonesian Side

[Project team members assigned]

Project team members assigned for the Project on the Indonesian side are as shown in Tables 9 - 13.

Administration of the Project was carried out by the Director of DWSD as the Project Director and Head of Sub-directorate of Standardization & Institution as the Project Manager (See Table 9). Under the Project Manager, the DWSD staff formed the Project Management Unit (PMU) to directly execute the project activities.

Table 9: Implementation Agency Management Team

No	Institution	Title	Name	Period
1	Directorate General of Human Settlements	Director for Water Supply Development	Mr. Mochammad Natsir	2014 - July 2017
2			Mr. Muhammad Sundoro	July 2017 - July 2018
3			Mr. Agus Ahyar	July 2018 - Present
4	Directorate of Water Supply Development	Head of Sub-directorate Standardization & Institution	Mr. Hilwan	2011 - 2016
5			Ms. Dian Prasetyawati	Jan - May 2017
6			Mr. Muhammad Sundoro	May - July 2017
7			Ms. Meike Kencana Wulan (acting head)	July - Oct 2017
8			Ms. Susi MDS Simanjuntak	Oct 2017 - Present

9	-	Sub-Directorate Standardization & Institution Sub-Section of Institution	Section Head of Institution	Ms. Luki Retno Andayani	2012 – June 2017
10				Ms. Riche Noviasari	Nov 2017 - Present
11			Standards and & Guidance Supervisor	Ms. Zikra Syafwan ANWAR	2008 - 2016
12				Ms. Krisna Maharani Dewi	2009 - 2016
13				Ms. Ichwina Fitra Manzani	2010 - Present
14				Ms. Tiasti Wening	2014 - Present

Source: JICA Expert Team

For the revision and development of the COE training modules, DWSD assigned the four Working Groups formed by Indonesian experts such as the existing National Trainers (PDAM staff) of COE Program, AKATIRTA lecturers, and other practitioners. For the revision of NRW and Energy Efficiency (EE) modules, members of the existing Working Group for module development were assigned.

Table 10: Working Group [Customer Relations (CR)]

No	Division	Title	Name
1*	PDAM Kota Banjarmasin	General Director & Marketing	Ms. Farida Ariati
2*	PT. Adhya Tirta Batam	Customer Service Manager	Ms. Maria Jacobus
3*	PT. Aetra Air Jakarta	Corporate & Customer Communication Manager	Ms. Rika Anjulika
4*	PDAM Kota Malang	Marketing Assistant Manager for CR	Mr. Slamet Raharjo
5	PDAM Kab. Tangerang	Research and Development	Ms. Ardiyah
6	PDAM Kab. Bogor	Head of Customer Relation	Ms. Dedeh Syamsiah
7	PDAM Kota Depok	Marketing Supervisor	Mr. Gatot M.H
8	PDAM Kab. Tangerang	Sub Section Head of Accounting	Ms. Melia
9	PDAM Kota Bekasi	Sub Division Head of Marketing and Service	Mr. M. Firdaus
10	PDAM Kab. Bekasi	Sub Division Head of Promotion	Mr. Teddy T. Syam
11	PDAM Kab. Tangerang	Division Head of Customer Service	Mr. Yudo Mahasuta

* The above four members from No,1 to No,4 are the main working group members who attended the seminars and meetings until the end of the project.

Source: JICA Expert Team

Table 11: Working Group [Financial Analysis and Management(FAM)]

No	Division	Title	Name
1*	IUWASH	WASH Finance Advisor	Mr. Benny Djumhana
2*	Consultant	Financial Expert	Ms. Retno Pandawi
3*	Consultant	Financial Expert	Ms. Ari Sutiartie
4*	PDAM Kab. Magetan	Research and Development	Mr. Farid Rozin
5*	PDAM Kota Depok	Assistant Manager of Research and Development	Ms. Mya Musyarova Wati
6*	PDAM Kota Malang	Assistant Financial Manager	Mr. Ahmad Fathoni
7	Water Supply Expert	Water Supply Expert	Mr. Budi Sulaiman
8	PDAM Kota Depok	Financial Staff	Mr. Asep Kawaludin
9	PDAM Kota Malang	Financial Staff	Ms. Aneka Puspa W

* The above four members from No,1 to No,6 are the main working group members who attended the seminars and meetings until the end of the project.

Source: JICA Expert Team

Table 12: Working Group [Non Revenue Water (NRW)]

No	Division	Title	Name
1	Water Supply Expert	Water Supply Expert	Mr. Achmad Rosyid
2	IUWASH	Water Supply Expert	Mr. Hernadi Setiono
3	Water Supply Expert	Water Supply Expert	Mr. Tanobaya
4	PDAM Kabupaten Bandung	Division Head of Production and Distribution	Mr. Hari Sundana
5	PDAM Kota Banjarmasin	HR Senior Manager	Mr. Supian
6	PDAM Kota Malang	Customer Network Manager	Ms. Nanis Setiari
7	BTAM Bekasi	Staff	Mr. Suhadi

Source: JICA Expert Team

Table 13: Working Group [Energy Efficiency (EE)]

No	Division	Title	Name
1	AKATIRTA Magelang	Instructor / Lecturer	Mr. Prijono
2	PDAM Kota Malang	Production Manager	Mr. Rahardjono
3	PDAM Kota Malang	Pumping Assistant Manager	Mr. Dedi Setiawan
4	PDAM Kota Bogor	Section Head of Maintenance	Mr. Hasan Farurodzy
5	PDAM Kabupaten Jember	Sub-division Head of Engineering Maintenance	Mr. Peni Pintarto
6	PDAM Kota Aceh	Section Head of Maintenance	Mr. Fathurrahman
7	BTAM	Staff	Mr. Suhadi
8	PDAM Kota Medan	Branch Head of Waste Water Marketing	Mr. Risdum

Source: JICA Expert Team

[COE Training Expensed by DWSD]

As mentioned on 2.1.1, though part of the COE trainings were funded by JICA because of the budget cut in 2017, the trainings other than mentioned in Table 8 was financed by Indonesia side and conducted by DWSD.

[Project Office and Operational Expenses]

The project office for the JICA Expert Team was provided by the counterpart in the Cipta Karya building since the start of the project. Part of running cost of the project office was borne by the counterpart, such as electricity, and network and internet connectivity. The cost of meetings with JICA Expert Team, some of the cost of working groups, and the whole cost of final JCC held on 9 August 2018 was borne by the counterpart.

2.1.3. Activities

During the project period, following activities were implemented to generate the planned outputs. The present section describes the respective activities in accordance with the planned activities described in the Project Design Matrix (PDM).

(1) Activities for Output 1

Output 1: *“Quality management of the COE Program is strengthened.”*

(Activity 1-1) *Conduct a study on the up-to-date output and challenges of the COE Program, and compile priority issues to be improved.*

JICA Expert Team in cooperation with DWSD conducted the COE Program Review and Baseline Survey from August 2015 to January 2016, which consists of field surveys in August 2015 in selected provinces and literature review as well as interviews and discussions with concerned parties.

1) Field Surveys

- Central level DWSD, PERPAMSI, BTAM and BPPSPAM
- Provincial level: PIP2B in South Sulawesi and South Sumatera
- PDAMs: PDAM Kota Parepare, PDAM Kabupaten Gowa (South Sulawesi)
PDAM Kabupaten Ogan Ilir, PDAM Kabupaten Banyuasin (South Sumatera)
- Donors: World Bank, Asian Development Bank, Embassy of the Netherlands

2) Baseline Survey

Baseline Survey consisting of the questionnaire survey of past COE training participants and BPP SPAM data input (PDAM performance data) were conducted from November to December 2015.

The results of COE Program Review were compiled into the Baseline Survey and COE Program Review Report and presented in the first JCC meeting in March 2016 (see Supplemental Document 1). As for the challenges of COE Program to be improved in COE Program, the following were pointed out in the report:

a) Future Implementation Structure

As the future implementation structure of COE Program, DWSD had intention to transfer its roles to provincial levels and DWSD would monitor the implementation and provide financial supports. PD PERPAMSI¹ i.e. the provincial branch of PERPAMSI and PIP2B were expected to be key players of COE Program at provincial levels.

The following are challenges for the future COE management system, and they should be discussed through the preparation of Master Plan for COE Program among the agencies concerned.

- PIP2B Status: PIP2B in each province is still in the transition to be under provincial government and their organizational capacity was limited. Therefore, for the near future, it should be decided whether the role of PIP2B should be limited to provision of training venues.
- Roles of Satker PAM : Satker PAM² is taking the role of invitation of COE Program to PDAMs and other minor supportive work. Presently COE management consultants were mainly organizing and preparing Kab/Kota Training. It was questionable whether Satker PAM could take over these activities.
- Roles of PD PERPAMSI: PD PERPAMSI is the PDAM which is regarded as the leading PDAM in each province. Involvement of PERPAMSI and PD PERPAMSI should be discussed including PD PERPAMSI's capacity for training implementation and role of the central PERPAMSI in COE Program.
- Quality management of training module contents: There should be periodic revision of training module contents. Feedback mechanism of provincial level evaluation to central level would be also necessary. Working Group composed of AKATIRTA and main PDAMs should take important roles in this regard.

¹ PD PERPAMSI (Pengurus Daerah PERPAMSI: Regional Board of Indonesian Water Supply Association) is the provincial branch of PERPAMSI (Indonesian Water Supply Association).

² Satker PAM (*Satuan Kerja Pengembangan Air Minum*: Water Supply Development Working Unit) is the regional branch of DWSD on provincial level.

- Roles of Consultants: There seemed to be still consultant roles needed such as preparation of training materials, logistics of training management in the future implementation mechanism.
- Program Budget and Management of DWSD: It was necessary to define management of DWSD over COE Program and establish finance sources for continuation of COE Program.

b) Development of Master Plan

Master Plan for COE Program formulation by DWSD was delayed due to constraints of TOR for local consultants. It was suggested that JICA Expert Team facilitate and support the preparation of Master Plan through the following activities:

- DWSD should be the key organization for Master Plan preparation working together with related agencies such as PERPAMSI, BTAM. The working group for Master Plan should be mainly composed of the participants of the training in Japan (April 2016), and should organize three or four workshops for drafting the Master Plan under the support of JICA Expert Team.
- JICA Expert Team should contribute to the preparation of Master Plan contents, advices based on the survey results, facilitation of workshops, etc.

c) Terms of Reference (TOR) of COE Management Consultants

COE Management Consultant played a major role in training implementation in the program including logistics work. However, the system of quality control was being developed partially over the whole program. There was need for improvement of the management consultant TOR in monitoring, evaluation and quality control of the program.

(Activity 1-2) Reflect the priority issues to be improved into TOR for the COE management consultant for their implementation.

The improvement of TOR for COE Management Consultant was proposed as a part of the Master Plan for COE Program. This reflects the program challenges realized through the COE Program Review (Activity 1-1) and compiled as the proposed additional TOR in an annex to the Master Plan which consists of the following:

- 1) Assistance for transfer of Kab/Kota Training of COE Program to PERPAMSI
- 2) Assistance for capacity development of PD PERPAMSI
- 3) Assistance for coordination between COE Program and SKKNI (Indonesian National Work Competency Standards)
- 4) Improvement of monitoring and evaluation of COE Program

During the course of the discussions on the draft Master Plan in early 2018, DWSD revised its Scope of Work (TOR) for COE Management Consultant and Field Consultants for the 2018 COE Program accordingly (see Supplemental Document 2 for the revised Scope of Work). DWSD selected consultants in accordance with the revised Scope of Work in April 2018. As following-up for the selected COE Management Consultant, JICA Expert Team provided guidance of the TOR improvement to the COE Management Consultant in their kick off meeting in May 2018.

(Activity 1-3) Prepare a draft master plan for the COE Program based on the points for the improvement.

1) Preliminary Discussions for Preparation of Master Plan

It was confirmed at the first JCC meeting in March 2016 that JICA Expert Team would support and facilitate the preparation of Master Plan for COE Program in cooperation with DWSD. Subsequently, a series of discussions took place among DWSD and concerned organizations such as PERPAMSI, BPPSPAM, BTAM, etc. as well as JICA Expert Team from 2016 to 2017. Salient results of those discussions are summarized as follows:

- The first training in Japan invited participants from organizations concerned with COE Program such as DWSD, BTAM and PERPAMSI. They learned the human resource development in Japanese water supply sector and roles of the government and Japan Water Works Association (JWWA). After the training, they participated in discussions for the Master Plan development.
- For preparation of Master Plan, DWSD and JICA Expert Team conducted the mapping of PDAM support programs and projects from the central government, donors and other organizations such as PERPAMSI. DWSD held a coordination meeting titled “Synchronizing Capacity Building Program from Donors” in November 2016 with donor community. It enhanced the understanding and presence of COE Program and reinforced the necessity of coordination between physical investment programs such as National Urban Water Supply Program supported by World Bank and human resource development programs such as COE Program.
- As a result of preliminary discussions, the following outline of the Master Plan was presented:
 - (i) Comparison of main training programs for PDAM (COE, YPTD (*Tirta Dharma* Educational Foundation) and BTAM) indicates necessity for clear positioning and demarcation of the programs to avoid overlapping and opportunity loss.
 - (ii) Numerical target setting is necessary as to number of training and trainers for long- and short-term planning and budgeting.
 - (iii) As for the training venues of Kab/Kota Training, the idea of utilizing PIP2B has been abandoned due to lack of readiness of PIP2B nationwide. Hotel facilities currently is used for class-room type trainings as it can provide accommodation, lecture rooms and food, and also reduce transportation cost. However, practical training such as NRW survey needs training field, and cooperation from PDAMs which have District Metered Areas (DMAs) are necessary. Cooperation of PD PERPAMSI for securing practice training field for Kab/Kota Training is essential.
 - (iv) For the program implementation in the future, involvement of PERPAMSI will be proposed in the Master Plan.

2) Drafting and Discussions of the Master Plan

The first draft of Master Plan was presented by JICA Expert Team in December 2017 and subsequently discussed among DWSD, BTAM, BPPSPAM, PERPAMSI, etc. Outline of the proposed Master Plan is summarized as follows:

- (i) Objective of Master Plan for COE Program
The objectives of Master Plan development are to analyze the current performance and challenges of COE Program, and to enhance COE Program implementation set-up to secure sufficient competent water utilities staff members all over the

country.

- (ii) Implementing Organizations
 - DWSD for overall program supervision and implementation of National and Provincial Training
 - PERPAMSI for implementation of Kab/Kota Training
- (iii) Master Plan Period
 - From 2018 to 2027 (10 years)
- (iv) Master Plan Goals and Key Milestones
 - The Master Plan proposes the transfer of Kab/Kota Training of COE Program from DWSD to PERPAMSI by 2024 through gradual involvement of PERPAMSI in the program starting from 2018 and consecutive joint implementation by DWSD and PERPAMSI. Key milestones during the Master Plan period are planned as shown in Table 14.

Table 14: Master Plan Phasing and Key Milestones

Master Plan Phasing	Year	Key Events in Transition Process	Active Provincial Trainers Maintained (All Modules)	Cumulative Kab/Kota Training Participants (All Modules)
Discussion and Study Period	2018	- Signing of Agreement for Study toward COE Program Joint Implementation - Signing of MOU for COE Program Joint Implementation - Set up COE Management Unit and COE PDAM Training Team	282 ¹	2,449 ³
	2019	- Plan of Strengthening PD PERPAMSI as Kab/Kota Training implementer	602 ²	3,251 ⁴
Joint Operation Period	2020	- PERPAMSI gets involved in Kab/Kota Training jointly with DWSD	602	4,811 ⁵
	2021	-	602	6,371
Transfer Trial Period	2022	- Selected capable PD PERPAMSI starts implementing Kab/Kota Training - Master Plan Review	602	7,931
	2023	-	602	9,491
Full Transfer Period	2024	- PERPAMSI starts implementing Kab/Kota Training in all provinces	602	11,051
	2025	-	602	12,611
	2026	-	602	14,171
	2027	- Master Plan Review	602	15,731

Source: Master Plan for COE Program

3) Finalization of Master Plan

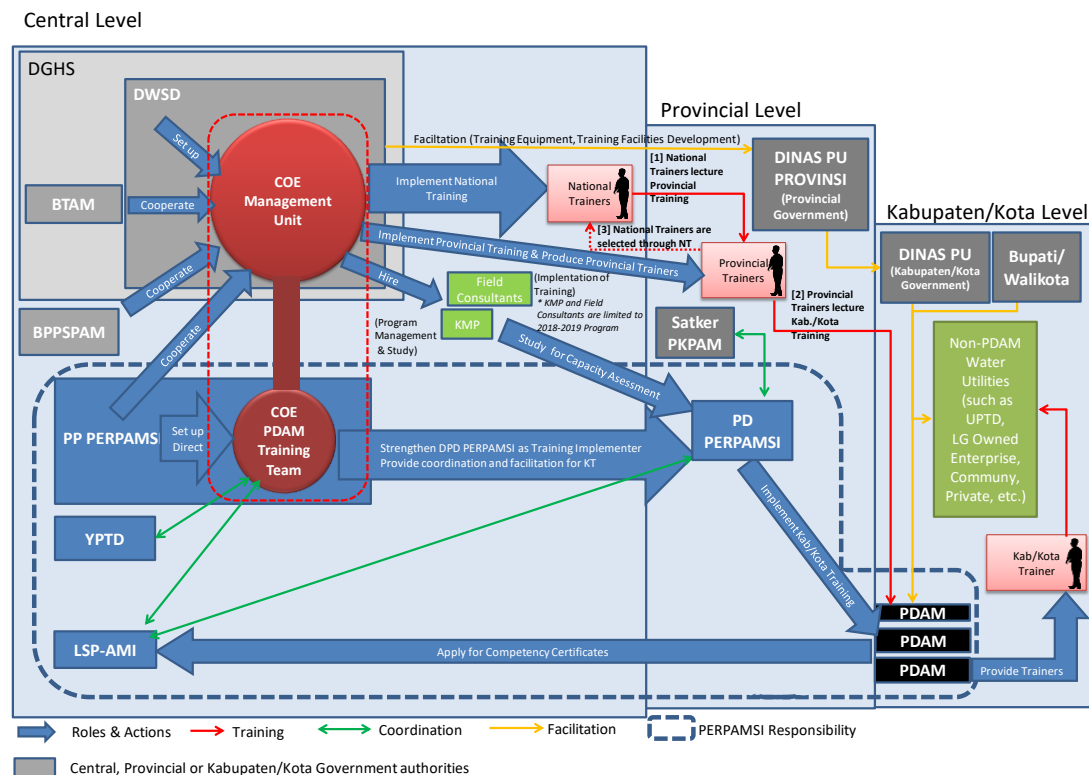
In February 2018, the second JCC was held to discuss the planning of joint implementation among stakeholder organizations such as DWSD, PERPAMSI, BTAM, etc. Subsequently, some revisions of Master Plan were made by DWSD and JICA Expert Team. Discussions on Mutual Agreement (KSB) were conducted between DWSD and PERPAMSI from June through early August in 2018.

On the third JCC meeting in August 2018, DWSD approved the final version of Master Plan dated August 8, 2018 (see Supplemental Document 3 for Master Plan).

Figure 2 illustrates the implementation setup of the future COE Program proposed in the Master Plan dated August 8, 2018. In the proposed formation, DWSD in cooperation with stakeholder organizations organizes “COE Management Unit”. COE Management Unit will have a responsibility for overall implementation of COE Program and monitoring/evaluation of the Program performance. National/Provincial Trainings which will produce provincial trainers will be implemented directly under the control of COE Management Unit.

In the initial phase, the task of COE Training Team for PDAM will be carried out by Sanitation Bureau division under PERPAMSI but in the future PERPAMSI will set up “COE PDAM Training Team” within PERPAMSI headquarters to coordinate and facilitate the activities of PD PERPAMSI. On provincial level PD PERPAMSI implements and controls Kab/Kota Trainings under support and supervision of COE PDAM Training Team.

At the central level, COE Management Unit has responsibilities to secure and maintain the necessary numbers of National and Provincial Trainers. On the other hand, “COE PDAM Training Team” shall support (strengthen) and supervise PD PERPAMSI as executor of Kab/Kota Trainings. PD PERPAMSI’s role will be significant to implement Kab/Kota Trainings at the respective provincial level.



Source: Master Plan for COE Program (August 8, 2018)

Figure 2: Future Formation Plan for COE Program Implementation

In addition, the following were confirmed on the third JCC meeting (See Annex 4 for Minutes of Meeting of JCC):

- DWSD approved the final version of the Master Plan for COE Program dated August 8, 2018.
- Most recently upon the finalization of the Master Plan, DWSD stated it considers that

BPPSPAM should play more substantial role in the future COE Program as the implementing agency instead of DWSD. This is because the MPWH Regulation No.36/PRT/M/2016 stipulates that BPPSPAM must assist and facilitate water utilities owned by regional and local governments (i.e. PDAMs); whereas DWSD serves for all types of water utilities. Therefore, the significant change will be necessary in the implementation structure described in the present Master Plan. DWSD, PERPAMSI and BPPSPAM will further revise the Master Plan during their discussion on the Mutual Agreement.

- DWSD, BPPSPAM and PERPAMSI will discuss and conclude the Mutual Agreement on the Technical Guidance for Human Resources Development of Water Supply System Implementing Organizers through Center of Excellence (COE) Program by late August 2018 to confirm the gradual transfer of implementation of Kab/Kota Training of COE Program to PERPAMSI.
- As the partner of the COE Management Unit to be established in BPPSPAM, PERPAMSI will assign the COE PDAM Training Team within PERPAMSI headquarters lead by Executive Director and Biro Penyehatan as coordinator and daily executive to prepare for the joint implementation of Kab/Kota Training with BPPSPAM.
- If 90% of PERPAMSI members have not reached Full Cost Recovery (FCR) at the end of the Kab/Kota Training Joint Operation Period in 2021, then the Master Plan will be reviewed.
- DWSD will consider identifying the COE Program as the National Strategic Program of human resource development in the water supply sector.

Most notably, DWSD has lately decided the transfer of COE Program to BPPSPAM after the finalization of Master Plan by the Project. Latest developments of the matter will be discussed in Section 4.2.

(Activity 1-4) Consider the idea for establishment of COE management system at COE Central Office as a secretariat for the COE Program, and the future management structure for the whole COE Program, and compile propositions in the report.

During the course of Master Plan preparation, DWSD and concerned organizations discussed the idea of establishment of COE Management Unit in DWSD as a secretariat for the COE Program. The future management structure presented in the Master Plan dated August 8, 2018 is described in Activity 1-3 and Figure 1 above.

However, as confirmed in the third JCC meeting on August 9, 2018, DWSD decided to involve BPPSPAM in the management of COE Program through the following alteration from the management structure in the present Master Plan although it is subject to further discussions among the concerned organizations:

- The whole COE Program will be transferred to BPPSPAM from DWSD, making BPPSPAM the implementing agency of the program.
- BPPSPAM will establish the COE Management Unit, which is responsible to the overall implementation of COE Program, National and Provincial Training operation as well as

monitoring evaluation of the Program performance.

- Kab/Kota Training will be transferred to PERPAMSI from BPPSPAM through the joint operation period.
- DWSD will cooperate with the COE Program as the coordinator and supervisor over all the concerned organizations.

(2) Activities for Output 2

Output 2: "Existing training modules are improved and new training modules are developed for the COE Program."

(Activity 2-1) Working groups (WG) for discussion of training module revision/development are organized subject-wise by initiative of the Indonesian side.

In order to revise NRW and EE modules and develop CR and FAM modules, Working Groups were organized by DWSD. The initial indicative list of their members was confirmed at the first JCC meeting in March 2016 following the discussions between DWSD and JICA Expert Team. Subsequently, Working Group members for the respective training modules were appointed at their first WG meetings as detailed below.

[Organization of NRW and EE Working Groups]

Formerly before the JICA Project activities from 2015, DWSD had formed and mandated the NRW and EE Working Groups (WG) to develop the original training modules for COE Program since the program's commencement in 2012. The NRW and EE WGs consist of Indonesian experts of the respective field such as experienced PDAM staff, existing National Trainers, reputable individual professional practitioners such as consulting experts of other donor programs, and AKATIRTA lecturers, etc. Some of them acted as the draft writers of the module and the instructors for National and Provincial Trainings. The WG had functioned to discuss and determine all the details of the training curriculum, textbook, and materials.

Since the JICA Project's intervention to both NRW and EE modules was limited to the revision work, upon the commencement of JICA Project in 2015 it was agreed with DWSD to utilize the existing WGs to improve the training module contents.

The first WG discussion meetings took place through DWSD's invitation to the existing WG members in June 2016 for the EE module, and in September 2016 for the NRW module, respectively. The WG members appointed for the respective modules are listed in Table 12 and Table 13 above.

[Organization of CR Working Group]

Since there were no existing training contents related to the Customer Relations, DWSD newly assigned the CR Working Group (WG) to develop CR training module for COE Program in August 2016 in consultation with JICA Expert Team. The CR WG consists of experts such as experienced PDAM staffs who are professional practitioners in respective water utilities (see Table 10 above). Those PDAM personnel were selected from larger-scale water utilities (PDAMs and privatized water utilities) in Indonesia considering the nature of the customer relations as a newly emerging managerial and operational subject that relatively large-scale water utilities are familiar with. These members acted as the draft writers and reviewer of the module and final WG members were then selected as instructors of Provincial Training. The WG functioned to discuss and determine all the details of the training curriculum, textbook and materials.

In August 2016, the first CR WG discussion meeting took place through DWSD's invitation to the WG members.

[Organization of FAM Working Group]

Since there were no existing training contents related to the Financial Analysis, the FAM Working Group (WG) was newly organized by DWSD to develop training module of FAM for COE Program in cooperation with JICA Expert Team. The FAM WG consisted of Indonesian experts of the field such as experienced PDAM staff including National Trainers of the SAK-ETAP module (existing training module on accounting standards for non-public enterprises), reputable individual professional practitioners like financial experts, etc (See Table 11 above). The WG functioned to discuss and determine all the details of the training curriculum, textbook contents, and other materials.

In September 2016, the first FAM WG discussion meeting took place through DWSD's invitation to the WG members.

(Activity 2-2) Revise the existing training module for NRW including training curriculum, materials and trainer's manuals.

The revision of the existing NRW training module was made through the following activities. The whole revision process is documented in detail in Supplemental Document 4 (Training Module Development Report in 2016 for preparatory work) and Supplemental Document 5 (Training Module Implementation Report in 2018 for revision and implementation process).

(Activity 2-2-1) Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement

During the first stage of the Project, the existing version of NRW training module (2016 version), consisting of curriculum, textbook and materials, was reviewed by JICA Expert Team. Contents of the 2016 version textbook are summarized in Table 15.

Results of the JICA Expert Team's review and analysis are summarized as follows (See Supplemental Document 4 for the detailed analysis on the existing training module).

- The 2016 version covers the definition of NRW and major contents for NRW issues and countermeasures. This version may be utilized as it is.
- However, the existing module focuses on leakage detection and reduction techniques. The following methods should be added to the existing module contents: (i) less cost methods to reduce NRW such as apparent loss and commercial loss control (meter reading improvement, etc.); (ii) preventive methods such as pressure control, etc.; and (iii) new leakage survey technologies appropriate for local conditions PDAMs.
- The following additional materials will be added on the new module:
 - a) Leakage survey methods which do not rely on DMA and Minimum Night Flow Analysis but rely on simple evaluation of leakage priority area by dividing distribution area by mesh.
 - b) Distribution pressure control
 - c) Service connection installation and leak repair methods
 - d) Introduction of good practices
 - e) Introduction on innovative NRW survey equipment

Table 15: Contents of 2016 Version of NRW Module Textbook

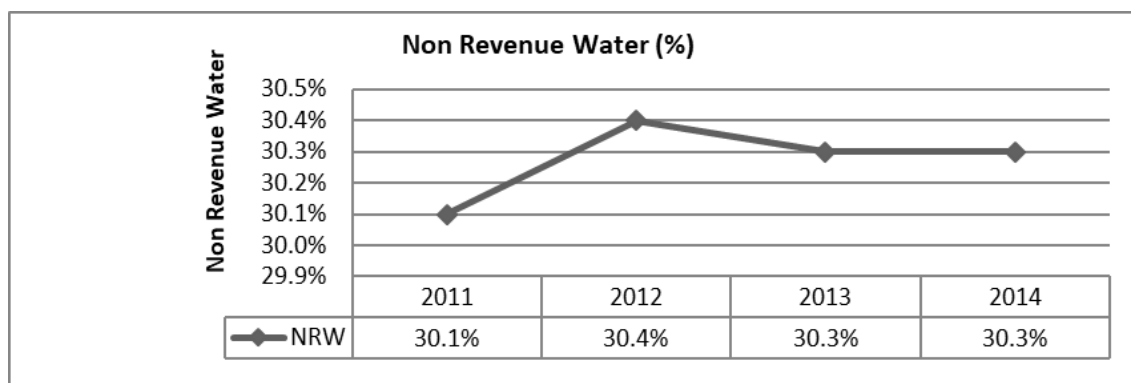
Book I	<p>Chapter 1 General Chapter 2 Non-Revenue Water Problems Chapter 3 Importance of Water Loss Control Chapter 4 Understanding Water Loss 4.1 Understanding Physical Losses 4.1.1 Water Pressure Vs Leakage 4.1.2 Fixed and Variable Area Discharge (FAVAD) 4.1.3 Background Leakage 4.1.4 Physical Losses Problem 4.1.5 Physical Losses Control and Preventive Measures 4.1.6 Physical Losses Preventive Measures 4.1.7 Physical Losses Control Measures (Leakage) 4.2 Physical Losses Control Strategy 4.3 Performance Indicator of Physical Losses 4.4 Infrastructure Leakage Index (ILI) 4.5 Understanding Commercial Losses 4.6 Commercial Losses Control Strategy 4.7 Commercial Losses Indicator Chapter 5 Water Balance Drafting (Water Audit)</p>
Book II	<p>Chapter 1 Introduction Chapter 2 Preparation of NRW Reduction Program Planning 2.1. Methodology for Program Implementation 2.1.1. Formation of Team / NRW Control Section 2.1.2. Program Preparatio 2.1.3. Establishment of District Metered Area (DMA) / Zoning 2.1.4. Preliminary Analysis of Water Loss 2.2. Input of Water Balance Data 2.3. Infrastructure Leakage Index (ILI) 2.4. Activity Between Water Balance (WB) 2.4.1. Activities After WB 0 (WB Zero) 2.4.2. Activities After WB 1 2.4.3. Activities After WB 2 2.4.4. Activities After WB "X" 2.5. Compile Water Balance and Calculation of ILI of Final Program 2.6. Financial Analysis 2.6.1. NRW Economic Aspect Component 2.6.2. Aspects of Benefits and Costs 2.6.3. Cost Benefit Analysis 2.6.4. Investment Analyisi 2.7. Compile conclusions 2.8. Supporting factors 2.9. Preparation of Activity Reports 2.10. Preparation of Proposals or NRW Control Activity Plans Chapter 3 Closing</p>
Book III	<p>Chapter 1 Preface Chapter 2 Physical Lossess Control Technique 2.1 Distribution Network Components in Leakage Control 2.2 District Meter Area (DMA) Establishment 2.2.1 DMA Types 2.2.2 DMA Establishment Stages 2.2.3 Zone Size 2.2.4 DMA Operational 2.3 Step test 2.3.1 Water Loss Control Principles using Step Test Method 2.3.2 Step Test Data Requirements 2.3.3 Step Test Requirements 2.3.4 The Weakness of Step Test Method 2.3.5 Step Test Completeness 2.3.6 Step Test Tutorial 2.3.7 Step Test Form 2.4 Physical Losses Detection 2.4.1 Leak Correlation 2.4.2 Sounding 2.5 Repair</p>

	Chapter 3 Non-Physical Losses (Commercial Losses) Control Technique 3.1 Water Meter Accuracy 3.2 Customer Water Meter Accuracy Check 3.3 Water Meter Class Selection
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Source: NRW Training Module 2016

(Activity 2-2-2) Conduct a study on needs and good practices of PDAMs concerning NRW

During the Baseline Survey and COE Program Review, JICA Expert Team observed that recent NRW ratio has been kept as high as 30% on national average (see Figure 3).



Source: BPPSPAM PDAM Performance Book 2015

Figure 3: NRW Ratio 2011 – 2014

Based on the problem analysis carried out through the interview survey in South Sulawesi and South Sumatera, the major problems related to NRW in PDAMs were concluded as follows:

- Authorized unbilled metered consumption
- Authorized unbilled unmetered consumption
- Unauthorized consumption
- Customer meter inaccuracies and systematic data handling errors
- Leakage on transmission and / or distribution pipe and equipment
- Leakage on service connection up to customer meter
- Leakage and overflows from the utilities storage tank

The problems related with implementation of NRW knowledge learned from COE Program were analyzed as follows:

- Lack of equipment
- Lack of budget
- Lack of human resources
- Lack of support from PDAM management
- Existing knowledge is not applicable
- The curriculum is not suitable with participants level
- Less cost method to reduce NRW including apparent loss control is not introduced.
- NRW preventive method such as pressure control, service connection installation improvement, procurement of better quality water meters and pipe materials is not introduced yet.
- Selection rule for training participants and applicable curriculums for different participant level is not prepared yet.

These points were incorporated into the direction of module revision presented in the Activity 2-

2-1 above i.e. review of the existing NRW training module (see Supplemental Document 4).

As for the good practices among PDAMs for NRW reduction, experience of PDAM Kabupaten Serang (Banten Province) and PDAM Kabupaten Kampar (Riau Province) was reviewed and presented to NRW Working Group discussion.

- PDAM Kabupaten Serang formed the new NRW reduction team in its organization to carry out DMA establishment and NRW reduction from 42% to 25% in three years.
- In case of PDAM Kabupaten Kampar, the PDAM carried out the establishment of DMA and replacement of old pipes as well as the improvement of water meter reading system after its COE Program participation in 2014.

(Activity 2-2-3) Improve the curriculum and materials, and develop the trainer's manuals based on the result of the review

The improvement of the existing NRW module was carried out through the collaboration between the NRW Working Group and JICA Expert Team (see Supplemental Document 5 for details). The Working Group discussions carried out for the NRW module revision are summarized in Table 16.

Table 16: Outline of NRW Working Group Discussions

WG Meeting	Agenda	Major Points Discussed and Approved
<p>First WG Meeting</p> <p>Date: September 26, 2016</p> <p>Venue: Veranda Hotel, Jakarta</p> <p>Chaired by: Project Manager (Head of Sub-directorate of Standardization and Institutional, DWSD)</p>	<ul style="list-style-type: none"> ■ Overview of PDAM operational problems ■ Explanation on the module development process ■ Review of the existing module ■ Introduction and discussion on the additional training material needed to the existing module ■ Training curriculum modification and necessary adjustment to additional material ■ Forthcoming events / activities plan 	<ul style="list-style-type: none"> ■ Additional material contents <ol style="list-style-type: none"> 1. What can we start for NRW reduction before introducing DMA 2. Less cost simple approaches for NRW reduction 3. Preventive measures for NRW reduction 4. Advanced leak detection method ■ Adjustment to the existing curriculum
<p>Second WG Meeting</p> <p>Date: March 22, 2017</p> <p>Venue: Falatehan Hotel, Jakarta</p> <p>Chaired by: Project Manager (Head of Sub-directorate of Standardization and Institution, DWSD)</p>	<ul style="list-style-type: none"> ■ Review of previous Working Group meeting ■ Additional material contents ■ Additional module chapters and subtopics arrangement ■ NRW schedule and syllabus arrangement ■ How to use the additional material in COE training ■ Training curriculum modification and adjustment ■ Forthcoming Events / Activities Plan. 	<ul style="list-style-type: none"> ■ Comments and discussion on the additional module chapters and subtopics arrangement ■ Draft additional materials will be prepared by JICA Expert Team and reviewed by WG members via email

Source: JICA Expert Team

JICA Expert Team submitted the draft additional materials to WG members after the second WG meeting. Based on the WG members comments, revision was made to the draft. In accordance with the final comments from WG, the additional contents were inserted into the existing materials (see Table 17). After finalization of the module revision, DWSD agreed to conduct the Trial Training and Kab/Kota Training in 2017 for NRW module using the revised contents.

Table 17: Revised Contents of NRW Module

<p>Book I</p> <p>* <u>Underlined parts</u> are inserted by revision</p>	<p>Chapter 1 General Chapter 2 Non-Revenue Water Problems Chapter 3 Importance of Water Loss Control Chapter 4 Understanding Water Loss 4.1 Understanding Physical Losses 4.1.1 Water Pressure Vs Leakage 4.1.2 Fixed and Variable Area Discharge (FAVAD) 4.1.3 Background Leakage 4.1.4 Physical Losses Problem 4.1.5 Physical Losses Control and Preventive Measures 4.1.6 Physical Losses Preventive Measures 4.1.7 Physical Losses Control Measures (Leakage) 4.2 Physical Losses Control Strategy <u>“Planning Distribution Water Pressure Control for NRW Reduction” is inserted</u> 4.3 Performance Indicator of Physical Losses 4.4 Infrastructure Leakage Index (ILI) 4.5 Understanding Commercial Losses 4.6 Commercial Losses Control Strategy 4.7 Commercial Losses Indicator Chapter 5 Water Balance Drafting (Water Audit)</p>
<p>Book II</p> <p>No revision was made from the 2016 version</p>	<p>Chapter 1 Introduction Chapter 2 Preparation of NRW Reduction Program Planning 2.1. Methodology for Program Implementation 2.1.1. Formation of Team / NRW Control Section 2.1.2. Program Preparatio 2.1.3. Establishment of District Metered Area (DMA) / Zoning 2.1.4. Preliminary Analysis of Water Loss 2.2. Input of Water Balance Data 2.3. Infrastructure Leakage Index (ILI) 2.4. Activity Between Water Balance (WB) 2.4.1. Activities After WB 0 (WB Zero) 2.4.2. Activities After WB 1 2.4.3. Activities After WB 2 2.4.4. Activities After WB "X" 2.5. Compile Water Balance and Calculation of ILI of Final Program 2.6. Financial Analysis 2.6.1. NRW Economic Aspect Component 2.6.2. Aspects of Benefits and Costs 2.6.3. Cost Benefit Analysis 2.6.4. Investment Analyisi 2.7. Compile conclusions 2.8. Supporting factors 2.9. Preparation of Activity Reports 2.10. Preparation of Proposals or NRW Control Activity Plans Chapter 3 Closing</p>
<p>Book III</p> <p>* <u>Underlined parts</u> are inserted by revision</p>	<p>Chapter 1 Preface Chapter 2 Physical Lossess Control Technique 2.1 Distribution Network Components in Leakage Control 2.2 District Meter Area (DMA) Establishment <u>2.2.1 What Can We Start for NRW Reduction Before Introducing DMA</u> 2.2.2 DMA Types 2.2.3 DMA Establishment Stages 2.2.4 Zone Size 2.2.5 DMA Operational 2.3 Step test 2.3.1 Water Loss Control Principles using Step Test Method 2.3.2 Step Test Data Requirements 2.3.3 Step Test Requirements 2.3.4 The Weakness of Step Test Method 2.3.5 Step Test Completeness 2.3.6 Step Test Tutorial 2.3.7 Step Test Form 2.4 Physical Losses Detection 2.4.1 Leak Correlation</p>

	<p>2.4.2 Sounding</p> <p><u>2.5 Advanced Leak Detection Equipment</u></p> <p>2.6 Repair</p> <p>Chapter 3 Non-Physical Losses (Commercial Losses) Control Technique</p> <p>3.1 Water Meter Accuracy</p> <p>3.2 Customer Water Meter Accuracy Check</p> <p><u>3.2.1 Meter Readers Enhancement Program</u></p> <p>3.3 Water Meter Class Selection</p> <p><u>Chapter 4 Less Cost Simple Approaches for NRW Reduction</u></p> <p><u>4.1 Prioritized Leakage Survey Planning</u></p> <p><u>4.2 House to House Customer Survey</u></p> <p><u>4.3 Updating Customer Database</u></p> <p><u>4.4 Production Meter Survey</u></p> <p><u>4.5 Non-domestic Customer with Unusual Water Usage Survey</u></p> <p><u>4.6 Service Tank Inspection</u></p> <p><u>Chapter 5 Preventive Measures for NRW Reduction</u></p> <p><u>5.1 Improvement of House Connection Installation</u></p> <p><u>5.1.1 Selection of Better Quality Water Meter</u></p> <p><u>5.1.2 Quality Control of House Connection Installation</u></p>
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Source: JICA Expert Team

(Activity 2-2-4) Conduct a training to inform the revised contents and to utilize the procured equipment for Provincial Trainers

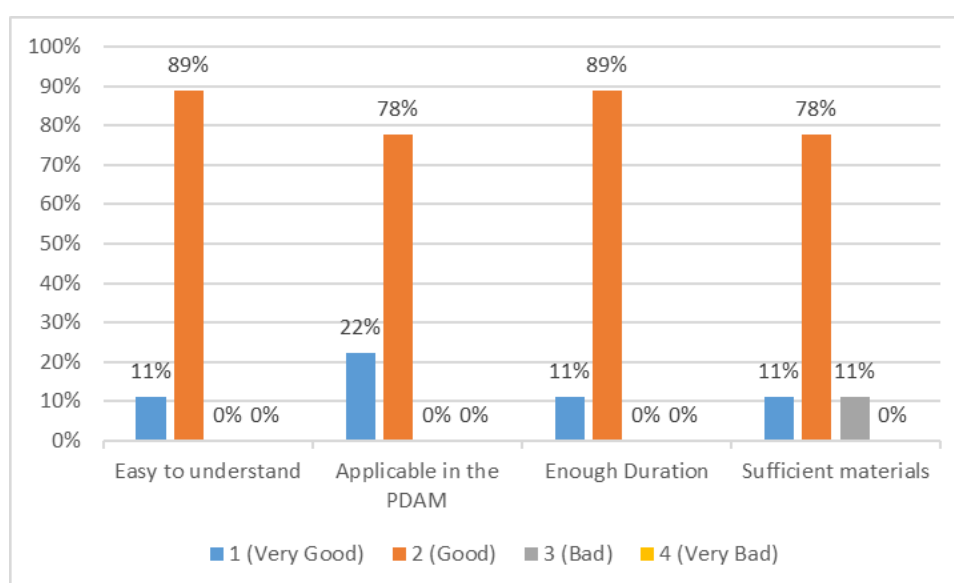
Trial Training to inform the existing National and Provincial Trainers on the revised NRW module was conducted from August 1 to 4, 2017 in Jakarta with funding from DWSD's own fund. The training also taught on how to utilize the training equipment provided by JICA for the NRW module. Outline of the Trial Training is summarized as shown in Table 18 below. Since the existing National and Provincial Trainers are familiar with the existing training module, only the additional contents were taught in the Trial Training.

Table 18: Trial Training of Revised NRW Module

Date and Venue	August 1 – 4, 2017 at Best Western Hotel Cawang, Jakarta								
Trainers	<p>Four Working Group members</p> <ul style="list-style-type: none"> - Hernadi S IUWASH PLUS - Hari Sundana PDAM Kab. Bandung - Ir. Ahmad Rosyid Water Supply Expert - Gagak Bhaskoro AKATIRTA Magelang 								
Participants (Trainees)	Selected National and Provincial Trainers (9 participants)								
Training Contents	<p>Only the additional contents were taught in Trial Training.</p> <ol style="list-style-type: none"> 1. What Can We Start Before Introducing DMA 2. Less Cost Simple Approaches for NRW Reduction 3. Preventive Measures for NRW Reduction 								
Training Activities	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Day 1 (August 1)</td> <td>Opening ceremony and pre-test</td> </tr> <tr> <td>Day 2 (August 2)</td> <td>Lecture of training contents by WG members</td> </tr> <tr> <td>Day 3 (August 3)</td> <td>NRW equipment training in BTAM (Bekasi, West Jawa)</td> </tr> <tr> <td>Day 4 (August 4)</td> <td>Presentation by participants and post-test</td> </tr> </table>	Day 1 (August 1)	Opening ceremony and pre-test	Day 2 (August 2)	Lecture of training contents by WG members	Day 3 (August 3)	NRW equipment training in BTAM (Bekasi, West Jawa)	Day 4 (August 4)	Presentation by participants and post-test
Day 1 (August 1)	Opening ceremony and pre-test								
Day 2 (August 2)	Lecture of training contents by WG members								
Day 3 (August 3)	NRW equipment training in BTAM (Bekasi, West Jawa)								
Day 4 (August 4)	Presentation by participants and post-test								

Source: JICA Expert Team

The additional training contents were positively received by participants. According to the evaluation by participants, almost all participants responded “good” or “very good” to every aspect of the training module (see Figure 4). Especially, 22% responded “very good” and 78% responded “good” to the question about applicability of the module contents to PDAM operation.



Source: JICA Expert Team

Figure 4: Revised NRW Module Contents Evaluation by Participants (Trial Training)

(Activity 2-2-5) Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the revised module

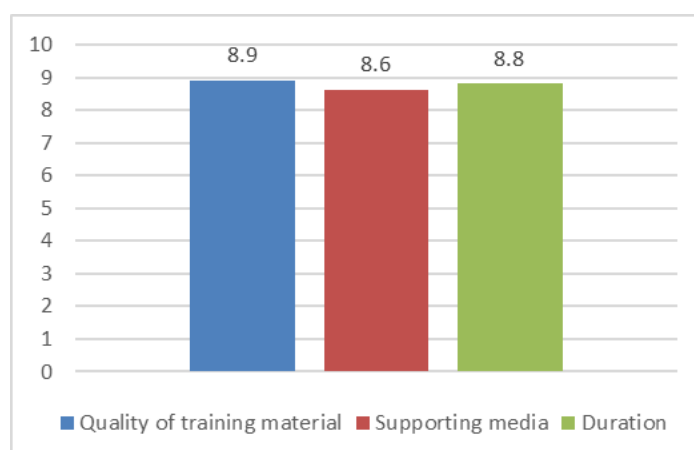
Kab/Kota Training of the revised NRW module was conducted two times in October 2017 in West Sumatera and North Sulawesi with DWSD funding. This Kab/Kota Training first used the integrated version of NRW module including both existing and additional contents. Also, the training of procured equipment was conducted on the third day with assistance by JICA Expert Team. Table 19 shows the outline of the training.

Table 19: Kab/Kota Training of Revised NRW Module

Target Province	West Sumatera	North Sulawesi and Gorontalo
Date and Venue	October 3 - 6, 2017 Rocky Plaza Hotel Padang, Padang City, West Sumatera	October 17 - 20, 2017 Whiz Prime Hotel, Manado City, North Sulawesi
Trainers	Three Provincial Trainers - Nanis Setiari, PDAM Kota Malang* - Jamaris, PDAM Kota Padang* - Tomi Wirawan, PDAM Kota Padang * Trainers participated in Trial Training in August 2017	Three Provincial Trainers - Hari Sundana, PDAM Kab. Bandung - Raymond, PDAM Kota Bitung - Ihdar, PDAM Kota Makassar* * Trainer participated in Trial Training in August 2017
Participants (Trainees)	PDAM staff in West Sumatera (12 participants)	PDAM staff in North Sulawesi and Gorontalo (7 participants)
Training Activities	Day 1 (October 3) Opening ceremony, pre-test, lectures and exercises Day 2 (October 4) Lectures and exercises Day 3 (October 5) Lectures, equipment training, field visit to PDAM Day 4 (October 6) Discussion, post-test and closing ceremony	

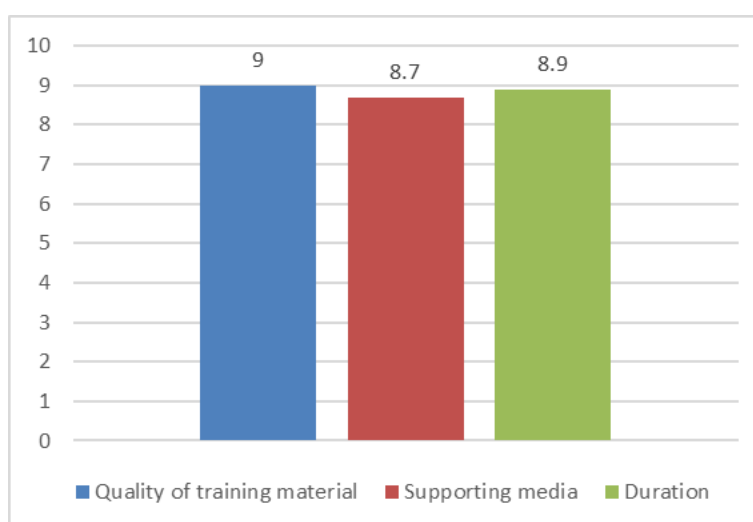
Source: Annual COE Program Implementation Report 2017 by COE Management Consultant

Figures 5 and 6 show the participants' evaluation results of the revised contents analyzed by COE Management Consultant. The revised NRW module achieved over 8/10 rating in every aspect.



Source: Annual COE Program Implementation Report 2017 by COE Management Consultant

Figure 5: Revised NRW Module Contents Evaluation by Participants (West Sumatera)



Source: Annual COE Program Implementation Report 2017 by COE Management Consultant

Figure 6: Revised NRW Module Contents Evaluation by Participants (North Sulawesi & Gorontalo)

(Activity 2-3) Revise the existing training module for EE including training curriculum, materials and trainer's manuals.

The revision of the existing EE training module was made through the following activities. The whole revision process is documented in detail in Supplemental Document 4 (Training Module Development Report in 2016 for preparatory work) and Supplemental Document 5 (Training Module Implementation Report in 2018 for revision and implementation process).

(Activity 2-3-1) Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement

The basic concept of EE training modules is to reduce PDAM energy use in order to reduce the energy cost as low as possible without affecting its production efficiency which means the PDAM can utilize its maximum production capacity. The existing version of EE training module (2016

version), consisting of curriculum, textbook and materials, was reviewed by JICA Expert Team. Contents of the 2016 version textbook are summarized in Table 20. It was observed that the existing EE module focused on unit-based energy efficiency improvement. Therefore, the energy efficiency of entire water supply system should be introduced, such as planning of transmission and distribution system to improvement energy efficiency of the entire water supply system of a PDAM.

Based on its review and analysis, JICA Expert Team recommended the following direction for the module improvement:

- 2016 version will be utilized as it is, and the appropriate pump selection and operation methods in terms of the energy efficiency of the whole system will be introduced.
- The following subjects will be added.
 - a) Water transmission and distribution system plan to improve energy efficiency
 - b) Pumping system planning for better energy efficiency

Table 20: Contents of 2016 Version of EE Module Textbook

Chapter 1 Energy Efficiency in PDAM 1.1 Definition of Energy Efficiency 1.2 Energy Problems in PDAM
Chapter 2 The Basic Theory of Electricity 2.1 Electricity DC, AC 1 and 3 Phase 2.2 Symbol of Electricity 2.3 Power Triangle 2.4 Vector Phase of Electricity 2.5 Electricity Measuring Equipment
Chapter 3 The Basic Theory of Hydraulics 3.1 Definition 3.2 Law/Formula of Hydraulic 3.3 Flow in the Pipe 3.4 Gravity Flow 3.5 Pump System Flow
Chapter 4 Steps for Energy Efficiency 4.1 Concept of Energy Efficiency 4.2 Energy Audit Techniques 4.3 Analysis of Audit Results 4.4 Recommendations 4.5 Feasibility Study 4.6 Implementation 4.7 Monitoring and Evaluation
Chapter 5 Review of PLN Electricity Tariff 5.1 PLN Electric Tariff Policy 5.2 PLN Tariff System 5.3 Power Factor Study
Chapter 6 Measuring System Performance 6.1 Assessment of Performance of Electric Power Supplies 6.2 Electromotor Performance Assessment 6.3 System Performance Assessment 6.4 System Efficiency Assessment
Chapter 7 Selecting Pump 7.1 Introduction to Selecting Pump 7.2 Supporting Pump 7.3 Replacement Pump 7.4 Pump Modification
Chapter 8 Proposal and Report of Energy Efficiency Program 8.1 Introduction 8.2 Preparing Proposal and Economic Analysis of Energy Efficiency Program Implementation 8.3 Preparing Energy Efficiency Program Reports
Chapter 9 Occupational Health and Safety

9.1 Introduction
9.2 Understanding and Definition
9.3 Influence Factors in Occupational Health and Safety Implementation
9.4 Workplace Disruption Threshold Value
9.5 Personal Protective Equipment in Work
9.6 Positive Views and Attitudes in work
9.7 "Electrical" Occupational Health and Safety
Chapter 10 The Introduction of Energy Efficiency Equipment
10.1 Electrical Measuring Equipment
10.2 Hydraulics Measuring Equipment
10.3 Mechanical Measuring Equipment

Source: EE Training Module 2016

(Activity 2-3-2) Conduct a study on needs and good practices of PDAMs concerning EE

In order to know the PDAM problems and challenges related to Energy Efficiency, JICA Expert Team conducted the Baseline Survey in 2015, to clarify the operation status of PDAMs at the time of project commencement. Based on the survey results and analysis, the major problems related to Energy Efficiency in PDAM could be concluded as follows:

1) Cost Related Problem

Based on PDAM statistical data of BPPSPAM in 2015, energy cost in PDAM reaches 56% of direct production cost³ or 7.5% of total production cost⁴ due to high electricity consumption more than 0.4 kWh/m³.

2) Inefficient Pump System

As for the operational problems such as tripped pumps, low pressure, and bad pumps installation, an appropriate pump selection and operation methods in terms of the energy efficiency of the whole system should be introduced including pump selection and modification. Thus, EE module contents should deal with more pump selection and revolution on speed control. Theoretical training on EE for pumping unit and electrical facilities should be explained in more details. The approaches on how to improve the existing pumps or equipment also need to be included.

3) Inadequate Planning

Inefficient transmission and distribution system due to bad planning often becomes causing factor of energy waste and low production efficiency in PDAM. To cope with that, water transmission and distribution system plan for improving energy efficiency have to be explained in more details. Not only planning in transmission and distribution system, but also pumping system planning needed for better energy efficiency. EE issues from the viewpoints of the entire water supply system also need to be included in this module. Approaches for improving EE in the entire water supply system also needed to be introduced and not only on unit based improvements so the whole system can be planned comprehensively.

4) Incompatible EE curriculum with participants level, background, and existing technology available in their own PDAM

Based on the interview results, most of the contents are quite comprehensive for engineers but it needs some adjustment for operators. EE curriculum should be well prepared based on the levels of training participants in order to achieve its objectives.

These points were incorporated into the direction of module revision presented in the Activity 2-

³ Direct production cost consists of maintenance cost, energy cost and chemical cost.

⁴ Total production cost includes direct production cost, personnel cost, depreciation and amortization, finance cost, etc.

3-1 above i.e. review of the existing EE training module.

As for the good practices among the PDAM in EE activities, three PDAM cases were presented in the report: PDAM Kota Malang, PDAM Kabupaten Tangerang and PDAM Kota Bekasi (see Supplemental Document 4).

The PDAM Kota Malang case suggests that the identification of M&E is necessary for the first step in energy efficiency program for the pumping system, along with the piping transmission and distribution system to formulate the best strategy. PDAM Kabupaten Tangerang focuses on the pump selection and operation as one of the most important factors in achieving energy efficiency on whole water supply system in PDAM. The case of PDAM Kota Bekasi indicates that the use of Variable Speed Driver (VSD) tool enabled the PDAM to successfully optimize the efficiency of electrical capacity up to 41% thereby reducing the operational cost.

(Activity 2-3-3) Improve the curriculum and materials and develop the trainer’s manual based on result of the review

The improvement of the existing EE module was carried out through the collaboration between the EE Working Group and JICA Expert Team. The Working Group discussions are summarized in Table 21.

Table 21: Outline of EE Working Group Discussions

WG Meeting	Agenda	Major Points Discussed and Approved
<p>First WG Meeting</p> <p>Date: June 23-24, 2016</p> <p>Venue: Veranda Hotel, Jakarta</p> <p>Chaired by: Project Manager (Head of Sub-directorate of Standardization and Institution, DWSD)</p>	<p>Day 1 (June 23, 2017)</p> <ul style="list-style-type: none"> ■ Overview of PDAM operational problems ■ Explanation on the module development process ■ Review of the existing module <p>Day 2 (June 24, 2017)</p> <ul style="list-style-type: none"> ■ Open discussion on how to use the additional material in COE Training ■ Training curriculum modification and necessary adjustment to additional material ■ Forthcoming events / activities plan 	<ul style="list-style-type: none"> ■ The basic concept of EE module development process is that the existing material will not be changed ■ Instead the new additional module will be compiled with new materials.
<p>Second WG Meeting</p> <p>Date: March 20, 2017</p> <p>Venue: DWSD, Jakarta</p> <p>Chaired by: Project Manager (Head of Sub-directorate of Standardization and Institution, DWSD)</p>	<ul style="list-style-type: none"> ■ Explanation on the objectives and background of the supplemental materials for EE module ■ Review of previous Working Group meeting ■ Review of the existing module ■ Additional Material Introduction and Discussion ■ How to Use the Additional Material in COE Training ■ Training Curriculum Modification and Adjustment Regarding Additional Materials ■ Training curriculum modification and adjustment 	<ul style="list-style-type: none"> ■ Additional material contents <ol style="list-style-type: none"> 1. Background, objectives and benefits 2. How Can We Start for Improvement of Energy Efficiency (EE) 3. Solution 1 – Improve the efficiency of your existing system 4. Solution 2 – Design a new system ■ Adjustment to the existing curriculum ■ Major comments from WG <ul style="list-style-type: none"> - As for “Further Improvement of Energy Efficiency” subject it is better if JICA Expert Team introduce case study or best practice in Japan about how to Improve Energy Efficiency - Study case or best practice in Japan or other countries about How to do Energy

	<ul style="list-style-type: none"> ■ Forthcoming Events / Activities Plan. 	<p>Audit step by step from data preparation until recommendation. Also introduce the Energy audit simple methods for small PDAM.</p> <ul style="list-style-type: none"> - How to Reduce Operational Cost and Energy Cost by theoretical and give example based on experiences in Japan or in other countries. - Case study and practical knowledge of VSD. - Due to limited time, the additional materials will get 45 minutes (1 lesson hour) for allocation time in the last training day. - The additional materials will be added as separated module because the contents mostly consists of best practice or case study.
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Source: JICA Expert Team

JICA Expert Team revised the EE additional module according to the final comments from WG members in the second WG meeting by adding the case study and best practice about how to improve Energy Efficiency. The case studies inserted into the attachment are as follows:

- Summary of Feasibility Study for Energy Efficiency
- Summary of Final report, “Energy Saving at Phnom Penh Water Supply Authority (Cambodia) by Improving Efficiency of Water Treatment Plants”
- Reference: Program for Energy Conservation through Upgrading Water Supply Network in the Hashemite Kingdom of Jordan

After finalization of the module revision, DWSD agreed to conduct the Trial Training and Kab/Kota Training in 2017 for EE module using the revised contents.

After the Trial and Kab/Kota Training described below (Activities 2-3-4 and 2-3-5), the additional material was compiled into the existing contents as shown in Table 22.

Table 22: Revised Contents of EE Module

Table of Contents	Revision Made by the Project
Chapter 1 Energy Efficiency in PDAM <u>1.1 Background</u> <u>1.2 Objective</u> 1.3 Definition of Energy Efficiency <u>1.4 Benefits of an Efficient Pumping System</u> 1.5 Energy Problems in PDAM	<u>Underlined</u> parts are added by the revision
Chapter 2 The Basic Theory of Electricity 2.1 Electricity DC, AC 1 and 3 Phase 2.2 Symbol of Electricity 2.3 Power Triangle 2.4 Vector Phase of Electricity 2.5 Electricity Measuring Equipment	No revision
Chapter 3 The Basic Theory of Hydraulics 3.1 Definition 3.2 Law/Formula of Hydraulic 3.3 Flow in the Pipe 3.4 Gravity Flow 3.5 Pump System Flow	No revision
Chapter 4 Steps for Energy Efficiency 4.1 Concept of Energy Efficiency	No revision

4.2 Energy Audit Techniques 4.3 Analysis of Audit Results 4.4 Recommendations 4.5 Feasibility Study 4.6 Implementation 4.7 Monitoring and Evaluation	
Chapter 5 Review of PLN Electricity Tariff 5.1 PLN Electric Tariff Policy 5.2 PLN Tariff System 5.3 Power Factor Study	No revision
Chapter 6 Measuring System Performance 6.1 Assessment of Performance of Electric Power Supplies 6.2 Electromotor Performance Assessment 6.3 System Performance Assessment 6.4 System Efficiency Assessment	No revision
Chapter 7 Selecting Pump 7.1 Introduction to Selecting Pump 7.2 Supporting Pump 7.3 Replacement Pump 7.4 Pump Modification	No revision
Chapter 8 Opportunities for Energy Efficiency <u>8.1 How Can We Start for Improvement of Energy Efficiency (EE)</u> <u>8.2 Solution 1 – Improve the efficiency of your existing system</u> <u>8.3 Solution 2 – Design a new system</u>	The entire chapter is added by revision
Chapter 9 Proposal and Report of Ennergy Efficiency Program 9.1 Introduction 9.2 Preparing Proposal and Economic Analysis of Energy Efficiency Program Implementation 9.3 Preparing Energy Efficiency Program Reports	No revision
Chapter 10 Further Improvement of Energy Efficiency and Operation Cost <u>10.1. Other Improvement planning of Energy Efficiency</u> <u>10.2 Reduction of operation cost</u>	The entire chapter is added by revision
Chapter 11 Occupational Health and Safety 11.1 Introduction 11.2 Understanding and Definition 11.3 Influence Factors in Occupational Health and Safety Implementation 11.4 Workplace Disruption Threshold Value 11.5 Personal Protective Equipment in Work 11.6 Positive Views and Attitudes in work 11.7 "Electrical" Occupational Health and Safety	No revision
Chapter 12 The Introduction of Energy Efficiency Equipment 12.1 Electrical Measuring Equipment 12.2 Hydraulics Measuring Equipment 12.3 Mechanical Measuring Equipment	No revision

Source: JICA Expert Team

(Activity 2-3-4) Conduct a training to inform the revised contents and to utilize the procured equipment for Provincial Trainers

Trial Training to inform the existing National and Provincial Trainers on the revised EE module was conducted August 1 - 4, 2017 in Jakarta with funding from DWSD's own funds. The training also taught how to utilize the training equipment provided by JICA for the EE module. Outline of the Trial Training is summarized as shown in Table 23 below. Since the existing National and Provincial Trainers were familiar with the existing training module, only the additional contents

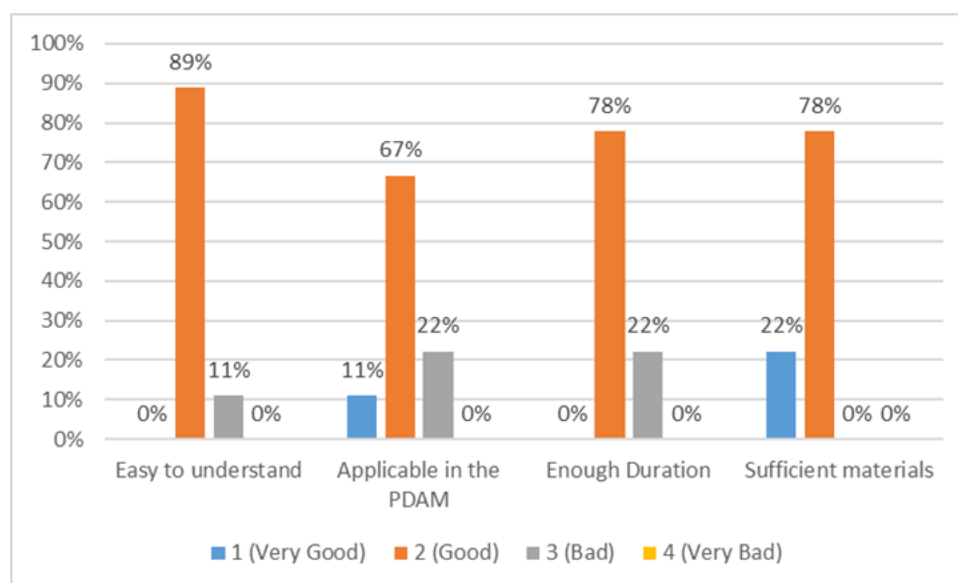
were taught in the Trial Training.

Table 23: Trial Training of Revised EE Module

Date and Venue	August 1 – 4, 2017 at Best Western Hotel Cawang, Jakarta	
Trainers	Three Working Group members - Rahardjono PDAM Kota Malang - Dedi Setiawan PDAM Kota Malang - Prijono AKATIRTA Magelang	
Participants (Trainees)	Selected National and Provincial Trainers (9 participants)	
Training Contents	Only the additional contents were taught in Trial Training. 1. Background, Objectives and Benefits 2. How Can We Start for Improvement of Energy Efficiency (EE) 3. Solution 1 – Improve the efficiency of your existing system 4. Solution 2 – Design a new system 5. Further Improvement of Energy Efficiency and Operation Cost 6. Case Study (by JICA Expert Team)	
Training Activities	Day 1 (August 1)	Opening ceremony and pre-test
	Day 2 (August 2)	Lecture of training contents by WG members
	Day 3 (August 3)	EE equipment training in BTAM (Bekasi, West Jawa)
	Day 4 (August 4)	Presentation by participants and post-test

Source: JICA Expert Team

The additional training contents were positively received by participants. According to the evaluation by participants, almost all participants responded “good” or “very good” to every aspect of the training module (See Figure 7). Especially, 22% responded “very good” and 78% responded “good” to the question about sufficiency of the module contents.



Source: JICA Expert Team

Figure 7: Revised EE Module Contents Evaluation by Participants (Trial Training)

(Activity 2-3-5) Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the revised module

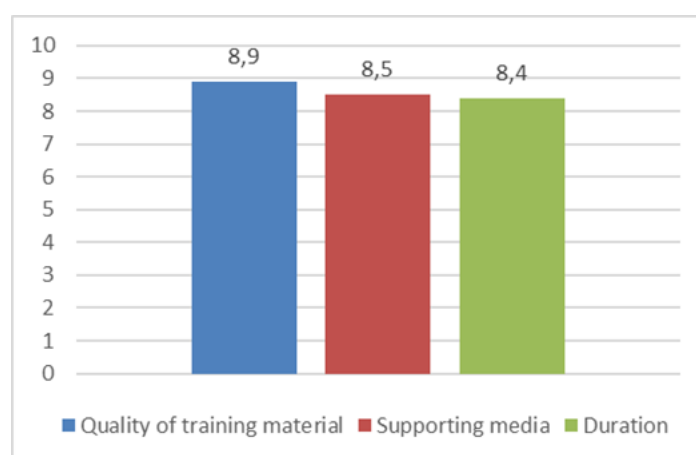
Kab/Kota Training of the revised EE module was conducted in October 2017 in West Sumatera with DWSD funding under the COE Program contract with Field Consultant. This Kab/Kota Training first used the revised version of EE module including both existing and additional contents. Also, the training of procured equipment was conducted on the third day with assistance by JICA Expert Team. Table 24 shows the outline of the training.

Table 24: Kab/Kota Training of Revised EE Module

Target Province	West Sumatera
Date and Venue	October 3 - 6, 2017 Rocky Plaza Hotel Padang, Padang City, West Sumatera
Trainers	One National Trainer (WG member) - Prijono, AKATIRTA Magelang Two Provincial Trainers - Gusri, PDAM Kota Solok* - Zulfikri, PDAM Kabupaten Pasaman Barat* * Trainers participated in Trial Training in August 2017
Participants (Trainees)	PDAM staff in West Sumatera (10 participants)
Training Activities	Day 1 (October 3) Opening ceremony, pre-test, lectures and exercises Day 2 (October 4) Lectures and exercises Day 3 (October 5) Lectures, equipment training, field visit to PDAM for practice Day 4 (October 6) Discussion, post-test and closing ceremony

Source: Annual COE Program Implementation Report 2017 by COE Management Consultant

Figure 8 shows the participants' evaluation results of the revised contents analyzed by COE Management Consultant. The revised EE module achieved over 8/10 rating in every aspect.



Source: Annual COE Program Implementation Report 2017 by COE Management Consultant

Figure 8: Revised EE Module Contents Evaluation by Participants (West Sumatera)

(Activity 2-4) Develop the new training module for CR including training curriculum, materials and trainer's manual

The development of CR training module was made through the following activities. The whole development process is documented in detail in Supplemental Document 4 (Training Module Development Report in 2016 for preparatory work) and Supplemental Document 5 (Training Module Implementation Report in 2018 for revision and implementation process).

(Activity 2-4-1) Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR

In order to understand the PDAM problems and challenges related to Customer Relations, JICA Expert Team conducted the Baseline Survey in 2015, to clarify the operation status of PDAMs at the time of project commencement. Through the analysis of PDAM performance data compiled by BPPSPAM, the status of PDAMs is found as follows:

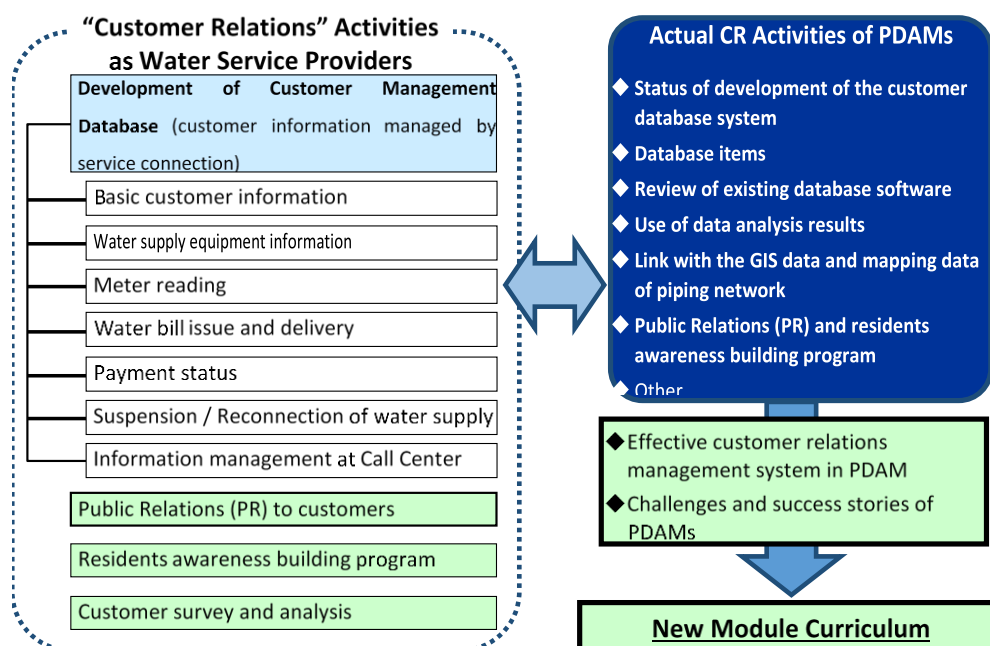
- Increasingly low service ratio over the years
- Low increase in customer growth

- Inefficient collection efficiency
- Wide gap in complaint resolution rate among PDAMs

Through the field survey and interview with PDAMs, the following problems are found in relation to the Customer Relations. It is deemed that most PDAMs have applied customer database system for water charge billing, etc. However, more amplified concept of customer relations should be introduced in the training.

- 1) Difficulty to make an online system for existing database, limited knowledge on IT development and CR-related activities.
- 2) Unautomated data input and recapitulation; existing information is not integrated.
- 3) Lack of standardization of data input process and lack of SOP
- 4) Lack of PDAM resources to conduct customer satisfaction survey
- 5) Difficulties to organize public relation or information activities

Based on the survey results and analysis, basic contents of the CR module were proposed as follows:



Source: JICA Expert Team

Figure 9: Basic Concepts of CR Module

As for the good practices among PDAMs in Indonesia, the cases of PDAM Kota Bekasi and PDAM Kabupaten Lebak were presented to the Working Group discussion. The experience of PDAM Kota Bekasi as a healthy PDAM indicates that PDAM's human resource allocation sometimes faces constraints; however, by utilizing subcontracted staff for visits to customers and community-based groups are effective to solve issues such as collection efficiency. PDAM Kabupaten Lebak has improved from its less healthy status in 2013 to healthy in 2014. The PDAM's experience indicates that the public relations activities can be carried out in cooperation with local governments despite the limited funding and resources.

(Activity 2-4-2) Develop a draft curriculum of the new training module on CR

Before having the discussion with the CR Working Group, JICA Expert Team elaborated the draft module structure as shown in Table 25. The training module curriculum, which consists of module information sheet and sample training timetable, was developed through the discussion in Working Group meetings described in the activities below.

Table 25: Module Structure for CR Module

Chapter	Knowledge Content	Sub Topic
Chapter 1: Outline of Customer Relations	<ul style="list-style-type: none"> • Necessity for Customer Relations • Relationship between Customer Relations and Non-Revenue Water Management 	<ul style="list-style-type: none"> • What is Customer Relations • Role of Customer Relations
Chapter 2: Customer Database	<ul style="list-style-type: none"> • Necessity for Customer Database Development • Analysis of Customer Database 	<ul style="list-style-type: none"> • Customer Information • Customer Database Development • Use of Customer Database • Broad Sense of Customer Relations
Chapter 3: Meter Reading	<ul style="list-style-type: none"> • Role of Meter Reader • Detection of Defective Water Meter and Illegal connection 	<ul style="list-style-type: none"> • Accurate Meter Reading and Reduction of Reading Error • Comparison of Water Consumption Volume and Family Size • Detection of Illegal Connection • Period of Meter Reading
Chapter 4: Water Charge Collection	<ul style="list-style-type: none"> • Prevention of Erroneous Input • Dunning of Payment • Comparison of Paid and Unpaid. Subchapter “Evaluation” will be changed to “Monitoring and Evaluation” with added explanation on monitoring 	<ul style="list-style-type: none"> • Confirmation of System/Input Error • Processes of Dunning Notes of Payment • Comparison of Payment Including Suspension of Water Supply and Continued Payment
Chapter 5: Complaint Countermeasure	<ul style="list-style-type: none"> • Sample of Complaint Resolution • Pulling out of Improvement from Complaint Analysis 	<ul style="list-style-type: none"> • Complaints Database • Complaints and those Resolutions Example • Complaints Measurement Flow • Territorial Analysis of Complaints
Chapter 6: GIS Mapping	<ul style="list-style-type: none"> • Properties Management • Analysis on basis of Distribution Map • Improvement from Distribution Map 	<ul style="list-style-type: none"> • Customer/Water Meter Information with GIS • Properties of Service Pipeline • Analysis of Water Supply Condition from Water Pressure and Residual Chlorine Map
Chapter 7: Public Relations (PRs) and Educational Activities	<ul style="list-style-type: none"> • Water Education from Childhood • Satisfaction of Curiosity for Water Supply System 	<ul style="list-style-type: none"> • Improvement of Awareness regarding to Illegal Connection Prevention and Water Saving in Event/Campaign • Water Classroom at Elementary School • Water Facilities Tour at Water Treatment Plant and Water Supply Facilities

Source: JICA Expert Team

(Activity 2-4-3) Develop training materials and trainer’s manuals of the new training module for CR

The Working Group meetings for CR module development were held four times as summarized in Table 26 below.

Table 26: Outline of CR Working Group Discussions

WG Meeting	Agenda	Major Points Discussed and Approved
<p>First WG Meeting</p> <p>Date: August 18-19, 2016</p> <p>Venue: Veranda Hotel, Jakarta</p> <p>Chaired by: Head of Institutional Section, Sub-directorate of Standardization and Institution, DWSD</p>	<p>Day 1 (August 18, 2016)</p> <ul style="list-style-type: none"> ■ Explanation on the Objectives and Background of the New Module Development ■ Brief Overview of PDAM Performance and Operational Problems ■ CR Module Development Process ■ Overview and Review of CR Module Content and Syllabus <p>Day 2 (August 19, 2016)</p> <ul style="list-style-type: none"> ■ Continuation of CR Module Content and Syllabus Discussion ■ How to Use Module and Additional Tools ■ Upcoming CR Agenda and Activities 	<ul style="list-style-type: none"> ■ Outline of CR module was confirmed: 1. Customer Relation (theory of Customer Relation) 2. The role of Customer Relation (Internal and external CR Organization) 3. Customer Data 4. Meter Reading 5. Water Charge 6. Customer Complaint 7. Utilization of Mapping Data 8. PR and Community Awareness Activities
<p>Second WG Meeting</p> <p>Date: October 26, 2016 Venue: Veranda Hotel, Jakarta</p> <p>Chaired by: Project Manager (Head of Sub-directorate of Standardization and Institution, DWSD)</p>	<ul style="list-style-type: none"> ■ Detailed discussion on contents of Chapter 1-5 ■ Quick Review of Chapter 6-9 	<ul style="list-style-type: none"> ■ Draft contents of Chapter 1 through Chapter 5 were discussed and confirmed.
<p>Third WG Meeting</p> <p>Date: November 28-29, 2016</p> <p>Venue: Veranda Hotel, Jakarta</p> <p>Chaired by: Head of Institutional Section, Sub-directorate of Standardization and Institution, DWSD</p>	<ul style="list-style-type: none"> ■ Presentation of Chapter 1-5 revision ■ Presentation and discussion on Chapter 6-9 ■ Setting training schedule scheme ■ Upcoming CR agenda and activities 	<ul style="list-style-type: none"> ■ Structure of module chapters was revised. ■ Proposed Training Timetable was elaborated. ■ Person in charge for contents revision was assigned for each chapter from WG members. ■ JICA Expert Team would be in charge of the best practices (Japanese experience).
<p>Fourth WG Meeting</p> <p>Date: March 16-17, 2017</p> <p>Venue: Veranda Hotel, Jakarta</p> <p>Chaired by: Head of Institutional Section, Sub-directorate of Standardization and Institution, DWSD</p>	<ul style="list-style-type: none"> ■ Review of final revision results ■ Selection of key points per chapter and standardized PowerPoint (trainer's manual) development ■ Reconfirmation of training schedule scheme ■ CR module Trial Training preparation 	<ul style="list-style-type: none"> ■ The final version of module contents is already comprehensive, suitable and deemed applicable for water utilities in Indonesia. ■ However, since there was a new SKKNI (Indonesian National Working Competency Standards), recently released in December 2016, directly covering Customer Relation Management work for water utilities, so DWSD requested for adjustment. ■ Rearrangement of module structure and some of the chapter titles, though in contents there were not substantial changes.

Source: JICA Expert Team

The revision of CR module was made based on the final comments from WG members in the fourth WG meeting. Best practice cases were finalized by JICA Expert Team to enhance know-how and additional references to module readers. Case study and simulation scenarios were also developed in order to enhance practical knowledge during the training. It was agreed that practice and exercises through case study and simulation is more preferable and useful for training participants, so that PDAM visit would not be beneficial due to difference in applied system, policy, CR programs, etc. by PDAM. Table 27 shows the final version of the CR training module contents after revision. In addition, the revision made through the Working Group discussions, Chapter 7 “Best Practice” includes the public relation activity implemented by PDAM Kabupaten Sragen through assistance by the Project (see Section (5) below).

Table 27: Contents of CR Module

CHAPTER	OUTLINE
Introduction	---
Chapter 1	Outline of Customer Relation 1.1. Definition 1.2. The Role of Customer Relation
Chapter 2	Customer Account 2.1. Definition 2.2. Customer Data Management 2.3. Evaluating the Potential of Customer Database Exercise Chapter 2
Chapter 3	Meter Record Management 3.1. Water Meter Specifications 3.2. Meter Record Management 3.3. Conducting Meter Reading 3.4. Managing Meter Reading Data 3.5. Evaluating Meter Reading Record 3.6. Tariff Setting 3.7. Case Study and Exercise Chapter 3
Chapter 4	Customer Management 4.1. Definition 4.2. Processing New Connection 4.3. Customer Management 4.4. Customer Complaint 4.5. Examples of Customer Management 4.6. Evaluating Customer Management 4.7. Complaint Center Exercise Chapter 4
Chapter 5	Marketing 5.1. Definition 5.2. Promotion to Potential Customers 5.3. Customer Relation Management 5.4. Customer Satisfaction Survey 5.5. Processing Customer Satisfaction Survey 5.6. Evaluation for Marketing Activities Exercise Chapter 5
Chapter 6	Customer Service Performance 6.1. Managing Customer Service Performance 6.2. Evaluating Customer Service Performance Exercise Chapter 6
Chapter 7	Best Practice 7.1. Analysis of Residual Chlorine Map and Analysis of Water Supply System in Japan 7.2. Promotion Program Design by PT. Aetra Air Jakarta 7.3. Utilizing Intra/Extra Community from Company and Community for CR Activities 7.4. Water Utilities’ Customer Information through Smartphone Application 7.5. Implementation of Water Quality Seminar in PDAM Kab. Sragen
Case Study and Simulation	---
Reference	Basic Presentation Handouts

Source: JICA Expert Team

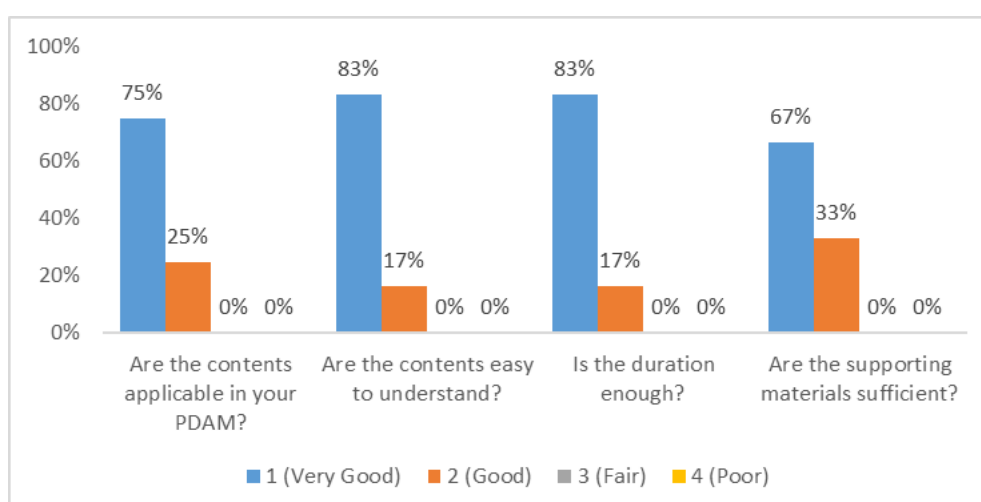
Finally, DWSD agreed to conduct the Trial Training in August 2017 to review the applicability of the training contents for finalization with funding by JICA.

Table 28: Trial Training of CR Module

Date and Venue	August 8 - 10, 2017 Grandhika Hotel, Jakarta	
Trainers	JICA Expert Team (CR Expert) WG members - Farida Ariati, PDAM Kota Banjarmasin - Maria Jacobus, PT. Adhya Tirta Batam - Rika Anjulika, PT. Aetra Air Jakarta - Slamet Raharjo, PDAM Kota Malang	
Participants (Trainees)	Selected PDAM staff from Jawa region (15 participants)	
Training Activities	Day 1 (August 8)	Opening ceremony, pre-test, lectures and exercises
	Day 2 (August 9)	Lectures and exercises
	Day 3 (August 10)	Presentation by WG members, post test, closing

Source: JICA Expert Team

At the end of Trial Training, the module contents were evaluated by participants as shown in Figure 10 below. Based on the module content evaluation, the module received overall very good review from the training participants.



Source: JICA Expert Team

Figure 10: CR Module Contents Evaluation by Participants (Trial Training)

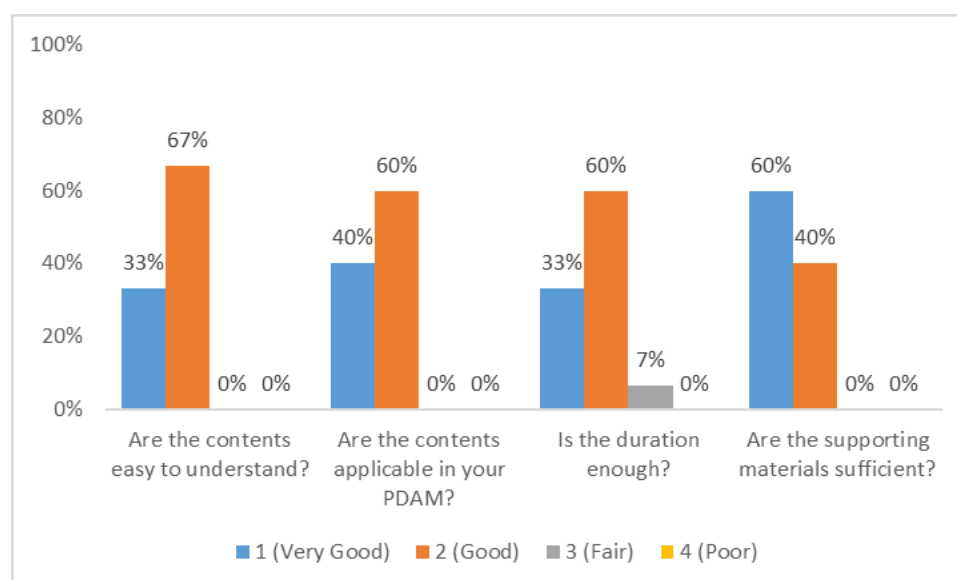
(Activity 2-4-4) Implement a Provincial Training for Provincial Trainers

Provincial Training to produce Provincial Trainers for the newly developed CR module was conducted in early 2018 with JICA funding as summarized in Table 29. During the five-day training, the CR module contents were taught in the first three days, and the Self Development (SD) training was conducted in the following two days to teach participants about training methods. Based on the pre-test and post-test results, Provincial Trainer candidates were selected to be the trainers of Kab/Kota Training. Figure 11 shows the evaluation results of the CR module contents by participants.

Table 29: Provincial Training of CR Module

Date and Venue	January 29 – February 2, 2018 Grandhika Hotel, Jakarta
Trainers	WG members - Farida Ariati, PDAM Kota Banjarmasin - Maria Jacobus, PT. Adhya Tirta Batam - Rika Anjulika, PT. Aetra Air Jakarta - Slamet Raharjo, PDAM Kota Malang Self Development Training was given by local consultants
Participants (Trainees)	Selected PDAM staff (15 participants/ Provincial Trainer candidates)
Training Activities	Day 1 (January 29) Opening ceremony, pre-test, lectures and chapter tests Day 2 (January 30) Lectures and chapter tests Day 3 (January 31) Exercise and simulation of case study, post-test Day 4 (February 1) Self Development Training Day 5 (February 2) Self Development Training, Closing

Source: JICA Expert Team



Source: JICA Expert Team

Figure 11: CR Module Contents Evaluation by Participants (Provincial Training)

(Activity 2-4-5) Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the newly developed module

Kab/Kota Training for CR module was conducted in April 2018 with JICA funding. Two Provincial Trainers were selected by WG member from the top four candidates of Provincial Training based on the evaluation of their proposal and action plan submitted after the Provincial Training. Prior to the Kab/Kota Training, the preparatory session called “Central Monitoring” was implemented from April 2 - 4, 2018. In the Central Monitoring, the two selected Provincial Trainers prepared materials and lectures for the Kab/Kota Training and a Working Group member and JICA Expert Team monitored their preparation and gave them advices.

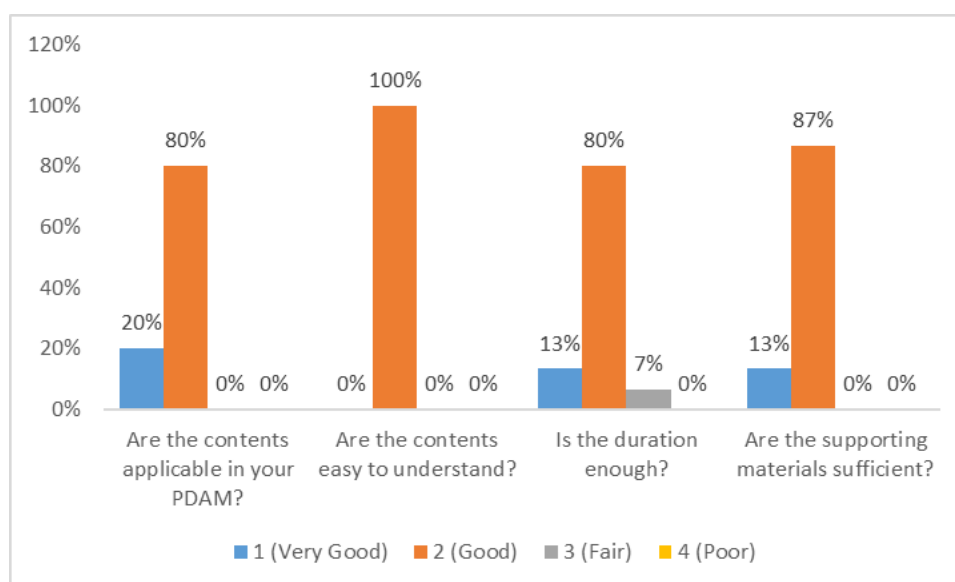
Table 30 summarizes the outline of Kab/Kota Training implementation in April 2018.

Table 30: Kab/Kota Training of CR Module

Target Province	Central Jawa	
Date and Venue	April 9 - 11, 2018 Novotel, Solo, Central Jawa	
Trainers	WG member - Slamet Raharjo, PDAM Kota Malang Two Provincial Trainers - Samsudin Sidik, PDAM Kabupaten Tangerang* - Sigit Pramono, PDAM Kabupaten Sragen* * Trainers participated in Provincial Training in January/February 2018	
Participants (Trainees)	PDAM staff in Central Jawa (15 participants)	
Training Activities	Day 1 (April 9)	Opening ceremony, pre-test, lectures and exercises
	Day 2 (April 10)	Lectures and exercises
	Day 3 (April 11)	Case study, post-test, closing

Source: JICA Expert Team

Figure 12 shows the evaluation results of the CR module contents by participants. The newly developed CR module was positively received by the Kab/Kota Training participants.



Source: JICA Expert Team

Figure 12: CR Module Contents Evaluation by Participants (Kab/Kota Training)

(Activity 2-5) Develop the new training module for FAM including training curriculum, materials and trainer's manual

The development of FAM training module was made through the following activities. The whole development process is documented in detail in Supplemental Document 4 (Training Module Development Report in 2016 for preparatory work) and Supplemental Document 5 (Training Module Implementation Report in 2018 for revision and implementation process).

(Activity 2-5-1) Review the existing training module for Financial Planning, extract and prioritize items to be improved

As part of the preparatory study, JICA Expert Team reviewed the existing training module for SAK-ETAP (financial accounting for non-public enterprises) as the only existing finance-related

module (see Table 31). Recent implementation results of SAK-ETAP training was also reviewed. Through the review, it was deemed that the existing SAK-ETAP is well-organized accounting manual for PDAMs and useful for FAM module trainees. Therefore, it was proposed that the summary of SAK-ETAP module would be introduced in the FAM module contents.

Table 31: Contents of SAK-ETAP Module

BOOK I	General Overview on Financial Accounting Standard of the Entity without Public Accounting (SAKETAP) Chapter 1: Introduction Chapter 2: General Overview on Financial Accounting Standard of the Entity without Public Accounting Chapter 3: Decree of the Minister of Home Affairs on Regional Autonomy No. 8 of 2000 Chapter 4: Similarities and Differences of Kepmen OTDA No. 8 of 2000 and SAK ETAP
BOOK II	Presentation and Measurement of Financial Statements Items of SAK ETAP Chapter 1: Introduction Chapter 2: Items of Balance Sheet in SAKETAP Chapter 3: Items of Income in SAK ETAP Information presented in the Income Statements Expenses Analysis Chapter 4: Statements of Changes in Capital, Cash Flows, Statements of Income and Retain Earnings Chapter 5: Tax Regulation
BOOK III	Practice of Preparing SAK ETAP Financial Statements Chapter 1: The Process of Preparing SAK ETAP Financial Statements Chapter 2: Explanation of the Practice Module on the Preparation of Financial Statements under SAK ETAP Appendix

Source: SAK-ETAP module textbook

(Activity 2-5-2) Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for FAM

Prior to the development of FAM training module, JICA Expert team conducted interviews regarding good practice of the existing INDII Toolkit⁵ with two PDAMs (Banyumas and Cilacap) and regarding debt restructuring to MOF and Bank Jateng. It was concluded that Business Plan is needed as company guidance, especially for a PDAM to improve its performance (See Supplemental Document 4). Business plan is also needed in debt restructuring as an evidence of good and reliable performance of PDAM, and it can also be used as evidence for commercial loan evaluation. Therefore, it is considered that PDAM's self-preparation of its business plan should be placed in the center of FAM module.

(Activity 2-5-3) Develop a draft curriculum of the new training module on FAM

Prior to the first Working Group (WG) held in September 2016, JICA Expert Team prepared the draft FAM module structure as shown in Table 32, consisting of (i) understanding of financial statements; (ii) key performance indicators; (iii) water tariff setting method; (iv) preparation of business plan; and (v) Case Study, as well as the sample training timetable.

⁵ INDII Toolkit is a toolkit developed by Indonesia Infrastructure Initiative (INDII: AUSAID program) for PDAMs on how to develop comprehensive business plan.

Table 32: Proposed FAM Module Structure

Chapter	Proposed Contents
1. Financial Statement	1.1 Income Statement 1.1.1 Revenue Analysis 1.1.2 Cost Analysis 1.2 Balance Sheet 1.2.1 Assets 1.2.2 Liabilities 1.2.3 Equity 1.3 Cash Flow Statement 1.4 Notes of Financial Statement 1.5 Financial Projection Financial Projection
2. Key Performance Indicators	2.1 Financial Ratios 2.2 Other Ratios 2.2.1 PDAM Performance Status 2.2.2 PDAMs Healthy Level According to BPPSPAM Indicators
3. Water Tariff Setting	3.1 Determination of Basic Tariff Policy 3.2 Block Consumption and Customer Group 3.3 Calculation and Budget Projection and Basic Cost 3.4 Revenue and Tariff 3.5 Mechanism and Procedure for Tariff Determination
4. Business Plan	4.1 Methodology 4.1.1 Business Plan Preparation 4.1.2 Strategic Environmental Stakeholders PDAM 4.2 Analysis Profile PDAM 4.2.1 Brief History and Legal Basic 4.2.2 Vision and Mission 4.2.3 Goals 4.2.4 PDAM Profile Region 4.2.5 PDAM Current Condition 4.2.6 SWOT Analysis 4.3 Capital Project Investment Plan 4.3.1 Investment Schedule 4.3.2 Project Description 4.4 BP Item Check list 4.5 Consistency Check list
5. Case Study	Case Study
Appendix	Understanding of SAK ETAP accounting

Source: JICA Expert Team

(Activity 2-5-4) Develop training materials and trainer's manuals of the new training module for FAM

Development of training materials and trainer manuals for FAM module was carried out through WG discussions based on the structure and draft contents prepared by JICA Expert Team. Table 33 shows the outline of FAM WG discussions.

Table 33: Outline of FAM Working Group Discussions

WG Meeting	Agenda	Major Points Discussed and Approved
First WG Meeting Date: September 26, 2016 Venue: Veranda Hotel, Jakarta Chaired by: Head of Institutional Section, Sub-directorate of Standardization and	<ul style="list-style-type: none"> ■ Background and objectives of FAM module development ■ Overview of SAK ETAP course as predecessor of FAM ■ FAM Module Structure Discussion ■ Forthcoming Events /Activities Plan 	<ul style="list-style-type: none"> ■ Major components and structure of the FAM module was approved and commented. ■ Training curriculum modification and adjustment regarding material: <ul style="list-style-type: none"> - The lesson hours should be adjusted with existing lesson hours (1 lesson hour = 45 minutes) - The practice sessions should be added more. - The discussion about chapter 4.4 until

<p>Institution, DWSD</p>		<p>chapter 5, completion process of new module, the depth of material will be done on the next WG;</p> <ul style="list-style-type: none"> - Modified training schedule and classes will be discussed further on the next WG - JICA Expert Team will prepare additional / supplemental module draft
<p>Second WG Meeting</p> <p>Date: December 1, 2016 Venue: Veranda Hotel, Jakarta Chaired by: Project Manager (Head of Sub-directorate of Standardization and Institution, DWSD)</p>	<ul style="list-style-type: none"> ■ Important issues and suggested solutions in FAM module development ■ Module development schedule ■ FAM Module Structure Discussion ■ Discussion on Chapter 1 and Appendix 1 of FAM module contents ■ Discussion on financial projection templates 	<ul style="list-style-type: none"> ■ The FAM module structure was confirmed. ■ Comments were collected about Chapter 1 (Financial Statement) and Appendix 1 (SAK-ETAP Summary).
<p>Third WG Meeting</p> <p>Date: March 22-23, 2017</p> <p>Venue: Falatehan Hotel, Jakarta</p> <p>Chaired by: Head of Institutional Section, Sub-directorate of Standardization and Institution, DWSD</p>	<ul style="list-style-type: none"> ■ Review of WG ■ Discussion on Chapter 4 and Chapter 5 ■ Further Discussion on Financial Projection 	<ul style="list-style-type: none"> ■ Some adjustments were made to Chapter 4 (Business Plan) and Chapter 5 (Practice of Business Plan Formulation with Financial Projection Model) contents. ■ Following were confirmed about the module development process : <ul style="list-style-type: none"> - Revised documents should be distributed to all WG members no later than April 2017. - WG or smaller meeting is required to discuss final version of all documents.
<p>Fourth WG Meeting</p> <p>Date: June 20, 2017</p> <p>Venue: DGHS, Jakarta</p> <p>Chaired by: Head of Institutional Section, Sub-directorate of Standardization and Institution, DWSD</p>	<ul style="list-style-type: none"> ■ Review of WG ■ Discussing revision point based on previous WG ■ Discussing training aspect 	<ul style="list-style-type: none"> ■ Further comments on the module contents were collected and discussed. ■ Further activities were scheduled as follows: <ul style="list-style-type: none"> - All inputs will be finalized on June 22, 2017. ■ The discussion about the module completion process, curriculum adjustment, and other training materials will be done via e-mail. JICA Expert Team will send the revision to WG members on July 7.

Source: JICA Expert Team

After the four WG discussions held from September 2016 through June 2017, the final version of the training module was submitted to DWSD and WG members in June 2017. Table 34 shows the final version of the FAM module contents.

Table 34: FAM Module Contents

No	Chapter / Outline	Sub-Topic / Section	Subsub-Topic / Subsection	Content	
1	Chapter 1 : Financial Statements				
	- Definition and purpose of Financial Statements - Balance Sheet, Income Statement, Changes in Equity Statement, Cash Flow, and Notes of Financial Statements. - Financial Indicators - Introducing SAK ETAP	1.1 Income Statement	1.1.1 Revenue Analysis	Meaning and characteristics of revenue items and how to show it in the Financial Statements	
			1.1.2 Cost Analysis	Meaning and characteristics of expenditure items and how to evaluate it	
		1.2 Balance Sheet	1.2.1 Assets	Meaning and characteristics of asset items and how to evaluate it	
			1.2.2 Liabilities	Meaning and characteristics of liability items and how to evaluate it	
			1.2.3 Equity	Meaning and characteristics of equity items and how to evaluate it	
		1.3 Cash Flow Statement	Understanding of cash flow		
		1.4 Notes of Financial Statement	Understanding of notes of financial statement		
2	Appendix 1 : Summary of SAK ETAP				
	- Basic concept and rules of SAK ETAP		Basic concept and rules of SAK ETAP will be presented using part of SAK ETAP module		
3	Chapter 2 : Key Performance Indicators				
	- Types of KPIs, meanings and selection criteria	2.1 PDAM Performance Assessment Based on Permendagri No.47/1999		To understand which KPIs are suitable with Finpro and BP	
		2.2 PDAM Performane Assessment Based on BPPSPAM		To understand which KPIs are suitable with Finpro and BP	
		2.3 Comparison of KPIs		The difference between the KPI in BPPSPAM and Permendagri No.47/1999	
4	Chapter 3 : Tariff				
	- Water tariff setting process	3.1 Determination of Basic Tariff Policy		To introduce process of tariff policy setting and tariff approval	
		3.2 Block Consumption and Consumer Group		To understand the standard way of tariff structurization in Indonesia	
		3.3 Mechanism and Procedure for Tariff Determination		To understand which KPIs are suitable with Finpro and BP	
5	Appendix 2 : Financial Projection program				
	- Financial statements used in Finpro		Understanding of dissimilar form and items between SAK ETAP financial statements and Finpro financial statements		
6	Chapter 4 : Business Plan Formulation				
	Business Plan formulation process	4.1 Methodology		To understand the standard methodology for BP preparation	
		4.2 Profile of PDAM	4.2.1 Brief History and Legal Base	To understand a standard way of describing the history of PDAM and legal basis	
			4.2.2 Vision	To understand the standard way of describing PDAM vision	
			4.2.3 Mission	To understand a standard way of describing PDAM mission	
			4.2.4 Goals	To understand the standard way of describing PDAM goals	
			4.2.5 Regional Profile	To understand the standard way of describing regional profile	
			4.2.6 PDAM Current Status	To understand the standard way of describing the current status PDAMs by referring to the KPIs	
			4.2.7 SWOT Analysis	To understand the standard way of SWOT analysis	
			4.2.8 Investment Decision	To understand investment decision making process after SWOT	
		4.3 Capital Project Investment Plan	4.3.1 Investment Schedule	To understand the standard way of investment schedule in Finpro and BP	
			4.3.2 Project Description	To understand standard description of investment project and necessary factors to be clarified.	
		4.4 Service and Production			To understand the standard way of describing goals and assumptions of service and production
		4.5 Organization Plan			To understand the standard way of describing organization plan which focus on labour schedule and related KPI.
		4.6 Financial Projection	4.6.1 Income Statement	To understand the standard way to show IS in BP	
	4.6.2 Balance Sheet		To understand the standard way to show BS in BP		
	4.6.3 Cash Flow		To understand the standard way to show CFS in BP		
	4.6.4 Key Performance		To understand the standard way to show KPIs in BP		
	4.7 List BP Checklist			To understand a list which show important data for BP preparation	
7	Chapter 5 : Case study				
	Practice of Business Plan (BP) Formulation	5.1 Case Study of Financial Models	5.1.1 Guidelines for Financial Model	Fictitious and raw data to formulate a five-year BP are provided and explained. The data will be provided and explained.	
			5.1.2 Consistency Check List	To understand a list that describes the location where the contents of BP inconsistencies often arise	
		5.2 Sample Business Plan		A sample of BP as a result of the case study data will be shown.	
		5.3 BP Preparation Exercise		Different set of data will be provided to prepare another BP.	

Source: JICA Expert Team

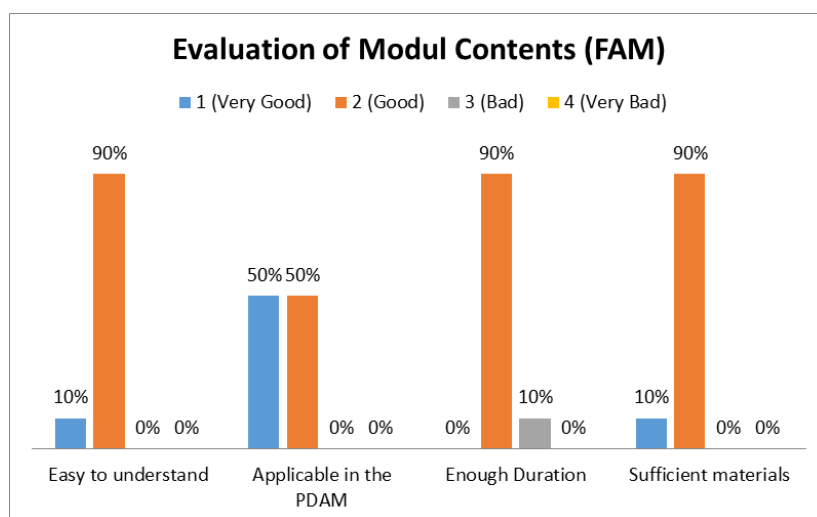
Trial Training for the FAM module was conducted in August 2017 with JICA funding to have review and feedback from training participants through training implementation. Table 35 shows the outline of the FAM Trial Training.

Table 35: Trial Training of FAM Module

Date and Venue	August 8 - 10, 2017 Grandhika Hotel, Jakarta
Trainers	WG members - Benny Djumhana, IUWASH - Ari Sutiartie, Financial Expert - Farid Rozin, PDAM Kota Malang - Mya Musyarova Wati, PDAM Kota Depok
Participants (Trainees)	Selected PDAM staff from Jawa region (12 participants)
Training Activities	Day 1 (August 8) Opening ceremony, pre-test, lectures (Financial Statement) Day 2 (August 9) Lectures (Business Plan and Financial Projection) Day 3 (August 10) Lectures (Business Plan and Financial Projection), exercise, post test, closing ceremony

Source: JICA Expert Team

At the end of Trial Training, the module contents were evaluated by participants as shown in Figure 13 below. Based on the module content evaluation, the module received mostly good review from the training participants.



Source: JICA Expert Team

Figure 13: FAM Module Contents Evaluation by Participants (Trial Training)

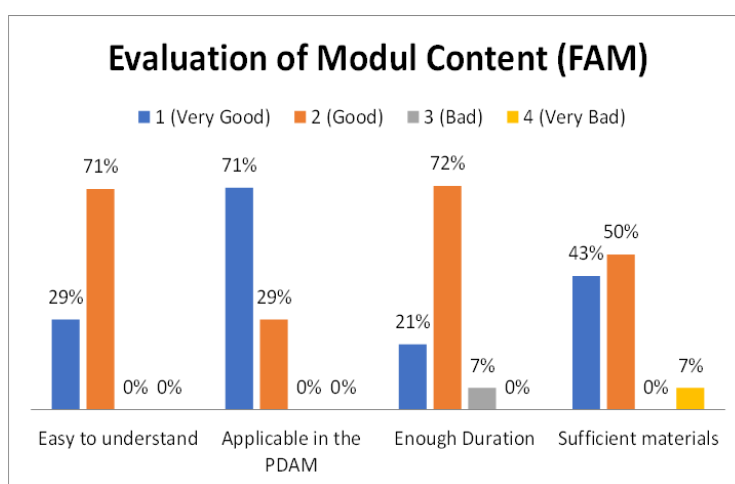
(Activity 2-5-5) Implement a Provincial Training for Provincial Trainers

Provincial Training for the newly developed FAM module was conducted in early 2018 with JICA funding to prepare Provincial Trainers for Kab/Kota Training implementation (See Table 36). During the five-day training, the FAM module contents were taught in the first three days, and the Self Development (SD) training was conducted in the following two days to teach participants about training methods. Based on the pre-test and post-test results, Provincial Trainer candidates were selected to be the trainers of Kab/Kota Training scheduled later in the Program. Figure 14 shows the evaluation results of the FAM module contents by participants. It was noted that most participants responded the module contents were very applicable in their PDAMs.

Table 36: Provincial Training of FAM Module

Date and Venue	January 29 – February 2, 2018 Grandhika Hotel, Jakarta
Trainers	WG members - Benny Djumhana, IUWASH - Ari Sutiartie, Financial Expert - Farid Rozin, PDAM Kota Malang - Mya Musyarova Wati, PDAM Kota Depok Self Development Training was given by local consultants
Participants (Trainees)	Selected PDAM staff (14 participants/ Provincial Trainer candidates)
Training Activities	Day 1 (January 29) Opening ceremony, pre-test, discussion on material contents Day 2 (January 30) Lectures (SWOT analysis, financial projection) Day 3 (January 31) Lectures (Business Plan), FINPRO test, group work on business plan, post test Day 4 (February 1) Self Development Training Day 5 (February 2) Self Development Training, Closing

Source: JICA Expert Team



Source: JICA Expert Team

Figure 14: FAM Module Contents Evaluation by Participants (Provincial Training)

(Activity 2-5-6) Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the newly developed module

Kab/Kota Training for FAM module was conducted in April 2018 with JICA funding. Two Provincial Trainers were selected by WG member from the top four candidates of Provincial Training based on the evaluation of their proposal and action plan submitted after the Provincial Training. Prior to the Kab/Kota Training, the preparatory session called “Central Monitoring” was implemented from April 2 to 4, 2018. In the Central Monitoring, the two selected Provincial Trainers prepared materials and lectures for the Kab/Kota Training and a Working Group member and JICA Expert Team monitored their preparation and gave them advices.

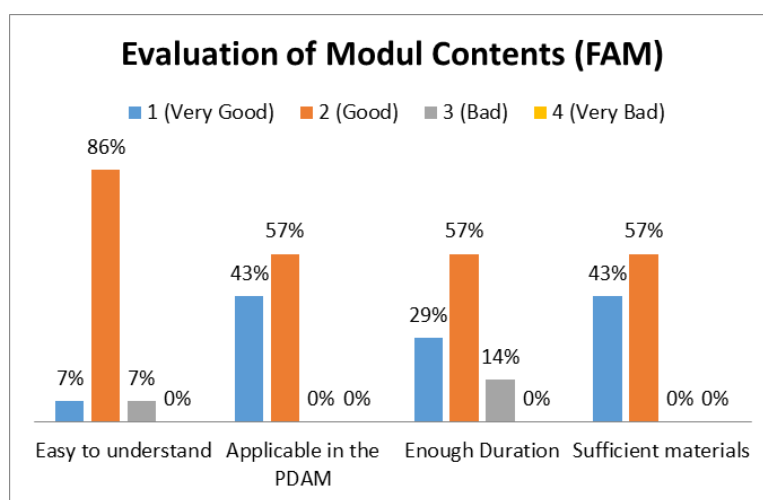
Table 37 summarizes the outline of Kab/Kota Training implementation in April 2018.

Table 37: Kab/Kota Training of FAM Module

Target Province	Central Jawa
Date and Venue	April 9 - 11, 2018 Novotel, Solo, Central Jawa
Trainers	WG member - Farid Rozin, PDAM Kabupaten Magetan Two Provincial Trainers - Ardiansyah, PDAM Kota Pontianak * - Sugeng, PDAM Kabupaten Wonosobo * * Trainers participated in Provincial Training in January/February 2018
Participants (Trainees)	PDAM staff in Central Jawa (17 participants)
Training Activities	Day 1 (April 9) Opening ceremony, pre-test, lectures (Financial Statement, Key Performance Indicator, Tariff Setting, and Introduction to Business Plan) Day 2 (April 10) Lectures (SWOT analysis, Investment Decision, Investment Schedule, Financial Projection (FINPRO) Program and Business Plan) Day 3 (April 11) Group work, post-test, closing

Source: JICA Expert Team

Figure 15 shows the evaluation results of the FAM module contents by participants. The FAM module contents were overall received positively among participants. 43% of them responded the contents were very applicable to their PDAMs.



Source: JICA Expert Team

Figure 15: FAM Module Contents Evaluation by Participants (Kab/Kota Training)

(Activity 2-6) Review and improve the above training modules including curriculum, materials and trainers' manuals to be practical through the COE Program activities

After the implementation of Provincial Training and Kab/Kota Training, Working Group members, JICA Expert Team and DWSD reviewed the results and finalized the training modules. Revisions made in the four modules are as follows:

(NRW Training Module)

Based on the results of the evaluation conducted on the participant, the trainer, the module content, the training results are stated well. Therefore, DWSD and WG members do not provide any further revision to the module contents.

(EE Training Module)

Based on the results of evaluation conducted on the participant, the trainer, the module content, the training results are stated well. However, WG members suggested to insert additional module into the existing module. So, after Kab/Kota Training, JICA Expert Team had discussion on the merger of these modules with WG members on January 26, 2018. The results of the discussion are as follows:

- The contents of EE additional module will be inserted into the existing EE module.
- New module has been through editing and correction in accordance with the discussion results.

The final revision to the EE training module was made in accordance with the results of discussion.

(CR Training Module)

CR Module has been utilized in three training sessions since August 2017 including Trial Training in Jakarta, Provincial Training in Jakarta, and Kab/Kota Training in Solo. During and after those trainings there were minor comments and revision on mostly technical contents.

Based on the monitoring and evaluation of participants, trainers, module contents, and training implementation, the training results are satisfactory dominantly varying between “very good” and “good”.

After the Training in Japan titled “Efforts and attainments on Customer Relations in Japanese Waterworks” was held in April 2018 (see Section 2.1.3 (3)), the following revision was made in accordance with the suggestion from the training participants and Working Group members:

- Additional introduction was inserted in Chapter 1
- The explanation on meter parts and the factors of reading accuracy was added in Chapter 3.
- Additional explanation was inserted in Chapter 4 about call center.

Subsequently after the implementation of public relations activities in PDAM Kabupaten Sragen (see Section 2.1.3 (5)), the description of the activities was inserted in the textbook as the final revision of the CR training module.

(FAM Training Module)

FAM module has been used in three trainings since 2017: Trial Training, Provincial Training in Jakarta, and Kab/Kota Training in Solo. Based on the evaluation conducted on the participant, trainers, module content, and training implementation, the training results are stated well. Finalization of module after training implementation are merging some documents with the module to make it more concise, checking on module details (i.e. typos, template), and rechecking outputs.

The training modules were officially submitted for DWSD’s approval along with Training Module Development and Implementation Report for each module in June 2018 as shown in Supplemental Document 5. The final version of training modules submitted to DWSD consists of the following:

- Training Curriculum (Information Sheet and Sample Training Timetable)
- Trainers’ manuals (Session Notes)
- Textbook and training materials

Subsequently, the four training modules were approved by DWSD at the third meeting of JCC in August 2018.

(3) Training in Japan

During the project period, training in Japan was held for three times in April 2016, May 2017 and April 2018 (see Table 38). For the first training in April 2016, participants selected from the concerned organizations learned the human resource development in Japanese water supply sector and roles of the government and Japan Water Works Association (JWWA). After the training, they participated in the series of discussions for Master Plan development for COE Program.

For the second and third training in May 2017 and April 2018 respectively, the participants were selected from National Trainers and Working Group members of COE Program as well as concerned organizations such as DWSD and BPPSPAM to learn technical efforts of Japanese waterworks in NRW, EE and CR. The training experience was reflected in their training module development works in Indonesia after the training. For instance, CR participants made final revision to the training module after taking training to reflect what they learned about Japanese experience in the customer relations.

Table 38: Training in Japan

No.	Period	Subject	Participants	Major Contents
1	April 18 – 27, 2016	Human Resource Development (HRD) in Water Supply Sector in Japan (Management level)	7 participants (DWSD, BTAM, PERPAMSI, etc.)	<ul style="list-style-type: none"> - HRD support for Japanese Waterworks by central government and JWWA - HRD of Yokohama Waterworks Bureau - Discussion and preparation of Action Plan
2	May 16 – 25, 2017	Efforts and attainments on NRW Reduction and Energy Efficiency in Japanese Waterworks (Technical level)	12 participants (DWSD and PDAMs (National Trainers))	<ul style="list-style-type: none"> - Outline of Japanese water supply system in NRW Reduction and Energy Efficiency - Discussion and preparation of Action Plan
3	May 7 - 16, 2018	Efforts and attainments on Customer Relations in Japanese Waterworks (Technical level)	5 participants (DWSD, PERPAMSI, BPPSPAM, PDAM (WG member))	<ul style="list-style-type: none"> - Outline of water supply in Japan - Customer Relations in Japanese Waterworks - Discussion and preparation of Action Plan

Source: JICA Expert Team

(4) Procurement of Equipment

Although nationwide COE trainings are conducted by DWSD, training equipment for NRW and EE modules was not sufficient. On the other hand, some of the equipment was procured by DWSD in 2016 after this project was started and some equipment was available at BTAM. Considering these situations, appropriate quantity of equipment to be procured by JICA had been discussed and both DWSD and JICA sides agreed on the First JCC held on 29th March in 2016. See Tables 39 and 40 for detail number of equipment.

As described in the minutes of meeting, both side confirmed that Equipment procured by DWSD in 2016 will be utilized in Kab/Kota Training in provinces, equipment procured by JICA and equipment in BTAM will be utilized for National and Provincial Trainings on the central level.

NRW equipment except Acoustic Bar made of steel bar was procured by JICA in March and April in 2017 and EE equipment was procured by JICA Expert Team in May 2017. The certificate of

handover was signed on May 2018 (see Annex 2) and the equipment was delivered to BTAM Bekasi by DWSD in September 2018. (See Annex 2 for the equipment use.)

Table 39: NRW Equipment

	Name of Equipment	Quantity			
		Original Request from DWSD	DWSD Procurement in 2016	Existing at BTAMS	JICA Procurement
1	Plastic Pipe Leakage Detector	10	0	0	5
2	Leak Noise Correlator with Transmit Sensors	10	28	0	2
3	Portable Ultrasonic Flowmeter	10	28	0	5
4	Pressure Data Logger	10	30	0	5
5	Digital Type Compact Leak Detector	10	0	0	5
6	Acoustic Bar with Electrical Amplifier	10	15	3	2
7	Acoustic Bar made of steel bar	250	0	0	50
8	Conventional Type Leak Detector	10	15	16	0
9	Metal Pipe Locator	0	15	6	0
10	Non-Metal pipe Locator	0	15	0	0
11	Simple Acoustic Bar	0	56	17	0

Source: JICA Expert Team

Table 40: EE Equipment

	Name of Equipment	Quantity			
		Original Request from DWSD	DWSD Procurement in 2016	Existing at BTAMS	JICA Procurement
1	Power Quality Analyzer with Clamp Sensor	10	28	0	5
2	AC/DC Digital Clamp Meter	10	15	2	3
3	Infrared Thermometer	10	15	0	5
4	Tachometer	10	28	3	2

Source: JICA Expert Team

(5) Public Relations Activities

During the project period, DWSD and JICA Expert Team engaged in the following public relations activities to disseminate the information on project activities and COE Program.

1) Project Newsletter

DWSD and JICA Expert Team issued ten editions of the Project Newsletter covering developments in the Project and COE Program. The newsletters were distributed to all PDAMs over the country and concerned organizations in central and local governments as well as donor community.

2) Assistance for Public Relations Activities of PDAM

JICA Expert Team in cooperation with DWSD provided assistance for PDAM Kabupaten Sragen in Central Jawa to implement Public Relation (PR) activities for its water service customers to implement the suggestions in CR training module and collect case examples. The PR activities consist of (i) customer satisfaction survey for residents of PDAM coverage area and (ii) holding seminars for PDAM customers to enhance public awareness about PDAM water quality (See Annex 6 for details). The activities were introduced in the final version of CR modules as a case example of public relations activities of PDAM.

3) Contribution to PERPAMSI Monthly Magazine

JICA Expert Team contributed several articles of PERPAMSI monthly magazine to introduce the Project's assistance for COE Program and technical topics such as NRW Reduction.

4) Presentation in JWVA Conference

Two DWSD officials participated in the JWVA conference held in Kyoto in November 2016 and delivered a presentation about introduction to the COE Program focusing on its cascade training method.

(6) Joint Coordinating Committee

Upon the commencement of the Project, Joint Coordinating Committee (JCC) was established in order to facilitate the inter-organizational coordination. During the three-year project period, JCC held three meetings to approve the Project’s work plan, review and monitor the overall progress, and discuss major issues that arose in the project implementation. Outline of the JCC meetings are summarized in Table 41. The detailed Minutes of Meeting are presented in Annex 4.

Table 41: Outline of JCC Meetings

JCC Meeting	Major Points Discussed	Attending Organizations
<p>First JCC Meeting</p> <p>Date: March 29, 2016</p> <p>Venue: Veranda Hotel, Jakarta</p> <p>Chaired by: Project Manager (Head of Sub-directorate of Standardization and Institution, DWSD)</p>	<ul style="list-style-type: none"> ■ Progress of COE Program and the Project ■ Results of Baseline Survey and COE Program Review - Quality control of COE Program - Development and improvement of training modules ■ Confirmation of PDM and PO (Ver. 1) ■ Work Plan of the Project ■ Training equipment to be procured ■ Master Plan Development ■ Formation of Working Group ■ Training in Japan 	<p>DWSD</p> <p>Directorate of Building Development, DGHS</p> <p>Directorate of Integration of Settlement Infrastructure, DGHS</p> <p>BTAM</p> <p>BPPSPAM</p> <p>PERPAMSI</p> <p>COE Management Consultant</p> <p>JICA (Glocal Environment Department)</p> <p>JICA Indonesia Office</p> <p>JICA Advisor to DGHS</p> <p>JICA Expert Team</p>
<p>Second JCC Meeting</p> <p>Date: February 15, 2018</p> <p>Venue: DWSD, Jakarta</p> <p>Chaired by: Project Director (Director of DWSD)</p>	<ul style="list-style-type: none"> ■ Progress of COE Program and the Project - Major points agreed by stakeholders - Issues to be addressed in further discussions - Next steps forward ■ Revision of TOR for the COE Management Consultant ■ Budget appropriation for COE training ■ Confirmation of Monitoring Sheet Ver. 4 and draft Project Brief Note ■ Development and revision of training modules ■ Forthcoming activities of the Project ■ End-line Survey and Joint Assessment 	<p>DWSD</p> <p>Directorate of Integration of Settlement Infrastructure, DGHS</p> <p>BTAM</p> <p>BPPSPAM</p> <p>PERPAMSI</p> <p>JICA Indonesia Office</p> <p>JICA Expert Team</p>
<p>Third JCC Meeting</p> <p>Date: August 9, 2018</p> <p>Venue: Veranda Hotel, Jakarta</p> <p>Chaired by: Project Director (Director of DWSD)</p>	<ul style="list-style-type: none"> ■ Progress of COE Program and the Project ■ Master Plan for COE Program - Approval of final version of M/P - Transfer of COE Program to BPPSPAM from DWSD - Steps forward for Mutual Agreement by DWSD, BPPSPAM and PERPAMSI ■ Presentation by Working Group members on module development and participation in COE Program ■ Confirmation of Monitoring Sheet Ver. 5 and Project Brief Note ■ Approval of training module revised or 	<p>DWSD</p> <p>BTAM</p> <p>BPPSPAM</p> <p>COE Management Consultant</p> <p>Working Group members</p> <p>JICA Expert Team</p>

	developed by the Project ■ Joint Assesment of the Project - Draft Project Completion Report - Monitoring Plan and Ex-post Evaluation ■ Use of procured training equipment for NRW and EE modules	
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Source: JCC Minutes of Meeting

(7) End-line Survey

End-line Survey was conducted in 2018 in two parts, i.e. (i) questionnaire survey of COE training participants and (ii) key performance indicators data input and analysis based on PDAM Performance Book published by BPPSPAM. Outline of results are as follows:

1) Questionnaire Survey

Questionnaire survey was conducted to evaluate training experience and PDAM activities after COE training through telephone interview with past training participants (see Supplemental Document 7 for complete survey results). Table 42 shows the summary of activities after training of Kab/Kota Training participants. It is indicated that majority of training participants have engaged in implementation of knowledge obtained after taking COE Program.

Table 42: Activities after COE Training

Training Module	NRW		EE		CR	FAM
	2014	2017	2014	2017	2017	2017
COE Program Year						
Respondents	161	7	30	7	8	8
Implementation of Knowledge Obtained	84%	86%	97%	86%	88%	100%
Sharing with other staff in own PDAM	84%	71%	94%	86%	88%	100%
Improve ways of working	75%	71%	77%	57%	75%	88%
Obtain new equipment	15%	0%	20%	0%	0%	13%
Develop new system	4%	14%	37%	43%	13%	63%
Give training to other PDAM	8%	0%	3%	0%	0%	0%

Source: JICA Expert Team

2) Key Performance Indicators

Table 43 shows median values of the key performance indicators related to COE training modules. It is noted that the available data are compiled by BPPSPAM with one-year delay.

Table 43: Key Performance Indicators Related to COE Training Modules
PDAM Performance Book Data (BPPSPAM): median values of all PDAM

Related Module	Indicator	Unit	2015	2016	2017	Indicator Definition
NRW	NRW Ratio	%	30.3	30.7	30.0	NRW ratio = (water distribution - revenue water) / water distribution * 100
	Water Meter Replacement	%	2.6	2.5	2.4	Water meter replacement = number of replaced water meters in year / total customer * 100
EE	Production Efficiency	%	61.0	58.8	56.4	Production efficiency = realization of production in m ³ / installed capacity in m ³ * 100
	Energy Cost	IDR/m ³	448	429	409	Energy cost = energy cost (electricity, diesel, gas, and other fuels) in a year / total production
CR	Collection Efficiency	%	90.9	90.1	89.6	Collection efficiency = total revenue of water billing / total water revenue * 100
	Complaint Resolution Level	%	100.0	100.0	100.0	Complaint resolution level = number of completed complaints / number of complaints * 100
FAM	Operating Ratio	-	1.1	1.0	1.0	Operating ratio = operation expenses / operation revenue
	Solvency	%	728.9	662.0	1498.3	Solvency = total assets / total debts * 100
	Return on Assets (ROA)	-	-0.01	0.00	0.00	Return on assets = net profit after tax / total assets

Source: JICA Expert Team based on PDAM Performance Book 2015 – 2017 (BPPSPAM)

2.2 Achievements of the Project

2.2.1. Outputs and Indicators

(1) Output 1

Quality management of the COE Program is strengthened.

[Indicators and Results]

(Indicator 1-1) The revised TOR (Terms of Reference) for the COE Management Consultant of the COE Program is applied.

Scope of Work (equivalent to TOR) for COE Management Consultant and Field Consultant was revised in accordance with the proposal provided in the Master Plan (see Supplemental Documents 2 and 3). The proposal includes the following points:

- Assistance for transfer of Kab/Kota Training of COE Program to PERPAMSI
- Assistance for capacity development of PD PERPAMSI
- Assistance for coordination between COE Program and SKKNI
- Improvement of monitoring and evaluation of COE Program

COE Management Consultant and Field Consultant were procured accordingly in April 2018.

(Indicator 1-2) Activities for the COE Program are regularly reviewed through PDCA cycle.

The training implementation of the four developed and revised modules in 2017 were reviewed in the Implementation Report prepared by JICA Expert Team and submitted to DWSD in June 2018 (see Supplemental Document 5).

From the 2018 COE Program, in accordance with the revised Scope of Work, COE Management Consultant will implement the improved monitoring and evaluation whose results will be reported through its Annual COE Program Implementation Report.

The indicators and results of Output 1 are summarized in Table 44.

Table 44: Achievements of Output 1

Indicator No.	Target	Results	Achievement Level
1-1	Revision of Scope of Work for the COE Management Consultant	Revision made in March 2016	100%
1-2	Review of annual COE Program implementation report	Implementation Report submitted and reviewed in June 2018 Annual COE Program Implementation Report will be prepared by the COE Management Consultant by the end of 2018.	100%

Source: JICA Expert Team

(2) Output 2

Existing training modules are improved and new training modules are developed for COE Program.

[Indicators and Results]

(Indicator 2-1) Documents on issues and challenges to be improved and good practices regarding the training modules are consolidated.

The study on issues and challenges to be improved and good practices regarding each training module was completed in 2015 during the Baseline Survey and COE Program Review. Report of the Baseline Survey and COE Program Review was presented in March 2016 (see Supplemental Document 1).

Also, issues and good practices of each modules are compiled in Module Development Report submitted to DWSD and Working Group for each module in 2016 (see Supplemental Document 4).

(Indicator 2-2) Training curriculum, materials and trainer’s manuals are approved by the head of Sub-directorate of Regulation and Institution Development, DWSD.

The final revision of four modules was completed and the request for DWSD approval was submitted along with the Implementation Report of each module in June 2018 (see Supplemental Document 5).

Official approval was obtained in August 2018 at the third JCC meeting (see Annex 4). The indicators and results of Output 2 are summarized in Table 45.

Table 45: Achievements of Output 2

Indicator No.	Target	Results	Achievement Level
2-1	Report on improvement of training module and good practices	Baseline Survey and COE Program Review report was submitted in March 2016 Module Development Reports for four modules were submitted in 2016.	100%
2-2	DWSD approval of revised or developed modules	Four modules were approved at the third JCC meeting in August 2018.	100%

Source: JICA Expert Team

2.2.2. Project Purpose and Indicators

[Project Purpose]

Implementation capacity of the COE Program for PDAMs in the Directorate General of Human Settlement is enhanced.

[Indicator and Results]

(1) Indicator 1

Four modules (NRW, EE, CR and FAM) revised or developed by the Project are utilized in the COE Program.

In the 2017 COE Program, after the revision of NRW and EE modules, training for Existing Provincial Trainers was conducted in August 2017 and Kab/Kota Training in October 2017. As for the newly developed CR and FAM modules, Provincial Training was conducted in

January/February 2018 and Kab/Kota Training in April 2018 under JICA funding.

Furthermore, in the 2018 COE Program implemented by DWSD, it is observed that those modules are continuously utilized as summarized in Table 46 below. Therefore, it is confirmed that all the four training modules revised or developed under the Project were utilized in the COE Program. The achievement level of Indicator 1 is deemed 100%.

Table 46: 2018 COE Program Training

Type of Training	Location	Date	Module
Implemented by Field Consultant Package 1			
Provincial Training	Palembang, South Sumatera	July 9 – 14, 2018	GIS, WTP, <u>FAM</u>
	Kupang, East Nusa Tenggara	July 23-28, 2018	GIS, <u>EE</u> , <u>FAM</u>
	Pontianak, West Kalimantan	August 6-11, 2018	GIS, <u>CR</u> , WTP
Kab/Kota Training	Maluku/North Maluku	October 8 -11, 2018	GIS, <u>FAM</u>
Implemented by Field Consultant Package 2			
Kab/Kota Training	PDAM Kab. Wonosobo, Central Java	October 15 – 18, 2018	<u>NRW</u> , <u>FAM</u>
	PDAM Kota Malang, East Java	October 15 – 18, 2018	<u>EE</u> , <u>CR</u>
	PDAM Kab. Bondowoso, East Java	October 29 – November 1, 2018	<u>NRW</u> , GIS
	PDAM Kota Pematang Siantar, North Sumatera	October 22 – 25, 2018	<u>EE</u>
	PDAM Kota Medan, North Sumatera	October 22 – 25, 2018	WTP
	PDAM Kota Makassar, South Sulawesi	October 22 – 25, 2018	<u>NRW</u> , WTP
	PDAM Intan Banjar, South Kalimantan	October 29 – November 1, 2018	SAK-ETAP
	South Sulawesi	October 29 – November 1, 2018	GIS

Notes: Underlined modules are the ones revised or developed under the Project. There are two packages of Field Consultants who implement the COE training in 2018 Program. Package 2 is Training in selected PDAMs as Training Center candidates.

Source: JICA Expert Team

(2) Indicator 2

The Master Plan for the COE Program is approved by the Director of DWSD.

As described in Section 2.1.3, a series of discussions of the Master Plan for the COE Program was held among stakeholders such as DWSD, PERPAMSI, BPPSPAM, BTAM and other related organizations from early 2016 through 2018.

As a result, the Draft Master Plan prepared by JICA Expert Team was discussed by DWSD, PERPAMSI and other stakeholders in the preparatory meetings and the second JCCs in 2018. DWSD has confirmed with PERPAMSI the substantial contents of Master Plan along with next steps forward (see Supplemental Document 3 for the final version of Master Plan). The Master Plan was approved at the third JCC meeting in August 2018 by the director of DWSD (See Annex 4 for the Minutes of Meeting of JCC held in August 9, 2018). Therefore, the achievement level of Indicator 2 is deemed 100%.

However, upon the finalization of Master Plan in early August 2018, DWSD stated that it

considers that BPPSPAM should play more substantial role in the future COE Program as the implementing agency instead of DWSD. According to DWSD officials, this was because Director General of DGHS intervened in the last stage of Master Plan finalization and decided that BPPSPAM should take control of the COE Program in accordance with the MPWH regulation No.36/PRT/M/2016. Therefore, significant change will be necessary in the implementation structure described in the present Master Plan; and it is a potential issue to be addressed to ensure the Project’s sustainability. This point will be discussed in Chapters 3 and 4 in detail.

2.3 History of PDM Modification

All versions of Project Design Matrix (PDM) from Ver. 0 through Ver. 5 are presented in Annex 3. During the project period, modification of PDM was made two times as follows.

2.3.1 March 2016 Modification (PDM Version 1)

Based on the results of Baseline Survey, the following modifications of PDM from Version 0 to Version 1 were confirmed among the JCC members in the first JCC meeting held in March 2016. See Annex 4 for PDM Version 1.

(1) Project Sites (Target Provinces)

Since participation in the COE training was low in Bali province, Bali is excluded from the target provinces. Instead, West Java province is included considering its participation in COE training and accessibility from Jakarta for the project activities.

(2) Terminology Used for COE Program Training Types

To suit the common terminology in the current COE Program, the following modifications are made for the terms used for training types mentioned in PDM.

Table 47: Modification of Terminology Used for COE Program Training Types

Before amendment	After amendment
National TOT	National Training
Provincial TOT	Provincial Training
BINTEK	Kabupaten/Kota Training (Kab/Kota Training)

Source: Minutes of Meetings dated April 1, 2016

(3) Duration of Project

Starting month of the project is modified to the actual date, i.e. August 2015.

(4) Verifiable Indicators and Means of Verification

[Overall Goal]

- Indicator 1 is modified to “Proportion of PDAMs which implement what they learn from the COE Program is increased” and the baseline data is identified as proportion of Kab/Kota Training participants who answered “improve way of working” in the questionnaire survey data. Means of verification is modified to “Baseline Survey results and Annual COE Program Implementation Report” accordingly.
- Indicator 2 is modified to “Employee training ratio among all PDAM is improved.” considering the performance indicators related to training modules (e.g. NRW rate) may have many other factors than implementation of COE training to be improved. Means of verification is modified to “PDAM Performance Indicators of BPP SPAM” accordingly.

[Project Purpose]

- Baseline data of 2014 Kab/Kota Training are added to Indicator 1. Means of verification is modified to “Baseline Survey results and Annual COE Program Implementation Report”.
- Indicator 2 is modified to “Evaluation on training experience by Kab/Kota Training participants is improved” to specify the indicator as the average of respondent percentage of Kab/Kota Training participants in 2014 for the questions regarding their training experience from questionnaire survey (see table below). Relevant baseline data (NRW: 82% and EE: 81%) are added as well.

Table 48: Results of Baseline Survey on Kab/Kota Training Participants in 2014

Questions	Kab/Kota Training participants in 2014 who answered Yes	
	NRW	Energy Efficiency
Training materials are useful to trainee	100%	100%
Training materials are applicable for PDAM	80%	77%
Trainer can deliver the material well	84%	83%
Trainer has good understanding on substance of the teaching material	78%	70%
Equipment is satisfactory for trainee	62%	73%
Training duration is enough	61%	47%
More practice session will be better	86%	83%
Venue is comfortable	81%	83%
COE management is helpful	96%	97%
Supporting section of COE management is necessary after participating courses	96%	97%

Source: Minutes of Meetings dated April 1, 2016

[Output 1]

- Indicator 1-1 is modified to “The revised TOR (Terms of Reference) for the COE management consultant of the COE Program is applied.” to clarify the term for the consultants for COE management. Corresponding means of verification is modified to “Revised Scope of Work for the COE management consultant” accordingly.
- Means of verification for Indicator 1-2 is modified to “Approved Master Plan report” to reflect the change in Activity 1-3 (see **[Activities]** below).
- Means of verification for Indicator 1-3 is modified to “Annual COE Program Implementation Report” for clarification.

[Output 2]

- Means of verification for Indicator 2-1 is modified to “Report on improvement of training module and good practices”.
- Indicator 2-3: Since the COE Program plan in 2017 cannot be determined at the moment, “the number of Kab/Kota Training in 2017 for the developed and revised modules” will be determined in the Master Plan to be prepared in the Project. Therefore, the means of verification is modified to “Annual COE Program Implementation Report” for clarification.

[Activities]

- Activity 1-3: “Review and revise the master plan” is modified to “Prepare a draft master plan”, because the Master Plan of COE Program has not been developed yet and the Project will prepare the draft Master Plan.

[Inputs]

- “Long-term and Short-term Experts” is modified to reflect the actual formation of JICA Experts dispatched for the Project.

2.3.2 June 2017 Modification (PDM Version 2)

Following modification to PDM Ver.1 it was approved by DWSD and JICA on June 13, 2017. The modification was necessary mainly because the number of the trainings for NRW and EE was reduced in 2017 and there would be no training implemented for CR and FAM due to the large budget cut for 2017 COE Program. Also, adjustment to verifiable indicators was necessary because of the data availability for the indicators. See also Annex 3 for PDM Version 2.

Before the discussion between JICA mission and DWSD in June 2017, JICA Expert Team reported the detailed implementation plan of COE Program in 2017 to JICA. Based on the direction of JICA, JICA Expert Team requested DWSD to implement (i) Trial Training for NRW and EE on the supplemental contents and (ii) Implementation of Kab/Kota Training for NRW and EE. DWSD requested JICA’s additional support in implementation of trial training and provincial training for CR and FAM.

(1) Modification of Overall Goal (June 2017)

Modification of two Verifiable Indicators in Overall Goal was made as described in Tables 49 and 50.

Table 49: Modification of Verifiable Indicator 1 of Overall Goal

Before amendment	After amendment
<p>Verifiable Indicators: 1. Proportion of PDAMs which implement what they learn from the COE Program is increased. (Baseline: Kabupaten/Kota Training participants in 2014) “Improve way of working”: NRW 75%, EE 77%</p>	<p>1. Improvement of activities in PDAMs which participated in the COE Program on NRW, EE, CR and FAM is observed.</p>
<p>Means of verification: Baseline Survey results and Annual COE Program Implementation Report</p>	<p>Interview to DWSD and PDAMs which participated in the COE Program</p>
<p>Reason: Because it is assumed that (i) the appropriate evaluation of the “proportion” is difficult (because only the result of the sample survey is available at present), (ii) the number of planned trainings during the project period is limited and it will be difficult to get necessary information for analysis, and (iii) most training in the Project will be conducted after July 2017 and the duration for following up activities after the trainings will not be sufficient, both sides have agreed to set the indicator as above to evaluate the existence of improvement of activities in the COE participated PDAMs.</p>	

Source: Minutes of Meetings dated June 13, 2017

Table 50: Modification of Verifiable Indicator 2 of Overall Goal

Before amendment	After amendment
<p>Verifiable Indicators 2. Employee training ratio among all PDAM is improved. (Baseline: median value in 2014 = 17.2%)</p>	<p>2. Modules revised or developed by the Project are continuously utilized in COE Program.</p>
<p>Means of verification PDAM Performance Indicators of BPP SPAM</p>	<p>Annual COE Program Implementation Report</p>
<p>Reason: Because it is assumed that this original indicator cannot be achieved due to the budget cut. Both sides agreed to substitute “continuous utilization” of the modules supported by the Project for the original indicator.</p>	

Source: Minutes of Meetings dated June 13, 2017

(2) Modification of Project Purpose (June 2017)

Modification of two Verifiable Indicators in Project Purpose was made as described in Tables 51 and 52.

Table 51: Modification of Verifiable Indicator 1 of Project Purpose

Before amendment	After amendment
Verifiable Indicators 1. Number of capacity development activities (Kabupaten / Kota Trainings and National/Provincial Trainings) per year is increased. (Baseline: COE Trainings in 2014) National Training: 3 Trainings (NRW 1, EE 1, SE 1) Provincial Training: 12 Trainings (NRW 8, EE 2, SE2) Kabupaten/Kota Training: 42 Trainings (NRW 30, EE 6, SE 6)	1. Four modules (NRW, EE, CR, and FAM) revised or developed by the Project are utilized in the COE Program
Means of verification Annual COE Program Implementation Report	Annual COE Program Implementation Report
Reason: Because this original indicator depends on the budget amount, both sides agreed to set a new indicator above instead.	

Source: Minutes of Meetings dated June 13, 2017

Table 52: Modification of Verifiable Indicator 2 of Project Purpose

Before amendment	After amendment
Verifiable Indicators 2. Evaluation on training experience by Kabupaten/Kota Training participants is improved. (Baseline: evaluation of Kabupaten/Kota Training participants in 2014) Average NRW: 82%, EE: 81%)	2. The Master Plan for the COE Program is approved by the Director of DWSD.
Means of verification Baseline Survey results and Annual COE Program Implementation Report	Official document to confirm approval of the Master Plan, and the Master Plan
Reason: It is assumed that (i) this original indicator cannot be achieved because the score is already high, and (ii) enough number of samples to evaluate cannot be collected because number of the training for sampling is not enough, either. Therefore, both sides agreed to delete the original indicator. Though the Master Plan is drafted jointly by the JICA expert team and the DWSD staff, approval process is subject to the Indonesian side. Therefore, both sides agreed that a new indicator above is appropriate as an indicator of the project purpose because whole development process of the Master Plan including approval process by the Indonesian side could be evaluated.	

Source: Minutes of Meetings dated June 13, 2017

(3) Modification of Outputs (June 2017)

Modification of three Verifiable Indicators in Outputs was made as shown in Tables 53 to 55.

Table 53: Modification of Verifiable Indicator 1-2 of Output 1

Before amendment	After amendment
Verifiable Indicators 1-2 The Master Plan for the COE Program is approved.	to be deleted (transferred to as the indicator of the Project purpose)
Means of verification Approved Master Plan report	to be deleted (transferred to as the indicator of the Project purpose)
Reason: It is assumed that this original indicator is appropriate as an indicator of the project purpose because this can evaluate whole development process of the Master Plan including approval process by the Indonesian side.	

Source: Minutes of Meetings dated June 13, 2017

Table 54: Modification of Verifiable Indicator 2-1 of Output 2

Before amendment	After amendment
Verifiable Indicators 2-2 Training curriculum, materials and trainer's manuals are approved.	2-2 Training curriculum, materials and trainer's manuals are approved by the Head of Sub-Directorate of Regulation and Institution Development, DWSD.
Means of verification Teacher's manuals and training curriculum and materials	Official document to confirm approval of Teacher's manuals and training curriculum and materials
Reason: According to the actual approval procedure of the training modules, the approving person shall be added.	

Source: Minutes of Meetings dated June 13, 2017

Table 55: Modification of Verifiable Indicator 2-3 of Output 2

Before amendment	After amendment
Verifiable Indicators 2-3. Number of Kabupaten/Kota Training in 2017 for the developed and revised modules is more than **. (* will be determined in the Master Plan)	to be deleted
Means of verification Annual COE Program Implementation Report	to be deleted
Reason: The limited number of planned trainings in 2017 and 2018 makes evaluation of the indicator difficult.	

Source: Minutes of Meetings dated June 13, 2017

(4) Modification of Activities (June 2017)

Modification of Activities were made as shown in Tables 56 to 58.

Table 56: Modification of Activity 1-5

Before amendment	After amendment
Activity 1-5 n/a	1-5 Coordinate with other programs supported by development partners or the central government for promotion of COE Program
Reason: It is essential that the Project should support to enhance the relationship between PDAMs and financial resources such as APBN (central government budget) and/or development partners' fund. Accordingly, PDAMs can make a concrete action regarding what PDAMs learnt in the COE Program for improving their organizations.	

Source: Minutes of Meetings dated June 13, 2017

Table 57: Modification of Activities 2-2-4, 2-2-5, 2-3-4 and 2-3-5

Before amendment	After amendment
Activity 2-2-4, 2-2-5 and 2-3-4, 2-3-5 n/a	2-2-4 Conduct a training to inform the revised contents (2-3-4) and to utilize the procured equipment for Provincial Trainers 2-2-5 Implement a Kabupaten/Kota Training by the (2-3-5) Provincial Trainers to verify effects of the revised module
Reason: Both sides agreed to add 2 sub-activities to clarify the process of revising the existing module such as number of trainings and its order. Especially, Kabupaten/Kota Training is indispensable not only for the Provincial Trainers who can gain experiences to teach, but also for the COE Program which can get feedback to improve the training module (connecting to the following activity 2-6).	

Source: Minutes of Meetings dated June 13, 2017

Table 58: Modification of Activity 2-4-5 and 2-5-6

Before amendment		After amendment
Activity 2-4-5 (Activity 2-5-6)	Select National Trainers from the Provincial Trainers, and provide them National Training	2-4-5 Implement a Kabupaten/Kota Training by the (2-5-6) Provincial Trainers to verify effects of the newly developed module
<p>Reason: Both sides agreed to delete the original activity because selection of National Trainer would not be planned in the project period according to the latest schedule. On the other hand, Kabupaten/Kota Training is indispensable not only for the Provincial Trainers who can gain experiences to teach, but also for the COE Program which can get feedback to improve the training module (connecting to the following activity 2-6)</p>		

Source: Minutes of Meetings dated June 13, 2017

(5) Modification of Project Site (June 2017)

Modification of Project Site was made as shown in Table 59.

Table 59: Modification of Project Site

Before amendment	After amendment
South Sulawesi, South Sumatra and West Java provinces (for applying the newly developed modules and the revised modules)	some provinces where the Provincial Trainings and Kabupaten/Kota Trainings etc. are implemented (for applying the newly developed modules and the revised modules)
<p>Reason: Because the original project sites are revised according to the budget allocation.</p>	

Source: Minutes of Meetings dated June 13, 2017

2.4 Others

2.4.1. Results of Environmental and Social Considerations

Not applicable.

2.4.2. Results of Considerations on Gender/Peace Building/Poverty Reduction

The Project in its nature will not impact negatively on the gender equality. However, women in households are the main end-users of water supply services across the country; therefore, in the development of Customer Relations module, the public relations section proposes PDAM community activities such as “water saving campaign” and “water education class for children and parents” which includes women in households as primary targets.

It is anticipated that promoting COE Program for the improvement of PDAM management in general does not impact negatively on the access to safe water among low-income population.

Chapter 3. Results of Joint Review

3.1 Results of Review based on DAC Evaluation Criteria

3.1.1 Relevance

In accordance with Regulation of Ministry of Public Works and Housing No. 15/PRT/M/2015 on Organization and Working Procedure of Ministry of Public Works and Housing, one of DWSD's tasks is coaching and guidance of water utilities nationwide. In order to implement its task, DWSD carries out function of providing technical guidance (training) for PDAM. Despite the recent large-scale budget cut for the COE Program since 2017, DWSD officials assures that COE Program is one of the priorities along with its APBN investment programs.

Not only DWSD but also other development partners such as World Bank, USAID's IUWASH Plus, etc. recognize the importance of coordination with COE Program to ensure the effectiveness of their investment programs (physical programs) and technical assistance through COE's fundamental capacity building efforts for PDAM staff.

3.1.2 Effectiveness

COE Program has been accepted by PDAM community at large across the country as accessible training opportunity for especially small- and medium-scale PDAMs and expected to be further developed as the main capacity building platform. However, its quality management mechanism and module contents have needed improvement to meet those needs. Therefore, it is assured that the implementation capacity of DWSD has been strengthened through planned project outputs: (i) strengthened quality management and (ii) development of training modules.

In terms of the achievement of the Project Purpose and its indicators, the both verifiable indicators were achieved as follows:

(1) Indicator 1 Four modules (NRW, EE, CR, FAM) revised or developed by the Project are utilized in the COE Program.

All the four modules revised or developed were utilized in COE Program in 2017 and 2018 as follows:

- 2017 COE Program
Revised NRW and EE modules: Kab/Kota Training in October 2017 with DWSD funding
CR and FAM modules: Provincial Training in January/February 2018 and Kab/Kota Training in April 2018 with JICA funding
- 2018 COE Program
Revised EE module: Provincial Training in July 2018
FAM module: Provincial Training in July 2018
CR module: Provincial Training in August 2018

(2) Indicator 2 The Master Plan for the COE Program is approved by the Director of DWSD.

The Master Plan for COE Program was approved by DWSD in August 2018 after a series of discussions among DWSD and other concerned organizations such as PERPAMSI, BTAM, BPPSPAM, etc.

3.1.3 Efficiency

Due to the change of management officials of DWSD and the large budget cut since 2017 has affected the efficiency of project implementation in terms of delay in progress of some activities and anticipated implementation of developed modules.

To cope with the said challenge currently faced by the COE Program, DWSD with assistance by JICA Expert Team has decided to gradually transfer the implementation of Kab/Kota Training to PERPAMSI in future as proposed in the Mater Plan for COE Program.

3.1.4 Impact

It is anticipated the project will positively impact on the professional capacity and competence of PDAM personnel and management nationwide. The project will achieve its overall goal: i.e. “Capacity of PDAMs on improvement of PDAM management is enhanced.” Prospects to achieve the overall goal is described in detail in Section 4.1 below.

3.1.5 Sustainability

Working Groups consisting of COE National Trainers, AKATIRTA lecturers and other experts and practitioners were formed to develop the four modules under technical assistance by JICA Expert Team. These Working Group members are expected to be the base of national expertise in Indonesia. They are capable of continuously utilizing and improving the training modules after completion of this Project.

The biggest challenge for the Project sustainability is the funding for the COE Program. The proposed joint implementation with PERPAMSI will ensure the sustainability of the COE Program and its continuous implementation of training especially on the provincial level.

Enhancing the coordination with the physical investment programs of development partners will also bring about positive impact on the project’s sustainability.

3.2 Key Factors Affecting Implementation and Outcome

There was significant budget cut for implementation of COE Training in 2017. The budget appropriated by DWSD amounts to Rp.4 billion for 2017. This was around 80% budget cut from the 2016 budget (Rp.19 billion)

Implementation plan of the COE trainings in 2017 is as follows:

- | | |
|------------------------|--|
| - National Training: | Not implemented |
| - Provincial Training: | WTP and GIS (July 17-22 or July 24-29) |
| - Kab/Kota Training: | WTP, GIS, NRW, EE and SAK-ETAP in the following provinces: |
| September 26-29 | East Java GIS and WTP |
| October 3-6 | West Sumatera: NRW and EE |
| October 17-20 | South Kalimantan: GIS and WTP |
| October 10-13 | Gorontalo & North Sulawesi NRW and SE |

Comparison of the expected implementation and actual plan for 2017 COE training is as follows:

Table 60: Action Plan for 2017 COE Training Sessions

Training	Expected	Actual
National Training	4 National Training sessions (WTP, GIS, NRW and EE)	None
Provincial Training	At least 6 Provincial Training sessions (WTP, GIS, NRW, EE, CR and FAM)	2 Provincial Training sessions (WTP and GIS)
Kab/Kota Training	Kab/ Kota Training sessions in around 25 provinces (WTP, GIS, NRW, EE, CR, SE and FAM)	Kab/Kota Training sessions in 4 Provinces (WTP, GIS, NRW, EE and SE)

Source: JICA Expert Team based on DWSD information

To mitigate the risk that the training modules might not be utilized in 2017 COE, during the JICA headquarters mission held in June 2017, DWSD and JICA agreed on the change of project scope and modification in Project Design Matrix (PDM).

It was also agreed on the COE training in 2017 that (i) DWSD would secure the implementation of NRW and EE training and (ii) JICA would support funding for CR and FAM training.

3.3 Evaluation of the Results of the Project Risk Management

In accordance with the agreement in June 2017, Trial Training in August 2017, Provincial Training in January/February 2018 and Kab/Kota Training in April 2018 were implemented for CR and FAM modules under JICA funding. Likewise, DWSD agreed it would secure the implementation of NRW and EE training in 2017 COE Program to ensure the achievement of the project purpose. The Kab/Kota Training for NRW and EE was implemented in October 2017.

For the 2018 COE Program, DWSD managed to secure the budget of Rp. 7.4 billion to implement nine Provincial Training classes and 14 Kab/Kota Training classes. The COE Program budget in 2018 was increased by 85% from Rp. 4 billion of 2017.

3.4 Lessons Learnt

Technical cooperation for government training programs like COE Program is often affected by sudden budget cuts as the Project faced in 2017. Project design should take into account such possibility and be prepared for the budgetary constraints on the counterpart's side to ensure smooth project implementation. For instance, it would ensure the implementation of training modules revised or developed by the Project if the project design prescribes the implementation of at least Trial Training under the Japanese side's funding in addition to the development and revision of training modules.

There is much possibility of personnel change of key officials in counterpart organization such as MPWH. Involvement of as many subordinate staff as possible may serve mitigating delay and the risk against continuation in project activities.

Before the series of discussions on the Master Plan development, the first training in Japan was conducted featuring HRD in water supply sector by inviting officials of concerned organizations such as PERPAMSI. Learning the roles of JWVA and the central government in HDR in Japanese water supply sector enabled the concerned organizations to engage in proactive discussions on the future implementation setup of COE Program after the training. It was learnt that planning the training suitable to the issues faced in Indonesia successfully shaped the direction of discussions among concerned parties. Moreover, during the preparation of Master Plan, the dialogues with other donors such as World Bank gained their recognition of COE Program as a useful HRD program for PDAMs and the importance of coordination between their physical investment program and COE Program.

The four training modules were revised or developed through cooperation with Working Groups which consist of Indonesian experts in respective fields. It was learnt that utilizing local human resources familiar with water utilities in Indonesia ensured the smooth development of training module contents applicable to operation of PDAMs.

In summary, following points of the Project made these achievements possible:

- The training in Japan was designed to be suitable to the current challenges faced by the COE Program. Training participants were selected to engage in the subsequent discussions about future implementation setup for the Master Plan.
- DWSD proactively promoted the COE Program as the HRD platform among donor community with focus on its coordination with other physical investment programs.
- Cooperation with Indonesian experts with hands-on knowledge of PDAM operation ensured applicability of the training modules developed or revised in the Project.

Chapter 4. For the Achievement of Overall Goals after the Project Completion

4.1 Prospects to Achieve Overall Goal

Narrative Summary: Capacity of PDAMs on improvement of PDAM management is enhanced.

4.1.1 Achievement of Indicator 1

“Improvement of activities in PDAMs which participated in the COE Program on NRW, EE, CR and FAM is observed.”

- End-line Survey conducted for the 2017 COE Program Training participants shows majority of respondents has engaged in improvement of activities after taking the COE training after module revision and development through the Project.
- However, the realization of improvement activities by participating PDAMs relies on other factors such as their financial status, managerial decisions, etc. Since the COE Program per se is a training program, its coordination with investment support programs by DWSD and donors is crucial to achieve the actual improvement of activities among PDAMs. In this respect, the project has impacted positively on the relation of DWSD with development partners through a series of discussions about coordination between COE Program and those investment programs for PDAMs.

4.1.2 Achievement of Indicator 2

“Modules revised or developed by the Project are continuously utilized in COE Program.”

- The four training modules revised or developed were utilized in COE Program in 2017 including the CR and FAM module training funded by JICA.
- In the 2018 COE Program, EE, CR and FAM modules were utilized for Provincial Training in July and August 2018 with DWSD funding. Provincial Training for NRW module was not implemented in 2018 as it has sufficient number of Provincial Trainers. However, NRW module was utilized for Kab/Kota Training.
- Human resources base for the utilization of revised or developed modules has been maintained such as Working Group members for module development as well as National/Provincial Trainers.
- Continuous utilization of the modules largely relies on the funding for the COE training implementation. The 2018 budget for COE Program is as low as IDR 7.4 billion followed by the lowest program budget in 2017 (IDR 4 billion). If future budget appropriation provides further low funding for the COE training, it will affect the implementation of the training modules developed by this project.
- Smooth implementation of the Master Plan and the proposed joint implementation with PERPAMSI will help ensuring the sustainable usage of the four training modules.

4.2 Plan of Operation and Implementation Structure of the Indonesian Side to Achieve Overall Goal

According to the phasing of the Master Plan dated August 8, 2018 approved by DWSD in the third JCC meeting, the COE Program's transition process has been planned as follows:

[Discussion and Study Period: 2018-2019]

- Signing of MOU for joint implementation of COE Program
- Establishment of COE Management Unit and COE PDAM Training Team
- Plan of Strengthening PD PERPAMSI as Kab/Kota Training Implementer

[Joint Operation Period: 2020-2021]

- Involving PERPAMSI in joint operation of Kab/Kota Training

[Transfer Trial Period: 2022-2023]

- Implementation of Kab/Kota Training by selected capable PD PERPAMSI

[Full Transfer Period: 2024-2027]

- Implementation of Kab/Kota Training by PERPAMSI in all provinces

In addition, DWSD has recently decided to transfer the whole COE Program to BPPSPAM as described in Section 2.1.3. This transfer requires the discussion among three parties (DWSD, BPPSPAM and PERPAMSI) for the MOU for joint implementation of COE Program. According to DWSD, the outline of the transfer of COE Program is summarized as follows:

- The whole COE Program will be transferred to BPPSPAM from DWSD
- BPPSPAM will establish the COE Management Unit.
- PERPAMSI will establish the COE PDAM Training Team.
- Kab/Kota Training will be transferred to PERPAMSI from BPPSPAM gradually after the Joint Operation Period.

The initial discussion between DWSD and BPPSPAM took place on September 3, 2018, confirming the following process for the program transfer:

- Preparation of Action Plan for the program transfer by BPPSPAM
- Discussion by concerned organizations on the Action Plan and MOU
- Approval by Director General of DGHS
- Conclusion of MOU by DWSD, BPPSPAM and PERPAMSI

Currently, DWSD and BPPSPAM are preparing the discussion by concerned organization which was postponed from late September.

4.3 Recommendations for the Indonesian Side

4.3.1 Implementation of Master Plan for COE Program

Master Plan for COE Program developed under the Project is the first comprehensive plan for the COE Program based on the thorough review of current program performance with numerical targets and the future management structure. However, the recent decision by DGHS to transfer COE Program to BPPSPAM requires further revision of future management structure in the Master Plan. Following are the recommendations for implementation of Master Plan.

- 1) It is crucial for the concerned organizations to have further discussions taking into account the organizational and fiscal capability of BPPSPAM, which is not reviewed in detail in the current Master Plan.
- 2) For the smooth transfer of the program from DWSD to BPPSPAM, it is necessary to continuously utilize the existing resources for the program implementation. Besides the training modules and equipment improved under the Project, it is inevitable to utilize the following human resources:
 - Training organization and data collection for monitoring and evaluation: COE Management Consultant and Field Consultants
 - Training module development and revision: Working Groups consisting of Indonesian experts for respective training modules
 - Training implementation and operational knowledge: National and Provincial Trainers
- 3) Even after the program transfer, it is crucial that DWSD will provide the continuous support to BPPSPAM and PERPAMSI in budgeting and coordination.

4.3.2 Training Module Development and Training Implementation

(1) NRW Training Module

The revised NRW Module has been developed by Working Group and JICA Expert Team and has been evaluated from the participants through the trial training and two Kab/Kota trainings. The review shows the material has reached to satisfactory level for PDAM training. However, some periodical improvement of the Module should be continued by the Working Group members depending on the review for the series of future Kab/Kota Training. JICA Expert Team recommends to review and revise the module through the similar process in every around five years. In addition, the recommendation for further revision is as follows:

1) Effective training implementation of the revised NRW module

The NRW training module revised under the project covers very broad topics regarding the NRW reduction which are sufficient for PDAM staff throughout Indonesia to learn and implement in their operation. When PERPAMSI is in charge of Kab/Kota Training in future, it is expected that PD PERPAMSI who are familiar with PDAMs in each province will implement more effective training by focusing on the topics and subjects more suitable to the actual situation of PDAMs in each province.

2) Presentation from participants

There is a case study session in the present program. For future improvement, JICA Expert Team proposes to add a presentation session of water utility's problem or activity regarding to NRW depending on the actual situation of PDAMs in each province. Participants will discuss and share the concluded solution.

3) Follow-up evaluation

The present evaluation of training comprehension is assessed by pre-test and post-test. JICA Expert Team proposes to add a follow-up evaluation. All participants who attend the training program should send an activity report to COE Management Consultant after training as a matter of duty. The report will be consisted of their activities based on the knowledge from the training. The reports will be used as a case study at the next training program.

(2) EE Training Module

It is recommended to review and revise the module through Working Group discussions periodically (i.e., in every around 5 years) based on the training results and feedback from trainers and participants on the present revised module.

The revised EE module focuses on practical knowledge that can be applicable to daily operation and maintenance of the water supply systems in PDAMs. Therefore, in order to achieve effective operational improvement, the knowledge taught in the revised EE module such as usage of measuring instruments, collection and analysis of observed data including visualization, planning for EE improvement must be implemented in the actual PDAM operation. The awareness among PDAM management officials on the EE management should be raised through the program.

(3) CR Training Module

The development of CR module is completed as the training module textbook, curriculum, trainer manual, and presentation sheets have been developed by JICA Expert Team with Working Group members while following the directive and advice of DWSD. Materials were already tested during the Trial Training with satisfactory results. Similar results were also reflected in Provincial Training and Kab/Kota Training.

Despite being a new module for the COE Program and with very first produced trainers, the number of participating trainees and the number of successful trainees reflected that the feedback for the module and the training has been well. The evaluation results concluded that the CR Module is appropriately developed and all materials can be used for subsequent trainings.

It is recommended for CR module in the future as follows:

- 1) It is recommended to review and revise the module through similar process in every around 5 years with prior collection of training participants, trainers, and Working Group members feedback and commentary to ensure the module still complies to SKKNI (National Working Competency Standard) and existing Indonesian water utilities condition in the future.
- 2) For the sustainable implementation of CR module training nationwide, it is necessary to increase the number of qualified National and Provincial Trainers in addition to the one WG member and two Provincial Trainers who conducted the Provincial and Kab/Kota Training for the 2017 COE Program. It is crucial to utilize the existing human resources i.e. other WG members and qualified Provincial Trainer candidates who have participated in the CR training as well as continue producing more trainers through future COE Program.
- 3) Based on the training implemented, participants have given positive feedback on the case study and simulation. It is strongly recommended for future implementer that the case study and simulation must reflect real PDAM condition by ensuring participants prepares relevant data required for the training exercises. These exercises can reflect PDAM condition and will be useful for participants to bring back, report, and utilize in their PDAM for CR operation improvement.

(4) FAM Training Module

JICA Expert Team makes the following recommendations that can be adopted in continuing the FAM module for the future:

- 1) Authorization and Certification of Trainer

At the Provincial Training of FAM module in the 2017 COE Program, there was no official

recognition of successful trainees as qualified Provincial Trainers although two of successful trainers were later called to Kab/Kota Training as de facto Provincial Trainer. Official recognition of trainers should be institutionalized through some kind of authorization and certification systems in harmonization with other COE modules.

2) Use of Actual Financial Data of PDAMs

Both Provincial Training and Kab/Kota Training included exercise slot where fictitious financial data were used to practice financial analysis and business plan formulation. It was regarded difficult to ask each trainee to bring his or her own PDAM's data to be used for the exercise because of likely difficulty of preparing organized data ready to be used for the exercise. Processing actual PDAM data can be considered if the Kab/Kota training can be followed by follow-up session or if the advanced training is planned in the future.

3) Monitoring of Business Plan formulation and subsequent use

Monitoring of the FAM training is needed to verify that the participants' PDAMs have actually prepared their Business Plan for themselves. Monitoring is also needed to learn how those Business Plans have been used, whether to obtain loans from banks, information to local government, application for tariff revision, etc. Such feedback on the use of business plans is useful for the next revision of training materials.

4) Restructuring of Provincial Training time schedule in consideration of SD Training contents
FAM Provincial Training was supposed to be three days and the Self Development (SD) was a two-day component. Those two trainings added up to five days, which was considered a practical time limit to keep busy trainees away from their PDAMs. The second day contents of SD training were found to be presentations of each trainee on themes directly related to FAM contents. FAM training already contains group presentation which is evaluated from various aspects including presentation skills. Therefore the evaluation of individual presentation could be incorporated into FAM module without difficulty. The first day contents of SD training were found to be a lecture and game related to general communication skills, implying that there is little to do with particular FAM knowledge. Some of FAM trainees had already attended other Provincial Trainings like SAK ETAP where the same SD training should have been provided. Thus, those who already attended SD training in other COE subjects before could be exempted from taking the first day SD class for the second time. It would be also possible to combine the CR trainees and the FAM trainees in a same SD class room for the first day SD component.

5) Computer use and internet access

Use of a laptop computer by each trainee was observed at all FAM training and can be taken for granted. Internet access was indispensable as evidenced by the fact that both before and during the training, copies of training materials were distributed online. Such IT environment should be kept also in the future training.

4.4 Monitoring Plan from the End of the Project to Ex-post Evaluation

JICA will conduct the ex-post evaluation within the three years after the completion of the Project in August 2018.

Through the period between the project completion and JICA's ex-post evaluation, it is suggested to monitor the following key items to ensure the achievement of overall goals and sustainable implementation of the COE Program as well as the smooth implementation of the Master Plan.

Table 61: Proposed Monitoring Plan

Item	Indicators	Means of Monitoring	Frequency
Overall Goal Capacity of PDAMs on improvement of PDAM management is enhanced.	1. Improvement of activities in PDAMs which participated in the COE Program on NRW, EE, CR and FAM is observed.	Interview survey results conducted by COE Management Consultant (<i>Annual COE Program Implementation Report</i>)*	Annually
	2. Modules revised or developed by the Project are continuously utilized in COE Program.	Training implementation data collected by COE Management Consultant (<i>Annual COE Program Implementation Report</i>)*	Annually
Implementation of Master Plan for COE Program	Activities are carried out in accordance with the Process and Schedule as indicated in the Master Plan (“Process and Schedule for Joint Implementation”)	Coordinating/Review Meeting results	As needed in accordance with Master Plan (Annual review & 3 – 5 year review)
Budget for COE Program Implementation	DWSD budget is allocated in accordance with Cost Estimation as indicated in the Master Plan	DWSD information	Annually

* The subject information is planned to be compiled in the Annual COE Program Implementation Report prepared by COE Management Consultant, as its TOR was revised accordingly during the project period.
Source: Minutes of Meeting of JCC

Annexes

Annex 1

Assignment Schedule of Japanese Expert

Annex 2

Equipment Procured by JICA

Annex 2 NRW and EE Equipment Procured by JICA

1. Background and basic information of Equipment procurement

Although nationwide COE trainings are conducted by DWSD, sufficient training equipment for NRW and EE modules was not procured. On the other hand, some of the equipment was procured by DWSD in 2016 after this project was started and some equipment was available at BTAMS Region1 (Bekasi). Considering these situations, appropriate quantity of equipment to be procured by JICA had been discussed and both DWSD and JICA sides agreed on the 1st JCC held on 29th March in 2016. See Table 1 for detail number of equipment.

As described in the minutes of meeting, both side confirmed that Equipment procured by DWSD in 2016 will be utilized in Kab/Kota trainings, equipment procured by JICA and equipment in BTAMS will be utilized for National and Provincial Trainings.

Table 1 NRW Equipment

		Original Request from DWSD	DWSD Procurement in 2016	Existing at BTAMS	JICA Procurement
1	Plastic Pipe and Leakage Detector	10	0	0	5
2	Leak Noise Correlator With Transmit Sensors	10	28	0	2
3	Portable Ultrasonic Flowmeter	10	28	0	5
4	Data Logger	10	30	0	5
5	Digital Type Compact Leak Detector	10	0	0	5
6	Acoustic Bar with Electrical Amplifier	10	15	3	2
7	Acoustic Bar made of Steel bar	250	0	0	50
8	Conventional Type Reak Detector	10	15	16	0
9	Metal Pipe Locator	0	15	6	0
10	Non-Metal pipe Locator	0	15	0	0
11	Simple Acoustic Bar	0	56	17	0

Source: JICA Expert Team

Table 2 EE Equipment

	Name of Equipment	Quantity			
		Original Request from DWSD	DWSD Procurement in 2016	Existing at BTAMS	JICA Procurement
1	Power Quality Analyzer with Clamp Sensor	10	28	0	5
2	AC/DC Digital Clamp Meter	10	15	2	3
3	Infrared Thermometer	10	15	0	5
4	Tacometer	10	28	3	2

Source: JICA Expert Team

2. Handover of the Equipment

The certificate of handover was signed in May 2018(see Annex 1) and the equipment was delivered to BTAM Bekasi by DWSD in September 2018.

Thorough the discussion between DWSD and JICA Expert Team considering the opportunity to be used in trainings which the equipment would be used, BTAM Bekasi was chosen as the place to be stored.

The equipment is planned to be used for COE related trainings, Provincial and Kabupaten/Kotan, and trainings held by BTAM Bekasi. Considering training opportunities and appropriate equipment needed, DWSD and JICA chose Btam Bekasi as a suitable location to store the equipment.

3. Equipment use

The NRW and EE equipment was used in the following training sessions.

Table 1 List of COE training where the equipment was used

No.	Date	Name of Training	Venue	Field
1.	August 1 – 4, 2017	Trial Training	Jakarta and Bekasi	NRW/EE
2.	October 3 – 6, 2017	Kab/Kota Training	Kota Padang, West Sumatera	NRW/EE
3.	October 17 – 20, 2017	Kab/Kota Training	Kota Manado, North Sulawesi	NRW
4.	July 23 – 28, 2018	Provincial Training	Kupang, East Nusa Tenggara	EE

Source JICA Expert Team

The above Table1 is the list of COE trainings where the equipment was used; These trainings will also be held this year. Table 2 is the list of trainings which have been tentatively planned by BTAM Bekasi. The equipment will be used in both the above and below mentioned trainings.

Table 2 List of planned training by BTAM

No.	Date	Name of Training	Field
1.	February-March	Non-Revenue Water Reduction Training	NRW
2.	March	Operation and Maintenance of Pumps Training	EE
3.	April	Electrical Mechanical Operation and Maintenance of Drinking Water Training	EE
4.	April	Non-Revenue Water Reduction Training	NRW
5.	August	Energy Efficiency	EE
6.	August-September	Electrical Mechanical Operation and Maintenance of Drinking Water Training	EE
7.	August	Non-Revenue Water Reduction Training	NRW
8	September	Supervision of Installation of Transmission and Distribution Pipelines Training	NRW
9	October	Electrical Mechanical Operation and Maintenance of Drinking Water Training	EE

Source JICA Expert Team

Annex: Certificate of Handover



MINISTRY OF PUBLIC WORKS AND HOUSING
DIRECTORATE GENERAL OF HUMAN SETTLEMENTS
DIRECTORATE OF WATER SUPPLY SYSTEMS DEVELOPMENT
Jl. Pattimura 20, Kebayoran Baru - Jakarta Selatan 12110 Telp (021)72796823 Fax:72796905

Nomor : HL. 01.01 - CA / 558
Enclosure : -
Subject : Project on Strengthening COE (Center of Excellence) Program for PDAMs In the Republic of Indonesia

Jakarta, 25 May 2018

Attention to:

Japan International Cooperation Agency (JICA) Indonesia Office

CERTIFICATE OF HANDOVER

This certificate of handover is to certify that the equipment in the attached list in Berita Acara Serah Terima No. 171.1/BAST/CA/IX/2017, which shall be utilized for the Project on Strengthening COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia, have been handed over properly to the Directorate of Water Supply System Development, as of September 27, 2017.

Sincerely yours,

Director of Water Supply System Development

f. Ir. Muhammad Sundoro, M.Eng.

NIP. 196605121996031001



**KEMENTERIAN PEKERJAAN UMUM DAN PERUMAHAN RAKYAT
DIREKTORAT JENDERAL CIPTA KARYA
DIREKTORAT PENGEMBANGAN SISTEM PENYEDIAAN AIR MINUM**

Jalan Pattimura Nomor 20 – Kebayoran Baru – Jakarta Selatan 12110 Telepon (021) 72796823 Fax (021) 72796905



BERITA ACARA SERAH TERIMA

No : 171-1 / BAST / CA / IK / 2017

Pada hari ini, Rabu tanggal Dua Puluh Tujuh Bulan September Tahun Dua Ribu Tujuh Belas yang bertanda tangan dibawah ini :

- I. Nama : Harada Tetsuya
Jabatan : Senior Representative
Alamat : JICA Indonesia, Sentral Senayan II Lantai 14, Jl. Asia Afrika No. 8, Jakarta 10270

Dalam hal ini bertindak atas nama JICA (*Japan International Cooperation Agency*) selaku Donor, untuk selanjutnya disebut sebagai **PIHAK PERTAMA**.

- II. Nama : Ir. Muhammad Sundoro, M.Eng.
Jabatan : Direktur Pengembangan SPAM, Direktorat Jenderal Cipta Karya, Kementerian Pekerjaan Umum dan Perumahan Rakyat
Alamat : Gedung Cipta Karya Lantai 8, Direktorat Pengembangan, Jl. Pattimura No. 20, Kebayoran Baru, Jakarta Selatan

Dalam hal ini bertindak atas nama Kementerian Pekerjaan Umum dan Perumahan Rakyat, Direktorat Jenderal Cipta Karya selaku Penerima, untuk selanjutnya disebut sebagai **PIHAK KEDUA**.

PIHAK PERTAMA dan **PIHAK KEDUA** secara bersama-sama untuk selanjutnya disebut **PARA PIHAK** bersepakat untuk mengadakan Serah Terima berupa Peralatan yang merupakan bagian dalam proyek kerjasama teknik yang tertuang dalam *Record of Discussions on The Project on Strengthening the COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia* tanggal 30 Januari 2015, yang ditandatangani oleh Ir. Mochammad Natsir, M.Sc. selaku Direktur Pengembangan SPAM, Direktorat Jenderal Cipta Karya, Kementerian Pekerjaan Umum dan Perumahan Rakyat dan SASAKI Atsushi selaku Chief Representative JICA Indonesia, dengan nilai JPY 225,759,000.

Kedua belah pihak menyatakan sebagai berikut :

1. **PIHAK PERTAMA** menyatakan memberikan hibah barang sebesar **Rp. 3,549,502,000** (Tiga Milyar Lima Ratus Empat Puluh Sembilan Juta Lima Ratus Dua Ribu Rupiah) ekuivalen **JPY 29,802,378** dengan rincian terlampir. (*kurs tengah BI per tanggal 27 September 2017, 1 JPY = Rp. 119.1013*)
2. **PIHAK KEDUA** telah menerima hibah barang sebagaimana tersebut di atas dan dalam serah terima ini bertanggung jawab atas pemanfaatan dan pemeliharannya.
3. **PIHAK PERTAMA** bertanggungjawab atas pelaksanaan pengadaan sebagian besar peralatan NRW (*Non-Revenue Water*), dan EE (*Energy Efficiency*) pengadaannya dilakukan oleh Konsultan JICA, JICA Expert Team.
4. **PIHAK PERTAMA** bertanggung jawab atas penyimpanan bukti-bukti atau kuitansi yang terkait dengan pelaksanaan pengadaan barang untuk *The Project on Strengthening COE (Centre of Excellence) Program for PDAMs in the Republic of Indonesia*.

Selanjutnya rincian hasil kegiatan hibah yang telah akan menjadi aset yang dimiliki Direktorat Jenderal Cipta Karya.

Tujuan dibuatnya Berita Acara Serah Terima ini adalah untuk memenuhi persyaratan kelengkapan administrasi pencatatan dan pelaporan hibah sebagaimana yang diatur oleh Pemerintah Indonesia.

Demikian Berita Acara Serah Terima berupa Peralatan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Direktur Pengembangan Sistem Penyediaan Air Minum
Direktorat Jenderal Cipta Karya

Senior Representative – JICA Indonesia Office
Project on Strengthening the COE (Center of Excellence) for PDAMs in the Republic of Indonesia /
1303290

Ir. Muhammad Sundoro, M.Eng.

Harada Tetsuya

Lampiran Berita Acara Serah Terima Barang

I. Invoice Nomor INV/0001/IV/17

Peralatan NRW

No.	Nama Alat	Jumlah	Merek	Harga Satuan (Rp)	Harga (Rp)	Kondisi	Tahun Pengadaan
1.	PVC Pipe Leakage Detector D305	10	Goodman	152.600.000,-	1.526.000.000,-	Baru	2017
2.	Leak Noise Correlator with Transmit Sensors, Aquascan 620L	2	Gutterman	221.060.000,-	442.120.000,-	Baru	2017
	Nilai				1.968.120.000,-		
	Pajak (PPN)				196.812.000,-		
	Total				2.164.932.000,-		

II. Invoice Nomor P.088/BII – Inv/III/2017

Peralatan EE

No.	Nama Alat	Jumlah	Merek	Harga Satuan (Rp)	Harga (Rp)	Kondisi	Tahun Pengadaan
1.	Power Quality Analyzer with Clamp Sensor	5	Kyoritsu	40.500.000,-	202.500.000,-	Baru	2017
2.	AC/DC Digital Clamp Meter	3	Kyoritsu	2.200.000,-	6.600.000,-	Baru	2017
3.	Infrared Thermometer	5	Kyoritsu	2.800.000,-	14.000.000,-	Baru	2017
4.	Laser Photo Tachometer	2	Extech	3.200.000,-	6.400.000,-	Baru	2017
	Nilai				229.500.000,-		
	Pajak (PPN)				22.950.000,-		
	Total				252.450.000,-		

III. Invoice Nomor INV/A/0082/2017

Peralatan NRW

No.	Nama Alat	Jumlah	Merek	Harga Satuan (Rp)	Harga (Rp)	Kondisi	Tahun Pengadaan
1.	Portable Ultrasonic Flowmeter	5	Ultraflux	137.500.000,-	687.500.000,-	Baru	2017
2.	Pressure Data Logger	5	Dickson	13.000.000,-	65.000.000,-	Baru	2017
3.	Digital Compact Type Leak Detector	5	Gutterman	40.800.000,-	204.000.000,-	Baru	2017
4.	Accoustic Bar with Electrical Amplifier	2	Sewerin	33.850.000,-	67.700.000,-	Baru	2017
	Nilai				1.024.200.000,-		
	Pajak (PPN)				102.420.000,-		
	Total				1.126.620.000,-		

IV. Invoice Nomor UNH/JICA/0001/III/17 Rev.1

Peralatan NRW

No.	Nama Alat	Jumlah	Merek	Harga Satuan (Rp)	Harga (Rp)	Kondisi	Tahun Pengadaan
1.	Non Revenue Water Reduction Steel Bar 12mm x Length 1200mm	50		100.000,-	5.000.000,-	Baru	2017
	Nilai				5.000.000,-		
	Pajak (PPN)				500.000,-		
	Total				5.500.000,-		

Total Keseluruhan

3.549.502.000


Annex 3

Project Design Matrix(PDM)

Annex I Project Design Matrix (PDM) (Project Monitoring Sheet I)
 Project Title: The Project on Strengthening the COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia
 Implementing Agency: Directorate General of Human Settlement
 Project Sites: Jakarta (Project Management Unit, DGHS, PU), Bekasi and Surabaya (BTAMS Training Center), South Sulawesi, South Sumatra, and Bali provinces (for the basic study on present and past status of the project activities), and 3 Province to be selected (for applying the newly developed modules and the revised modules)
 Target Group: For Managerial aspect: Staff members of Project Management Unit, DWSD, DGHS
 For Technical aspect: Working Group Members (BTAMS Region I&II (Bekasi and Surabaya Training Center), Perpamsi, and University), and National/Provincial Trainers
 Indirect Beneficiaries: Satker PK PAM, PDAMs providing National Trainer and Provincial Trainer, PIP2B, other PDAMs participating in COE, and Dinas PU/ Cipta Karya (local government office for public works on water supply development)
 Duration of the project: 3 years from commencement of the Project around April 2015

As of: 29 August 2014 (Ver. 0)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions	Achievement	Remarks
<u>Overall Goal</u> Capacity of PDAMs on improvement of PDAM management is enhanced.	1. Number of PDAMs which implement what they learn from the COE program is increased. 2. Benchmarking Score (Detailed indicators to be decided after the commencement of the Project. e.g. Bill collection rate and number of customer claims) is improved.	1. Annual Monitoring Report 2. Benchmark Report			
<u>Project Purpose</u> Implementation capacity of the COE program for PDAMs in the Directorate General of Human Settlement is enhanced.	1. Number of capacity development activities (BINTEK trainings and TOT) per year is increased. 2. Benchmarking Score (including satisfaction rate by the trainers and the participants) is improved.	1. Records of trainings/Periodical report of PMU 2. Benchmarking Report	GOI policy (especially the water supply and decentralization) continues to attach importance to the COE program.		
<u>Outputs</u> 1. Quality management of the COE program is strengthened. 2. Existing training modules are improved and new training modules are developed for the COE Program.	1-1 The revised TOR (Terms of Reference) for the managerial consultant of the COE Program is applied. 1-2 The revised Master Plan for the COE Program is approved. 1-3 Activities for the COE program are regularly reviewed through PDCA Cycle. 2-1. Documents on issues and challenges to be improved and good practices regarding the training module are consolidated. 2-2. Training curriculum, materials and trainer's manuals are approved. 2-3. Number of BINTEK in 2017 for the developed and revised modules is more than **. (** will be decided at the beginning of the project)	1-1. Report on priority issues to be tackled 1-2. Review report (in the periodical report) 1-3. Proposition report (in the periodical report) 1-4. Annual Monitoring Report 2-1. Annual Monitoring Report 2-2. Teacher's manuals and training curriculum and materials 2-3. Annual Monitoring Report			

Activities	Inputs		
<p>1. Implementation framework of the COE program is strengthened.</p> <p>1-1 Conduct a study on the up-to-date output and challenges of the COE program, and compile priority issues to be improved. (Following items should be considered in the study and the analysis. The study (project activity monitoring) will be conducted in South Sulawesi, South Sumatra, and Bali where the COE program has been implemented in advance.</p> <ul style="list-style-type: none"> - State of practices being implemented in PDAMs which were learnt in the BINTEK training (e.g. organization structure for the practices, process for the practices, outputs of the practices, and reactions of the managers when introducing the training output in PDAMs) - challenges and barriers for introduction of the training output - Satisfaction score, evaluations, and requirements of the BINTEK trainers and participants for the COE program - Current state of quality control for instructors, trainers, training modules and training materials including textbooks. - State of certificate issuance - State of monitoring and support structure in PDAMs for smooth implementation of the practices - State of contribution and challenges of the COE program to the business plans made by PDAMs for their debt relief. (through the reduction of the NRW is included as a goal of the business plan, it is said that many water utilities are faced with situation where the utilities cannot implement the plan continuously. Confirm reasons why the utilities cannot implement the plan for the sake of contribution to the improvement for the actual works of the COE program. - State of current PDCA cycle for improvement of the COE program - State of the COE program management etc. including nationwide dissemination activities <p>1-2 Reflect the priority issues to be improved into TOR for the COE management consultant for their implementation</p> <p>1-3 Review and revise the master plan for the COE program based on the points for the improvement.</p> <p>1-4 Consider the idea for establishment of COE management system at COE Central Office as a secretariat for the COE program, and the future management structure for the whole COE program, and compile propositions in the report.</p> <p>(Following items should be included;)</p> <ul style="list-style-type: none"> - Conditions necessary for establishment of the management structure of the COE program, and goals to be achieved. - Basic concepts for the managerial structure - Concrete plan for the management structure (Role demarcations and 	<p style="text-align: center;"><u>The Japanese Side</u></p> <p><Long-Term/Short-Term Expert> <u>JICA will dispatch contract based experts in the necessary fields for the Project.</u> <u>For example;</u></p> <ul style="list-style-type: none"> • Chief/Capacity Development and Human Resources Development • Non-Revenue Water • Energy Efficiency • Customer Relations • Financial Analysis and Management • Other short-term experts if necessary <p><C/P Training in Japan> JICA will receive the Indonesian personnel connected with the Project for technical training in Japan.</p> <p>< Equipment> JICA will provide such machinery, equipment and other materials (hereinafter referred to as “the Equipment”) necessary for the implementation of the Project.</p>	<p style="text-align: center;"><u>The Indonesian Side</u></p> <p><Counterpart Staff></p> <ul style="list-style-type: none"> • Project Supervisor (Director General for Human Settlement) • Project Director (Director, DWSD) • Project Manager (Head of Sub-directorate for Regulatory Framework and Institutional Development, DWSD, DGHS) • Project Management Unit (PMU) <ol style="list-style-type: none"> 1) Chairperson: Head, Head of Sub-directorate of Regulatory Framework and Institutional Development, DWSD, DGHS) 2) Members*: <ul style="list-style-type: none"> - Staff of DWSD <p><Cost for COE activities on training, monitoring and evaluation> The budget necessary for operating the project shall be allocated by the Indonesian side to ensure effective implementation of the Project.</p> <p><Project office/Office equipment> Project offices, desks and chairs shall be provided by the Indonesian side</p> <p><Local Cost></p> <ul style="list-style-type: none"> • Utilities, Telephone, Fax, etc. 	<p><Important Assumptions></p> <hr/> <p><Preconditions></p> <p>PMU members are formally appointed in PU, before commencement of the project.</p> <div style="text-align: center;">  </div> <hr/> <p><Issues and countermeasures></p>

<p>communicating mechanism among relevant organisations and departments, Chain of command and responsibility, Reporting, and PDCA cycle, etc.)</p> <p>- A road map and an action plan for shifting to new management structure.</p>			
<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p> <p>2-1. Working groups (WG) for discussion of training module revision/development are organized subject-wise by initiative of the Indonesian side as follows;</p> <ul style="list-style-type: none"> · Non-Revenue Water (NRW) · Energy Efficiency (EE) · Customer Relations (CR) · Financial Analysis and Management (FAM) <p>2-2. Revise the existing training module for NRW including training curriculum, materials and trainer’s manuals.</p> <p>2-2-1 Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-2-2 Conduct a study on needs and good practices of PDAMs concerning NRW</p> <p>2-2-3 Improve the curriculum and materials, and develop the trainer’s manuals based on the result of the review</p> <p>2-3. Revise the existing training module for EE including training curriculum, materials and trainer’s manuals.</p> <p>2-3-1 Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-3-2 Conduct a study on needs and good practices of PDAMs concerning EE</p> <p>2-3-3 Improve the curriculum and materials and develop the trainer’s manual based on result of the review</p> <p>2-4. Develop the new training module for CR</p> <p>2-4-1 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR</p> <p>2-4-2 Develop a draft curriculum of the new training module on CR</p> <p>2-4-3 Develop training materials and trainer’s manuals of the new training module for CR</p> <p>2-4-4 Implement TOT for Provincial Trainers</p> <p>2-4-5 Select National Trainers from the Provincial Trainers, and provide them TOT</p> <p>2-5. Develop the new training module for FAM</p> <p>2-5-1 Review the existing training module for Financial Planning, extract and prioritize items to be improved</p> <p>2-5-2 Conduct a study on needs and good practices which PDAMs hold, in</p>			

<p>order to reflect on the new module for FAM</p> <p>2-5-3 Develop a draft curriculum of the new training module on FAM</p> <p>2-5-4 Develop training materials and trainer’s manuals of the new training module for FAM</p> <p>2-5-5 Implement TOT for Provincial Trainers</p> <p>2-5-6 Select National Trainers from the Provincial Trainers, and provide them TOT</p> <p>2-6. Review and improve the above training modules including curriculum, materials and trainers’ manuals to be practical through the COE Program activities</p>			
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Annex 2


Project Design Matrix (PDM) (Project Monitoring Sheet I)

Project Title: The Project on Strengthening the COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia
 Implementing Agency: Directorate General of Human Settlement
 Project Sites: Jakarta (Project Management Unit, DGHS, PU), Bekasi and Surabaya (BTAMS Training Center), South Sulawesi and South Sumatra provinces (for the basic study on present and past status of the project activities), and South Sulawesi, South Sumatra and West Java provinces (for applying the newly developed modules and the revised modules)
 Target Group: For Managerial aspect: Staff members of Project Management Unit, DWSD, DGHS
 For Technical aspect: Working Group Members (BTAMS Region I&II (Bekasi and Surabaya Training Center), Perpamsi, and University), and National/Provincial Trainers
 Indirect Beneficiaries: Satker PK PAM, PDAMs providing National Trainer and Provincial Trainer, PIP2B, other PDAMs participating in COE, and Dinas PU/ Cipta Karya (local government office for public works on water supply development)
 Duration of the project: 3 years from commencement of the Project in August 2015

As of: 29 March 2016 (Ver. 1.0)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions	Achievement	Remarks
<u>Overall Goal</u> Capacity of PDAMs on improvement of PDAM management is enhanced.	1. Proportion of PDAMs which implement what they learn from the COE program is increased. (Baseline: Kabupaten/Kota Training participants in 2014) "Improve way of working": NRW 75%, EE 77% 2. Employee training ratio among all PDAM is improved. (Baseline: median value in 2014 = 17.2%)	1. Baseline Survey results and Annual COE Program Implementation Report 2. PDAM Performance Indicators of BPP SPAM			
<u>Project Purpose</u> Implementation capacity of the COE program for PDAMs in the Directorate General of Human Settlement is enhanced.	1. Number of capacity development activities (Kabupaten/Kota Trainings and National/Provincial Trainings) per year is increased. (Baseline: COE Trainings in 2014) National Training: 3 Trainings (NRW 1, EE 1, SE 1) Provincial Training: 12 Trainings (NRW 8, EE 2, SE2) Kabupaten/Kota Training: 42 Trainings (NRW 30, EE 6, SE 6) 2. Evaluation on training experience by Kabupaten/Kota Training participants is improved. (Baseline: evaluation of Kabupaten/Kota Training participants in 2014) Average NRW: 82%, EE: 81%)	1. Annual COE Program Implementation Report 2. Baseline Survey results and Annual COE Program Implementation Report	GOI policy (especially the water supply and decentralization) continues to attach importance to the COE program.		
<u>Outputs</u> 1. Quality management of the COE program is strengthened.	1-1 The revised TOR (Terms of Reference) for the COE management consultant of the COE Program is applied. 1-2 The Master Plan for the COE Program is approved. 1-3 Activities for the COE program are regularly reviewed through PDCA Cycle.	1-1. Revised Scope of Work for the COE management consultant 1-2. Approved Master Plan report 1-3. Annual COE Program Implementation Report			

2. Existing training modules are improved and new training modules are developed for the COE Program.	2-1. Documents on issues and challenges to be improved and good practices regarding the training module are consolidated. 2-2. Training curriculum, materials and trainer's manuals are approved. 2-3. Number of Kabupaten/Kota Training in 2017 for the developed and revised modules is more than **. (** will be determined in the Master Plan)	2-1. Report on improvement of training module and good practices 2-2. Teacher's manuals and training curriculum and materials 2-3. Annual COE Program Implementation Report		
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Activities	Inputs		
<p>1. Implementation framework of the COE program is strengthened.</p> <p>1-1 Conduct a study on the up-to-date output and challenges of the COE program, and compile priority issues to be improved. (Following items should be considered in the study and the analysis. The study (project activity monitoring) will be conducted in South Sulawesi, and South Sumatra where the COE program has been implemented in advance.</p> <ul style="list-style-type: none"> - State of practices being implemented in PDAMs which were learnt in the Kabupaten/Kota Training (e.g. organization structure for the practices, process for the practices, outputs of the practices, and reactions of the managers when introducing the training output in PDAMs) - challenges and barriers for introduction of the training output - Satisfaction score, evaluations, and requirements of the Kabupaten/Kota Training trainers and participants for the COE program - Current state of quality control for instructors, trainers, training modules and training materials including textbooks. - State of certificate issuance - State of monitoring and support structure in PDAMs for smooth implementation of the practices - State of contribution and challenges of the COE program to the business plans made by PDAMs for their debt relief. (through the reduction of the NRW is included as a goal of the business plan, it is said that many water utilities are faced with situation where the utilities cannot implement the plan continuously. Confirm reasons why the utilities cannot implement the plan for the sake of contribution to the improvement for the actual works of the COE program. - State of current PDCA cycle for improvement of the COE program - State of the COE program management etc. including nationwide dissemination activities <p>1-2 Reflect the priority issues to be improved into TOR for the COE management consultant for their implementation</p> <p>1-3 Prepare a draft master plan for the COE program based on the points for the improvement.</p>	<p style="text-align: center;"><u>The Japanese Side</u></p> <p><Long-Term/Short-Term Expert> <u>JICA will dispatch contract based experts in the necessary fields for the Project.</u></p> <ul style="list-style-type: none"> • Chief/Capacity Development and Human Resources Development (1) • Deputy Chief/ Capacity Development and Human Resources Development (2) • Non-Revenue Water • Energy Efficiency • Customer Relations • Financial Analysis and Management • Training Coordination (assigned only in Japan) • Other short-term experts if necessary <p><C/P Training in Japan> JICA will receive the Indonesian personnel connected with the Project for technical training in Japan.</p> <p>< Equipment> JICA will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project.</p>	<p style="text-align: center;"><u>The Indonesian Side</u></p> <p><Counterpart Staff></p> <ul style="list-style-type: none"> • Project Supervisor (Director General for Human Settlement) • Project Director (Director, DWSD) • Project Manager (Head of Sub-directorate for Regulatory Framework and Institutional Development, DWSD, DGHS) • Project Management Unit (PMU) <ul style="list-style-type: none"> 1) Chairperson: Head, Head of Sub-directorate of Regulatory Framework and Institutional Development, DWSD, DGHS 2) Members*: <ul style="list-style-type: none"> - Staff of DWSD <p><Cost for COE activities on training, monitoring and evaluation> The budget necessary for operating the project shall be allocated by the Indonesian side to ensure effective implementation of the Project.</p> <p><Project office/Office equipment> Project offices, desks and chairs shall be provided by the Indonesian side</p> <p><Local Cost></p> <ul style="list-style-type: none"> • Utilities, Telephone, Fax, etc. 	<p><Important Assumptions></p> <hr/> <p><Preconditions></p> <p>PMU members are formally appointed in PU, before commencement of the project.</p> <div style="text-align: center;">  </div> <p><Issues and countermeasures></p>

<p>1-4 Consider the idea for establishment of COE management system at COE Central Office as a secretariat for the COE program, and the future management structure for the whole COE program, and compile propositions in the report. (Following items should be included;)</p> <ul style="list-style-type: none"> - Conditions necessary for establishment of the management structure of the COE program, and goals to be achieved. - Basic concepts for the managerial structure - Concrete plan for the management structure (Role demarcations and communicating mechanism among relevant organisations and departments, Chain of command and responsibility, Reporting, and PDCA cycle, etc.) - A road map and an action plan for shifting to new management structure. 			
<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p> <p>2-1. Working groups (WG) for discussion of training module revision/development are organized subject-wise by initiative of the Indonesian side as follows;</p> <ul style="list-style-type: none"> · Non-Revenue Water (NRW) · Energy Efficiency (EE) · Customer Relations (CR) · Financial Analysis and Management (FAM) <p>2-2. Revise the existing training module for NRW including training curriculum, materials and trainer’s manuals.</p> <p>2-2-1 Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-2-2 Conduct a study on needs and good practices of PDAMs concerning NRW</p> <p>2-2-3 Improve the curriculum and materials, and develop the trainer’s manuals based on the result of the review</p> <p>2-3. Revise the existing training module for EE including training curriculum, materials and trainer’s manuals.</p> <p>2-3-1 Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-3-2 Conduct a study on needs and good practices of PDAMs concerning EE</p> <p>2-3-3 Improve the curriculum and materials and develop the trainer’s manual based on result of the review</p> <p>2-4. Develop the new training module for CR</p> <p>2-4-1 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR</p> <p>2-4-2 Develop a draft curriculum of the new training module on CR</p>			

<ul style="list-style-type: none"> 2-4-3 Develop training materials and trainer’s manuals of the new training module for CR 2-4-4 Implement Provincial Training for Provincial Trainers 2-4-5 Select National Trainers from the Provincial Trainers, and provide them National Training 2-5. Develop the new training module for FAM 2-5-1 Review the existing training module for Financial Planning, extract and prioritize items to be improved 2-5-2 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for FAM 2-5-3 Develop a draft curriculum of the new training module on FAM 2-5-4 Develop training materials and trainer’s manuals of the new training module for FAM 2-5-5 Implement Provincial Training for Provincial Trainers 2-5-6 Select National Trainers from the Provincial Trainers, and provide them National Training 2-6. Review and improve the above training modules including curriculum, materials and trainers’ manuals to be practical through the COE Program activities 			
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Project Design Matrix (PDM) (Project Monitoring Sheet I)

Project Title: The Project on Strengthening the COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia
 Implementing Agency: Directorate General of Human Settlement
 Project Sites: Jakarta (Project Management Unit, DGHS, PU), Bekasi and Surabaya (BTAMS Training Center), South Sulawesi and South Sumatra provinces (for the basic study on present and past status of the project activities), and South Sulawesi, South Sumatra and West Java provinces (for applying the newly developed modules and the revised modules)
 Target Group: For Managerial aspect: Staff members of Project Management Unit, DWSD, DGHS
 For Technical aspect: Working Group Members (BTAMS Region I&II (Bekasi and Surabaya Training Center), Perpamsi, and University), and National/Provincial Trainers
 Indirect Beneficiaries: Satker PK PAM, PDAMs providing National Trainer and Provincial Trainer, PIP2B, other PDAMs participating in COE, and Dinas PU/ Cipta Karya (local government office for public works on water supply development)
 Duration of the project: 3 years from commencement of the Project in August 2015

As of: 28 December 2016 (Ver. 1.1)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions	Achievement	Remarks
<u>Overall Goal</u> Capacity of PDAMs on improvement of PDAM management is enhanced.	1. Proportion of PDAMs which implement what they learn from the COE program is increased. (Baseline: Kabupaten/Kota Training participants in 2014) "Improve way of working": NRW 75%, EE 77% 2. Employee training ratio among all PDAM is improved. (Baseline: median value in 2014 = 17.2%)	1. Baseline Survey results and Annual COE Program Implementation Report 2. PDAM Performance Indicators of BPP SPAM		Verifiable indicators may not be appropriately measured because it is anticipated that number of trainings will be limited in 2017 COE program.	
<u>Project Purpose</u> Implementation capacity of the COE program for PDAMs in the Directorate General of Human Settlement is enhanced.	1. Number of capacity development activities (Kabupaten/Kota Trainings and National/Provincial Trainings) per year is increased. (Baseline: COE Trainings in 2014) National Training: 3 Trainings (NRW 1, EE 1, SE 1) Provincial Training: 12 Trainings (NRW 8, EE 2, SE2) Kabupaten/Kota Training: 42 Trainings (NRW 30, EE 6, SE 6) 2. Evaluation on training experience by Kabupaten/Kota Training participants is improved. (Baseline: evaluation of Kabupaten/Kota Training participants in 2014) Average NRW: 82%, EE: 81%)	1. Annual COE Program Implementation Report 2. Baseline Survey results and Annual COE Program Implementation Report	GOI policy (especially the water supply and decentralization) continues to attach importance to the COE program.	Verifiable indicators may not be appropriately measured because it is anticipated that number of trainings will be limited in 2017 COE program.	
<u>Outputs</u> 1. Quality management of the COE program is strengthened.	1-1 The revised TOR (Terms of Reference) for the COE management consultant of the COE Program is applied. 1-2 The Master Plan for the COE Program is approved. 1-3 Activities for the COE program are regularly reviewed through PDCA Cycle.	1-1. Revised Scope of Work for the COE management consultant 1-2. Approved Master Plan report 1-3. Annual COE Program Implementation Report		See monitoring sheet summary	

2. Existing training modules are improved and new training modules are developed for the COE Program.	2-1. Documents on issues and challenges to be improved and good practices regarding the training module are consolidated. 2-2. Training curriculum, materials and trainer's manuals are approved. 2-3. Number of Kabupaten/Kota Training in 2017 for the developed and revised modules is more than **. (** will be determined in the Master Plan)	2-1. Report on improvement of training module and good practices 2-2. Teacher's manuals and training curriculum and materials 2-3. Annual COE Program Implementation Report			
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Activities	Inputs		
<p>1. Implementation framework of the COE program is strengthened.</p> <p>1-1 Conduct a study on the up-to-date output and challenges of the COE program, and compile priority issues to be improved. (Following items should be considered in the study and the analysis. The study (project activity monitoring) will be conducted in South Sulawesi, and South Sumatra where the COE program has been implemented in advance.</p> <ul style="list-style-type: none"> - State of practices being implemented in PDAMs which were learnt in the Kabupaten/Kota Training (e.g. organization structure for the practices, process for the practices, outputs of the practices, and reactions of the managers when introducing the training output in PDAMs) - challenges and barriers for introduction of the training output - Satisfaction score, evaluations, and requirements of the Kabupaten/Kota Training trainers and participants for the COE program - Current state of quality control for instructors, trainers, training modules and training materials including textbooks. - State of certificate issuance - State of monitoring and support structure in PDAMs for smooth implementation of the practices - State of contribution and challenges of the COE program to the business plans made by PDAMs for their debt relief. (through the reduction of the NRW is included as a goal of the business plan, it is said that many water utilities are faced with situation where the utilities cannot implement the plan continuously. Confirm reasons why the utilities cannot implement the plan for the sake of contribution to the improvement for the actual works of the COE program. - State of current PDCA cycle for improvement of the COE program - State of the COE program management etc. including nationwide dissemination activities <p>1-2 Reflect the priority issues to be improved into TOR for the COE management consultant for their implementation</p> <p>1-3 Prepare a draft master plan for the COE program based on the points for the improvement.</p>	<p style="text-align: center;"><u>The Japanese Side</u></p> <p><Long-Term/Short-Term Expert> <u>JICA will dispatch contract based experts in the necessary fields for the Project.</u></p> <ul style="list-style-type: none"> • Chief/Capacity Development and Human Resources Development (1) • Deputy Chief/ Capacity Development and Human Resources Development (2) • Non-Revenue Water • Energy Efficiency • Customer Relations • Financial Analysis and Management • Training Coordination (assigned only in Japan) • Other short-term experts if necessary <p><C/P Training in Japan> JICA will receive the Indonesian personnel connected with the Project for technical training in Japan.</p> <p>< Equipment> JICA will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project.</p>	<p style="text-align: center;"><u>The Indonesian Side</u></p> <p><Counterpart Staff></p> <ul style="list-style-type: none"> • Project Supervisor (Director General for Human Settlement) • Project Director (Director, DWSD) • Project Manager (Head of Sub-directorate for Regulatory Framework and Institutional Development, DWSD, DGHS) • Project Management Unit (PMU) <ul style="list-style-type: none"> 1) Chairperson: Head, Head of Sub-directorate of Regulatory Framework and Institutional Development, DWSD, DGHS 2) Members*: <ul style="list-style-type: none"> - Staff of DWSD <p><Cost for COE activities on training, monitoring and evaluation> The budget necessary for operating the project shall be allocated by the Indonesian side to ensure effective implementation of the Project.</p> <p><Project office/Office equipment> Project offices, desks and chairs shall be provided by the Indonesian side</p> <p><Local Cost></p> <ul style="list-style-type: none"> • Utilities, Telephone, Fax, etc. 	<p><Important Assumptions></p> <p><Preconditions></p> <p>PMU members are formally appointed in PU, before commencement of the project.</p> <p style="text-align: center;"></p> <p><Issues and countermeasures></p> <ul style="list-style-type: none"> - There is a large-scale budget cut for COE Program in 2017. - Verifiable indicators of Overall Goal and Project Purpose will not be relevant because of the limited number of trainings.

<p>1-4 Consider the idea for establishment of COE management system at COE Central Office as a secretariat for the COE program, and the future management structure for the whole COE program, and compile propositions in the report. (Following items should be included;)</p> <ul style="list-style-type: none"> - Conditions necessary for establishment of the management structure of the COE program, and goals to be achieved. - Basic concepts for the managerial structure - Concrete plan for the management structure (Role demarcations and communicating mechanism among relevant organisations and departments, Chain of command and responsibility, Reporting, and PDCA cycle, etc.) - A road map and an action plan for shifting to new management structure. 			
<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p> <p>2-1. Working groups (WG) for discussion of training module revision/development are organized subject-wise by initiative of the Indonesian side as follows;</p> <ul style="list-style-type: none"> · Non-Revenue Water (NRW) · Energy Efficiency (EE) · Customer Relations (CR) · Financial Analysis and Management (FAM) <p>2-2. Revise the existing training module for NRW including training curriculum, materials and trainer’s manuals.</p> <p>2-2-1 Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-2-2 Conduct a study on needs and good practices of PDAMs concerning NRW</p> <p>2-2-3 Improve the curriculum and materials, and develop the trainer’s manuals based on the result of the review</p> <p>2-3. Revise the existing training module for EE including training curriculum, materials and trainer’s manuals.</p> <p>2-3-1 Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-3-2 Conduct a study on needs and good practices of PDAMs concerning EE</p> <p>2-3-3 Improve the curriculum and materials and develop the trainer’s manual based on result of the review</p> <p>2-4. Develop the new training module for CR</p> <p>2-4-1 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR</p> <p>2-4-2 Develop a draft curriculum of the new training module on CR</p>			


<ul style="list-style-type: none"> 2-4-3 Develop training materials and trainer’s manuals of the new training module for CR 2-4-4 Implement Provincial Training for Provincial Trainers 2-4-5 Select National Trainers from the Provincial Trainers, and provide them National Training 2-5. Develop the new training module for FAM 2-5-1 Review the existing training module for Financial Planning, extract and prioritize items to be improved 2-5-2 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for FAM 2-5-3 Develop a draft curriculum of the new training module on FAM 2-5-4 Develop training materials and trainer’s manuals of the new training module for FAM 2-5-5 Implement Provincial Training for Provincial Trainers 2-5-6 Select National Trainers from the Provincial Trainers, and provide them National Training 2-6. Review and improve the above training modules including curriculum, materials and trainers’ manuals to be practical through the COE Program activities 			
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Project Design Matrix (PDM)

Project Title: The Project on Strengthening the COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia
 Implementing Agency: Directorate General of Human Settlement
 Project Sites: Jakarta (Project Management Unit, DGHS, PU), Bekasi and Surabaya (BTAMS Training Center), South Sulawesi and South Sumatra provinces (for the basic study on present and past status of the project activities), and South Sulawesi, some provinces where the Provincial Trainings and Kabupaten/Kota Trainings etc. are implemented (for applying the newly developed modules and the revised modules)
 Target Group: For Managerial aspect: Staff members of Project Management Unit, DWSD, DGHS
 For Technical aspect: Working Group Members (BTAMS Region I&II (Bekasi and Surabaya Training Center), Perpamsi, and University), and National/Provincial Trainers
 Indirect Beneficiaries: Satker PK PAM, PDAMs providing National Trainer and Provincial Trainer, PIP2B, other PDAMs participating in COE, and Dinas PU/ Cipta Karya (local government office for public works on water supply development)
 Duration of the project: 3 years from commencement of the Project in August 2015

As of: 13 June 2017(Ver. 2.0)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions	Achievement	Remarks
Overall Goal Capacity of PDAMs on improvement of PDAM management is enhanced.	1. Improvement of activities in PDAMs which participated in the COE program on NRW, EE, CR and FAM is observed. 2. Modules revised or developed by the Project are continuously utilized in COE Program.	1. Interview to DWSD and PDAMs those participated in COE Program 2. Annual COE Program Implementation Report			
Project Purpose Implementation capacity of the COE program for PDAMs in the Directorate General of Human Settlement is enhanced.	1. Four modules(NRW, EE,CR,FAM) revised or developed by the Project are utilized in the COE Program. 2. The Master Plan for the COE Program is approved by the Director of DWSD.	1. Annual COE Program Implementation Report 2. Official document to confirm approval of the COE Master Plan, and the COE Master Plan	GOI policy (especially the water supply and decentralization) continues to attach importance to the COE program.		
Outputs 1. Quality management of the COE program is strengthened. 2. Existing training modules are improved and new training modules are developed for the COE Program.	1-1 The revised TOR (Terms of Reference) for the COE management consultant of the COE Program is applied. 1-2 Activities for the COE program are regularly reviewed through PDCA Cycle. 2-1. Documents on issues and challenges to be improved and good practices regarding the training module are consolidated. 2-2. Training curriculum, materials and trainer's manuals are approved by the head of Sub-directorate of Regulation and Institutional Development, DWSD.	1-1. Revised Scope of Work for the COE management consultant 1-2. Annual COE Program Implementation Report 2-1. Report on improvement of training module and good practices 2-2. Official document to confirm approval of Teacher's manuals and training curriculum and materials			

Activities	Inputs			
<p>1. Implementation framework of the COE program is strengthened.</p> <p>1-1 Conduct a study on the up-to-date output and challenges of the COE program, and compile priority issues to be improved. (Following items should be considered in the study and the analysis. The study (project activity monitoring) will be conducted in South Sulawesi, and South Sumatra where the COE program has been implemented in advance.</p> <ul style="list-style-type: none"> - State of practices being implemented in PDAMs which were learnt in the Kabupaten/Kota Training (e.g. organization structure for the practices, process for the practices, outputs of the practices, and reactions of the managers when introducing the training output in PDAMs) - challenges and barriers for introduction of the training output - Satisfaction score, evaluations, and requirements of the Kabupaten/Kota Training trainers and participants for the COE program - Current state of quality control for instructors, trainers, training modules and training materials including textbooks. - State of certificate issuance - State of monitoring and support structure in PDAMs for smooth implementation of the practices - State of contribution and challenges of the COE program to the business plans made by PDAMs for their debt relief. (through the reduction of the NRW is included as a goal of the business plan, it is said that many water utilities are faced with situation where the utilities cannot implement the plan continuously. Confirm reasons why the utilities cannot implement the plan for the sake of contribution to the improvement for the actual works of the COE program. - State of current PDCA cycle for improvement of the COE program - State of the COE program management etc. including nationwide dissemination activities <p>1-2 Reflect the priority issues to be improved into TOR for the COE management consultant for their implementation</p> <p>1-3 Prepare a draft master plan for the COE program based on the points for the improvement.</p> <p>1-4 Consider the idea for establishment of COE management system at COE Central Office as a secretariat for the COE program, and the future management structure for the whole COE program, and compile propositions in the report. (Following items should be included;)</p> <ul style="list-style-type: none"> - Conditions necessary for establishment of the management structure of the COE program, and goals to be achieved. - Basic concepts for the managerial structure - Concrete plan for the management structure (Role demarcations and communicating mechanism among relevant organisations and 	<p style="text-align: center;"><u>The Japanese Side</u></p> <p><Long-Term/Short-Term Expert> <u>JICA will dispatch contract based experts in the necessary fields for the Project.</u></p> <ul style="list-style-type: none"> • Chief/Capacity Development and Human Resources Development (1) • Deputy Chief/ Capacity Development and Human Resources Development (2) • Non-Revenue Water • Energy Efficiency • Customer Relations • Financial Analysis and Management • Training Coordination (assigned only in Japan) • Other short-term experts if necessary <p><C/P Training in Japan> JICA will receive the Indonesian personnel connected with the Project for technical training in Japan.</p> <p>< Equipment> JICA will provide such machinery, equipment and other materials (hereinafter referred to as “the Equipment”) necessary for the implementation of the Project.</p>	<p style="text-align: center;"><u>The Indonesian Side</u></p> <p><Counterpart Staff></p> <ul style="list-style-type: none"> • Project Supervisor (Director General for Human Settlement) • Project Director (Director, DWSD) • Project Manager (Head of Sub-directorate for Regulatory Framework and Institutional Development, DWSD, DGHS) • Project Management Unit (PMU) <ol style="list-style-type: none"> 1) Chairperson: Head, Head of Sub-directorate of Regulatory Framework and Institutional Development, DWSD, DGHS) 2) Members*: <ul style="list-style-type: none"> - Staff of DWSD <p><Cost for COE activities on training, monitoring and evaluation> The budget necessary for operating the project shall be allocated by the Indonesian side to ensure effective implementation of the Project.</p> <p><Project office/Office equipment> Project offices, desks and chairs shall be provided by the Indonesian side</p> <p><Local Cost></p> <ul style="list-style-type: none"> • Utilities, Telephone, Fax, etc. 	<p><Important Assumptions></p> <hr/> <p><Preconditions></p> <p>PMU members are formally appointed in PU, before commencement of the project.</p> <div style="text-align: center;">  </div> <p><Issues and countermeasures></p>	

<p>departments, Chain of command and responsibility, Reporting, and PDCA cycle, etc.)</p> <ul style="list-style-type: none"> - A road map and an action plan for shifting to new management structure. <p>1-5 Coordinate with other programs supported by development partners or the central government for promotion of COE Program</p>			
<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p> <p>2-1. Working groups (WG) for discussion of training module revision/development are organized subject-wise by initiative of the Indonesian side as follows;</p> <ul style="list-style-type: none"> · Non-Revenue Water (NRW) · Energy Efficiency (EE) · Customer Relations (CR) · Financial Analysis and Management (FAM) <p>2-2. Revise the existing training module for NRW including training curriculum, materials and trainer’s manuals.</p> <p>2-2-1 Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-2-2 Conduct a study on needs and good practices of PDAMs concerning NRW</p> <p>2-2-3 Improve the curriculum and materials, and develop the trainer’s manuals based on the result of the review</p> <p>2-2-4 Conduct a training to inform the revised contents and to utilize the procured equipment for Provincial Trainers</p> <p>2-2-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the revised module</p> <p>2-3. Revise the existing training module for EE including training curriculum, materials and trainer’s manuals.</p> <p>2-3-1 Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-3-2 Conduct a study on needs and good practices of PDAMs concerning EE</p> <p>2-3-3 Improve the curriculum and materials and develop the trainer’s manual based on result of the review</p> <p>2-3-4 Conduct a training to inform the revised contents and to utilize the procured equipment for Provincial Trainers</p> <p>2-3-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the revised module</p> <p>2-4. Develop the new training module for CR including training</p>			

<p>curriculum, materials and trainer's manuals.</p> <p>2-4-1 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR</p> <p>2-4-2 Develop a draft curriculum of the new training module on CR</p> <p>2-4-3 Develop training materials and trainer's manuals of the new training module for CR</p> <p>2-4-4 Implement a Provincial Training for Provincial Trainers</p> <p>2-4-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the newly developed module</p> <p>2-5. Develop the new training module for FAM including training curriculum, materials and trainer's manuals.</p> <p>2-5-1 Review the existing training module for Financial Planning, extract and prioritize items to be improved</p> <p>2-5-2 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for FAM</p> <p>2-5-3 Develop a draft curriculum of the new training module on FAM</p> <p>2-5-4 Develop training materials and trainer's manuals of the new training module for FAM</p> <p>2-5-5 Implement a Provincial Training for Provincial Trainers</p> <p>2-5-6 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the newly developed module</p> <p>2-6. Review and improve the above training modules including curriculum, materials and trainers' manuals to be practical through the COE Program activities</p>			
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Remark: Kabupaten/Kota Training means "District/City Training". It is conducted by Provincial Trainers in provincial capitals for PDAMs of Kabupaten (Districts) and Kota (Cities) in each province.

Project Design Matrix (PDM) Monitoring Sheet I

Project Title: The Project on Strengthening the COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia

Implementing Agency: Directorate General of Human Settlement

Project Sites: Jakarta (Project Management Unit, DGHS, PU), Bekasi and Surabaya (BTAMS Training Center), South Sulawesi and South Sumatra provinces (for the basic study on present and past status of the project activities), and South Sulawesi, some provinces where the Provincial Trainings and Kabupaten/Kota Trainings etc. are implemented (for applying the newly developed modules and the revised modules)

Target Group: For Managerial aspect: Staff members of Project Management Unit, DWSD, DGHS


For Technical aspect: Working Group Members (BTAMS Region I&II (Bekasi and Surabaya Training Center), Perpamsi, and University), and National/Provincial Trainers

Indirect Beneficiaries: Satker PK PAM, PDAMs providing National Trainer and Provincial Trainer, PIP2B, other PDAMs participating in COE, and Dinas PU/ Cipta Karya (local government office for public works on water supply development)

Duration of the project: 3 years from commencement of the Project in August 2015

As of: 21 June 2017(Ver. 3)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions	Achievement	Remarks
<p>Overall Goal Capacity of PDAMs on improvement of PDAM management is enhanced.</p>	<p>1. Improvement of activities in PDAMs which participated in the COE program on NRW, EE, CR and FAM is observed.</p> <p>2. Modules revised or developed by the Project are continuously utilized in COE Program.</p>	<p>1. Interview to DWSD and PDAMs those participated in COE Program</p> <p>2. Annual COE Program Implementation Report</p>			Verifiable indicators are modified because number of training will be limited.
<p>Project Purpose Implementation capacity of the COE program for PDAMs in the Directorate General of Human Settlement is enhanced.</p>	<p>1. Four modules (NRW, EE,CR,FAM) revised or developed by the Project are utilized in the COE Program.</p> <p>2. The Master Plan for the COE Program is approved by the Director of DWSD.</p>	<p>1. Annual COE Program Implementation Report</p> <p>2. Official document to confirm approval of the COE Master Plan, and the COE Master Plan</p>	GOI policy (especially the water supply and decentralization) continues to attach importance to the COE program.	<p>1. Four modules will be utilized in 2017 COE Training.</p> <p>2. Concepts and schedule of M/P were set by DWSD and JICA.</p>	Verifiable indicators are modified to meet the decreased budget allocation for COE Program
<p>Outputs 1. Quality management of the COE program is strengthened.</p>	<p>1-1 The revised TOR (Terms of Reference) for the COE management consultant of the COE Program is applied.</p> <p>1-2 Activities for the COE program are regularly reviewed through PDCA Cycle.</p>	<p>1-1. Revised Scope of Work for the COE management consultant</p> <p>1-2. Annual COE Program Implementation Report</p>		See Monitoring Sheet Summary	2-2 Verifiable indicator is modified to specify the official who approves the training modules.
<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p>	<p>2-1. Documents on issues and challenges to be improved and good practices regarding the training module are consolidated.</p> <p>2-2. Training curriculum, materials and trainer's manuals are approved by the head of Sub-directorate of Regulation and Institutional Development, DWSD.</p>	<p>2-1. Report on improvement of training module and good practices</p> <p>2-2. Official document to confirm approval of Teacher's manuals and training curriculum and materials</p>			

Activities	Inputs		
<p>1. Implementation framework of the COE program is strengthened.</p> <p>1-1 Conduct a study on the up-to-date output and challenges of the COE program, and compile priority issues to be improved. (Following items should be considered in the study and the analysis. The study (project activity monitoring) will be conducted in South Sulawesi, and South Sumatra where the COE program has been implemented in advance.</p> <ul style="list-style-type: none"> - State of practices being implemented in PDAMs which were learnt in the Kabupaten/Kota Training (e.g. organization structure for the practices, process for the practices, outputs of the practices, and reactions of the managers when introducing the training output in PDAMs) - challenges and barriers for introduction of the training output - Satisfaction score, evaluations, and requirements of the Kabupaten/Kota Training trainers and participants for the COE program - Current state of quality control for instructors, trainers, training modules and training materials including textbooks. - State of certificate issuance - State of monitoring and support structure in PDAMs for smooth implementation of the practices - State of contribution and challenges of the COE program to the business plans made by PDAMs for their debt relief. (through the reduction of the NRW is included as a goal of the business plan, it is said that many water utilities are faced with situation where the utilities cannot implement the plan continuously. Confirm reasons why the utilities cannot implement the plan for the sake of contribution to the improvement for the actual works of the COE program. - State of current PDCA cycle for improvement of the COE program - State of the COE program management etc. including nationwide dissemination activities <p>1-2 Reflect the priority issues to be improved into TOR for the COE management consultant for their implementation</p> <p>1-3 Prepare a draft master plan for the COE program based on the points for the improvement.</p> <p>1-4 Consider the idea for establishment of COE management system at COE Central Office as a secretariat for the COE program, and the future management structure for the whole COE program, and compile propositions in the report. (Following items should be included;)</p> <ul style="list-style-type: none"> - Conditions necessary for establishment of the management structure of the COE program, and goals to be achieved. - Basic concepts for the managerial structure - Concrete plan for the management structure (Role demarcations and communicating mechanism among relevant organisations and 	<p style="text-align: center;"><u>The Japanese Side</u></p> <p><Long-Term/Short-Term Expert> <u>JICA will dispatch contract based experts in the necessary fields for the Project.</u></p> <ul style="list-style-type: none"> • Chief/Capacity Development and Human Resources Development (1) • Deputy Chief/ Capacity Development and Human Resources Development (2) • Non-Revenue Water • Energy Efficiency • Customer Relations • Financial Analysis and Management • Training Coordination (assigned only in Japan) • Other short-term experts if necessary <p><C/P Training in Japan> JICA will receive the Indonesian personnel connected with the Project for technical training in Japan.</p> <p>< Equipment> JICA will provide such machinery, equipment and other materials (hereinafter referred to as “the Equipment”) necessary for the implementation of the Project.</p>	<p style="text-align: center;"><u>The Indonesian Side</u></p> <p><Counterpart Staff></p> <ul style="list-style-type: none"> • Project Supervisor (Director General for Human Settlement) • Project Director (Director, DWSD) • Project Manager (Head of Sub-directorate for Regulatory Framework and Institutional Development, DWSD, DGHS) • Project Management Unit (PMU) <ol style="list-style-type: none"> 1) Chairperson: Head, Head of Sub-directorate of Regulatory Framework and Institutional Development, DWSD, DGHS) 2) Members*: <ul style="list-style-type: none"> - Staff of DWSD <p><Cost for COE activities on training, monitoring and evaluation> The budget necessary for operating the project shall be allocated by the Indonesian side to ensure effective implementation of the Project.</p> <p><Project office/Office equipment> Project offices, desks and chairs shall be provided by the Indonesian side</p> <p><Local Cost></p> <ul style="list-style-type: none"> • Utilities, Telephone, Fax, etc. 	<p><Important Assumptions></p> <hr/> <p><Preconditions></p> <p>PMU members are formally appointed in PU, before commencement of the project.</p> <div style="text-align: center;">  </div> <p><Issues and countermeasures></p> <ul style="list-style-type: none"> - Further coordination with development partners and DWSD programs are needed to achieve Overall Goal. - Since 2018 budget for COE Program is anticipated to be as low as 2017, it is necessary to ensure continuous implementation of all four trainings.

<p>departments, Chain of command and responsibility, Reporting, and PDCA cycle, etc.)</p> <ul style="list-style-type: none"> - A road map and an action plan for shifting to new management structure. <p>1-5 Coordinate with other programs supported by development partners or the central government for promotion of COE Program</p>			
<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p> <p>2-1. Working groups (WG) for discussion of training module revision/development are organized subject-wise by initiative of the Indonesian side as follows;</p> <ul style="list-style-type: none"> · Non-Revenue Water (NRW) · Energy Efficiency (EE) · Customer Relations (CR) · Financial Analysis and Management (FAM) <p>2-2. Revise the existing training module for NRW including training curriculum, materials and trainer’s manuals.</p> <p>2-2-1 Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-2-2 Conduct a study on needs and good practices of PDAMs concerning NRW</p> <p>2-2-3 Improve the curriculum and materials, and develop the trainer’s manuals based on the result of the review</p> <p>2-2-4 Conduct a training to inform the revised contents and to utilize the procured equipment for Provincial Trainers</p> <p>2-2-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the revised module</p> <p>2-3. Revise the existing training module for EE including training curriculum, materials and trainer’s manuals.</p> <p>2-3-1 Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-3-2 Conduct a study on needs and good practices of PDAMs concerning EE</p> <p>2-3-3 Improve the curriculum and materials and develop the trainer’s manual based on result of the review</p> <p>2-3-4 Conduct a training to inform the revised contents and to utilize the procured equipment for Provincial Trainers</p> <p>2-3-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the revised module</p> <p>2-4. Develop the new training module for CR including training</p>			

<p>curriculum, materials and trainer's manuals.</p> <p>2-4-1 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR</p> <p>2-4-2 Develop a draft curriculum of the new training module on CR</p> <p>2-4-3 Develop training materials and trainer's manuals of the new training module for CR</p> <p>2-4-4 Implement a Provincial Training for Provincial Trainers</p> <p>2-4-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the newly developed module</p> <p>2-5. Develop the new training module for FAM including training curriculum, materials and trainer's manuals.</p> <p>2-5-1 Review the existing training module for Financial Planning, extract and prioritize items to be improved</p> <p>2-5-2 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for FAM</p> <p>2-5-3 Develop a draft curriculum of the new training module on FAM</p> <p>2-5-4 Develop training materials and trainer's manuals of the new training module for FAM</p> <p>2-5-5 Implement a Provincial Training for Provincial Trainers</p> <p>2-5-6 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the newly developed module</p> <p>2-6. Review and improve the above training modules including curriculum, materials and trainers' manuals to be practical through the COE Program activities</p>			
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Remark: Kabupaten/Kota Training means "District/City Training". It is conducted by Provincial Trainers in provincial capitals for PDAMs of Kabupaten (Districts) and Kota (Cities) in each province.

Project Design Matrix (PDM) Monitoring Sheet I

Project Title: The Project on Strengthening the COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia
 Implementing Agency: Directorate General of Human Settlement
 Project Sites: Jakarta (Project Management Unit, DGHS, PU), Bekasi and Surabaya (BTAMS Training Center), South Sulawesi and South Sumatra provinces (for the basic study on present and past status of the project activities), and South Sulawesi, some provinces where the Provincial Trainings and Kabupaten/Kota Trainings etc. are implemented (for applying the newly developed modules and the revised modules)
 Target Group: For Managerial aspect: Staff members of Project Management Unit, DWSD, DGHS
 For Technical aspect: Working Group Members (BTAMS Region I&II (Bekasi and Surabaya Training Center), Perpamsi, and University), and National/Provincial Trainers
 Indirect Beneficiaries: Saterker PK PAM, PDAMs providing National Trainer and Provincial Trainer, PIP2B, other PDAMs participating in COE, and Dinas PU/ Cipta Karya (local government office for public works on water supply development)
 Duration of the project: 3 years from commencement of the Project in August 2015

As of: 15 February 2018 (Ver. 4)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions	Achievement	Remarks
Overall Goal Capacity of PDAMs on improvement of PDAM management is enhanced.	1. Improvement of activities in PDAMs which participated in the COE program on NRW, EE, CR and FAM is observed. 2. Modules revised or developed by the Project are continuously utilized in COE Program.	1. Interview to DWSD and PDAMs those participated in COE Program 2. Annual COE Program Implementation Report		1. End-line survey will be conducted from April through June 2018 after trainings of 2017 COE Program (Aug 2017 - April 2018) to be compared with results of the Baseline Survey in Mar 2016. [Planned] 2. Status of COE Program Implementation Report: - DWSD implementation (Training for existing Provincial Trainers and KT for NRW and EE): 2017 COE Program Implementation Report are provided by DWSD [Achieved] . - JICA implementation (Trial Training, PT and KT for CR and FAM): Implementation Report will be submitted by JICA Expert Team in Apr/May 2018. [Planned]	Verifiable indicators are modified in Ver 3 (June 2017) because number of training will be limited.
Project Purpose Implementation capacity of the COE program for PDAMs in the Directorate General of Human Settlement is enhanced.	1. Four modules (NRW, EE,CR,FAM) revised or developed by the Project are utilized in the COE Program. 2. The Master Plan for the COE Program is approved by the Director of DWSD.	1. Annual COE Program Implementation Report 2. Official document to confirm approval of the COE Master Plan, and the COE Master Plan	GOI policy (especially the water supply and decentralization) continues to attach importance to the COE program.	1. Four modules are utilized in 2017 COE Program: - NRW & EE: Training for Existing Provincial Trainers in Aug 2017 and KT in Oct 2017. [Achieved] - CR & FAM: PT in Jan/Feb 2018 and KT in Apr 2018 [Planned] 2. Master Plan (M/P) development: - Draft M/P prepared by JET was discussed by DWSD, PERPAMSI and other stakeholders in the preparatory meetings and JCC in Feb 2018. - DWSD has confirmed with PERPAMSI the substantial contents of M/P along with next steps forward. M/P is planned to be finalized in April 2018. [Planned]	Verifiable indicators are modified in Ver 3 (June 2017) to meet the decreased budget allocation for COE Program
Outputs 1. Quality management of the COE program is strengthened.	1-1 The revised TOR (Terms of Reference) for the COE management consultant of the COE Program is applied. 1-2 Activities for the COE program are regularly reviewed through PDCA Cycle.	1-1. Revised Scope of Work for the COE management consultant 1-2. Annual COE Program Implementation Report		* See Monitoring Sheet Summary for details 1-1. Scope of Work of COE Management Consultant (KMP) and Field Consultant will be revised in accordance with JET's proposal provided in the draft M/P. KMP and Field Consultant will be procured accordingly in Feb 2018. [Planned] 1-2. In accordance with the revised Scope of Work, COE management consultant for the 2018 COE Program will implement the improved monitoring and evaluation whose results will be reported through its Annual Implementation Report. [Planned]	2-2 Verifiable indicator is modified in Ver 3 (June 2017) to the official who approves the training modules.
2. Existing training modules are improved and new training modules are developed for the COE Program.	2-1. Documents on issues and challenges to be improved and good practices regarding the training module are consolidated. 2-2. Training curriculum, materials and trainer's manuals are approved by the head of Sub-directorate of Regulation and Institutional Development, DWSD.	2-1. Report on improvement of training module and good practices 2-2. Official document to confirm approval of Teacher's manuals and training curriculum and materials		2-1 Report of the Baseline Survey and COE Program Review was presented in March 2016. [Achieved] 2-2 Status of training module revision/ development - NRW and EE: The revision is complete and KT was implemented in Oct 2017. JICA will request DWSD approval in Apr/May 2018. [Planned] - CR and FAM: Final revision will be completed after KT scheduled in April 2018. JICA will request DWSD approval accordingly in Apr/May 2018 [Planned]	

Activities	Inputs		
<p>1. Implementation framework of the COE program is strengthened.</p> <p>1-1 Conduct a study on the up-to-date output and challenges of the COE program, and compile priority issues to be improved. (Following items should be considered in the study and the analysis. The study (project activity monitoring) will be conducted in South Sulawesi, and South Sumatra where the COE program has been implemented in advance.</p> <ul style="list-style-type: none"> - State of practices being implemented in PDAMs which were learnt in the Kabupaten/Kota Training (e.g. organization structure for the practices, process for the practices, outputs of the practices, and reactions of the managers when introducing the training output in PDAMs) - challenges and barriers for introduction of the training output - Satisfaction score, evaluations, and requirements of the Kabupaten/Kota Training trainers and participants for the COE program - Current state of quality control for instructors, trainers, training modules and training materials including textbooks. - State of certificate issuance - State of monitoring and support structure in PDAMs for smooth implementation of the practices - State of contribution and challenges of the COE program to the business plans made by PDAMs for their debt relief. (through the reduction of the NRW is included as a goal of the business plan, it is said that many water utilities are faced with situation where the utilities cannot implement the plan continuously. Confirm reasons why the utilities cannot implement the plan for the sake of contribution to the improvement for the actual works of the COE program. - State of current PDCA cycle for improvement of the COE program - State of the COE program management etc. including nationwide dissemination activities <p>1-2 Reflect the priority issues to be improved into TOR for the COE management consultant for their implementation</p> <p>1-3 Prepare a draft master plan for the COE program based on the points for the improvement.</p> <p>1-4 Consider the idea for establishment of COE management system at COE Central Office as a secretariat for the COE program, and the future management structure for the whole COE program, and compile propositions in the report.</p> <p>(Following items should be included;)</p> <ul style="list-style-type: none"> - Conditions necessary for establishment of the management structure of the COE program, and goals to be achieved. - Basic concepts for the managerial structure 	<p style="text-align: center;"><u>The Japanese Side</u></p> <p><Long-Term/Short-Term Expert> <u>JICA will dispatch contract based experts in the necessary fields for the Project.</u></p> <ul style="list-style-type: none"> • Chief/Capacity Development and Human Resources Development (1) • Deputy Chief/ Capacity Development and Human Resources Development (2) • Non-Revenue Water • Energy Efficiency • Customer Relations • Financial Analysis and Management • Training Coordination (assigned only in Japan) • Other short-term experts if necessary <p><C/P Training in Japan> JICA will receive the Indonesian personnel connected with the Project for technical training in Japan.</p> <p>< Equipment> JICA will provide such machinery, equipment and other materials (hereinafter referred to as “the Equipment”) necessary for the implementation of the Project.</p>	<p style="text-align: center;"><u>The Indonesian Side</u></p> <p><Counterpart Staff></p> <ul style="list-style-type: none"> • Project Supervisor (Director General for Human Settlement) • Project Director (Director, DWSD) • Project Manager (Head of Sub-directorate for Regulatory Framework and Institutional Development, DWSD, DGHS) • Project Management Unit (PMU) <ol style="list-style-type: none"> 1) Chairperson: Head, Head of Sub-directorate of Regulatory Framework and Institutional Development, DWSD, DGHS 2) Members*: <ul style="list-style-type: none"> - Staff of DWSD <p><Cost for COE activities on training, monitoring and evaluation> The budget necessary for operating the project shall be allocated by the Indonesian side to ensure effective implementation of the Project.</p> <p><Project office/Office equipment> Project offices, desks and chairs shall be provided by the Indonesian side</p> <p><Local Cost></p> <ul style="list-style-type: none"> • Utilities, Telephone, Fax, etc. 	<p><Important Assumptions></p> <p><Preconditions></p> <p>PMU members are formally appointed in PU, before commencement of the project.</p> <p style="text-align: center;"></p> <p><Issues and countermeasures></p> <ul style="list-style-type: none"> - Further coordination with development partners and DWSD programs are needed to achieve Overall Goal. → Draft Master Plan proposes establishment of COE Management Unit to enhance coordination with other development programs. - Since future budget for COE Program is anticipated to be as low as 2017, it is necessary to ensure continuous implementation of all four trainings. → Continuous implementation of the four training modules is confirmed in the second JCC in Feb 2018. → Draft Master Plan

<ul style="list-style-type: none"> - Concrete plan for the management structure (Role demarcations and communicating mechanism among relevant organisations and departments, Chain of command and responsibility, Reporting, and PDCA cycle, etc.) - A road map and an action plan for shifting to new management structure. <p>1-5 Coordinate with other programs supported by development partners or the central government for promotion of COE Program</p>			<p>proposes the program's joint implementation with PERPAMSI and gradual transfer of operation.</p>
<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p> <p>2-1. Working groups (WG) for discussion of training module revision/development are organized subject-wise by initiative of the Indonesian side as follows;</p> <ul style="list-style-type: none"> · Non-Revenue Water (NRW) · Energy Efficiency (EE) · Customer Relations (CR) · Financial Analysis and Management (FAM) <p>2-2. Revise the existing training module for NRW including training curriculum, materials and trainer's manuals.</p> <p>2-2-1 Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-2-2 Conduct a study on needs and good practices of PDAMs concerning NRW</p> <p>2-2-3 Improve the curriculum and materials, and develop the trainer's manuals based on the result of the review</p> <p>2-2-4 Conduct a training to inform the revised contents and to utilize the procured equipment for Provincial Trainers</p> <p>2-2-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the revised module</p> <p>2-3. Revise the existing training module for EE including training curriculum, materials and trainer's manuals.</p> <p>2-3-1 Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-3-2 Conduct a study on needs and good practices of PDAMs concerning EE</p> <p>2-3-3 Improve the curriculum and materials and develop the trainer's manual based on result of the review</p> <p>2-3-4 Conduct a training to inform the revised contents and to utilize the procured equipment for Provincial Trainers</p> <p>2-3-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the revised module</p>			

<p>2-4. Develop the new training module for CR including training curriculum, materials and trainer's manuals.</p> <p>2-4-1 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR</p> <p>2-4-2 Develop a draft curriculum of the new training module on CR</p> <p>2-4-3 Develop training materials and trainer's manuals of the new training module for CR</p> <p>2-4-4 Implement a Provincial Training for Provincial Trainers</p> <p>2-4-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the newly developed module</p> <p>2-5. Develop the new training module for FAM including training curriculum, materials and trainer's manuals.</p> <p>2-5-1 Review the existing training module for Financial Planning, extract and prioritize items to be improved</p> <p>2-5-2 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for FAM</p> <p>2-5-3 Develop a draft curriculum of the new training module on FAM</p> <p>2-5-4 Develop training materials and trainer's manuals of the new training module for FAM</p> <p>2-5-5 Implement a Provincial Training for Provincial Trainers</p> <p>2-5-6 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the newly developed module</p> <p>2-6. Review and improve the above training modules including curriculum, materials and trainers' manuals to be practical through the COE Program activities</p>			
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Remark: Kabupaten/Kota Training means "District/City Training". It is conducted by Provincial Trainers in provincial capitals for PDAMs of Kabupaten (Districts) and Kota (Cities) in each province.

Project Design Matrix (PDM) Monitoring Sheet I

Project Title: The Project on Strengthening the COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia
 Implementing Agency: Directorate General of Human Settlement
 Project Sites: Jakarta (Project Management Unit, DGHS, PU), Bekasi and Surabaya (BTAMS Training Center), South Sulawesi and South Sumatra provinces (for the basic study on present and past status of the project activities), and South Sulawesi, some provinces where the Provincial Trainings and Kabupaten/Kota Trainings etc. are implemented (for applying the newly developed modules and the revised modules)
 Target Group: For Managerial aspect: Staff members of Project Management Unit, DWSD, DGHS
 For Technical aspect: Working Group Members (BTAMS Region I&II (Bekasi and Surabaya Training Center), Perpamsi, and University), and National/Provincial Trainers
 Indirect Beneficiaries: Saker PK PAM, PDAMs providing National Trainer and Provincial Trainer, PIP2B, other PDAMs participating in COE, and Dinas PU/ Cipta Karya (local government office for public works on water supply development)
 Duration of the project: 3 years from commencement of the Project in August 2015

As of: 09 August 2018 (Ver. 5)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions	Achievement	Remarks
<p><u>Overall Goal</u> Capacity of PDAMs on improvement of PDAM management is enhanced.</p>	<p>1. Improvement of activities in PDAMs which participated in the COE program on NRW, EE, CR and FAM is observed.</p> <p>2. Modules revised or developed by the Project are continuously utilized in COE Program.</p>	<p>1. Interview to DWSD and PDAMs those participated in COE Program</p> <p>2. Annual COE Program Implementation Report</p>		<p>1. End-line survey conducted for 2017 Training participants shows majority of respondents has engaged in improvement of activities after taking COE training.</p> <p>2. Status of COE Program Implementation Report: - DWSD implementation (Training for existing Provincial Trainers and KT for NRW and EE): 2017 COE Program Implementation Report was provided by DWSD. - JICA implementation (Trial Training, PT and KT for CR and FAM): Implementation Report was submitted by JICA Expert Team in June 2018.</p>	<p>Verifiable indicators are modified in Ver 3 (June 2017) because number of training will be limited.</p>
<p><u>Project Purpose</u> Implementation capacity of the COE program for PDAMs in the Directorate General of Human Settlement is enhanced.</p>	<p>1. Four modules (NRW, EE, CR, FAM) revised or developed by the Project are utilized in the COE Program.</p> <p>2. The Master Plan for the COE Program is approved by the Director of DWSD.</p>	<p>1. Annual COE Program Implementation Report</p> <p>2. Official document to confirm approval of the COE Master Plan, and the COE Master Plan</p>	<p>GOI policy (especially the water supply and decentralization) continues to attach importance to the COE program.</p>	<p>1. Four modules are utilized in 2017 COE Program: - NRW & EE: Training for Existing Provincial Trainers in Aug 2017 and KT in Oct 2017. [Achieved] - CR & FAM: PT in Jan/Feb 2018 and KT in Apr 2018 [Achieved]</p> <p>2. Master Plan (M/P) development: - Draft M/P prepared by JET was discussed by DWSD, PERPAMSI and other stakeholders in the preparatory meetings and JCCs in 2018. - DWSD has confirmed with PERPAMSI the substantial contents of M/P along with next steps forward. M/P was approved in August 2018. [Achieved]</p>	<p>Verifiable indicators are modified in Ver 3 (June 2017) to meet the decreased budget allocation for COE Program</p>
<p><u>Outputs</u> 1. Quality management of the COE program is strengthened.</p>	<p>1-1 The revised TOR (Terms of Reference) for the COE management consultant of the COE Program is applied.</p> <p>1-2 Activities for the COE program are regularly reviewed through PDCA Cycle.</p>	<p>1-1. Revised Scope of Work for the COE management consultant</p> <p>1-2. Annual COE Program Implementation Report</p>		<p>1-1. Scope of Work of COE Management Consultant (KMP) and Field Consultant was revised in accordance with JET's proposal provided in the draft M/P. KMP and Field Consultant was procured accordingly in Apr 2018. [Achieved]</p> <p>1-2. Training of the four developed and revised modules in 2017 were reviewed in the Development and Implementation Report submitted to DWSD [Achieved]. In accordance with the revised Scope of Work, COE management consultant for the 2018 COE Program will implement the improved monitoring and evaluation whose results will be reported through its Annual Implementation Report.</p>	<p>2-2 Verifiable indicator is modified in Ver 3 (June 2017) to specify the official who approves the training modules.</p>
<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p>	<p>2-1. Documents on issues and challenges to be improved and good practices regarding the training module are consolidated.</p> <p>2-2. Training curriculum, materials and trainer's manuals are approved by the head of Sub-directorate of Regulation and Institutional Development, DWSD.</p>	<p>2-1. Report on improvement of training module and good practices</p> <p>2-2. Official document to confirm approval of Teacher's manuals and training curriculum and materials</p>		<p>2-1 Report of the Baseline Survey and COE Program Review was presented in March 2016. Also, issues and good practices of each modules are compiled in Module Development Report submitted to DWSD and Working Group for each module in 2016. [Achieved]</p> <p>2-2 The final revision of each module was completed and the request for DWSD approval was submitted along with the Development and Implementation Report of each module. Official approval was obtained in August 2018. [Achieved]</p>	

Activities	Inputs		
<p>1. Implementation framework of the COE program is strengthened.</p> <p>1-1 Conduct a study on the up-to-date output and challenges of the COE program, and compile priority issues to be improved. (Following items should be considered in the study and the analysis. The study (project activity monitoring) will be conducted in South Sulawesi, and South Sumatra where the COE program has been implemented in advance.</p> <ul style="list-style-type: none"> - State of practices being implemented in PDAMs which were learnt in the Kabupaten/Kota Training (e.g. organization structure for the practices, process for the practices, outputs of the practices, and reactions of the managers when introducing the training output in PDAMs) - challenges and barriers for introduction of the training output - Satisfaction score, evaluations, and requirements of the Kabupaten/Kota Training trainers and participants for the COE program - Current state of quality control for instructors, trainers, training modules and training materials including textbooks. - State of certificate issuance - State of monitoring and support structure in PDAMs for smooth implementation of the practices - State of contribution and challenges of the COE program to the business plans made by PDAMs for their debt relief. (through the reduction of the NRW is included as a goal of the business plan, it is said that many water utilities are faced with situation where the utilities cannot implement the plan continuously. Confirm reasons why the utilities cannot implement the plan for the sake of contribution to the improvement for the actual works of the COE program. - State of current PDCA cycle for improvement of the COE program - State of the COE program management etc. including nationwide dissemination activities <p>1-2 Reflect the priority issues to be improved into TOR for the COE management consultant for their implementation</p> <p>1-3 Prepare a draft master plan for the COE program based on the points for the improvement.</p> <p>1-4 Consider the idea for establishment of COE management system at COE Central Office as a secretariat for the COE program, and the future management structure for the whole COE program, and compile propositions in the report. (Following items should be included;)</p> <ul style="list-style-type: none"> - Conditions necessary for establishment of the management structure of the COE program, and goals to be achieved. - Basic concepts for the managerial structure - Concrete plan for the management structure (Role demarcations and communicating mechanism among relevant organisations and 	<p style="text-align: center;"><u>The Japanese Side</u></p> <p><Long-Term/Short-Term Expert> <u>JICA will dispatch contract based experts in the necessary fields for the Project.</u></p> <ul style="list-style-type: none"> • Chief/Capacity Development and Human Resources Development (1) • Deputy Chief/ Capacity Development and Human Resources Development (2) • Non-Revenue Water • Energy Efficiency • Customer Relations • Financial Analysis and Management • Training Coordination (assigned only in Japan) • Other short-term experts if necessary <p><C/P Training in Japan> JICA will receive the Indonesian personnel connected with the Project for technical training in Japan.</p> <p>< Equipment> JICA will provide such machinery, equipment and other materials (hereinafter referred to as “the Equipment”) necessary for the implementation of the Project.</p>	<p style="text-align: center;"><u>The Indonesian Side</u></p> <p><Counterpart Staff></p> <ul style="list-style-type: none"> • Project Supervisor (Director General for Human Settlement) • Project Director (Director, DWSD) • Project Manager (Head of Sub-directorate for Regulatory Framework and Institutional Development, DWSD, DGHS) • Project Management Unit (PMU) <ul style="list-style-type: none"> 1) Chairperson: Head, Head of Sub-directorate of Regulatory Framework and Institutional Development, DWSD, DGHS) 2) Members*: <ul style="list-style-type: none"> - Staff of DWSD <p><Cost for COE activities on training, monitoring and evaluation> The budget necessary for operating the project shall be allocated by the Indonesian side to ensure effective implementation of the Project.</p> <p><Project office/Office equipment> Project offices, desks and chairs shall be provided by the Indonesian side</p> <p><Local Cost></p> <ul style="list-style-type: none"> • Utilities, Telephone, Fax, etc. 	<p><Important Assumptions></p> <hr/> <p><Preconditions></p> <p>PMU members are formally appointed in PU, before commencement of the project.</p> <div style="text-align: center;">  </div> <p><Issues and countermeasures></p> <ul style="list-style-type: none"> - Further coordination with development partners and DWSD programs are needed to achieve Overall Goal. → Draft Master Plan proposes establishment of COE Management Unit to enhance coordination with other development programs. - Since future budget for COE Program is anticipated to be as low as 2017, it is necessary to ensure continuous implementation of all four trainings. → Continuous implementation of the four training modules is confirmed in the second JCC in Feb 2018. → Draft Master Plan proposes the program’s joint implementation with

<p>departments, Chain of command and responsibility, Reporting, and PDCA cycle, etc.)</p> <ul style="list-style-type: none"> - A road map and an action plan for shifting to new management structure. <p>1-5 Coordinate with other programs supported by development partners or the central government for promotion of COE Program</p>			<p>PERPAMSI and gradual transfer of operation.</p>
<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p> <p>2-1. Working groups (WG) for discussion of training module revision/development are organized subject-wise by initiative of the Indonesian side as follows;</p> <ul style="list-style-type: none"> · Non-Revenue Water (NRW) · Energy Efficiency (EE) · Customer Relations (CR) · Financial Analysis and Management (FAM) <p>2-2. Revise the existing training module for NRW including training curriculum, materials and trainer’s manuals.</p> <p>2-2-1 Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-2-2 Conduct a study on needs and good practices of PDAMs concerning NRW</p> <p>2-2-3 Improve the curriculum and materials, and develop the trainer’s manuals based on the result of the review</p> <p>2-2-4 Conduct a training to inform the revised contents and to utilize the procured equipment for Provincial Trainers</p> <p>2-2-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the revised module</p> <p>2-3. Revise the existing training module for EE including training curriculum, materials and trainer’s manuals.</p> <p>2-3-1 Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-3-2 Conduct a study on needs and good practices of PDAMs concerning EE</p> <p>2-3-3 Improve the curriculum and materials and develop the trainer’s manual based on result of the review</p> <p>2-3-4 Conduct a training to inform the revised contents and to utilize the procured equipment for Provincial Trainers</p> <p>2-3-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the revised module</p> <p>2-4. Develop the new training module for CR including training</p>			

<p>curriculum, materials and trainer's manuals.</p> <p>2-4-1 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR</p> <p>2-4-2 Develop a draft curriculum of the new training module on CR</p> <p>2-4-3 Develop training materials and trainer's manuals of the new training module for CR</p> <p>2-4-4 Implement a Provincial Training for Provincial Trainers</p> <p>2-4-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the newly developed module</p> <p>2-5. Develop the new training module for FAM including training curriculum, materials and trainer's manuals.</p> <p>2-5-1 Review the existing training module for Financial Planning, extract and prioritize items to be improved</p> <p>2-5-2 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for FAM</p> <p>2-5-3 Develop a draft curriculum of the new training module on FAM</p> <p>2-5-4 Develop training materials and trainer's manuals of the new training module for FAM</p> <p>2-5-5 Implement a Provincial Training for Provincial Trainers</p> <p>2-5-6 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the newly developed module</p> <p>2-6. Review and improve the above training modules including curriculum, materials and trainers' manuals to be practical through the COE Program activities</p>			
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Remark: Kabupaten/Kota Training means "District/City Training". It is conducted by Provincial Trainers in provincial capitals for PDAMs of Kabupaten (Districts) and Kota (Cities) in each province.

Annex 4

Minutes of Discussion

Annex 4-1

RECORD OF DISCUSSIONS
ON
JAPANESE TECHNICAL COOPERATION
FOR
THE PROJECT
ON
STRENGTHENING COE (CENTER OF EXCELLENCE) PROGRAM
FOR PDAMs IN THE REPUBLIC OF INDONESIA
AGREED UPON BETWEEN
THE MINISTRY OF PUBLIC WORKS
AND
THE JAPAN INTERNATIONAL COOPERATION AGENCY

Jakarta, 30th January 2015



SASAKI Atsushi
Chief Representative,
JICA Indonesia Office
Japan International Cooperation Agency



Mochammad Natsir
Director
Directorate of Water Supply Development
Director General for Human Settlement
Ministry of Public Works

ATTACHED DOCUMENT

Based on the minutes of meetings on the Detailed Planning Survey on the Project for Sector Survey on the PDAM Asset Management in the Republic of Indonesia, (hereinafter referred to as "the Project") signed on the 29th of August, 2014 between the Ministry of Public Works of the Government of the Republic of Indonesia (hereinafter referred to as "PU") and the Japan International Cooperation Agency (hereinafter referred to as "JICA"), JICA held a series of discussions with PU and relevant organizations to develop a detailed plan of the Project.

Both parties agreed the details of the Project and the main points discussed as described in the Appendix 1 and Appendix 2 respectively.

Both parties also agreed that PU, the counterpart to JICA, will be responsible for the implementation of the Project in cooperation with JICA, coordinate with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of the Republic of Indonesia.

The Project will be implemented within the framework of the Colombo Plan Technical Cooperation Scheme between the Government of Japan (hereinafter referred to as "GOJ") and the Government of the Republic of Indonesia (hereinafter referred to as "GOI").

Appendix 1: Project Description

Appendix 2: Main Points Discussed

Appendix 3: Minutes of Meetings on the Detailed Planning Survey

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PROJECT DESCRIPTION

Both parties confirmed that there is no change in the Project Description agreed on in the minutes of meetings on the concerning Preparatory Survey on the Project signed on the 29th of August 2014 (Appendix 3).

I. BACKGROUND

The ratio of population with sustainable access to safe drinking water in Indonesia is still low. The ratio of population accessible to safe water through piped water is 27% in 2011 against the goal of 2015 by 41% in the Millennium Development Goals (MDGs).

Water supply services in Indonesia is operated and managed by water utilities (PDAMs) in each district and city under the local government. However, this water sector has problems and challenges such as (1) many PDAMs cannot reach investment fund due to the bad financial status, and (2) good practices and lessons learnt cannot be disseminated to nationwide over the boarder of the decentralization in Indonesia. In addition, good interventions cannot be continued due to the limited human capacity of PDAMs. PU has struggled with the challenges on shortage of human resources of PDAMs and improvement of the capacity of the human resources. In 1990, PU established BTAMS (Water Supply and Environmental Sanitation Training Center) under the support of Japan. Since then, PU has started to supply trainings to staff of PDAMs. However, capacity of BTAMS such as capacity of providing reliable mentors/trainers as well as capacity of existing facility/equipment is limited in comparison with number of PDAMs. These problems and challenges made PU start the new program for developing the capacity of human resources in PDAMs across the country from 2012, which is named "Center of Excellence (COE) Program". But, PDAMs faced with some challenges such as effects of the COE Program had been very limited because the COE program was just started and training modules were also limited to just 3 of non-revenue water, energy efficiency, and financial planning.

For improving this situation, PU has requested for strengthening the COE program to Japan.

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II. OUTLINE OF THE PROJECT

Details of the Project are described in the Project Design Matrix (hereinafter referred to as “PDM”) in Annex I and tentative Plan of Operation in Annex II. Other items are as follows,

1. Implementation Structure

The Project organization chart is given in the Annex III. The roles and assignments of relevant organizations are as follows:

(1) Administration of the Project

Structure	Function	Member
Project Supervisor	Project supervisors will bear overall supervision of the Project	Director General for Human Settlement
Project Director	Project Director will bear all responsibility for the administration and implementation of the Project.	Director, Directorate of Water Supply Development, DGHS
Project Manager	Project Manager will be responsible for the managerial and technical matters of the Project.	Head, Sub-directorate of Regulatory Framework and Institutional Development, DWSD, DGHS

(2) JICA Experts

The JICA experts will give necessary technical guidance, advice and recommendations to PU on any matters pertaining to the implementation of the Project.

(3) Joint Coordinating Committee

Joint Coordinating Committee (hereinafter referred to as “JCC”) will be established in order to facilitate inter-organizational coordination. JCC will be held at least once a year and whenever deems it necessary. JCC will approve an annual work plan, review overall progress, conduct evaluation of the Project, and exchange opinions or major issues that arise during the implementation of the Project. A list of proposed members of JCC is shown in the Annex IV.

(4) Project Management Unit

Project Management Unit (hereinafter referred to as “PMU”) is a counterpart team to deal with day-to-day project activities, to direct organizations concerned and other stakeholders in PU, and to give technical resources and advices to the Project

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activities.

1) Chairperson:

Head, Sub-directorate of Regulatory Framework and Institutional Development,
DWSD, DGHS

2) Members:

Staff of DWSD

(5) Working Groups for Training Module Revision/Development

Working groups will be organized subject-wise as groups for discussion of training module revision/development (Non-Revenue Water Reduction, Energy Efficiency, Customer Relations, and Financial Analysis and Management), in order to work with Japanese experts. The working group activities will be coordinated by PMU. Each working group is listed in the Annex V.

(6) Regular Meeting

A Regular Meeting for PMU will be called at operational level. The meeting will monitor and coordinate daily activities (progress) of the Project, and will be held at least semiannually and whenever deems it necessary.

2. Project Site(s) and Beneficiaries

The Project sites and beneficiaries are as follows,

(1) Project sites:

- Jakarta (PMU, DGHS, PU),
- Bekasi and Surabaya (BTAMS training center),
- South Sulawesi, South Sumatra, and Bali provinces (for the basic study on present and past status of the project activities)
- 3 provinces to be selected (for applying the newly developed modules and the revised modules).

(2) Beneficiaries:

- Staff members of Project Management Unit, DWSD, DGHS,
- Working Group members (BTAMS Region I&II (Bekasi and Surabaya Training Center), Perpamsi and University),
- National/Provincial Trainers

(3) Indirect Beneficiaries:

- SATKER PK PAM,
- PDAMs providing National Trainer and Provincial Trainer,

- PIP2B, and
- Other PDAMs participating in COE
- Dinas PU/ Cipta Karya (local government office for public works on water supply development)

3. Duration

The duration of the Project will be three (3) years from the date of dispatch of JICA expert of the Project.

4. Reports

PU and JICA experts will jointly prepare the following reports in English.

- (1) Monitoring Sheet on semiannual basis until the project completion
- (2) Project Completion Report at the time of project completion

5. Environmental and Social Considerations


PU agreed to abide by 'JICA Guidelines for Environmental and Social Considerations' in order to ensure that appropriate considerations will be made for the environmental and social impacts of the Project.

III. UNDERTAKINGS OF PU AND GOI

1. PU and GOI will take necessary measures to:

- (1) ensure that the technologies and knowledge acquired by the Indonesia nationals as a result of Japanese technical cooperation contributes to the economic and social development of Indonesia, and that the knowledge and experience acquired by the personnel of Indonesia from technical training as well as the equipment provided by JICA will be utilized effectively in the implementation of the Project; and
- (2) grant privileges, exemptions and benefits to the JICA experts referred to in II-1 (2) above and their families, which are no less favorable than those granted to experts of third countries performing similar missions in Indonesia under the Colombo Plan Technical Cooperation Scheme.

2. PU and GOI will take necessary measures to:

- (1) provide security-related information as well as measures to ensure the safety of the JICA experts; and
- (2) permit the JICA experts to enter, leave and sojourn in Indonesia for the duration of 

their assignments therein and exempt them from foreign registration requirements and consular fees.

3. Other privileges, exemptions and benefits will be provided in accordance with Note Verbales exchanged between the GOJ and the GOI.

IV. MONITORING AND EVALUATION

JICA and PU will jointly and regularly monitor the progress of the Project through the Monitoring Sheets as attached in the **Annex VI** based on the Project Design Matrix (PDM) and Plan of Operation (PO). The Monitoring Sheets shall be reviewed every six (6) months.

Also, Project Completion Report shall be drawn up one (1) month before the termination of the Project.

JICA will conduct the following evaluations and surveys to mainly verify sustainability and impact of the Project and draw lessons. PU is required to provide necessary support for them.

1. Ex-post evaluation three (3) years after the project completion, in principle
2. Follow-up surveys on necessity basis

V. PROMOTION OF PUBLIC SUPPORT

For the purpose of promoting support for the Project, PU will take appropriate measures to make the Project widely known to the people of Indonesia

VI. MISCONDUCT

Both parties agreed to conduct the project in appropriate and transparent. If there are any suspicions of corruption or fraudulent practices manner in the implementation, both parties agree to provide all information including information related to any concerned official of each government and/or public organizations. Both parties shall not, unfairly or unfavorably treat the person and/or company which provided the information related to suspected corrupt or fraudulent practices in the implementation of the Project.

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VII. MUTUAL CONSULTATION

JICA and PU will consult each other whenever any major issues arise in the course of Project implementation.

VIII. AMENDMENTS

The record of discussions may be amended by the minutes of meetings between JICA and PU.

The minutes of meetings will be signed by authorized persons of each side who may be different from the signers of the record of discussions.

List of Annex

- Annex I Logical Framework (Project Design Matrix: PDM)
- Annex II Tentative Plan of Operation
- Annex III Project Organization Chart
- Annex IV List of Proposed Members of Joint Coordinating Committee
- Annex V Working Group for Training Module Revision / Development
- Annex VI Project Monitoring Sheet

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Annex I Project Design Matrix (PDM) (Project Monitoring Sheet I)

Project Title: The Project on Strengthening the COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia

Implementing Agency: Directorate General of Human Settlement

Project Sites: Jakarta (Project Management Unit, DGHS, PU), Bekasi and Surabaya (BTAMS Training Center), South Sulawesi, South Sumatra, and Bali provinces (for the basic study on present and past status of the project activities), and 3 Province to be selected (for applying the newly developed modules and the revised modules)

Target Group: For Managerial aspect: Staff members of Project Management Unit, DWSD, DGHS

Indirect Beneficiaries: Working Group Members (BTAMS Region I&II (Bekasi and Surabaya Training Center), Perpamsi, and University), and National/Provincial Trainers

Duration of the project: 3 years from commencement of the Project around April 2015

Saker PK PAM, PDAMs providing National Trainer, PJP2B, other PDAMs participating in COE, and Dinas PU/ Cipta Karya (local government office for public works on water supply development)

As of: 29 August 2014 (Ver. 1.0)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions	Achievement	Remarks
<p>Overall Goal Capacity of PDAMs on improvement of PDAM management is enhanced.</p>	<ol style="list-style-type: none"> Number of PDAMs which implement what they learn from the COE program is increased. Benchmarking Score (Detailed indicators to be decided after the commencement of the Project. e.g. Bill collection rate and number of customer claims) is improved. 	<ol style="list-style-type: none"> Annual Monitoring Report Benchmark Report 			
<p>Project Purpose Implementation capacity of the COE Program for PDAMs in the Directorate General of Human Settlement is enhanced.</p>	<ol style="list-style-type: none"> Number of capacity development activities (BINTEK trainings and TOT) per year is increased. Benchmarking Score (including satisfaction rate by the trainers and the participants) is improved. 	<ol style="list-style-type: none"> Records of trainings/Periodical report of PMU Benchmarking Report 	GOI policy (especially the water supply and decentralization) continues to attach importance to the COE program.		
<p>Outputs 1. Quality management of the COE program is strengthened.</p>	<ol style="list-style-type: none"> 1-1 The revised TOR (Terms of Reference) for the managerial consultant of the COE Program is applied. 1-2 The revised Master Plan for the COE Program is approved. 1-3 Activities for the COE program are regularly reviewed through PDCA Cycle. 	<ol style="list-style-type: none"> 1-1. Report on priority issues to be tackled 1-2. Review report (in the periodical report) 1-3. Proposition report (in the periodical report) 1-4. Annual Monitoring Report 			
<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p>	<ol style="list-style-type: none"> 2-1. Documents on issues and challenges to be improved and good practices regarding the training module are consolidated. 2-2. Training curriculum, materials and trainer's manuals are approved. 2-3. Number of BINTEK in 2017 for the developed and revised modules is more than **. <p>(** will be decided at the beginning of the project)</p>	<ol style="list-style-type: none"> 2-1. Annual Monitoring Report 2-2. Teacher's manuals and training curriculum and materials 2-3. Annual Monitoring Report 			

Activities	Inputs		<Important Assumptions>
<p>1. Implementation framework of the COE program is strengthened.</p> <p>1-1 Conduct a study on the up-to-date output and challenges of the COE program, and compile priority issues to be improved. (Following items should be considered in the study and the analysis. The study (project activity monitoring) will be conducted in South Sulawesi, South Sumatra, and Bali where the COE program has been implemented in advance.</p> <ul style="list-style-type: none"> - State of practices being implemented in PDAMs which were learnt in the BINTEK training (e.g. organization structure for the practices, process for the practices, outputs of the practices, and reactions of the managers when introducing the training output in PDAMs) - challenges and barriers for introduction of the training output - Satisfaction score, evaluations, and requirements of the BINTEK trainers and participants for the COE program - Current state of quality control for instructors, trainers, training modules and training materials including textbooks. - State of certificate issuance - State of monitoring and support structure in PDAMs for smooth implementation of the practices - State of contribution and challenges of the COE program to the business plans made by PDAMs for their debt relief. (through the reduction of the NRW is included as a goal of the business plan, it is said that many water utilities are faced with situation where the utilities cannot implement the plan continuously. Confirm reasons why the utilities cannot implement the plan for the sake of contribution to the improvement for the actual works of the COE program. - State of current PDCA cycle for improvement of the COE program - State of the COE program management etc. including nationwide dissemination activities <p>1-2 Reflect the priority issues to be improved into TOR for the COE management consultant for their implementation</p> <p>1-3 Review and revise the master plan for the COE program based on the points for the improvement.</p> <p>1-4 Consider the idea for establishment of COE management system at COE Central Office as a secretariat for the COE program, and the future management structure for the whole COE program, and compile propositions in the report.</p> <p>(Following items should be included;)</p> <ul style="list-style-type: none"> - Conditions necessary for establishment of the management structure of the COE program, and goals to be achieved. - Basic concepts for the managerial structure - Concrete plan for the management structure (Role demarcations and 	<p><u>The Japanese Side</u></p> <p><Long-Term/Short-Term Expert> JICA will dispatch contract based experts in the necessary fields for the Project. <u>For example;</u></p> <ul style="list-style-type: none"> • Chief/Capacity Development and Human Resources Development • Non-Revenue Water • Energy Efficiency • Customer Relations • Financial Analysis and Management • Other short-term experts if necessary <p><C/P Training in Japan> JICA will receive the Indonesian personnel connected with the Project for technical training in Japan.</p> <p><Equipment> JICA will provide such machinery, equipment and other materials (hereinafter referred to as “the Equipment”) necessary for the implementation of the Project.</p>	<p><u>The Indonesian Side</u></p> <p><Counterpart Staff></p> <ul style="list-style-type: none"> • Project Supervisor (Director General for Human Settlement) • Project Director (Director, DWSD) • Project Manager (Head of Sub-directorate for Regulatory Framework and Institutional Development, DWSD, DGHS) • Project Management Unit (PMU) <ul style="list-style-type: none"> 1) Chairperson: Head, Head of Sub-directorate of Regulatory Framework and Institutional Development, DWSD, DGHS) 2) Members*: <ul style="list-style-type: none"> - Staff of DWSD <p><Cost for COE activities on training, monitoring and evaluation> The budget necessary for operating the project shall be allocated by the Indonesian side to ensure effective implementation of the Project.</p> <p><Project office/Office equipment> Project offices, desks and chairs shall be provided by the Indonesian side</p> <p><Local Cost></p> <ul style="list-style-type: none"> • Utilities, Telephone, Fax, etc. 	<p><Important Assumptions></p> <p><Preconditions></p> <p>PMU members are formally appointed in PU, before commencement of the project.</p> <p><Issues and countermeasures></p>

<p>communicating mechanism among relevant organisations and departments, Chain of command and responsibility, Reporting, and PDCA cycle, etc.)</p> <p>- A road map and an action plan for shifting to new management structure.</p>	
<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p>	<p>2-1. Working groups (WG) for discussion of training module revision/development are organized subject-wise by initiative of the Indonesian side as follows:</p> <ul style="list-style-type: none"> · Non-Revenue Water (NRW) · Energy Efficiency (EE) · Customer Relations (CR) · Financial Analysis and Management (FAM) <p>2-2. Revise the existing training module for NRW including training curriculum, materials and trainer's manuals.</p> <p>2-2-1 Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-2-2 Conduct a study on needs and good practices of PDAMs concerning NRW</p> <p>2-2-3 Improve the curriculum and materials, and develop the trainer's manuals based on the result of the review</p> <p>2-3. Revise the existing training module for EE including training curriculum, materials and trainer's manuals.</p> <p>2-3-1 Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-3-2 Conduct a study on needs and good practices of PDAMs concerning EE</p> <p>2-3-3 Improve the curriculum and materials and develop the trainer's manual based on result of the review</p> <p>2-4. Develop the new training module for CR</p> <p>2-4-1 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR</p> <p>2-4-2 Develop a draft curriculum of the new training module on CR</p> <p>2-4-3 Develop training materials and trainer's manuals of the new training module for CR</p> <p>2-4-4 Implement TOT for Provincial Trainers</p> <p>2-4-5 Select National Trainers from the Provincial Trainers, and provide them TOT</p> <p>2-5. Develop the new training module for FAM</p> <p>2-5-1 Review the existing training module for Financial Planning, extract and prioritize items to be improved</p> <p>2-5-2 Conduct a study on needs and good practices which PDAMs hold, in</p>

order to reflect on the new module for FAM

2-5-3 Develop a draft curriculum of the new training module on FAM

2-5-4 Develop training materials and trainer's manuals of the new training module for FAM

2-5-5 Implement TOT for Provincial Trainers

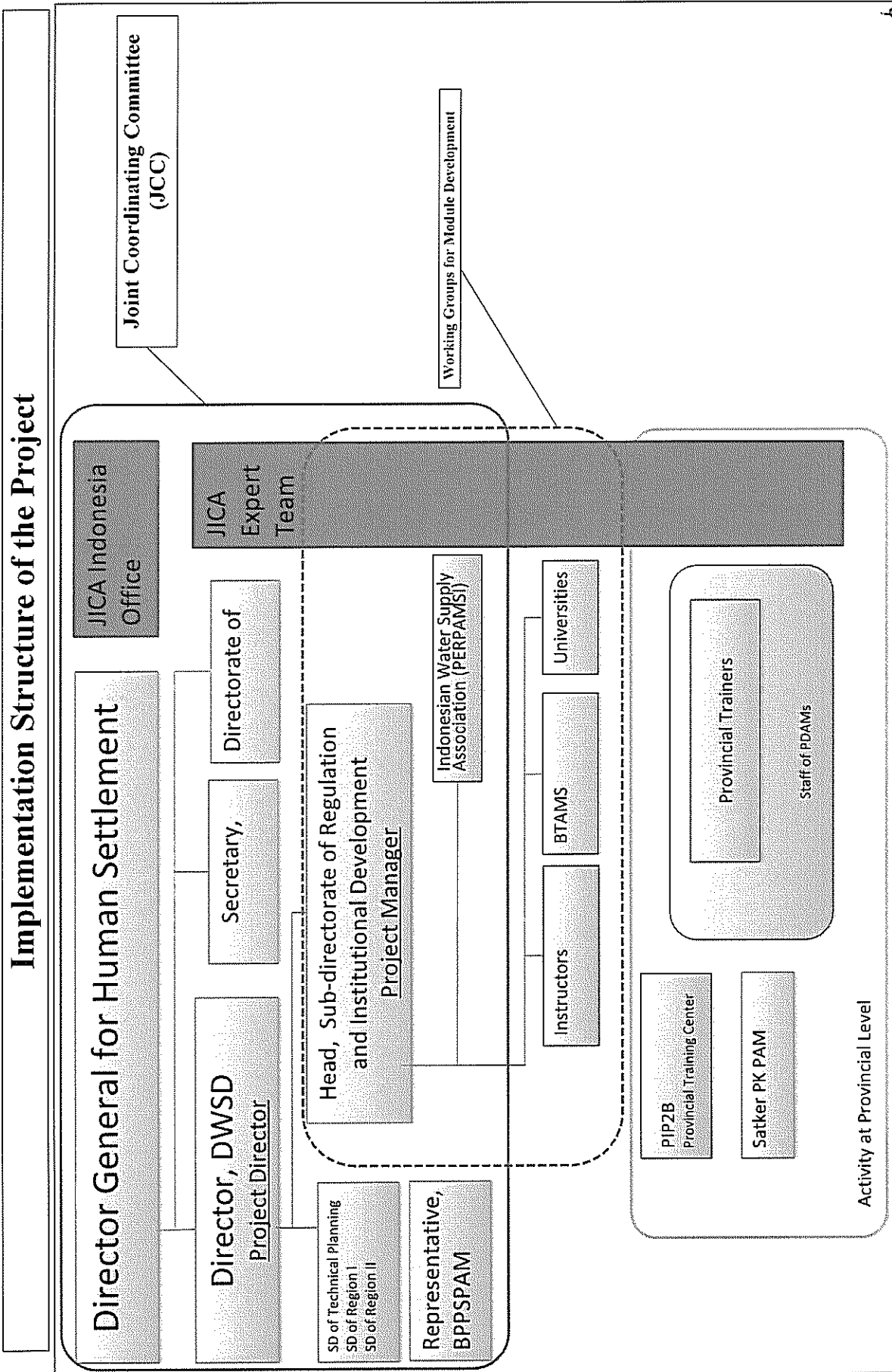
2-5-6 Select National Trainers from the Provincial Trainers, and provide them TOT

2-6. Review and improve the above training modules including curriculum, materials and trainers' manuals to be practical through the COE Program activities

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Project Organization Chart



Joint Coordinating Committee

1. Function

The Joint Coordinating Committee (hereinafter referred to as “JCC”) will meet when necessary and at least once a year in order to fulfill the following functions:

- 1) To approve the draft annual work plan of the Project and to coordinate and monitor the overall progress of the Project based on the regular monitoring sheet and the plan of operation of the Project in line with the Project Design Matrix;
- 2) To review the result of the annual work plan and to evaluate the progress of the Project based on the regular monitoring sheet;
- 3) To direct relevant organizations;
- 4) To review and exchange views on major issues that may arise during the implementation of the Project; and
- 5) To discuss any other issue(s) pertinent to the smooth implementation of the Project.

2. Members

- 1) Chairperson:
 - Director General for Human Settlement, Ministry of Public Works
- 2) Members of the Indonesian Side:
 - (a) Secretary, Directorate General of Human Settlement
 - (b) Director, Directorate of Water Supply Development, Directorate General of Human Settlement, Ministry of Public Works
 - (c) Director, Directorate of Programming
 - (d) Head, Sub-directorate of Regulation and Institutional Development, DWSD, DGHS, PU
 - (e) Head, Sub-directorate of Technical Planning, DWSD, DGHS, PU
 - (f) Head, Sub-directorate of Region I, DWSD, DGHS, PU
 - (g) Head, Sub-directorate of Region II, DWSD, DGHS, PU
 - (h) Head, Sub-directorate of Investment, DWSD, DGHS, PU
 - (i) Representative, Drink Water Supply System Development Agency (BPPSPAM)
 - (j) Representative, Indonesian Water Supply Association (PERPAMSI)
- 3) Members of the Japanese Side:
 - (a) JICA Experts
 - (b) Chief Representative of JICA Indonesia Office
 - (c) Mission members from JICA HDQs
 - (d) Other personnel concerned, to be assigned by JICA, if necessary
- 4) Observers:
 - (a) Officials of the Embassy of Japan in Indonesia
 - (b) Other personnel invited by the Committee

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Working Group for Training Module Revision / Development

1. Function

Discuss contents of the training modules below from the technical aspects

2. Members

Members of the working groups consist of the candidate organizations below;

- (1) Staff of DWSD
- (2) PERPAMSI
- (3) Universities
- (4) BTAMS
- (5) National Trainers (for the existing modules)
- (6) Candidate instructors (for the new modules)
- (7) Other relevant organizations

3. Subject of Modules

- (1) Non-Revenue Water Reduction
- (2) Energy Efficiency
- (3) Customer Relations
- (4) Financial Analysis and Management

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PROJECT MONITORING SHEET

Project Title : _____

Version of the Sheet: Ver.●● (Term: Month, Year - Month, Year) _____

Name: _____

Title: Chief Advisor _____

Submission Date: _____

I. Summary

1 Progress

- 1-1 Progress of Inputs
- 1-2 Progress of Activities
- 1-3 Achievement of Output
- 1-4 Achievement of the Project Purpose
- 1-5 Changes of Risks and Actions for Mitigation
- 1-6 Progress of Actions undertaken by JICA
- 1-7 Progress of Actions undertaken by Gov. of ●●
- 1-8 Progress of Environmental and Social Considerations (if applicable)
- 1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)
- 1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)

2 Delay of Work Schedule and/or Problems (if any)

- 2-1 Detail
- 2-2 Cause
- 2-3 Action to be taken
- 2-4 Roles of Responsible Persons/Organization (JICA, Gov. of●●,etc.)

3 Modification of the Project Implementation Plan

- 3-1 PO
- 3-2 Other modifications on detailed implementation plan
(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)

4 Preparation of Gov. of●● toward after completion of the Project

II. Project Monitoring Sheet I & II as Attached

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MAIN POINTS DISCUSSED

1. BAST (Handover Delivery Certificate of goods/services)

Both parties confirmed that the project is categorized as “Goods / Services” stipulated in Article 42 (1) c of Government Regulation No. 10/2011.

In accordance with Regulation of Minister of Finance No. 191/ PMK.05 /2011, PU shall submit BAST (handover delivery certificate of goods/services) to the Ministry of Finance of Indonesia. In order to secure the accuracy of BAST, JICA Indonesia Office will provide PU with data on semester basis as follows.

-Goods: name and price (in effective currency) per item of equipment handed over during last six months

-Services: total expenditure (in Japanese currency) of last six months for expert, training, and mission

PU will make and sign BAST based on the data provided by JICA, and after obtaining JICA's confirmation, submit it to the Ministry of Finance.

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Annex 4-2

**MINUTES OF MEETINGS
OF THE JOINT COORDINATING COMMITTEE
FOR
“THE PROJECT ON STRENGTHENING COE (CENTER OF
EXCELLENCE) PROGRAM FOR PDAMS
IN THE REPUBLIC OF INDONESIA”**

Based on the record of discussions (R/D) on the Project on Strengthening COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia (hereinafter referred to as “the Project”) signed on 30 January 2015 between the Directorate of Water Supply System Development (hereinafter referred to as “DWSD”) and the Japan International Cooperation Agency (hereinafter referred to as “JICA”), JICA has dispatched the Expert Team to Indonesia for implementation of the Project.

The first meeting of the Joint Coordinating Committee (hereinafter referred to as “JCC”) for the Project was held on 29th March, 2016.

Following agenda was presented and discussed among the JCC participants as per Annex 9 of the attachment.

1. Progress of the Project in the period from August 2015 to March 2016
2. Results of Baseline Survey and COE Program Review
3. PDM ver.1. and PO ver.1 to be attached in Monitoring Sheet ver.1
4. Procurement of equipment for the Project

In the course of discussions, the progress of the Project was confirmed and main points of discussions and decisions are summarized in the attachment.

Jakarta, April 1, 2016



Yusaku Makita
Chief Advisor
JICA Expert Team



Mochammad Natsir
Director, Directorate of Water Supply System
Development
Directorate General of Human Settlement
Ministry of Public Works and Housing

Attachment: Main Points of Discussions

1. Major Findings and Discussions on the Baseline Survey and CEO Program Review

Both sides confirmed on the major findings and discussions on the captioned as follows:

1.1 Quality Management of COE Program

- (1) Quality control of the current COE Program has been practiced mainly through Working Group activities for training module development and the evaluation workshop held in December 2015.
- (2) Further improvement is necessary in evaluation and monitoring through (i) collecting evaluation by training participants on training and (ii) monitoring of PDAM improvement activities by participants after taking training.

1.2 Development and Improvement of Training Modules

(1) NRW Reduction (NRW)

- The existing NRW module has focused on leakage detection and reduction techniques.
- Following methods should be added to the existing module contents: (i) less cost methods to reduce NRW such as apparent loss and commercial loss control (meter reading improvement, etc.); (ii) preventive methods such as pressure control, etc.; and (iii) new leakage survey technologies appropriate for local conditions PDAMs.

(2) Energy Efficiency (EE)

- The existing EE module has focused on unit-based energy efficiency improvement.
- EE of entire water supply system should be introduced, such as planning of transmission and distribution system to improvement energy efficiency of the entire water supply system of a PDAM.

(3) Customer Relations (CR)

- Most PDAMs have applied customer database system for water charge billing, etc. However, more amplified concept of customer relations should be introduced in the training.
- Training topics will include (i) customer information (customer database development and analysis); (ii) customer management related to NRW reduction; (iii) water bill collection; (iv) complaint response and management; (v) mapping and GIS; and (vi) public awareness activities.

(4) Financial Analysis and Management (FAM)

- Business Plan formulation is one of the biggest training needs identified among PDAMs.

OR *SYM*

- Training topics will include: (i) basic financial analysis such as financial ratios and PDAM performance indicators; (ii) financial management and information system; (iii) Business Plan preparation; (iv) water tariff calculation; (v) case studies.

1.3 Major Comments Made by JCC Members and Participants

(1) Preparation of “Comprehensive COE Enhancement Matrix”

Project Manager (Head, Sub-directorate of Standardization and Institutional Development) from DWSD commented that, in order to enhance the COE Program, preparation of the captioned Matrix is necessary to itemize the development needs and corresponding inputs by DWSD and JICA and identify further needs to be covered, so that it will enable smooth consultation with other donors and organizations to allocate current and future assistance and efforts in a coordinated manner. Both sides confirmed that PMU of DWSD and JICA Expert Team will collaborate in the preparation of the Matrix during the course of the Master Plan development.

(2) Coordination with COE Management Consultant

It is crucial to closely coordinate the activities of the Project with those of the COE management consultants as well as to elaborate their detailed plan to fulfill the Project’s requirements such as collection of monitoring indicators. Both sides confirmed that the consultation between the management consultants and JICA Expert Team will be held by the end of May.

2. Modifications of Project Design Matrix (PDM) and Plan of Operation (PO)

Based on the results of Baseline Survey, both sides understood that the modifications of PDM and PO from the version 0 to the version 1 were required, and the contents of modifications were confirmed among the JCC members. The details of modification are given in Annex 1 and modified PDM and PO as version 1 are given in Annex 2 and Annex 3. Upon agreement by JICA, version 1 of PDM and PO will be determined by the signing of Minutes of Meetings to change R/D between Ministry of Public Works and Housing and JICA.

3. Procurement of Training Equipment

Based on the results of the baseline survey and discussions with related agencies, both sides confirmed the following regarding the necessary equipment for NRW and EE modules:

- DWSD procures the training equipment listed in Annex 4, which will be mainly utilized in Kabupaten/Kota Training.

- JICA will procure the training equipment listed in the Annex 4, which will be mainly utilized in National and Provincial Training.
- The existing training equipment available at BTAMS Region I (Bekasi) will be also utilized for National and Provincial Training.

Equipment to be procured by JICA is planned as per Annex 4. Both sides confirmed that DWSD will have BTAMS Region I properly maintain and store the equipment and will appropriately use it for the COE program training. Procurement of the equipment is planned to be carried out in 2016 by JICA. DWSD will send its request on A4 format by the end of April 2016.

4. COE Master Plan Development

Both sides confirmed the following:

- The development of COE Master Plan had not proceeded and DWSD requested the support from JICA Expert Team in this regard.
- DWSD will establish a special task team for Master Plan development, and the main members of the team will visit Japan to learn the human resource development mechanism in water supply sector of Japan.
- The special task team will prepare COE Master Plan in cooperation with JICA Expert Team.
- DWSD will inform JICA Expert Team of the task team members by the end of April 2016, including officials of relevant organizations other than the participants of the counterpart training, such as PMU members (Head, Sub-directorate of Standardization and Institutional Development, DWSD and Head of Institutional Section) and Head of BTAMS Region I.

5. Project Implementation Structure

Both sides confirmed the change of name of organizations mentioned in R/D due to the organization reform as per Annex 5.

6. Work Plan

Both sides confirmed the current Work Plan of the Project as per Annex 6. Work Plan will be periodically reviewed and revised through consultation between the both sides.

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7. Working Groups for Training Module Improvement and Development

Both sides confirmed the indicative member list of the Working Groups for training module improvement and development as per Annex 7. DWSD will select and appoint around 4 to 7 Working Group members for each training module by the end of April 2016.

8. Counterpart Training in Japan

Both sides confirmed the curriculum, schedule and participants of the counterpart training in Japan scheduled from April 18 to 27, 2016 as per Annex 8. After the training, the participants will feed back and share what they learn in their own organization to improve their work in human resource development activities especially the COE program; they also will be the main members of the task team to participate in the development of Master Plan of COE Program in 2016. *de ym*

Modifications in PDM and PO

1. Project Sites (Target Provinces)

Since participation in the COE training was low in Bali province, Bali is excluded from the target provinces. Instead, West Java province is included considering its participation in COE training and accessibility from Jakarta for the project activities.

2. Terminology Used for COE Program Training Types

To suit the common terminology in the current COE Program, following modification is made for the terms used for training types mentioned in PDM and PO.

Original	Modification
National TOT	National Training
Provincial TOT	Provincial Training
BINTEK	Kabupaten/Kota Training

3. Duration of Project

Starting month of the project is modified to the actual date, i.e. August 2015.

4. Verifiable Indicators and Means of Verification

4.1 Overall Goal

- (1) Indicator 1 is modified to “Proportion of PDAMs which implement what they learn from the COE program is increased” and the baseline data is identified as proportion of Kabupaten/Kota Training participants who answered “improve way of working” in the questionnaire survey data. Means of verification is modified to “Baseline Survey results and Annual COE Program Implementation Report” accordingly.
- (2) Indicator 2 is modified to “Employee training ratio among all PDAM is improved.” considering the performance indicators related to training modules (e.g. NRW rate) may have many other factors than implementation of COE training to be improved. Means of verification is modified to “PDAM Performance Indicators of BPP SPAM” accordingly.

4.2 Project Purpose

- (1) Baseline data of 2014 Kabupaten/Kota Training are added to Indicator 1. Means of verification is modified to “Baseline Survey results and Annual COE Program Implementation Report”
- (2) Indicator 2 is modified to “Evaluation on training experience by Kabupaten/Kota Training participants is improved” to specify the indicator as the average of respondent percentage of Kabupaten/Kota Training participants in 2014 for the questions regarding their training experience from questionnaire survey (See table below). Relevant baseline data (NRW: 82% and EE: 81%) are added as well.

Questions	Kabupaten/Kota Training participants in 2014 who answered Yes	
	NRW	Energy Efficiency
Training materials are useful to trainee	100%	100%
Training materials are applicable for PDAM	80%	77%
Trainer can deliver the material well	84%	83%
Trainer has good understanding on substance of the teaching material	78%	70%
Equipment is satisfactory for trainee	62%	73%
Training duration is enough	61%	47%
More practice session will be better	86%	83%
Venue is comfortable	81%	83%
COE management is helpful	96%	97%
Supporting section of COE management is necessary after participating courses	96%	97%
Average	82%	81%

4.3 Outputs

(1) Output 1

- Indicator 1-1 is modified to “The revised TOR (Terms of Reference) for the COE management consultant of the COE Program is applied.” to clarify the term for the consultants for COE management. Corresponding means of verification is modified to “Revised Scope of Work for the COE management consultant” accordingly.
- Means of verification for Indicator 1-2 is modified to “Approved Master Plan report” to reflect the change in Activity 1-3 (See below).
- Mean of verification for Indicator 1-3 is modified to “Annual COE Program Implementation Report” for clarification.

(2) Output 2

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- Means of verification for Indicator 2-1 is modified to “Report on improvement of training module and good practices”.
- Indicator 2-3: Since it cannot be determine the COE program plan in 2017 at the moment, “the number of Kabupaten/Kota Training in 2017 for the developed and revised modules” will be determined in the Master Plan to be prepared in the Project. The mean of verification is modified to “Annual COE Program Implementation Report” for clarification.

5. Activities

Activity 1-3: “Review and revise the master plan” is modified to “Prepare a draft master plan”, because the Master Plan of COE Program has not been developed yet and the Project will prepare the draft Master Plan.

6. Inputs

“Long-term and Short-term Experts” is modified to reflect the actual formation of JICA Experts dispatched for the Project.

7. Plan of Operations (PO)

- (1) Output 1-3 is modified in accordance with Output 1-3 of PDM.
- (2) Actual schedule is added to the PO.
- (3) Responsible organizations are added to relevant cells in PO to specify the responsible organizations of each activity.

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Annex 2

Project Design Matrix (PDM) (Project Monitoring Sheet 1)

The Project on Strengthening the COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia

Implementing Agency: Directorate General of Human Settlement

Project Sites: Jakarta (Project Management Unit, DGHS, PU), Bekasi and Surabaya (BTAMS Training Center), South Sulawesi and South Sumatra provinces (for the basic study on present and past status of the project activities), and South Sulawesi, South Sumatra and West Java provinces (for applying the newly developed modules and the revised modules)

Target Group: For Managerial aspect: Staff members of Project Management Unit, DWSD, DGHS

Indirect Beneficiaries: For Technical aspect: Working Group Members (BTAMS Region I&II (Bekasi and Surabaya Training Center), Perpamsi, and University), and National/Provincial Trainers
Sateker PK PAM, PDAMs providing National Trainer and Provincial Trainer, PIP2B, other PDAMs participating in COE, and Dinas PU/ Cipta Karya (local government office for public works on water supply development)

Duration of the project: 3 years from commencement of the Project in August 2015

As of: 29 March 2016 (Ver. 1.0)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions	Achievement	Remarks
<p><u>Overall Goal</u> Capacity of PDAMs on improvement of PDAM management is enhanced.</p>	<ol style="list-style-type: none"> Proportion of PDAMs which implement what they learn from the COE program is increased. (Baseline: Kabupaten/Kota Training participants in 2014) "Improve way of working": NRW 75%, EE 77% Employee training ratio among all PDAM is improved. (Baseline: median value in 2014 = 17.2%) 	<ol style="list-style-type: none"> Baseline Survey results and Annual COE Program Implementation Report PDAM Performance Indicators of BPP SPAM 			
<p><u>Project Purpose</u> Implementation capacity of the COE program for PDAMs in the Directorate General of Human Settlement is enhanced.</p>	<ol style="list-style-type: none"> Number of capacity development activities (Kabupaten/Kota Trainings and National/Provincial Trainings) per year is increased. (Baseline: COE Trainings in 2014) National Training: 3 Trainings (NRW 1, EE 1, SE 1) Provincial Training: 12 Trainings (NRW 8, EE 2, SE2) Kabupaten/Kota Training: 42 Trainings (NRW 30, EE 6, SE 6) Evaluation on training experience by Kabupaten/Kota Training participants is improved. (Baseline: evaluation of Kabupaten/Kota Training participants in 2014) Average NRW: 82%, EE: 81% 	<ol style="list-style-type: none"> Annual COE Program Implementation Report Baseline Survey results and Annual COE Program Implementation Report 	GOI policy (especially the water supply and decentralization) continues to attach importance to the COE program.		
<p><u>Outputs</u> 1. Quality management of the COE program is strengthened.</p>	<ol style="list-style-type: none"> 1-1 The revised TOR (Terms of Reference) for the COE management consultant of the COE Program is applied. 1-2 The Master Plan for the COE Program is approved. 1-3 Activities for the COE program are regularly reviewed through PDCA Cycle. 	<ol style="list-style-type: none"> 1-1. Revised Scope of Work for the COE management consultant 1-2. Approved Master Plan report 1-3. Annual COE Program Implementation Report 			

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<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p>	<p>2-1. Documents on issues and challenges to be improved and good practices regarding the training module are consolidated.</p> <p>2-2. Training curriculum, materials and trainer's manuals are approved.</p> <p>2-3. Number of Kabupaten/Kota Training in 2017 for the developed and revised modules is more than **.</p> <p>(** will be determined in the Master Plan)</p>	<p>2-1. Report on improvement of training module and good practices</p> <p>2-2. Teacher's manuals and training curriculum and materials</p> <p>2-3. Annual COE Program Implementation Report</p>	
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Activities	Inputs		
	The Japanese Side	The Indonesian Side	
<p>1. Implementation framework of the COE program is strengthened.</p> <p>1-1 Conduct a study on the up-to-date output and challenges of the COE program, and compile priority issues to be improved. (Following items should be considered in the study and the analysis. The study (project activity monitoring) will be conducted in South Sulawesi, and South Sumatra where the COE program has been implemented in advance.</p> <ul style="list-style-type: none"> - State of practices being implemented in PDAMs which were learnt in the Kabupaten/Kota Training (e.g. organization structure for the practices, process for the practices, outputs of the practices, and reactions of the managers when introducing the training output in PDAMs) - challenges and barriers for introduction of the training output - Satisfaction score, evaluations, and requirements of the Kabupaten/Kota Training trainers and participants for the COE program - Current state of quality control for instructors, trainers, training modules and training materials including textbooks. - State of certificate issuance - State of monitoring and support structure in PDAMs for smooth implementation of the practices - State of contribution and challenges of the COE program to the business plans made by PDAMs for their debt relief. (through the reduction of the NRW is included as a goal of the business plan, it is said that many water utilities are faced with situation where the utilities cannot implement the plan continuously. Confirm reasons why the utilities cannot implement the plan for the sake of contribution to the improvement for the actual works of the COE program. - State of current PDCA cycle for improvement of the COE program - State of the COE program management etc. including nationwide dissemination activities <p>1-2 Reflect the priority issues to be improved into TOR for the COE management consultant for their implementation</p> <p>1-3 Prepare a draft master plan for the COE program based on the points for the improvement.</p>	<p><Long-Term/Short-Term Expert> <u>JICA will dispatch contract based experts in the necessary fields for the Project.</u></p> <ul style="list-style-type: none"> • Chief/Capacity Development and Human Resources Development (1) • Deputy Chief/ Capacity Development and Human Resources Development (2) • Non-Revenue Water • Energy Efficiency • Customer Relations • Financial Analysis and Management • Training Coordination (assigned only in Japan) • Other short-term experts if necessary <p><C/P Training in Japan> JICA will receive the Indonesian personnel connected with the Project for technical training in Japan.</p> <p><Equipment> JICA will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project.</p>	<p><Counterpart Staff></p> <ul style="list-style-type: none"> • Project Supervisor (Director General for Human Settlement) • Project Director (Director, DWSD) • Project Manager (Head of Sub-directorate for Regulatory Framework and Institutional Development, DWSD, DGHS) • Project Management Unit (PMU) <p>1) Chairperson: Head, Head of Sub-directorate of Regulatory Framework and Institutional Development, DWSD, DGHS</p> <p>2) Members*: - Staff of DWSD</p> <p><Cost for COE activities on training, monitoring and evaluation> The budget necessary for operating the project shall be allocated by the Indonesian side to ensure effective implementation of the Project.</p> <p><Project office/Office equipment> Project offices, desks and chairs shall be provided by the Indonesian side</p> <p><Local Cost></p> <ul style="list-style-type: none"> • Utilities, Telephone, Fax, etc. 	<p><Important Assumptions></p> <p><Preconditions></p> <p>PMU members are formally appointed in PU, before commencement of the project.</p> <p>➔</p> <p><Issues and countermeasures></p>

1-4 Consider the idea for establishment of COE management system at COE Central Office as a secretariat for the COE program, and the future management structure for the whole COE program, and compile propositions in the report.
(Following items should be included;)

- Conditions necessary for establishment of the management structure of the COE program, and goals to be achieved.
- Basic concepts for the managerial structure
- Concrete plan for the management structure (Role demarcations and communicating mechanism among relevant organisations and departments, Chain of command and responsibility, Reporting, and PDCA cycle, etc.)
- A road map and an action plan for shifting to new management structure.

2. Existing training modules are improved and new training modules are developed for the COE Program.

- 2-1. Working groups (WG) for discussion of training module revision/development are organized subject-wise by initiative of the Indonesian side as follows;
- Non-Revenue Water (NRW)
 - Energy Efficiency (EE)
 - Customer Relations (CR)
 - Financial Analysis and Management (FAM)
- 2-2. Revise the existing training module for NRW including training curriculum, materials and trainer's manuals.
- 2-2-1 Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement
- 2-2-2 Conduct a study on needs and good practices of PDAMs concerning NRW
- 2-2-3 Improve the curriculum and materials, and develop the trainer's manuals based on the result of the review
- 2-3. Revise the existing training module for EE including training curriculum, materials and trainer's manuals.
- 2-3-1 Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement
- 2-3-2 Conduct a study on needs and good practices of PDAMs concerning EE
- 2-3-3 Improve the curriculum and materials and develop the trainer's manual based on result of the review
- 2-4. Develop the new training module for CR
- 2-4-1 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR
- 2-4-2 Develop a draft curriculum of the new training module on CR

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- 2-4-3 Develop training materials and trainer's manuals of the new training module for CR
- 2-4-4 Implement Provincial Training for Provincial Trainers
- 2-4-5 Select National Trainers from the Provincial Trainers, and provide them National Training
- 2-5. Develop the new training module for FAM
- 2-5-1 Review the existing training module for Financial Planning, extract and prioritize items to be improved
- 2-5-2 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for FAM
- 2-5-3 Develop a draft curriculum of the new training module on FAM
- 2-5-4 Develop training materials and trainer's manuals of the new training module for FAM
- 2-5-5 Implement Provincial Training for Provincial Trainers
- 2-5-6 Select National Trainers from the Provincial Trainers, and provide them National Training
- 2-6. Review and improve the above training modules including curriculum, materials and trainers' manuals to be practical through the COE Program activities

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Plan of Operation (Project Monitoring Sheet II)

Version 1 rev.
Dated 29 March 2016

Project Title: The Project on Strengthening COE(Center of Excellence) Program for PDAMs in the Republic of Indonesia

Inputs	2014																2015				2016				2017				2018				2019				2020				2021				Remarks	Monitoring	
	Actual																Actual				Actual				Actual				Actual				Actual				Actual				Issue	Solution					
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV											
Expert																	1-1				1-2				1-1,1-3				1-3,1-4				1-2				1-1,1-3,1-4										
Output1																	2-1				2-2,2-3,2-4				2-5,2-6																						
Output2																																															
• Chief/Capacity Development and Human Resources Development (1)																																															
• Deputy Chief/Capacity Development and Human Resources Development (2)																																															
• Non-Revenue Water																																															
• Energy Efficiency																																															
• Customer Relations																																															
• Financial Analysis and Management																																															
• Coordination of Trainings in Japan (assigned only in Japan)																																															
Equipment																																															
Office equipment (PC, Printer, Photocopier, Desk and Chairs etc.)																																															
Equipment for COE Training Modules (NRW Reduction & Energy Efficiency)																																															
Training in Japan																																															
For PMU & PDAM executive management																																															
For COE Trainers, PDAM middle management, etc.																																															
Local Staff																																															
• Project Coordinator/ Assistant for Capacity Development and Human Resources Development																																															
• Assistant for Training Module Development (1)																																															
• Assistant for Training Module Development (2)																																															
Activities	C	D	N	E	C	F	T	Plan																Responsible Organization		Achievements	Issue & Countermeasures																				
Sub-Activities								Actual																Japan	GOI																						
Output 1: Quality management of the COE program is strengthened.																																															
1-1 Conduct a study on the up-to-date output and challenges of the COE program, and consolidate priority issues to be improved.	⊙	○	△	△	○			Plan																JICA Expert Team DWSD (PMU) and Management Consultant																							
1-2 Make the priority issues for the improvement of the COE program reflected onto TOR for the COE management consultant, and carry out the priority items through the contract with the consultant.	⊙	○	△	△	△			Plan																JICA Expert Team DWSD (PMU)																							
1-3 Prepare a draft master plan for the COE program based on the points for the improvement.	⊙	○	△	△	△			Plan																JICA Expert Team DWSD (PMU) and Master Plan Task Team																							
1-4 Consider carefully an idea for establishment of COE Management system at COE Central Office as a secretariat for the COE program, and the future management structure for the whole COE program. In addition, consolidate propositions in the report.	⊙	○	△	△	△			Plan																JICA Expert Team DWSD (PMU)																							
Output 2: New training modules are developed and existing training modules are improved for the COE Program.																																															
2-1. Working groups (WG) for training module revision/development are organized subject-wise by initiative of the Indonesian side (Non-Revenue Water (NRW), Energy Efficiency (EE), Customer Relations (CR), Financial Analysis and Management (FAM)).	○	○	○	○	○			Plan																JICA Expert Team DWSD (PMU) and WGs																							
2-2. Revise the existing training module for NRW including training curriculum, materials and trainer's manuals	△	○	⊙	△				Plan																JICA Expert Team DWSD (PMU) and WGs																							
2-2-1 Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement	△	○	⊙	△				Plan																JICA Expert Team DWSD (PMU) and NRW WG																							
2-2-2 Conduct a study on needs and good practices of PDAMs concerning NRW	△	○	⊙	△				Plan																JICA Expert Team DWSD (PMU) and NRW WG																							
2-2-3 Improve the curriculum and materials, and develop the trainer's manuals based on the result of the review	△	○	⊙	△				Plan																JICA Expert Team DWSD (PMU) and NRW WG																							
2-3. Revise the existing training module components for EE including training curriculum, materials and trainer's manuals	△	○	⊙					Plan																JICA Expert Team DWSD (PMU) and EE WG																							
2-3-1 Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement	△	○	⊙					Plan																JICA Expert Team DWSD (PMU) and EE WG																							
2-3-2 Conduct a study on needs and good practices of PDAMs concerning EE	△	○	⊙					Plan																JICA Expert Team DWSD (PMU) and EE WG																							
2-3-3 Improve the curriculum and materials and develop the trainer's manual based on result of the review	△	○	⊙					Plan																JICA Expert Team DWSD (PMU) and EE WG																							
2-4. Develop the new training modules for CR	△	○	△	⊙				Plan																JICA Expert Team DWSD (PMU), CR WG, and Management Consultants																							
2-4-1 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR	△	○	△	⊙				Plan																JICA Expert Team DWSD (PMU)																							
2-4-2 Develop a draft curriculum of the new training module on CR	△	○	△	⊙				Plan																JICA Expert Team DWSD (PMU) and CR WG																							
2-4-3 Develop training materials and trainer's manuals of the new training module for CR	△	○	△	⊙				Plan																JICA Expert Team DWSD (PMU) and CR WG																							
2-4-4 Implement Provincial Training for Provincial Trainers	△	○	△	⊙				Plan																JICA Expert Team DWSD (PMU) and Management Consultants																							
2-4-5 Select National Trainers from the Provincial Trainers, and provide them National Training	△	○	△	⊙				Plan																JICA Expert Team DWSD (PMU) and Management Consultants																							

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Activities Sub-Activities	C	D	N	E	C	F	T	Plan	2014				2015				2016				2017				2018				2019				2020				2021				Responsible Organization		Achievements	Issue & Countermeasures	
									Actual	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	Japan			GOI
2-5. Develop the new training modules for FAM								Plan																												JICA Expert Team DWSD (PMU), FAM WG, and Management Consultants									
2-5-1 Review the existing training module for SAK-ETAP (financial accounting standard), extract and prioritize items to be improved								Plan																												JICA Expert Team DWSD (PMU)									
2-5-2 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for FAM								Plan																												JICA Expert Team DWSD (PMU) and FAM WG									
2-5-3 Develop a draft curriculum of the new training module on FAM								Plan																												JICA Expert Team DWSD (PMU) and FAM WG									
2-5-4 Develop training materials and trainer's manuals of the new training module for FAM								Plan																												JICA Expert Team DWSD (PMU) and FAM WG									
2-5-5 Implement Provincial Training for Provincial Trainers								Plan																												JICA Expert Team DWSD (PMU) and Management Consultants									
2-5-6 Select National Trainers from the Provincial Trainers, and provide them National Training								Plan																												JICA Expert Team DWSD (PMU) and Management Consultants									
2-6. Review and improve the above training modules by WG including curriculum, materials and trainers' manuals to be practical through adaptation of the COE Program activities								Plan																												DWSD (PMU) and WGs (JICA Expert Team)									
								Actual																																					
								Plan																																					
								Actual																																					
								Plan																																					
								Actual																																					
Duration / Phasing								Plan	←-----→																																				
Monitoring Plan								Plan																																					
								Actual	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	Remarks	Issue	Solution		
Monitoring								Plan																																					
Joint Coordination Committee								Actual					*				*				*			*			*																		
Set-up the Detailed Plan of Operation								Plan					*																																
(Regular Meeting for PMU)								Actual					*				*				*			*			*			*			*			*			*						
Submission of Monitoring Sheet								Plan					△				△				△			△			△			△			△			△			△						
Monitoring Mission from Japan								Actual					△				△				△			△			△			△			△			△			△						
Joint Monitoring								Plan																																					
Post Monitoring								Actual																																					
Reports/Documents								Plan																																					
Project Monitoring Report								Actual					□				□				□			□			□			□			□			□			□						
Project Completion Report								Plan																																					
Public Relations								Actual																																					
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List of NRW Training Equipment to be Procured by JICA

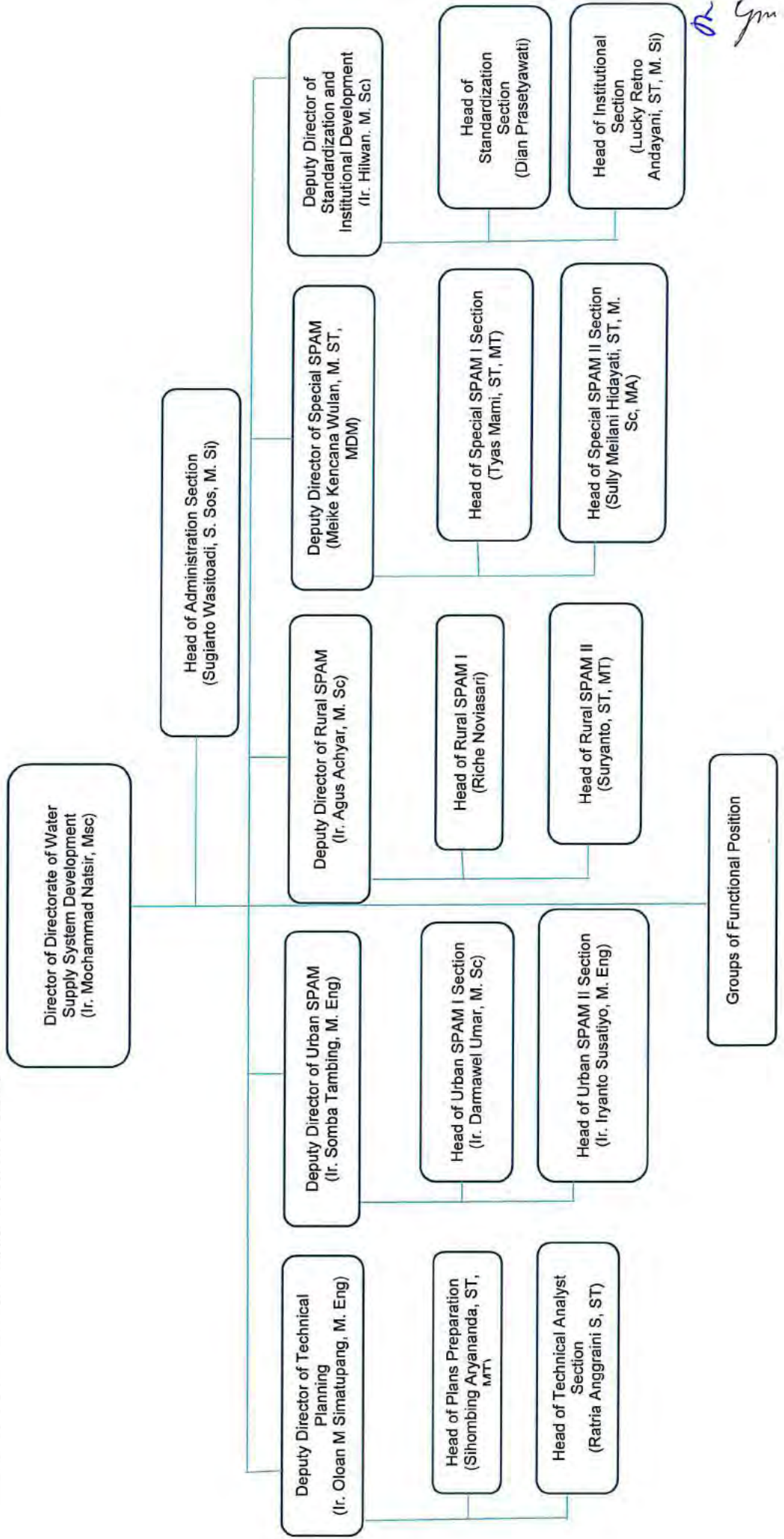
Training Equipment	2016 DWSD's Procurement	Existing at BTAMS	JICA Procurement	Explanation
Potable Ultrasonic Flowmeter	28	0	5	This is a very important equipment for water balance study, leakage survey such as step test and minimum night flow analysis. Enough quantity is available for Kab./Kota Training and the flowmeters JICA procures are used for Provincial Training at BTAMS1.
Data Logger (Pressure)	30	0	5	Enough quantity is available for Kab./Kota Training and JICA procures 5 sets for Provincial Training at BTAMS1.
Digital-Type Compact Leak Detector	0	0	5	This is used for Provincial Training only to understand different types of detectors. Such knowledge is useful for TOR trainers.
Correlator	28	0	2	Correlators introduced by JICA will be used for Provincial Training and have more advantages for detection of leakage from plastic pipes with longer survey spans than those procured for Kab./Kota Training. Trainer candidates will understand the difference of functions and explain the common functions of different correlators in Kab./Kota Training.
Conventional Type Leak Detector	15	16	0	Enough quantity is available for both Kab./Kota Training and Provincial Training.
Metal Pipe Locator	15	6	0	Enough quantity is available for both Kab./Kota Training and Provincial Training.
Non-Metal Pipe Locator (sound method)	15	0	0	Enough quantity is available for Kab./Kota Training.
Plastic Pipe and Leak Detector (Electromagnetic Induction Method)	0	0	10	5 sets for Provincial Training and 5 sets for BI}NTEK are introduced by JICA as a new technology effective for detecting leak from plastic pipes as well as locating underground plastic pipes.
Acoustic Bar	56	17	0	Enough quantity is available for both Kab./Kota Training and Provincial Training.
Acoustic Bar (with electrical amplifier)	15	3	2	Enough quantity is available for Kab./Kota Training and JICA procures 2 sets for Provincial Training at BTAMS1.
Simple Acoustic Bar (produced by simple metal work locally available)	0	0	50	Simple and low cost tool convenient for NRW survey introduced 10 for Provincial Training and 40 for Kab./Kota Training.

List of Equipment for EE Training to be Procured by JICA

Training Equipment	2016 DWSD's Procurement	Existing at BTAMS	JICA Procurement	Explanation
Power Quality analyzer	28	0	5	Enough quantity is available for Kab./Kota Training and JICA procures 5 sets for Provincial Training at BTAMS1.
Clamp Meter	15	2	3	Enough quantity is available for Kab./Kota Training and JICA procures 3 sets for Provincial Training at BTAMS1.
Tachometer/Rotation Tester (Stroboscope)	28	3	2	Enough quantity is available for Kab./Kota Training and JICA procures 2 sets for Provincial Training at BTAMS1.
Infrared Thermometer (Infrared Camera/ Thermal Imager)	15	0	5	Enough quantity is available for Kab./Kota Training and JICA procures 5 sets for Provincial Training at BTAMS1.

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Ministry of Public Works and Housing
 Directorate of Human Settlement
 Directorate of Water Supply System Development



Dr. Ym

WORK PLAN

Project Title: The Project on Strengthening COE(Center of Excellence) Program for PDAMs in the Republic of Indonesia

NOTE: JET: JICA Expert Team
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 NRW: NRW Reduction, EE: Energy Efficiency, CR: Customer Relations, FAM: Financial Analysis and Management
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Work Breakdown	2015				2016				2017				2018				Responsible Organization/ Person		Monitoring				
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	JICA	Indonesia	Achievements	Issue & Countermeasures			
Output 1: Quality management of the COE program is strengthened.																							
1-1 Conduct a study on the up-to-date output and challenges of the COE program, and consolidate priority issues to be improved.																							
1-1-1 Baseline Survey: Questionnaire to trainers and participants and analysis of PDAM performance data																							
1-1-1-1 Prepare draft questionnaire to COE program participants																							
1-1-1-2 Organize the questionnaire survey team																							
1-1-1-3 Implement the questionnaire survey																							
1-1-1-4 Analyze the questionnaire survey results																							
1-1-1-5 Input and analysis of PDAM performance data from BPP SPAM																							
1-1-2 Baseline Survey: Collect information and interview to PDAMs and other related agencies																							
1-1-2-1 Conduct visits to PDAMs and other related agencies																							
1-1-2-2 Investigate on-going COE trainings and workshops																							
1-1-3 Prepare Baseline Survey and COE Review Report																							
1-1-3-1 Prepare the Baseline Survey and COE Review Report																							
1-1-3-2 Share the baseline survey and COE review results among stakeholders																							
1-2 Make the priority issues for the improvement of the COE program reflected onto TOR for the COE management consultant, and carry out the priority items through the contract with the consultant.																							
1-2-1 Collect and Analyze 2016 TOR for the COE Management Consultant																							
1-2-2 Review the 2016 TOR and Discuss with PMU and 2016 COE Management Consultants																							
1-2-2-1 Pick-up priority issues to be reflected onto the 2016 CMC's plan of activities																							
1-2-2-2 Discussion on the priority items and reflect them in the 2016 CMR's plan of activities																							
1-2-3 Prepare the revisions for the 2017 TOR																							
1-2-3-1 Prepare the draft revisions for TOR																							
1-2-3-2 Discussion																							
1-2-3-3 Official approval of TOR by DWSD																							
1-2-4 Apply the 2017 TOR for selection of 2017 COE Management Consultant																							
1-2-4-1 Confirm the TOR in the tender documents																							
1-2-4-2 Explain the application of the TOR to the selected consultants																							
1-2-5 Monitor the implementation of the priority items reflected on the revised TOR																							
1-2-5-1 Monitor implementation of data collection																							
1-2-5-2 Monitor the implementation of revised NRW and EE modules																							
1-2-5-3 Monitor the implementation of new modules (CR and FAM)																							
1-2-5-4 Monitor the preparation of COE program implementation report																							
1-3 Prepare a draft master plan for the COE program based on the points for the improvement.																							
1-3-1 Prepare Comprehensive COE Enhancement Matrix																							
1-3-1-1 Preliminary discussion on the concept of the Matrix																							
1-3-1-2 Preparation of the draft Matrix																							
1-3-1-3 Discussion on the draft Matrix																							
1-3-1-4 Preparation of Workshop																							
1-3-1-5 Hold Workshop																							
1-3-1-6 Discussion of feedback of Workshop																							
1-3-1-7 Finalizing the Matrix																							
1-3-2 Prepare a draft master plan																							
1-3-2-1 Discussion on general concepts on COE master plan																							
1-3-2-2 Collect information and interview to agencies concerned																							
1-3-2-3 Formation of special team for M/P formulation																							
1-3-2-4 Investigation of HRD mechanism in water supply sector in Japan																							
1-3-2-5 Discussion on the feedback from the training in Japan																							
1-3-2-6 Preparation of draft M/P through discussion																							
1-3-2-6 Collect further information from concerned agencies and update the situation																							
1-3-2-7 Workshop for M/P formulation																							
1-3-2-8 Finalizing M/P preparation																							
1-3-2-9 Approval of the draft M/P by DWSD																							
1-4 Consider carefully an idea for establishment of COE Management system at COE Central Office as a secretariat for the COE program, and the future management structure for the whole COE program. In addition, consolidate propositions in the report.																							
1-4-1 Clarify conditions necessary for establishment of the management structure of the COE program																							
1-4-1-1 Itemization of conditions necessary for the establishment of the managerial structure and appraise the present status of the conditions identified																							
1-4-1-2 Setting the goals to be achieved by COE management system																							
1-4-2 Prepare the future management structure plan for the whole COE program																							
1-4-2-1 Establish basic concepts of the managerial structure																							
1-4-2-2 Define role demarcations, communicating mechanism among relevant organisations and departments, chain of command and responsibility, reporting system and PDCA cycle																							
1-4-3 Prepare road map and action plan for shifting to new management structure																							
1-4-3-2 Summarize the above activities and prepare Road Map including the action plan																							
1-4-3-3 Issue Road Map and presentation at nation-wide workshop																							

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Work Breakdown	2015				2016				2017				2018				Responsible Organization/ Person		Monitoring	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	JICA	Indonesia	Achievements	Issue & Countermeasures
Output 2: New training modules are developed and existing training modules are improved for the COE Program.																				
2-1. Working groups (WG) for training module revision/development are organized subject-wise by initiative of the Indonesian side (Non-Revenue Water [NRW], Energy Efficiency [EE], Customer Relations [CR], Financial Analysis and Management [FAM])																				
2-1-1 Discussion on Working Group member selection for NRW and EE module revision																				
																NK, OK, YY, FR, SM	PMU			
2-1-1-1 Investitation of existing Working Group and discussion with the main members																NK, OK, YY, FR, SM	PMU			
2-1-1-2 Confirmation of Working Group members for NRW and EE																NK, OK, YY, FR, SM	PMU, WGs (NRW & EE)			
2-1-2 Discussion on Working Group member selection for CR module development																				
2-1-2-1 Prepare Working Group member candidate proposal																YK, YY, WN	PMU			
2-1-2-2 Candidate confirmation and discussion for selection																YK, YY, WN	PMU			
2-1-2-3 Confirm Working Group members and hold the first meeting																YK, YY, WN	PMU, WG (CR)			
2-1-3 Discussion on Working Group member selection for FAM module development																				
2-1-3-1 Prepare Working Group member candidate proposal																DM, MK, AL	PMU			
2-1-3-2 Qualification confirmation and discussion for selection																DM, MK, AL	PMU			
2-1-3-3 Confirm Working Group members and hold the first meeting																DM, MK, AL	PMU, WG (FAM)			
2-2. Revise the existing training module for NRW including training curriculum, materials and trainer's manuals																				
2-2-1 Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement																				
2-2-1-1 Interview to DWSD, COE consultant, PERPAMSI, AKATIRTA, BTAMS, PIP2B, PDAMs																NK, YY, FR	PMU, WG (NRW)			
2-2-1-2 Review the existing training module for NRW (the latest version)																NK, YY, FR	PMU, WG (NRW)			
2-2-1-3 Setting direction for improvement and discussion																NK, YY, FR	PMU, WG (NRW)			
2-2-2 Conduct a study on needs and good practices of PDAMs concerning NRW																				
2-2-2-1 Visit PDAMs and related agencies to collect needs and good practices of PDAMs																NK, YY, FR	PMU, WG (NRW)			
2-2-2-2 Interview to COE trainers and participants who made improvements after trainings																NK, YY, FR	PMU, WG (NRW)			
2-2-2-3 Pick-up good practice samples from the interviewed and make futher analysis																NK, YY, FR	PMU, WG (NRW)			
2-2-2-4 Collect good practice information from the past documents																NK, YY, FR	PMU, WG (NRW)			
2-2-2-5 Prepare the report to incorporate the information into the revised training materials																NK, YY, FR	PMU, WG (NRW)			
2-2-3 Improve the curriculum and materials, and develop the trainer's manuals based on the result of the review																				
2-2-3-1 Draft revised curriculum and materials																NK, YY, FR	PMU, WG (NRW)			
2-2-3-2 Develop the draft trainer's manuals																NK, YY, FR	PMU, WG (NRW)			
2-2-3-3 Hold Workshop for sharing the revisions among the trainers																NK, YY, FR	PMU, WG (NRW)			
2-2-3-4 Finalize curriculum, materials and trainer's manuals																NK, YY, FR	PMU, WG (NRW)			
2-2-3-5 Approval of the curriculum and materials by DWSD																-	DWSD			
2-2-3-6 Reflect such revisions on TOR for COE management consultant																NK, YY, FR	PMU, WG (NRW)			
2-2-3-7 Explanation and demonstration of revised module to national and provincial trainers																NK, YY, FR	PMU, WG (NRW)			
2-2-3-8 Conduct training using revised module																NK, YY, FR	CMC, NT, PT			
2-2-3-9 Evaluate the revised module and prepare evaluation report																NK, YY, FR	PMU, WG (NRW)			
2-3. Revise the existing training module components for EE including training curriculum, materials and trainer's manuals																				
2-3-1 Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement																				
2-3-1-1 Interview to DWSD, COE consultant, PERPAMSI, AKATIRTA, BTAMS, PIP2B, PDAMs																OK, YY, SM	PMU, WG (EE)			
2-3-1-2 Review the existing training module for NRW (the latest version)																OK, YY, SM	PMU, WG (EE)			
2-3-1-3 Setting direction for improvement and discussion																OK, YY, SM	PMU, WG (EE)			
2-3-2 Conduct a study on needs and good practices of PDAMs concerning EE																				
2-3-2-1 Visit PDAMs and related agencies to collect needs and good practices of PDAMs																OK, YY, SM	PMU, WG (EE)			
2-3-2-2 Interview to COE trainers and participants who made improvements after trainings																OK, YY, SM	PMU, WG (EE)			
2-3-2-3 Pick-up good practice samples from the interviewed and make futher analysis																OK, YY, SM	PMU, WG (EE)			
2-3-2-4 Collect good practice information from the past documents																OK, YY, SM	PMU, WG (EE)			
2-3-2-5 Prepare the report to incorporate the information into the revised training materials																OK, YY, SM	PMU, WG (EE)			
2-3-3 Improve the curriculum and materials, and develop the trainer's manuals based on the result of the review																				
2-3-3-1 Draft revised curriculum and materials																OK, YY, SM	PMU, WG (EE)			
2-3-3-2 Develop the draft trainer's manuals																OK, YY, SM	PMU, WG (EE)			
2-3-3-3 Hold Workshop for sharing the revisions among the trainers																OK, YY, SM	PMU, WG (EE)			
2-3-3-4 Finalize curriculum, materials and trainer's manuals																OK, YY, SM	PMU, WG (EE)			
2-3-3-5 Approval of the curriculum and materials by DWSD																OK, YY, SM	DWSD			
2-3-3-6 Reflect such revisions on TOR for COE management consultant																OK, YY, SM	PMU, WG (EE)			
2-3-3-7 Explanation and demonstration of revised module to national and provincial trainers																OK, YY, SM	PMU, WG (EE)			
2-3-3-8 Conduct training using revised module																OK, YY, SM	CMC, NT, PT			
2-3-3-9 Evaluate the revised module and prepare evaluation report																OK, YY, SM	PMU, WG (EE)			

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Work Breakdown	2015				2016				2017				2018				Responsible Organization/ Person		Monitoring	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	JICA	Indonesia	Achievements	Issue & Countermeasures
2-4. Develop the new training modules for CR																				
2-4-1 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR																				
2-4-1-1 Visit PDAMs to interview the staff in charge of CR to understand the current situation																	YK, YY, WN	PMU		
2-4-1-2 Identify and analyze the needs of PDAMs regarding CR																	YK, YY, WN	PMU		
2-4-1-3 Collect good practices of PDAMs regarding CR through PDAM visits (if any)																	YK, YY, WN	PMU		
2-4-1-4 Prepare report on the needs and good practices for Working Group discussions																				
2-4-2 Develop a draft curriculum of the new training module on CR																	YK, YY, WN	PMU, WG (CR)		
2-4-2-1 Prepare the first draft curriculum of the new training module for Working Group discussion																	YK, YY, WN	PMU, WG (CR)		
2-4-2-2 Hold the discussion with Working Group																	YK, YY, WN	PMU, WG (CR)		
2-4-2-3 Develop the draft curriculum for the trial training in 2017																	YK, YY, WN	PMU, WG (CR)		
2-4-3 Develop training materials and trainer's manuals of the new training module for CR																	YK, YY, WN	PMU, WG (CR)		
2-4-3-1 Prepare the first draft materials and trainer's manual for Working Group discussion																	YK, YY, WN	PMU, WG (CR)		
2-4-3-2 Hold the discussion with Working Group																	YK, YY, WN	PMU, WG (CR)		
2-4-3-3 Develop the draft materials and trainer's manual for the trial training in 2017																	YK, YY, WN	PMU, WG (CR)		
2-4-4 Implement Provincial Training for Provincial Trainers																	YK, YY, WN	PMU, WG (CR), CMC		
2-4-4-1 Assist COE consultant to select an instructor for National and Provincial Trainers																	YK, YY, WN	PMU, WG (CR), CMC		
2-4-4-2 Advise the instructor as to Provincial Training materials																	YK, YY, WN	PMU, CMC		
2-4-4-3 Implement Provincial Training for Provincial Trainers																	YK, YY, WN	CMC		
2-4-5 Select National Trainers from the Provincial Trainers, and provide them National Training																	YK, YY, WN	PMU, CMC		
2-4-5-1 Assist COE consultant to select an instructor for National and Provincial Trainers																	YK, YY, WN	PMU, CMC		
2-4-5-2 Advise the instructor as to National Training materials																	YK, YY, WN	PMU, CMC		
2-5. Develop the new training modules for FAM																				
2-5-1 Review the existing training module for SAK-ETAP (financial accounting standard), extract and prioritize items to be improved																	DM, MY, AL	PMU		
2-5-1-1 Obtain the 2015 version textbook and timetable of Kab/Kota training, and analyze them																	DM, MY, AL	PMU		
2-5-1-2 Prepare a proposal to WG regarding how to utilize SAK ETAP contents in FAM module																	DM, MY, AL	PMU		
2-5-1-3 Obtain agreement of WG as to use of SAK ETAP contents																	DM, MY, AL	PMU		
2-5-2 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for FAM																	DM, MY, AL	PMU		
2-5-2-1 Visit PDAMs to interview the staff in charge of FAM to understand the current situation																	DM, MY, AL	PMU		
2-5-2-2 Identify and analyze the needs of PDAMs regarding FAM																	DM, MY, AL	PMU		
2-5-2-3 Collect good practices of PDAMs regarding FAM through PDAM visits (if any)																	DM, MY, AL	PMU		
2-5-2-4 Prepare report on the needs and good practices for Working Group discussions																	DM, MY, AL	PMU		
2-5-3 Develop a draft curriculum of the new training module on FAM																	DM, MY, AL	PMU, WG (FAM)		
2-5-3-1 Prepare the first draft curriculum of the new training module for Working Group discussion																	DM, MY, AL	PMU, WG (FAM)		
2-5-3-2 Hold the discussion with Working Group																	DM, MY, AL	PMU, WG (FAM)		
2-5-3-3 Develop the draft curriculum for the mock training																	DM, MY, AL	PMU, WG (FAM)		
2-5-4 Develop training materials and trainer's manuals of the new training module for FAM																	DM, MY, AL	PMU, WG (FAM)		
2-5-4-1 Prepare draft materials for Working Group discussion																	DM, MY, AL	PMU, WG (FAM)		
2-5-4-2 Hold the discussion with Working Group																	DM, MY, AL	PMU, WG (FAM)		
2-5-4-3 Test the draft materials at mock training																	DM, MY, AL	PMU, WG (FAM)		
2-5-4-4 Finalize the training materials																	DM, MY, AL	PMU, WG (FAM)		
2-5-5 Implement Provincial Training for Provincial Trainers																	DM, MY, AL	PMU, WG (FAM), CMC		
2-5-5-1 Assist COE consultant to select an instructor for National and Provincial Trainers																	DM, MY, AL	PMU, WG (FAM), CMC		
2-5-5-2 Advise the instructor as to Provincial Training materials																	DM, MY, AL	PMU, CMC		
2-5-5-3 Implement Provincial Training for Provincial Trainers																	DM, MY, AL	CMC		
2-5-6 Select National Trainers from the Provincial Trainers, and provide them National Training																	DM, MY, AL	PMU, CMC		
2-5-6-1 Assist COE consultant to select an instructor for National and Provincial Trainers																	DM, MY, AL	PMU, CMC		
2-5-6-2 Advise the instructor as to National Training materials																	DM, MY, AL	PMU, CMC		
2-6. Review and improve the above training modules by WG including curriculum, materials and trainers' manuals to be practical through adaptation of the COE Program activities																				
2-6-1 Monitor and Investigate COE Training Implementation																	All JET	PMU, WGs		
2-6-1-2 Monitor and Investigate National and Provincial Training Implementation																	All JET	PMU, WGs		
2-6-1-2 Monitor and Investigate Kab./Kota Training Implementation																	All JET	PMU, WGs		
2-6-2 Review the above training modules																	All JET	PMU, WGs		
2-6-2-1 Analyze the annual COE implementation report focusing on participants' evaluation																	All JET	PMU, WGs		
2-6-2-2 Hold a Workshop for evaluation of the above training modules																	All JET	PMU, WGs		
2-6-3 Improve the above training modules																	All JET	PMU, WGs		
2-6-3-1 Feed back the output of the Workshop to each Working Group discussion																	All JET	PMU, WGs		
2-6-3-2 Plan the further revisions of the above modules (if necessary)																	All JET	PMU, WGs		

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Working Groups for Development and Revision of Training Modules

No	Name	Institution
A	Non Revenue Water Reduction	
1	Ir. Awaluddin Setya Aji, M. Eng	AK Tirta Magelang
2	Gagak E Bhaskoro, ST	AK Tirta Magelang
3	Ir. Hernadi, MM	IUWASH
4	Ir. Agus Sunara	Perpamsi
5	Supian, ST, MT	PDAM Kota Banjarmasin
6	Suwito, ST	PDAM Kota Malang
7	Hari Sundana, ST	PDAM Kabupaten Bandung
8	Ir. Rosyid	IUWASH
9	Ir. Tanobaya	Water Supply Expert
10	Ir. Hudaya	Water Supply Expert
11	Ir. Budi Sutjahyo, MT	YPTD Perpamsi
B	Energy Efficiency	
1	Prijono, ST	AK Tirta Magelang
2	Ir. Sardjiono, MM	Dit. PAM, Kemen PUPR <i>(DWSD, Ministry of Public Works and Housing)</i>
3	Suhadi, ST	Balai Teknis Cipta Karya <i>(Technical Center of Human Settlements)</i>
4	Benny Sihaholo	Water Supply Expert
5	Peni Pintarto, ST	PDAM Kabupaten Jember
6	Hasan	PDAM Kabupaten Bogor
7	Raharjono	PDAM Kota Malang
C	Customer Relations	
1	To be named	PDAMs (Kota Bekasi, etc.)
2	To be named	Other organizations (PERPAMSI, etc.)
D	Financial Analysis and Management	
1	Benny Jumhana, SE	IUWASH
2	Budi Sulaiman, SE	Water Supply Expert
3	To be named	Badan Pengawasan Keuangan dan Pembangunan <i>(Finance and Development Supervisory Agency - BPKP)</i>
4	To be named	Ikatan Akuntan Indonesia <i>(Indonesia Accountant Association)</i>
5	Farid Rozin, SE	PDAM Kabupaten Magetan
6	Rizal	PDAM Kabupaten Bandung

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Schedule of JICA Training in Japan 2016

Period: April 18, Monday (arrival at Japan) – April 27, Wednesday (departure from Japan)

Date	Lecture Title [Lecturer] <Time>		Location
Apr.18, Mo [Day 1]	Arrival at Japan / Move to JICA Yokohama International Center (YIC) / Welcome Party		Party in YIC Restaurant
Apr.19, Tu [Day 2]	AM	JICA Orientation [JICA] <2.5 hours>	YIC Seminar Room (SR)
	PM	Training Orientation [JICA Expert Team (JET)]	YIC SR
		[1] Human Resource Development (HRD) and Technology Succession on Ministry of Health, Welfare and Labour (MHWL) as Japanese government administration [MHWL] <2 hours>	YIC SR
Apr.20, We [Day 3]	AM	[2] Development of Water Industry's training system of Japan Water Works Association (JWWA), Improvement of Training System by PDCA cycle [JWWA] <2 hours>	JWWA (Tokyo)
	PM	[3] Courtesy call to Director General of Yokohama Water Works Bureau (YWWB) [YWWB] <1 hour>	YWWB HQ
Apr.21, Th [Day 4]	AM	[4] Introduction of water supply business condition and HRD of YWWB [YWWB] <1.5 hours>	YIC SR
		[5] Discussion about YWWB's HRD and improvement of participants' job [JET] <1.5 hours>	
	PM	[6] Personnel appraisal system (Merit rating system) of YWWB / [7] Human resource development plan of YWWB / [8] Training for staff's skill improvement and Challenge course by Off-JT skill-up menu of YWWB [YWWB] <3 hours>	YIC SR
Apr.22, Fr [Day 5]	AM	[9] Suggestions for job improvement and its commendation of YWWB [YWWB] <3 hours>	YIC SR
	PM	[10] Training system and HRD of small and middle scale water utility [Waterworks & Wastewater Department of Zama City] <1.5 hours>	YIC SR
Apr.23, Sa [Day 6]	Review of training, Creation of report		YIC SR
Apr.24, Su [Day 7]	Review of training, Creation of report		YIC SR
Apr.25, Mo [Day 8]	AM	[11] Making of Action Plan [JET] <1 hour>	YIC SR
		[12] Demonstration of trial lecture of NRW and Customer Relation [JET] <2 hours>	
	PM	[13] Demonstration of lecture of Leak Detection Work in the YWWB Pipeline Training Yard [JET] <2 hours>	YWWB Nishiya WTP
Apr.26, Tu [Day 9]	AM	[14] Suggestions for job improvement and its commendation of YWWB	YIC SR
	PM	[15] Presentation of Action Plan from Participants [JET] <1 hour> Evaluation meeting [JICA & JET] <1 hour>	YIC SR
Apr.27, We [Day 10]	Departure from Japan		

WTP: Water Treatment Plant



List of Candidate Participants
18-27 April Training in Japan

No	Name	Position
1.	Mr. Ashari Mardiono	Executive Director of PERPAMSI
2.	Mr. Antonius Lolon	Deputy of Budgeting and Planning, Strategic Project Unit, Directorate of Water Supply System Development
3.	Mr. Ali Abdullah Bajuber	Former Director of PDAM Donggala/Trainer
4.	Ms. Anggar Pratitis	Staff of Water Supply and Sanitation Training Center, Region 1
5.	Ms. Zahra Aulia Syahidah	Staff of Water Supply and Sanitation Training Center, Region 1
6.	Mr. Djaya Mulya Suradji	Staff of Provincial Water Supply Project, Central Sulawesi Province
7.	Ms. Zikra Syafwan Anwar	Staff of Directorate of Water Supply System Development
8.	Ms. Tiasti Wening Purwandari	Staff of Directorate of Water Supply System Development

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List of Attendees

Subject : Joint Coordinating Committee (JCC) Seminar for The Project on Strengthening Center of Excellence Program

Time : Tuesday, 29 March 2016

Venue : Veranda Hotel

No.	Name	Organization
1.	Ir. Hilwan	Directorate of Water Supply System Development, CK
2.	Fadillah	Directorate of Water Supply System Development, CK
3.	Ni Putu Sri Wahyuningsih	Directorate of Water Supply System Development, CK
4.	Zikra	Directorate of Water Supply System Development, CK
5.	Ganang Bagaswara	Directorate of Building Development, CK / <i>Bina Penataan Bangunan</i>
6.	Agustine S. Putri	Directorate of Building Development, CK / <i>Bina Penataan Bangunan</i>
7.	Ganda Pardede	Directorate of Building Development, CK / <i>Bina Penataan Bangunan</i>
8.	Etika Najmatus s.	Executive Sub Directorate of Integrated Settlement Infrastructure (Program Development), CK / <i>Keterpaduan Integrasi Pemukiman</i>
9.	Kurniawati Widyastuti	Sub directorate of Technical Planning, Directorate of Settlement Development, CK
10.	Dwi Kuryanta	BTAMS Region I
11.	Helmi Mudianto	BTAMS Region II
12.	Andri K.	BTAMS Region II
13.	Emah Sudjimah	BPPSPAM
14.	Nurul Ainy G.	BPPSPAM
15.	Riadiyo	PERPAMSI
16.	Raminatha P. Uno	PT. MKJ / Consultant
17.	Milla N.	PT. MKJ / Consultant
18.	Fauzia M.	PT. Dekarna / Consultant
19.	Shigeyuki Matsumoto	JICA Headquarters
20.	Shigeru Sugawara	JICA Advisor for CK
21.	Eka Nupus Nur R.	JICA Advisor for CK
22.	Tetsuya Harada	JICA Indonesia Office
23.	Keiko Kitamura	JICA Indonesia Office
24.	Juni Melani	JICA Indonesia Office
25.	Yusaku Makita	JICA Expert Team
26.	Mitsuhiro Doya	JICA Expert Team
27.	Yoshiaki Yokota	JICA Expert Team
28.	Amalia S.	JICA Expert Team
29.	Winnie Aisha	JICA Expert Team
30.	Noviana	JICA Expert Team
31.	Aliza	JICA Expert Team

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Annex 4-3

**MINUTES OF MEETINGS
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
MINISTRY OF PUBLIC WORKS AND HOUSING
FOR
THE PROJECT ON STRENGTHENING COE (CENTER OF
EXCELLENCE) PROGRAM FOR PDAMS
IN THE REPUBLIC OF INDONESIA**

Based on the record of discussions (hereinafter referred to as “R/D”) on the Project on Strengthening COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia (hereinafter referred to as “the Project”) signed between the Directorate of Water Supply System Development (hereinafter referred to as “DWSD”) and the Japan International Cooperation Agency (hereinafter referred to as “JICA”) on 30 January 2015, JICA and DWSD have started the Project in August 2015.

For corresponding to the changes of the project implementation circumstances, JICA has dispatched a mission (hereinafter referred to as “the Mission”) headed by Ms. Eriko TAMURA, Director of Water Resources Team 1, to Indonesia from 11th to 13th June 2017 for the purpose of consultation on the Project. During its stay in Indonesia, the Mission exchanged their views and had a series of discussions with DWSD. As a result of discussions, JICA and DWSD came to an agreement on the matters referred to in the document attached hereto.

Jakarta, 13 June 2017

田村 文子

Eriko TAMURA
Director,
Water Resources Team 1
Water Resources Group
Global Environment Department
Japan International Cooperation Agency



Muhammad Sundoro
Director,
Directorate of Water Supply System Development
Directorate General of Human Settlement
Ministry of Public Works and Housing

THE ATTACHED DOCUMENT

1. Purpose of the mission

The Mission explained that the purpose of the Mission is (i) to confirm current circumstances surrounding the project, (ii) to revise the project components and the schedule of the activities to reflect the changed circumstance, and (iii) to agree the results of discussions by both sides.

2. Limitation of the COE budget

The Mission confirmed that the budget of the COE program for 2017 decreased by approximately 80% (from 19 billion Rp. in 2016 to 4 billion Rp. in 2017). As a result of the budget cut, the numbers of the main trainings such as National Training, Provincial Training, and Kabupaten / Kota Training are also decreased.

3. Modifications of Project Design Matrix (PDM) and Plan of Operation (PO)

It is assumed that effects by the budget cut of the COE program including the decrease of the number of the trainings would significantly affect the achievements of the project activities. Both sides, hence, agreed to revise the PDM version 1 to optimize the limited budget. Though there are no major modifications on “overall goal”, “project purpose and “outputs”, both sides agreed to revise “verifiable indicators”, “means of verification”, “activity” including sub-activity, and “project sites” as follows;

(1) “Verifiable Indicators” and “Means of Verification”

1) For overall goal

Before amendment	After amendment
Verifiable Indicators: 1. Proportion of PDAMs which implement what they learn from the COE program is increased. (Baseline: Kabupaten/Kota Training participants in 2014) “Improve way of working”: NRW 75%, EE 77%	1. Improvement of activities in PDAMs which participated in the COE program on NRW, EE, CR and FAM is observed.
Means of verification: Baseline Survey results and Annual COE Program Implementation Report	Interview to DWSD and PDAMs which participated in the COE Program
Reason: Because it is assumed that (i) the appropriate evaluation of the “proportion” is difficult (because only the result of the sample survey is available at present), (ii) the number of planned trainings during the project period is limited and it will be difficult to get necessary information for analysis, and (iii) most training in the Project will be conducted after July 2017 and the duration for following up activities after the trainings will not be sufficient, both sides have agreed to set the indicator as above to evaluate the existence of improvement of activities in the COE participated PDAMs.	

Before amendment	After amendment
Verifiable Indicators 2. Employee training ratio among all PDAM is improved. (Baseline: median value in 2014 = 17.2%)	2. Modules revised or developed by the Project are continuously utilized in COE Program.
Means of verification PDAM Performance Indicators of BPP SPAM	Annual COE Program Implementation Report
Reason: Because it is assumed that this original indicator cannot be achieved due to the budget cut. Both sides agreed to substitute "continuous utilization" of the modules supported by the Project for the original indicator.	

2) For project purpose

Before amendment	After amendment
Verifiable Indicators 1. Number of capacity development activities (Kabupaten / Kota Trainings and National/Provincial Trainings) per year is increased. (Baseline: COE Trainings in 2014) National Training: 3 Trainings (NRW 1, EE 1, SE 1) Provincial Training: 12 Trainings (NRW 8, EE 2, SE2) Kabupaten/Kota Training: 42 Trainings (NRW 30, EE 6, SE 6)	1. Four modules(NRW, EE,CR, and FAM) revised or developed by the Project are utilized in the COE Program
Means of verification Annual COE Program Implementation Report	Annual COE Program Implementation Report
Reason: Because this original indicator depends on the budget amount, both sides agreed to set a new indicator above instead.	

Before amendment	After amendment
Verifiable Indicators 2. Evaluation on training experience by Kabupaten/Kota Training participants is improved. (Baseline: evaluation of Kabupaten/Kota Training participants in 2014) Average NRW: 82%, EE: 81%)	2. The Master Plan for the COE Program is approved by the Director of DWSD.
Means of verification Baseline Survey results and Annual COE Program Implementation Report	Official document to confirm approval of the COE Master Plan, and the COE Master Plan
Reason: It is assumed that (i) this original indicator cannot be achieved because the score is already high, and (ii) enough number of samples to evaluate cannot be collected because number of the training for sampling is not enough, either. Therefore, both sides agreed to delete the original indicator. Though the Master Plan is drafted jointly by the JICA expert team and the DWSD staff, approval process is subject to the Indonesian side. Therefore, both side agreed that a new indicator above is appropriate as an indicator of the project purpose because whole development process of the COE Master Plan including approval process by the Indonesian side could be evaluated.	

3) For Outputs

Before amendment	After amendment
Verifiable Indicators 1-2 The Master Plan for the COE Program is approved.	to be deleted (transferred to as the indicator of the Project purpose)
Means of verification Approved Master Plan report	to be deleted (ditto)
Reason: It is assumed that this original indicator is appropriate as an indicator of the project purpose because this can evaluate whole development process of the COE Master Plan including approval process by the Indonesian side.	

Before amendment	After amendment
Verifiable Indicators 2-2 Training curriculum, materials and trainer's manuals are approved.	2-2 Training curriculum, materials and trainer's manuals are approved by the Head of Sub-Directorate of Regulation and Institutional Development, DWSD.
Means of verification Teacher's manuals and training curriculum and materials	Official document to confirm approval of Teacher's manuals and training curriculum and materials
Reason: According to the actual approval procedure of the training modules, the approving person shall be added.	

Before amendment	After amendment
Verifiable Indicators 2-3. Number of Kabupaten/Kota Training in 2017 for the developed and revised modules is more than **. (** will be determined in the Master Plan)	to be deleted
Means of verification Annual COE Program Implementation Report	to be deleted
Reason: The limited number of planned trainings in 2017 and 2018 makes evaluation of the indicator difficult.	

(2) "Activity" including sub-activity

1) Activity 1-5

Before amendment	After amendment
n/a	1-5 Coordinate with other programs supported by development partners or the central government for promotion of COE Program
Reason: It is essential that the Project should support to enhance the relationship between PDAMs and financial resources such as APBN (central government budget) and/or development partners' fund. Accordingly, PDAMs can make a concrete action regarding what PDAMs learnt in the COE program for improving their organizations.	

2) Activity 2-2-4, 2-2-5 and 2-3-4, 2-3-5

Before amendment	After amendment
n/a	2-2-4 Conduct a training to inform the revised contents (2-3-4) and to utilize the procured equipment for Provincial Trainers 2-2-5 Implement a Kabupaten/Kota Training by the (2-3-5) Provincial Trainers to verify effects of the revised module
Reason: Both sides agreed to add 2 sub-activities to clarify the process of revising the existing module such as number of trainings and its order. Especially, Kabupaten/Kota Training is indispensable not only for the Provincial Trainers who can gain experiences to teach, but also for the COE program which can get feedback to improve the training module (connecting to the following activity 2-6).	

3) Activity 2-4, 2-5

Before amendment	After amendment
2-4. Develop the new training module for CR. 2-5. Develop the new training module for FAM.	2-4. Develop the new training module for CR including training curriculum, materials and trainer's manuals. 2-5. Develop the new training module for FAM including training curriculum, materials and trainer's manuals.
Reason: By making clear contents of the new training modules, it is expected to conduct the activities smoothly.	

4) Activity 2-4-5 and 2-5-6

Before amendment	After amendment
2-4-5 Select National Trainers from the Provincial (2-5-6) Trainers, and provide them National Training	2-4-5 Implement a Kabupaten/Kota Training by the (2-5-6) Provincial Trainers to verify effects of the newly developed module
Reason: Both sides agreed to delete the original activity because selection of National Trainer would not be planned in the project period according to the latest schedule. On the other hand, Kabupaten/Kota Training is indispensable not only for the Provincial Trainers who can gain experiences to teach, but also for the COE program which can get feedback to improve the training module (connecting to the following activity 2-6)	

(3) Project Sites

Before amendment	After amendment
South Sulawesi, South Sumatra and West Java provinces (for applying the newly developed modules and the revised modules)	some provinces where the Provincial Trainings and Kabupaten/Kota Trainings etc. are implemented (for applying the newly developed modules and the revised modules)
Reason: Because the original project sites are revised according to the budget allocation.	

(4) Official modification procedure

As a result of discussion above, both sides understood the necessity to modify PDM version 1.0 including PO version 1.0 which was officially signed on the 28th of the December 2016, and hence agreed to revise the contents and the schedule as shown in version 2.0 of PDM and PO as attached in Annex 1 and Annex 2 respectively After the approval of JICA headquarters, JICA Indonesia office and the Ministry of Public Works and Housing will sign the Minutes of Meetings for the amendment of R/D.

4. Planned activities and cost allocation by both sides

In response to the budget-cut, both sides agreed to revise the activities and undertakings by both sides. JICA agreed to cover a part of the Project activity costs as described in following table while DWSD agreed to secure the necessary budget to implement Kabupaten/Kota Trainings for all four modules in

2018, and try to secure the Provincial Trainings for new modules as well. Project implementation schedule for the major activities is also shown in Annex 3. DWSD committed to allocate necessary budget for these four modules preferentially.

	NRW	EE	CR	FAM
Workshop for revision Training for new equipment	2017(August): DWSD budget one time / module at least @Jakarta	2017(August): DWSD budget one time / module at least @Jakarta	Not necessary	Not necessary
Trial training (for module finalization)	Done	Done	2017(August): JICA budget one time / module @Jakarta	2017(August): JICA budget one time / module @Jakarta
Provincial Training	Done	Done	2017(November): JICA budget one time / module @Jakarta 2018: DWSD budget several times / module should be planned	2017(November): JICA budget one time / module @Jakarta 2018: DWSD budget several times / module should be planned
Kabupaten/Kota Training	2017(September - October): DWSD budget one time / module at least @West Sumatra or North Sulawesi	2017(September - October): DWSD budget one time / module at least @West Sumatra or North Sulawesi	2018(February-March): JICA budget one time / module venue to be decided 2018: DWSD budget several times / module should be planned	2018(February-March): JICA budget one time / module venue to be decided 2018: DWSD budget several times / module should be planned

5. COE Mater Plan Development

In 2016, both sides jointly held a series of discussions on the development of the COE Master Plan with participation of concerned parties (BTAMS, PERPAMSI, etc.) and international development partners. Following the results of the discussions, both sides agreed that the draft COE Master Plan shall be finalized by the end of 2017 on the following schedule:

July-August 2017

- Collect information from related Indonesian stakeholders
- Discussion on roles of related development partners

September-October 2017

- Drafting of the COE Master Plan by JICA Expert Team
- Discussions and confirmation of future roles of major stakeholders such as PERPAMSI as well as on the action plan toward the future implementation structure

November 2017

- Discussion with DWSD and confirmation on the draft final COE Master Plan

December 2017

- Approval of the COE Master Plan by the Director of DWSD

6. Other points discussed

(1) Inputs for terms of reference of COE Management Consultants (KMP)

The Mission with JICA Expert Team has understood that DWSD had modified the terms of reference (TOR) of COE Management Consultants for the program implementation in 2017 and the Management Consultants was currently preparing the monitoring and evaluation system. Both sides agreed that, in order to establish better quality management of the COE Program, JICA Expert Team will propose its inputs to the Management Consultants' activities in 2017 as well as its 2018 TOR in the following manner:

- Review of the Management Consultants TOR in 2017 and their activity plan
- Review of the monitoring and evaluation forms and plan being prepared by the Management Consultants
- Propose improvement of the Management Consultants' activities in 2017
- Propose improvement of the Management Consultants' TOR for COE Program in 2018.

(2) Joint Coordinating Committee (JCC Meeting)

The last JCC meeting was held on 31 March 2016. Since JCC Meeting is important opportunity to monitor the progress of the project activities and to discuss the future direction of the Project, the both side agreed to hold the JCC Meeting in around July 2017.

The expected agenda for next JCC is as follows:

- Progress of the Project
- Revised project scope, PDM and Plan of Operation
- Development of COE Program Master Plan: progress and major points to be discussed
- Others (equipment handing-over status, etc.)

The functions and members of JCC are described in Annex IV of R/D as attached in Annex 4 of this document.

(3) Request from DWSD

DWSD requested to JICA to continue the technical cooperation because JICA's involvement for capacity development in water supply sector is crucial.

End

Project Design Matrix (PDM)

Project Title: The Project on Strengthening the COE (Center of Excellence) Program for PDAMs in the Republic of Indonesia

Implementing Agency: Directorate General of Human Settlement

Project Sites: Jakarta (Project Management Unit, DGHS, PU), Bekasi and Surabaya (BTAMS Training Center), South Sulawesi and South Sumatra provinces (for the basic study on present and past status of the project activities), and South Sulawesi, some provinces where the Provincial Trainings and Kabupaten/Kota Trainings etc. are implemented (for applying the newly developed modules and the revised modules)

Target Group: For Managerial aspect: Staff members of Project Management Unit, DWSD, DGHS

Indirect Beneficiaries: For Technical aspect: Working Group Members (BTAMS Region I&II (Bekasi and Surabaya Training Center), Perpamsi, and University), and National/Provincial Trainers
Satker PK PAM, PDAMs providing National Trainer and Provincial Trainer, PIP2B, other PDAMs participating in COE, and Dinas PU/ Cipta Karya (local government office for public works on water supply development)

Duration of the project: 3 years from commencement of the Project in August 2015

As of: 13 June 2017 (Ver. 2.0)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions	Achievement	Remarks
<p><u>Overall Goal</u> Capacity of PDAMs on improvement of PDAM management is enhanced.</p>	<p>1. Improvement of activities in PDAMs which participated in the COE program on NRW, EE, CR and FAM is observed.</p> <p>2. Modules revised or developed by the Project are continuously utilized in COE Program.</p>	<p>1. Interview to DWSD and PDAMs those participated in COE Program</p> <p>2. Annual COE Program Implementation Report</p>			
<p><u>Project Purpose</u> Implementation capacity of the COE program for PDAMs in the Directorate General of Human Settlement is enhanced.</p>	<p>1. Four modules(NRW, EE,CR,FAM) revised or developed by the Project are utilized in the COE Program.</p> <p>2. The Master Plan for the COE Program is approved by the Director of DWSD.</p>	<p>1. Annual COE Program Implementation Report</p> <p>2. Official document to confirm approval of the COE Master Plan, and the COE Master Plan</p>	GOI policy (especially the water supply and decentralization) continues to attach importance to the COE program.		
<p><u>Outputs</u> 1. Quality management of the COE program is strengthened.</p> <p>----- 2. Existing training modules are improved and new training modules are developed for the COE Program.</p>	<p>1-1 The revised TOR (Terms of Reference) for the COE management consultant of the COE Program is applied.</p> <p>1-2 Activities for the COE program are regularly reviewed through PDCA Cycle.</p> <p>2-1. Documents on issues and challenges to be improved and good practices regarding the training module are consolidated.</p> <p>2-2. Training curriculum, materials and trainer's manuals are approved by the head of Sub-directorate of Regulation and Institutional Development, DWSD.</p>	<p>1-1. Revised Scope of Work for the COE management consultant</p> <p>1-2. Annual COE Program Implementation Report</p> <p>2-1. Report on improvement of training module and good practices</p> <p>2-2. Official document to confirm approval of Teacher's manuals and training curriculum and materials</p>			

Activities	Inputs		
<p>1. Implementation framework of the COE program is strengthened.</p> <p>1-1 Conduct a study on the up-to-date output and challenges of the COE program, and compile priority issues to be improved. (Following items should be considered in the study and the analysis. The study (project activity monitoring) will be conducted in South Sulawesi, and South Sumatra where the COE program has been implemented in advance.</p> <ul style="list-style-type: none"> - State of practices being implemented in PDAMs which were learnt in the Kabupaten/Kota Training (e.g. organization structure for the practices, process for the practices, outputs of the practices, and reactions of the managers when introducing the training output in PDAMs) - challenges and barriers for introduction of the training output - Satisfaction score, evaluations, and requirements of the Kabupaten/Kota Training trainers and participants for the COE program - Current state of quality control for instructors, trainers, training modules and training materials including textbooks. - State of certificate issuance - State of monitoring and support structure in PDAMs for smooth implementation of the practices - State of contribution and challenges of the COE program to the business plans made by PDAMs for their debt relief. (through the reduction of the NRW is included as a goal of the business plan, it is said that many water utilities are faced with situation where the utilities cannot implement the plan continuously. Confirm reasons why the utilities cannot implement the plan for the sake of contribution to the improvement for the actual works of the COE program. - State of current PDCA cycle for improvement of the COE program - State of the COE program management etc. including nationwide dissemination activities <p>1-2 Reflect the priority issues to be improved into TOR for the COE management consultant for their implementation</p> <p>1-3 Prepare a draft master plan for the COE program based on the points for the improvement.</p> <p>1-4 Consider the idea for establishment of COE management system at COE Central Office as a secretariat for the COE program, and the future management structure for the whole COE program, and compile propositions in the report.</p> <p>(Following items should be included;)</p> <ul style="list-style-type: none"> - Conditions necessary for establishment of the management structure of the COE program, and goals to be achieved. - Basic concepts for the managerial structure - Concrete plan for the management structure (Role demarcations and communicating mechanism among relevant organisations and 	<p><u>The Japanese Side</u></p> <p><Long-Term/Short-Term Expert> JICA will dispatch contract based experts in the necessary fields for the Project.</p> <ul style="list-style-type: none"> • Chief/Capacity Development and Human Resources Development (1) • Deputy Chief/ Capacity Development and Human Resources Development (2) • Non-Revenue Water • Energy Efficiency • Customer Relations • Financial Analysis and Management • Training Coordination (assigned only in Japan) • Other short-term experts if necessary <p><C/P Training in Japan> JICA will receive the Indonesian personnel connected with the Project for technical training in Japan.</p> <p>< Equipment> JICA will provide such machinery, equipment and other materials (hereinafter referred to as “the Equipment”) necessary for the implementation of the Project.</p>	<p><u>The Indonesian Side</u></p> <p><Counterpart Staff></p> <ul style="list-style-type: none"> • Project Supervisor (Director General for Human Settlement) • Project Director (Director, DWSD) • Project Manager (Head of Sub-directorate for Regulatory Framework and Institutional Development, DWSD, DGHS) • Project Management Unit (PMU) <p>1) Chairperson: Head, Head of Sub-directorate of Regulatory Framework and Institutional Development, DWSD, DGHS)</p> <p>2) Members*: - Staff of DWSD</p> <p><Cost for COE activities on training, monitoring and evaluation> The budget necessary for operating the project shall be allocated by the Indonesian side to ensure effective implementation of the Project.</p> <p><Project office/Office equipment> Project offices, desks and chairs shall be provided by the Indonesian side</p> <p><Local Cost></p> <ul style="list-style-type: none"> • Utilities, Telephone, Fax, etc. 	<p><Important Assumptions></p> <p><Preconditions></p> <p>PMU members are formally appointed in PU, before commencement of the project.</p> <p style="text-align: center;">➔</p> <p><Issues and countermeasures></p>

<p>departments, Chain of command and responsibility, Reporting, and PDCA cycle, etc.)</p> <ul style="list-style-type: none"> - A road map and an action plan for shifting to new management structure. <p>1-5 Coordinate with other programs supported by development partners or the central government for promotion of COE Program</p>	
<p>2. Existing training modules are improved and new training modules are developed for the COE Program.</p>	
<p>2-1. Working groups (WG) for discussion of training module revision/development are organized subject-wise by initiative of the Indonesian side as follows;</p> <ul style="list-style-type: none"> · Non-Revenue Water (NRW) · Energy Efficiency (EE) · Customer Relations (CR) · Financial Analysis and Management (FAM) <p>2-2. Revise the existing training module for NRW including training curriculum, materials and trainer's manuals.</p> <p>2-2-1 Review the existing training module for NRW, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-2-2 Conduct a study on needs and good practices of PDAMs concerning NRW</p> <p>2-2-3 Improve the curriculum and materials, and develop the trainer's manuals based on the result of the review</p> <p>2-2-4 Conduct a training to inform the revised contents and to utilize the procured equipment for Provincial Trainers</p> <p>2-2-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the revised module</p> <p>2-3. Revise the existing training module for EE including training curriculum, materials and trainer's manuals.</p> <p>2-3-1 Review the existing training module for EE, extract and prioritize items to be improved, and set a direction for improvement</p> <p>2-3-2 Conduct a study on needs and good practices of PDAMs concerning EE</p> <p>2-3-3 Improve the curriculum and materials and develop the trainer's manual based on result of the review</p> <p>2-3-4 Conduct a training to inform the revised contents and to utilize the procured equipment for Provincial Trainers</p> <p>2-3-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the revised module</p> <p>2-4. Develop the new training module for CR including training</p>	

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<p>curriculum, materials and trainer's manuals.</p> <p>2-4-1 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for CR</p> <p>2-4-2 Develop a draft curriculum of the new training module on CR</p> <p>2-4-3 Develop training materials and trainer's manuals of the new training module for CR</p> <p>2-4-4 Implement a Provincial Training for Provincial Trainers</p> <p>2-4-5 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the newly developed module</p> <p>2-5. Develop the new training module for FAM including training curriculum, materials and trainer's manuals.</p> <p>2-5-1 Review the existing training module for Financial Planning, extract and prioritize items to be improved</p> <p>2-5-2 Conduct a study on needs and good practices which PDAMs hold, in order to reflect on the new module for FAM</p> <p>2-5-3 Develop a draft curriculum of the new training module on FAM</p> <p>2-5-4 Develop training materials and trainer's manuals of the new training module for FAM</p> <p>2-5-5 Implement a Provincial Training for Provincial Trainers</p> <p>2-5-6 Implement a Kabupaten/Kota Training by the Provincial Trainers to verify effects of the newly developed module</p> <p>2-6. Review and improve the above training modules including curriculum, materials and trainers' manuals to be practical through the COE Program activities</p>	
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Remark: Kabupaten/Kota Training means "District/City Training". It is conducted by Provincial Trainers in provincial capitals for PDAMs of Kabupaten (Districts) and Kota (Cities) in each province.

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Project Implementation Schedule for Major Activities

Subject	Activities	Implementing Party	2017								2018								
			Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug		
General	General Management	1	Discussion on project scope modification and overall coordination for implementation schedule	DWSD and JICA	■														
		2	Coordination, preparation and supervision for the implementation of the revised module explanation and equipment training	DWSD and JICA		■	● Approval by DWSD												
		3	Coordination, preparation and supervision of Provincial Training for new modules	DWSD and JICA					■		● Approval by DWSD								
		4	Coordination, preparation and supervision of Kab/Kota Trainings for revised modules	DWSD and JICA				■											
		5	Modification of TOR for COE management consultant	DWSD and JICA							Collaborative work of DWSD and JICA Experts								
		6	Coordination, preparation and supervision of Kab/Kota Trainings for revised modules	DWSD and JICA								■							
		7	Facilitation of reviewing new modules	DWSD and JICA									■						
		8	Organizing and preparation of Wrap-up Seminar/Workshop and JCC	DWSD and JICA														■	
	COE Master Plan	1	Collect information on related stakeholders	DWSD and JICA		■ Perpamsi, PPSM, etc.													
		2	Discussion on roles of related stakeholders	DWSD and JICA		■ WB, IUWASH, etc.													
		3	Finalizing of COE M/P	DWSD and JICA			■ Discuss & Confirm with Perpamsi				■ Final Confirmation with DWSD								
		4	Organizing and preparation of Seminar/Workshop	DWSD and JICA								■							
JICA Expert Assignment (Indicative)		Chief Advisor (Team Leader)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
		Deputy Chief Advisor (Co-Team Leader)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Training Module	NRW	1	Explain and demonstrate the revised module and procure equipment to Provincial Trainers	JICA		■													
		2	Monitor Kab/Kota Training with the use of revised module and adjust the module contents based on the feedback	JICA (Monitoring) DWSD (Training Implementation)					■										
		JICA Expert Assignment (Indicative)		NRW Expert		■	■	■	■	■	■	■	■	■	■	■	■	■	■
	EE	1	Explain and demonstrate the revised module and procure equipment to Provincial Trainers	JICA		■													
		2	Monitor Kab/Kota Training with the use of revised module	JICA (Monitoring) DWSD (Training Implementation)					■										
		JICA Expert Assignment (Indicative)		EE Expert		■	■	■	■	■	■	■	■	■	■	■	■	■	■
	CR	1	Implement new Module Trial	JICA (Trial Implementation) DWSD (Coordination)		■ Preparation, Implementation, Review				● Approval by DWSD									
		2	Monitor and assist implementation of Provincial Training	JICA (Training Implementation) DWSD (Coordination)						■ Preparation, Implementation, Review									
		3	Monitor and assist implementation of Kab/Kota Training	JICA (Training Implementation) DWSD (Coordination)							■ Preparation, Implementation, Review								
		4	Review and revise the new module	JICA (Module Revision) DWSD (Approval)								■							
		5	Monitor and assist implementation of Provincial Training 2018	JICA (Monitoring) DWSD (Training Implementation)														■	
		JICA Expert Assignment (Indicative)		CR Expert		■	■	■	■	■	■	■	■	■	■	■	■	■	■
	FAM	1	Final confirmation of training text contents w/ Working Group	JICA (Contents Confirmation) DWSD (WG organization)	■														
		2	Implement new Module Trial	JICA (Trial Implementation) DWSD (Coordination)		■ Preparation, Implementation, Review				● Approval by DWSD									
		3	Monitor and assist implementation of Provincial Training	JICA (Training Implementation) DWSD (Coordination)							■ Preparation, Implementation, Review								
		4	Monitor and assist implementation of Kab/Kota Training	JICA (Training Implementation) DWSD (Coordination)							■ Preparation, Implementation, Review								
		5	Review and revise the new module	JICA (Module Revision) DWSD (Approval)								■							
		6	Monitor and assist implementation of Provincial Training 2018	JICA (Monitoring) DWSD (Training Implementation)														■	
JICA Expert Assignment (Indicative)		FAM Expert	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		

Legend: Activities ■ Original Contract Activities
 ■ Modified or Additional Activities
 Experts ■ Original Contract MM
 ■ Additional MM Required

Annex IV

Joint Coordinating Committee**1. Function**

The Joint Coordinating Committee (hereinafter referred to as "JCC") will meet when necessary and at least once a year in order to fulfill the following functions:

- 1) To approve the draft annual work plan of the Project and to coordinate and monitor the overall progress of the Project based on the regular monitoring sheet and the plan of operation of the Project in line with the Project Design Matrix;
- 2) To review the result of the annual work plan and to evaluate the progress of the Project based on the regular monitoring sheet;
- 3) To direct relevant organizations;
- 4) To review and exchange views on major issues that may arise during the implementation of the Project; and
- 5) To discuss any other issue(s) pertinent to the smooth implementation of the Project.

2. Members

- 1) Chairperson:
 - Director General for Human Settlement, Ministry of Public Works
- 2) Members of the Indonesian Side:
 - (a) Secretary, Directorate General of Human Settlement
 - (b) Director, Directorate of Water Supply Development, Directorate General of Human Settlement, Ministry of Public Works
 - (c) Director, Directorate of Programming
 - (d) Head, Sub-directorate of Regulation and Institutional Development, DWSD, DGHS, PU
 - (e) Head, Sub-directorate of Technical Planning, DWSD, DGHS, PU
 - (f) Head, Sub-directorate of Region I, DWSD, DGHS, PU
 - (g) Head, Sub-directorate of Region II, DWSD, DGHS, PU
 - (h) Head, Sub-directorate of Investment, DWSD, DGHS, PU
 - (i) Representative, Drink Water Supply System Development Agency (BPPSPAM)
 - (j) Representative, Indonesian Water Supply Association (PERPAMSI)
- 3) Members of the Japanese Side:
 - (a) JICA Experts
 - (b) Chief Representative of JICA Indonesia Office
 - (c) Mission members from JICA HDQs
 - (d) Other personnel concerned, to be assigned by JICA, if necessary
- 4) Observers:
 - (a) Officials of the Embassy of Japan in Indonesia
 - (b) Other personnel invited by the Committee