

**MINUTES OF MEETING ON
THE 5TH MEETING OF JOINT COORDINATING COMMITTEE**


17th October 2019


**including Project Monitoring Sheet Ver.4
(March 2019 to September 2019)**

MINUTES OF MEETING
ON
THE FIFTH MEETING OF JOINT COORDINATING COMMITTEE
FOR
PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER


HELD AT
IBTC, DEPARTMENT OF WATER & SANITATION

Pretoria, 17th October 2019


Mr. Akinori MIYOSHI
Chief Advisor,
Japan International Cooperation
Agency (JICA) Expert Team


Mr. Aloious Chaminuka
Chief Director: Engineering Services
Department of Water and Sanitation
(DWS)
Republic of South Africa


Mr. Tomohiro Seki
Chief Representative,
JICA South Africa Office


Mr. William Moraka
Director,
Water Sustainability & Innovation
South Africa Local Government
Association (SALGA),
Republic of South Africa

Attached Document

For monitoring, discussion on issues, challenges, solutions and way forward of the Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water (hereinafter referred to as "the Project"), the fifth meeting of Joint Coordinating Committee (hereinafter referred to as "JCC") was held on 17th October 2019.

1. Remarks

The Chairperson Mr. Aloious Chaminuka, Chief Director, Engineering Services, Department of Water and Sanitation (DWS), opened the meeting.

As an opening remark, Mr. William Moraka, Director, Water Sustainability & Innovation, South Africa Local Government Association (SALGA) highlighted:

- The Department of Cooperative Governance and Traditional Affairs (COGTA) is on board by participation of the delegation from its sister organization, Municipal Infrastructure Support Agency (MISA).
- The Project has been forwarding in getting intergovernmental relation support from all necessary key players to ensure the Project for unforeseen situation and to re-emphasize collaboration in implementation.
- Sustainability of the Project is becoming critical for the way forward.
- The Project needs to look at way of how to measure impacts of capacity building.

Mr. Tomohiro Seki, Chief Representative of Japan International Cooperation Agency (JICA) South Africa Office, expressed his gratitude to DWS for hosting attendances and emphasized:

- It is my hope that we have fruitful discussions and come up with practical solutions to chart a better way forward so that the Project can yield optimal results going forward.
- While the Project is still facing delay, we can see the steady progress, for example, a part of the National NRW training has been conducted. The Project has found and will find some issues, lessons learnt which is very important for the better and sustainable training to discuss specific solutions.
- Being able to provide the National NRW training continuously means the importance of roles of IBTC will increase and it will be a solid step forward



to solve NRW problems.

- Let us continue to work hard together for a better South Africa.

As closing remarks, Mr. Aloious Chaminuka, gave his thanks to JCC members and MISA officials for their attendance and approvals. He highlighted recent successful achievements such as two facilitator meetings, the 2nd training in Japan and commencement of the National NRW Training for 1st group with facilitators and municipal learners. He also emphasized the importance of continuous engagement of stakeholders on board, and requested JCC members and attendances to carry out their duties for achievement of the Project purpose. He finally apologized to the Mission since we could not launch the National NRW Training officially in a ceremony as planned, which will be rescheduled.

2. Presentations

Mr. Armand Basson, Project Management Committee (PMC) Coordinator, DWS made a presentation on the project outline, progress, current issues, challenges, solution and necessity of revision of Plan of Operations (PO), then requested the JCC members to recognize them (refer to [Appendix 3 and 4](#)).

Mr. Akinori Miyoshi, Chief Advisor of JICA Expert Team explained about revision history of PO and further revision from currently PO₄ to PO₅ (refer to [Appendix 5](#)). He also emphasized the importance of adherence to schedule and tasks in the remaining project period.

Mr. William Moraka presented a proposal sustainability plan (refer to [Appendix 6](#)) including projects based approaches to going forwarding to ensure sustainability and highlighted "Non Revenue Water", "Utility Management" and "Technology and Innovation" in 10 projects. He also explained elements/pillars towards a sustainability plan in consideration of current issues and challenges of the Project. He lastly requested JCC members to consider and acknowledge this plan.

Mr. Yoshiaki Omura, Senior Advisor (Team Leader), Mr. Hiroshi Kubota, Senior Advisor and Mr. Hideki Osawa, Programme Officer of JICA Monitoring Survey Mission gave their thanks to the Project Team and emphasized:

- Although the past progress was not sufficient in the previous monitoring, the Mission confirmed more progress by attending the National NRW

Training for 1st group at IBTC and confirming the completed training yard. JICA expects to reduce JICA Experts' involvement gradually, in particular, it may be partial in the 2nd group training from January 2020 and it may be limited in the 3rd group training from May 2020 in the remaining project period, which is very tight schedule.

- High water pressure in transmission pipelines from water board and reticulation lines in municipalities due to possibly historical background and design philosophy causes leakage and wastage of energy, and review of the entire picture on such high water pressure may be required with water boards and municipalities nationwide.
- The Mission visited Mogale City Local Municipality and a workplace training site, and confirmed learners are ready for workplace training. They also understand concepts of the National NRW Training, so it means successful so far.
- JICA expects water utilities in the Southern African countries will participate in the National NRW Training in the future for sustainability.
- The application from DWS for future cooperation (training programme in Japan), which is planned to help the Project be sustainable, has been under assessment in line Ministry. In consideration of involvement of municipalities as a key issue of the National NRW Training, the training programme in Japan may target mainly municipalities and stakeholders including DWS and SALGA.
- The Mission expects a national committee for the National NRW Training will be in charge of solving financial issues, coordination among municipalities, future development and nomination for training programme in Japan (if approved).

3. Main Points discussed

3-1. Delay of the Activities (Tasks)

The JCC members confirmed that some activities (tasks) have delayed as below:

Table 1: Status of Activities (Tasks)

Activities (Tasks)	Current Timeline (PO4)	Actual Progress and Delayed
1-5 Seminar(s) with stakeholders	By the end of June 2019	50%, 3.0 months
2-2 Securing budget and fund	By the end of April 2019	95%, 5.0 months
2-4 SOP development	By the end of July 2019	80%, 2.0 months
2-5 Revision of SOP	(No delay)	00%, 0.0 month
2-6 Revision of Business Plan	(No delay)	00%, 0.0 month
2-7 Capacity assessment	By the end of June 2019	25%, 3.0 months
3-2 Selection of the target participating municipalities (workplaces and learners)	By the end of April 2019	75%, 5.0 months
3-4 Training yard	By the middle of June 2019	95%, 3.5 months
3-5 Training equipment	By the middle of June 2019	95%, 3.5 months
3-6 Teaching/learning materials development	By the end of June 2019	85%, 3.0 months
3-8 Preparation of the National NRW Training	By the end of July 2019	50%, 2.0 months
3-9 The National NRW Training	From September 2019	00%, 1.0 month *1
3-10 Monitoring of the National NRW Training	From September 2019	00%, 1.0 month
3-11 Verification of effects of the National NRW Training	From September 2019	00%, 1.0 month

Remarks *1: The Project team has conducted the National NRW Training for the 1st group from 7th October 2019

The JCC members understood the necessity of revision of Plan of Operations (hereinafter referred to as "PO") from PO4 to PO5 comprehensively, and confirmed the Project members will fulfill the followings:

- PMC re-clarifies/updates tasks by 17th October 2019.
- PMC Chairperson and Task Leaders ensure active engagement and adherence to tasks.
- PMC coordinator ensures task coordination and schedule/progress control with support from PMC Chairperson, Task Leaders and JICA Experts.
- Task Leaders and members ensure adherence to roles, responsibilities and communication for performing tasks more than ever.

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3-2. Systematic and sustainable Business Plan

As a result of monitoring, for the FY2019/2020 and later in consideration of sustainability of the National NRW Training, the Project needs to review and revise the Business Plan to be systematic and sustainable (including training design/components to be realistic) ahead of Activity 2-6 schedule, from the viewpoints of both the operational side including resources (such as budget, alternative/ supplementary funding, municipal facilitators for training provision and implementation, stakeholder cooperation) and the participating side (such as learners, workplaces, NRW management implementation with continuous/ follow-up support with grants, stakeholder cooperation).

The JCC members understood the necessity of this action, and confirmed the Project members will fulfill the followings:

- PMC reactivates task for review and revision of the Business Plan.
- Directorate: Water Use Efficiency (WUE) takes leadership technically but Technical Engineering Services, IBTC also take responsibility of this task.
- Team drafts the revised Business Plan including budget plan for FY2019/20 by the beginning of December 2019
- Task team considers conditional grants for municipalities as funding model.
- PMC approves the revised Business Plan by the middle of December 2019.
- Task team communicate with relevant DWS's Branches/Chief-Directorates/Directorates and stakeholders to ensure business model.
- PMC and JICA experts supports the task team

3-3. Understanding and cooperation of relevant DWS's Branches/Chief-Directorates/Directorates and Stakeholders

As a result of monitoring, the Project needs to enhance understanding and cooperation of relevant DWS's Branches/Chief-Directorates/Directorates and stakeholders.

The JCC members understood the necessity of this action, and confirmed the Project members will fulfill the followings:

- PMC Chairperson and task leaders invite/engage relevant DWS's Branches/Chief-Directorates/Directorates (such as CD: Water Services & Local Water Management, RBIG and Communication) and stakeholders (such as COGTA, MISA, WRC, etc.) to project meetings and events until

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the end of the Project.

- Liaison task team with support from SALGA creates communication channels with Stakeholders before the end of December 2019.
- PMC discusses possible collaboration with stakeholders before the end of March 2020.
- JICA Experts support PMC and relevant task teams.

3-4. Project Management and Operation

As a result of monitoring, the Project needs to re-clarifies/updates tasks in detail, ensure strengthening task coordination and adherence to roles, responsibilities, schedule and communication for performing tasks more than ever.

The JCC members understood the necessity of this action, and confirmed the Project members will fulfill the followings:

- PMC re-clarifies/updates tasks by 17th October 2019.
- PMC Chairperson and Task Leaders ensure active engagement and adherence to tasks.
- PMC coordinator ensures task coordination and schedule/progress control with support from PMC Chairperson, Task Leaders and JICA Experts.
- Task Leaders and members ensure adherence to roles, responsibilities and communication for performing tasks more than ever.

3-5. Committee for the National NRW Training

As a result of monitoring, DWS needs to prepare, develop terms of reference (TOR) and establish a national committee to supervise the National NRW Training, discuss the direction, modification, further development of the Training among DWS, SALGA and stakeholders after the Project.

The JCC members understood the necessity of this action, and confirmed the Project members will fulfill the followings:

- PMC creates new task for establishment of the committee.
- Directorate:WUE takes responsibility of this task.
- Task team drafts TOR by the middle of December 2019
- Task team selects members (such as COGTA, MISA, WRC and municipalities) by the middle of December 2019
- PMC finalizes TOR by the end of March 2020

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The Project establishes the committee by end of the Project

- PMC and JICA experts supports the task team

3-6. Accreditation Preparation

As a result of monitoring, DWS has realized the need for scrutinizing resemblance between the National NRW Training and the occupational qualification "Water Reticulation Practitioner", which is currently registered in the South African Qualifications Authority (SAQA) under National Qualification Framework, prepares documentation and takes procedures for service provision accreditation (possibly as a part- or specialized qualification) to Quality Council for Trades and Occupations (QCTO).

The JCC members understood the realization of this need, and confirmed the Project members will fulfill the followings:

- PMC creates new task for accreditation.
- OS and IBTC take responsibility of this task.
- Task team collects requirement for accreditation of the occupational qualification "Water Reticulation Practitioner" by the middle of December 2019.
- Task team checks and compare between the National NRW Training and the occupational qualification "Water Reticulation Practitioner" by the middle of December 2019.
- Task team prepares submission and applies for accreditation by the end of March 2020
- The Project obtains accreditation by end of the Project, but it depends on the feedback and approval received from QCTO via Sector Education and Training Authorities (SETAs)
- PMC and JICA experts supports the task team

4. Comments, Questions and Answers

Comments, questions and answers among participants were made as below:

4-1. Stakeholders in the National NRW Training

As a comment by a DWS official, through the implementation of the National NRW Training, it has been recognized the Project is a bit advanced in terms of local knowledge and exposure of Japanese experiences for municipal

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officials. This kind of firsthand training with team's passion and commitment is critical for municipal officials and learners to tackle with NRW through demonstration beyond the training at IBTC.

4-2. Expansion of Training Centre

As a comment and recommendation by a DWS official, expansion of training facilities particularly for large diameter pipe should be considered such as those of Yokohama City and Tokyo, which South African officials observed in the 2nd training in Japan.

4-3. DWS's Budget for the Project

As a comment and recommendation by a DWS official, in reference to the comment from the JICA Mission on high water pressure, clear and comprehensive training for pressure management should be developed (monitoring, hydraulic characteristics, interventions and etc.)

4-4. SALGA Function

As a comment by a DWS official, a role of SALGA is a hub of wheel, and various Departments and line function are spokes, for example, SALGA and COGTA for mobilization, MISA for engaging Treasury and DWS for regulation/oversight perspective. SALGA is most directly connected to municipalities as Water Services Authority, so decisions and policies adopted in that regard, SALGA takes lead role to guarantee the implementation, which means stakeholders highly depend on coordination and leadership function of SALGA to take them forward.

The presentation for a proposal sustainability plan (comprehensive recommendations for sustainability) highlighting collaboration among stakeholders, establishment of national steering committee, impact assessment and institutionalization is important. Attendances agreed to discuss more about the plan in PMC meeting.

5. Approval of Project Monitoring Sheets (Version 4)

As a result of presentations and discussion in the JCC meeting, the JCC members approved Project Monitoring Sheets, Version 4 (refer to Appendix 4).

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6. Approval of Revision of PO

Based on the presentation of progress, issues, challenges, solutions and also the result of discussion, the JCC members approved revision of PO (refer to Table 2 and Appendix 5).

Table 2: Summary of PO Revision

Activities (Tasks)	Current Timeline (PO ₄)	Revised (PO ₅)
1-5 Seminars with stakeholders	By the end of June 2019	Continuously until the end of July 2020 (seminars, workshops and forums at national and provincial level)
2-2 Securing budget and fund	By the end of April 2019	By the end of December 2019
2-4 SOP development	By the end of July 2019	By the end of December 2019
2-5 Revision of SOP	(No delay)	Rescheduled
2-6 Revision of Business Plan	(No delay)	Rescheduled
2-7 Capacity assessment	By the end of June 2019	Continuously until the end of July 2020
3-2 Selection of the target participating municipalities (workplaces and learners)	By the end of April 2019	By the end of March 2020 (by group)
3-4 Training yard	By the middle of June 2019	By the end of October 2019
3-5 Training equipment	By the middle of June 2019	By the end of October 2019
3-6 Teaching/learning materials development	By the end of June 2019	By the end of October 2019
3-8 Preparation of the National NRW Training	By the end of July 2019	By the end of March 2020 (by group)
3-9 The National NRW Training	From September 2019	Rescheduled (from October 2019)
3-10 Monitoring of the National NRW Training	From September 2019	Rescheduled (from October 2019)
3-11 Verification of effects of the National NRW Training	From September 2019	Rescheduled (from October 2019)

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Appendix

- Appendix 1: Programme/Agenda
- Appendix 2: Attendance Register
- Appendix 3: Presentation: Outline, Progress, Issues, Challenges, Solutions and Revision of Plan of Operations
- Appendix 4: Project Monitoring Sheets (Version 4)
- Appendix 5: Revision of Plan of Operations (PO₄ to PO₅)
- Appendix 6: Presentation: Proposal Sustainability Plan by SALGA

National Water Resource Infrastructure Branch (NWRI)
Infrastructure Branch Training Centre (IBTC)
assisted by
Japan International Cooperation Agency (JICA)

**PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER**

PROGRAMME/AGENDA FOR 5TH JCC MEETING

Co-Chaired by Mr. Aloious Chaminuka and Mr. Tomohiro Seki
Venue: IBTC, DWS, Pretoria
Date: 10:00, Thursday, 17th October 2019

- 10:00 – 10:05 Introduction of Participants
- 10:05 – 10:10 Remarks by SALGA: Mr. William Moraka (Director)
- 10:10 – 10:15 Remarks by JICA South Africa Office: Mr. Tomohiro Seki (Chief Representative)
- 10:15 – 10:40 Result of Joint Project Monitoring: PMC Coordinator: Mr. Armand Basson
- 10:40 – 10:50 Revision of Plan of Operations (PO): Mr. Akinori Miyoshi (Chief Advisor, JICA Experts)
- 10:50 – 11:05 Proposal Sustainability Plan: Mr. William Moraka (Director, SALGA)
- 11:05 – 11:20 Observation and Recommendations by JICA Mission: Mr. Yoshiki Omura (Senior Advisor), Mr. Hiroshi Kubota (Senior Advisor) and Mr. Hideki Osawa (Programme Officer)
- 11:20 – 11:45 Questions, answers and discussion
- 11:45 – 11:50 Approval of Project Monitoring Sheets and Revision of PO
- 11:50 – 12:00 Way Forward and Closing Remarks by DWS: Mr. Aloious Chaminuka (Chief Director, Engineering Services, Infrastructure Build Operate and Maintenance Branch)

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water & sanitation
 Department:
 Water and Sanitation
 REPUBLIC OF SOUTH AFRICA



JCC MEETING

DATE: 17 OCTOBER 2019; IBTC- ROODEPLAAT

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Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

Outline, Progress, Issues, Challenges, Solutions and Revision of Plan of Operations (March 2019 - September 2019)

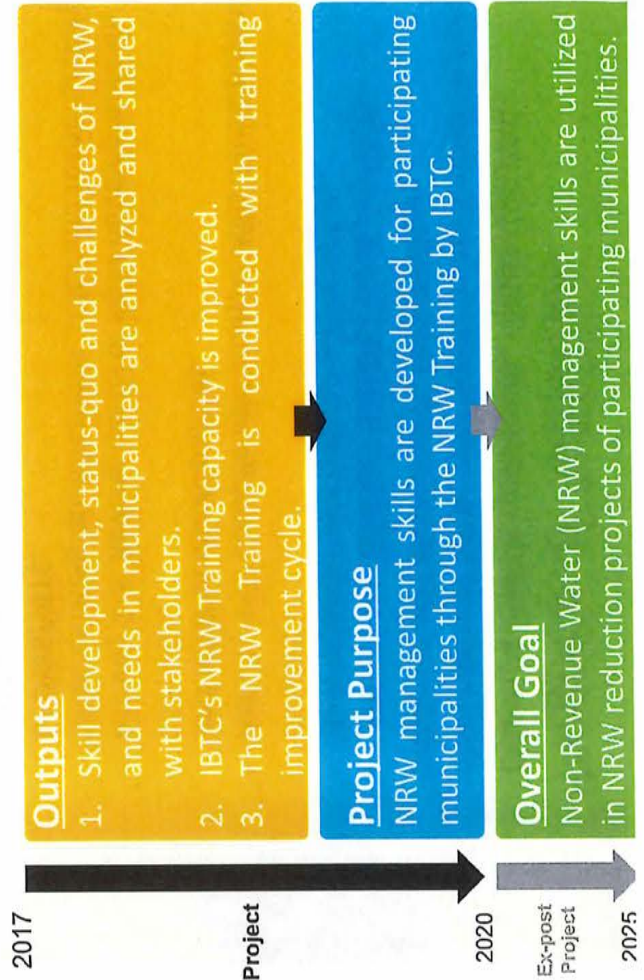
Presentation Outline

- Project Outline
- Progress of Activities
- Issues, Challenges, Solutions and Actions for Sustainability
- Revision of “Plan of Operation (PO)”

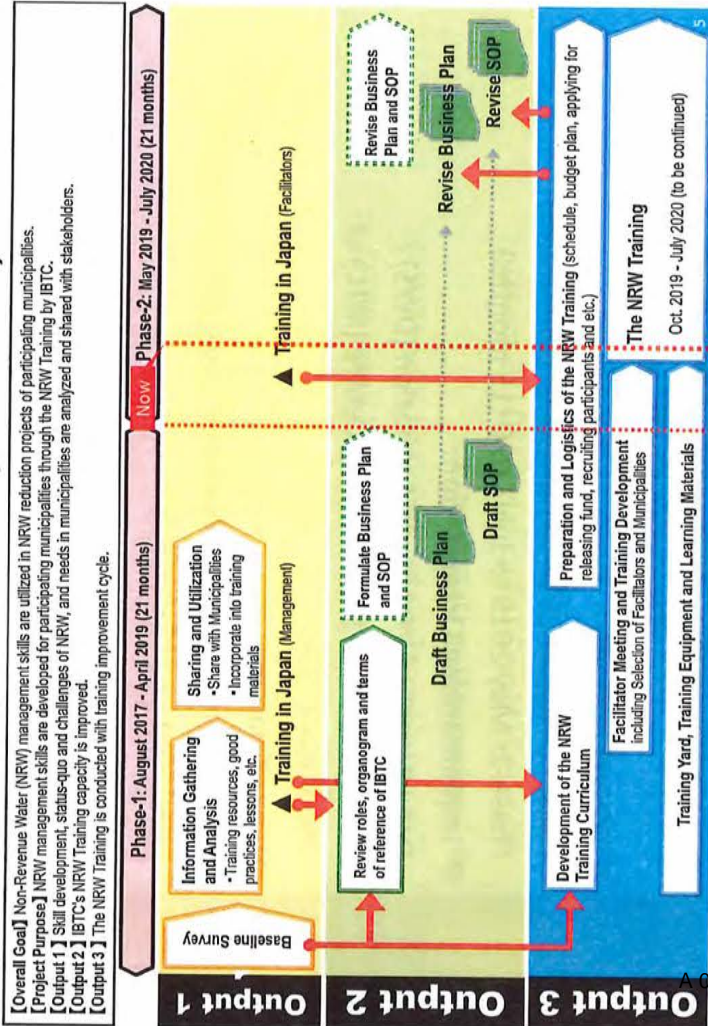
Project Outline

- **Project Period:**
Phase-1: August 2017 to April 2019 (21 months)
Phase-2: May 2019 to July 2020 (15 months)
- **Implementing Organization:**
Department of Water and Sanitation (DWS) /
Infrastructure Branch Training Centre (IBTC) at
Roodeplaats Dam
- **Beneficiaries:**
Participating Municipalities/staff, DWS/IBTC and their
personnel and Facilitators
- **End Beneficiaries:**
Customers / Consumers of water supplied by
Municipalities

Outline of the Project (Project Design)



Project Outline (11merrame)



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Progress of Activities

Output 1: Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

- **Activity 1-1: Conduct baseline survey on skills development and NRW in municipalities.**
- Completed*
- **Activity 1-2: Compile and analyze skills development and NRW in municipalities.**
- Completed.
- **Activity 1-3: Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.**
- Completed.

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Progress of Activities

Activity 1-4: Benchmark water supply services and its skills development in Japan.

- Completed.
- The 2nd Training in Japan for mainly facilitators was conducted from 29th July to 9th August 2019
- **Activity 1-5: Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.**
 - Progress: **50%**, Behind: **3.0** months
 - The Project team has attended and presented the Project in several water sector seminar, workshop and forum, for example in North-West and KZN provinces.
 - The Project team needs to utilize **opportunities of events** effectively by enhancing collaboration with **other Directorates** and stakeholders such as **SALGA, COGTA, LGSETA, MISA** etc.
 - This activity should be **rescheduled** as continuous activity.

Progress of Activities

Output 2: IBTC's NRW Training capacity is improved.

- **Activity 2-1: Prepare the NRW Training Business Plan.**
- Completed
- **Activity 2-2: Prepare and take procedures for funding the NRW Training.**
 - Progress: **95%**, Behind: **5.0** months
 - DWS's budget for the National NRW Training was allocated (5 million Rand for FY2019/20).
 - The revised proposal was submitted to LGSETA and approved according to COO of LGSETA (ZAR7,000/learner). However, DWS has been **waiting for an award**.
 - The Project team has utilized DWS's budget for the National NRW Training.

Progress of Activities

- DWS budget for the National NRW Training should be **not ad-hoc** but regular basis.
- **Budget for implementation of NRW management in participating municipalities** should be properly considered.
- DWS is planning to develop the National NRW Training as an accredited programme (e.c. part- or specialized qualification of Water Reticulation Practitioner) to ensure funding and enhance programme status for sustainability.
- This activity should be **rescheduled**.
- **Activity 2-3: Prepare Terms of Reference for the NRW Training.**
 - Completed
 - DWS/IBTC needs to **ensure or enhance training implementation workforce** at both IBTC and workplaces.

Progress of Activities

- **Activity 2-4: Prepare Standard Operation Procedures (SOP) of the NRW Training.**
 - Progress: **80%**, Behind: **2.0** months
 - Subjects to be covered by standard operating procedures (SOPs) and manuals were listed.
 - SOP Task Team prepared the draft platform with standard format/template.
 - Overall SOP for training implementation is in the process of development through actual experiences.
 - Existing process and formats/templates of DWS aiming at ISO9001 should be utilized if any.
 - This activity should be **rescheduled**.

Progress of Activities

- **Activity 2-5: Revise the SOP of the NRW Training through the activities of Output-3.**
 - Progress: **0%**, Behind: **0.0** month
 - SOPs and manuals should be used in the National NRW Training, and improved/ revised by reflecting knowledge and lesson learnt obtained through the activities of Output-3.
 - This activity should be rescheduled according to other activities.
- **Activity 2-6: Revise the NRW Training Business Plan through the activities of Output-3.**
 - Progress: **0%**, Behind: **0.0** month
 - The Business Plan should be revised if any difficulties, non-functionality and incoherence in business model, training operation and implementation.
 - This activity should be rescheduled according to other activities.

Progress of Activities

- **Activity 2-7: Conduct capacity assessment of IBTC.**
 - Progress: **25%**, Behind: **3.0** months
 - Facilitators were **nominated and appointed** and also the National NRW Training contents were developed through facilitator meetings in July and September 2019.
 - The National NRW Training for 1st group was conducted and **evaluation** were done by participants.
 - Capacity of IBTC (the National NRW Training) has been developed in facilitator meetings and the actual National NRW Training based on lessons learnt and evaluation.
 - This activity should be **rescheduled** according to other activities (such as Activity 3-9).

Progress of Activities

Output 3: The NRW Training is conducted with training improvement cycle.

- **Activity 3-1: Design the NRW Training based on the results of Output-1.**
 - Completed*.
- **Activity 3-2: Secure the site(s) for workplace of the NRW Training.**
 - Progress: **75%**, Behind: **5.0** months
 - The Project team mobilized 4 municipalities for the 1st group of the NRW National Training. (One of them declined due to challenge in preparation and will be re-targeted in 2nd or 3rd group.)
 - The Project team started to mobilize other 4 municipalities for the 2nd group of the NRW National Training.

Progress of Activities

- **Communication, appointment, letter issuance and mobilization** with participating municipalities should be scheduled properly and conducted smoothly in collaboration between DWS/WUE and SALGA.
- This activity should be **rescheduled**.
- **Activity 3-3: Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the NRW Training from DWS/IBTC and stakeholders.**
 - Completed
 - The Project team secured facilitators from DWS and municipalities. (DWS-HQs: 1, DWS-IBTC: 2 for TY, DWS-KZN: 1, EC - Buffalo City: 2, GP - Ekurhuleni: 1, Johannesburg: 1, Tshwane: 2, KZN - eThekweni: 2, Ugu: 1, MP - Mbombela: 1, WC - Cape Town: 6, George: 1)
 - The Project team needs to ensure **their active/sustainable participation** in the Training at IBTC and workplaces.
 - The Project team needs to expand **a pool of facilitators and mentors from stakeholders**.

Progress of Activities

- **Activity 3-4: Develop training yard for the NRW Training at IBTC.**
 - Progress: **95%**, Behind: **3.5** months
 - Construction was **completed** in August 2019, but final payment process has delayed due to delay in quantity confirmation.
 - Defect warranty will be until the end of the Project.
 - Training yard is **handed over** from JICA Expert Team to DWS.
 - This activity should be **rescheduled**.
- **Activity 3-5: Procure equipment, instruments/tools and materials for the NRW Training.**
 - Progress: **95%**, Behind: **3.5** months
 - Training equipment were **procured** from local suppliers.
 - Training tools and materials have been procured according to actual training implementation.
 - Training equipment is **handed over** from JICA Expert Team to DWS.
 - This activity should be **rescheduled**.

Progress of Activities

- **Activity 3-6: Develop teaching/learning materials for the NRW Training with incorporating good practices from baseline survey into the materials if any.**
 - Progress: **85%**, Behind: **3.0** months
 - The Project team and facilitators have developed teaching/learning materials (**textbook, facilitation guidance and presentation**).
 - Teaching/learning materials should be improved/revised through the Training cycles.
 - This activity should be **rescheduled**.
- **Activity 3-7: Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the NRW Training.**
 - Completed
 - The Project team conducted facilitator meeting **twice** on 3rd-5th July 2019 and 19th-20th September 2019 at IBTC.

Progress of Activities

- The Project team needs to ensure meeting opportunities in the actual Training at IBTC and workplace.
- The Project team needs to consider **additional facilitator meetings** to share lessons learnt among facilitators in the Project period.
- **Activity 3-8: Prepare for conducting the NRW Training**
 - Progress: **50%**, Behind: **2.0** months
 - The Project team has prepared for conducting the Training for the 1st group.
 - The Project team has to start to prepare for conducting the Training 2nd and 3rd groups.
 - **Task coordination and task schedule control** are keys to smooth implementation on programme schedule.
 - This activity should be **rescheduled** to as continuous activity.

Progress of Activities

- **Activity 3-9: Conduct the NRW Training by facilitators with support from JICA Experts.**
 - Progress: **0%**, Behind: **1.0** month
 - As of 17th October 2019, the Project team has conducted the Training for the 1st group from 7th October 2019.
 - **15 learners from 3 participating municipalities** (Mogale City LM, Mopani DM and uMgungundlovu DM) and DWS/WUE regional champions have attended.
 - The Project team should **complete 3 groups at least in the Project period.**
 - **Task coordination and task schedule control are keys** to smooth implementation on programme schedule.
 - This activity should be **rescheduled.**

Progress of Activities

- **Activity 3-10: Monitor the NRW Training and feed the results back under training improvement cycle.**
 - Progress: **0%**, Behind: **1.0** month
 - This activity should be **rescheduled** according to other activities (such as Activity 3-9).
- **Activity 3-11: Verify effects of the NRW Training in sampled municipalities.**
 - Progress: **0%**, Behind: **1.0** month
 - This activity should be **rescheduled** according to other activities (such as Activity 3-9).

Issues, Challenges, Solutions and Actions for Sustainability

1. **Delay of the Activities (Tasks)**
2. **Systematic and sustainable Business Plan**
3. **Understanding and cooperation of relevant DWS's Branches/Chief-Directorates/Directorates and Stakeholders**
4. **Project Management and Operation**
5. **Committee for the National NRW Training**
6. **Accreditation Preparation**

1. Delay of the Activities (Tasks)

Details and Cause:

According to current PO₄ revised in the previous 4th JCC meeting in March 2019, activities (restated into tasks in actual works) have been carried on. However, some of them have delayed.

Activities (Tasks)	Current Timeline (PO ₄)	Actual Progress and Delayed
1-5 Seminar(s) with stakeholders	By the end of June 2019	50%, 3.0 months
2-2 Securing budget and fund	By the end of April 2019	95%, 5.0 months
2-4 SOP development	By the end of July 2019	80%, 2.0 months
2-5 Revision of SOP	(No delay)	00%, 0.0 month
2-6 Revision of Business Plan	(No delay)	00%, 0.0 month
2-7 Capacity assessment	By the end of June 2019	25%, 3.0 months
3-2 Selection of the target municipalities (workplaces and learners)	By the end of April 2019	75%, 5.0 months
3-4 Training yard	By the middle of June 2019	95%, 3.5 months
3-5 Training equipment	By the middle of June 2019	95%, 3.5 months
3-6 Teaching/learning materials	By the end of June 2019	85%, 3.0 months
3-8 Preparation of the Training	By the end of July 2019	50%, 2.0 months
3-9 The National NRW Training	From September 2019	00%, 1.0 month *1
3-10 Monitoring of the Training	From September 2019	00%, 1.0 month
3-11 Verification of effects of the Training	From September 2019	00%, 1.0 month

Remarks *1: The Project team has conducted the National NRW Training for the 1st group from 7th October 2019

Action to be taken:

In consideration of updated overall programme of the National NRW Training which targets three (3) groups during the Project period, the Project should **revise Plan of Operations from PO₄ to PO₅ comprehensively**.

Roles of Responsible Persons/Organization:

- The JCC members are requested to **approve the PO revision** in the 5th JCC meeting.
- **PMC re-clarifies/updates tasks by 17th October 2019**.
- PMC Chairperson and Task Leaders ensure **active engagement and adherence to tasks**.
- PMC Coordinator ensures **task coordination and schedule/progress control** with support from PMC Chairperson, Task Leaders and JICA Experts.
- Task Leaders and members ensure **adherence to roles, responsibilities, communication for performing tasks more than ever**.

2. Systematic and sustainable Business Plan

Details and Cause:

In the process of preparation, administration, actual implementation of facilitator meetings and the Training for the 1st group, the Project Team has observed **comments from municipal facilitators and learners, finding and lessons learnt** to be reflected into the current Business Plan.

Action to be taken:

For the **FY2019/2020** and later in consideration of sustainability, the Project needs to **review and revise the Business Plan to be systematic and sustainable** (including training design/ components to be realistic) ahead of Activity 2-6 schedule, from the viewpoints of both the **operational side** including resources (budget, alternative/supplementary funding, municipal, facilitators for training provision and implementation, stakeholder cooperation) and the **participating side** (learners, workplaces, NRW management implementation with continuous /follow-up support with grants, stakeholder cooperation).

Roles of Responsible Persons/Organization:

- PMC reactivates task for **review and revision of the Business Plan**.
- **WUE takes leadership technically but Technical Engineering Services, IBTC** also take responsibility of this task.
- Task team drafts the **revised Business Plan including budget plan for FY2019/20** by the middle of December 2019
- Task team considers **conditional grants for municipalities** as funding model.
- PMC approves the revised Business Plan **by the middle of January 2020**.
- Task team communicate with relevant **DWS's Branches/Chief-Directorates/Directorates and stakeholders** to ensure business model.
- PMC and JICA experts supports the task team

3. Understanding and cooperation of relevant DWS's Branches/Chief-Directorates/Directorates and Stakeholders

Details and Cause:

As a **driving force** and **core function** of the Training, roles and responsibilities of **Directorate: WUE** has been increasing. Also, the necessity of **PR** has been highlighted for training advertisement. Furthermore, the necessity of **stakeholder participation** in the Project has also been increasing.

Action to be taken:

The Project needs to enhance **understanding and cooperation** of relevant DWS's Branches/Chief-Directorates/Directorates and stakeholders.

Roles of Responsible Persons/Organization:

- PMC Chairperson and Task Leaders **invite/engage** relevant DWS's Branches/Chief-Directorates/Directorates (such as **CD: Water Services & Local Water Management, RBIG and Communication**) and stakeholders (such as **COGTA, MISA, WRC, etc.**) to project meetings and events until the end of the Project.
- Liaison task team with support from SALGA creates **communication channels with Stakeholders** before the end of December 2019.
- PMC discusses **possible collaboration** with stakeholders before the end of March 2020.
- JICA Experts support PMC and relevant task teams.

Remarks *1: The Project team has conducted the National NRW Training for the 1st group from 7th October 2019

4. Project Management and Operation

Details and Cause:

The Project has entered into the implementation stage of the Training. The Project team has observed **difficulties and challenges in ongoing preparation, communication and implementation** of the Training for the 1st group.

Action to be taken:

The Project needs to **re-clarifies/updates tasks in detail**, ensure strengthening **task coordination and adherence to roles, responsibilities, schedule and communication** for performing tasks more than ever.

Roles of Responsible Persons/Organization:

- PMC **re-clarifies/updates tasks** by 17th October 2019.
- PMC Chairperson and Task Leaders ensure **active engagement and adherence to tasks.**
- PMC Coordinator ensures **task coordination and schedule/progress control** with support from PMC Chairperson, Task Leaders and JICA Experts.
- Task Leaders and members ensure **adherence to roles, responsibilities, communication for performing tasks more than ever.**

Remarks *1: The Project team has conducted the National NRW Training for the 1st group from 7th October 2019

5. Committee for the National NRW Training

Details and Cause:

The National NRW Training needs a **national board or council function** for sustainability after the Project period.

Action to be taken:

DWS prepares, develop **terms of reference (TOR)** and establishes a committee to supervise the Training, discuss the direction, modification, further development of the Training among DWS, SALGA and stakeholders after the Project

Roles of Responsible Persons/Organization:

- PMC creates **new task** for establishment of the committee.
- WUE takes responsibility of this task.
- Task team drafts TOR by the middle of December 2019
- Task team selects members (such as COGTA, MISA, WRC and municipalities) by the middle of December 2019
- PMC finalizes TOR by the end of March 2020
- The Project establishes the committee by end of the Project
- PMC and JICA experts supports the task team

Remarks *1: The Project team has conducted the National NRW Training for the 1st group from 7th October 2019

6. Accreditation Preparation

Details and Cause:

For sustainability, DWS has recognized the National NRW Training as a **pilot differing from existing model/approach**, to be aligned practically with occupational qualification “Water Reticulation Practitioner”, which is currently registered in the South African Qualifications Authority (SAQA) under National Qualification Framework.

Action to be taken:

DWS scrutinizes resemblance between the National NRW Training and the occupational qualification “Water Reticulation Practitioner”, prepares documentation and takes **procedures for accreditation** (possibly as a part- or specialized- qualification) to Quality Council for Trades and Occupations (QCTO).

Roles of Responsible Persons/Organization:

- PMC creates **new task** for accreditation.
- OS and IBTC take responsibility of this task.
- Task team collects requirement for accreditation of the occupational qualification “Water Reticulation Practitioner” by the middle of December 2019.
- Task team checks and compare between the National NRW Training and the occupational qualification “Water Reticulation Practitioner” by the middle of December 2019.
- Task team prepares submission and applies for accreditation by the end of March 2020
- The Project obtains accreditation by end of the Project, but it depends on the feedback and approval received from QCTO via SETAs
- PMC and JICA experts supports the task team

Remarks *1: The Project team has conducted the National NRW Training for the 1st group from 7th October 2019

Revision of Plan of Operations

According to the above progress, issues, challenges and proposed solutions, the Project Team suggests the **revision of Plan of Operations**, from currently Ver. 4 to Ver. 5. Summary is shown below:

ACTIVITIES/TASKS	CURRENT IMPLEMENTATION	REVISION (PO)
1-5 Seminar(s) with stakeholders	By the end of June 2019	Continuously until the end of July 2020 (seminars, workshops and forums at national and provincial level)
2-2 Securing budget and fund	By the end of April 2019	By the end of December 2019
2-4 SOP development	By the end of July 2019	By the end of December 2019
2-5 Revision of SOP	(No delay)	Rescheduled
2-6 Revision of Business Plan	(No delay)	Rescheduled
2-7 Capacity assessment	By the end of June 2019	Continuously until the end of July 2020
3-2 Selection of the target participating municipalities (workplaces and learners)	By the end of April 2019	By the end of March 2020 (by group)
3-4 Training yard	By the middle of June 2019	By the end of October 2019
3-5 Training equipment	By the middle of June 2019	By the end of October 2019
3-6 Teaching/learning materials	By the end of June 2019	By the end of October 2019
3-8 Preparation of the Training	By the end of July 2019	By the end of March 2020 (by group)
3-9 The National NRW Training	From September 2019	Rescheduled (from October 2019)
3-10 Monitoring of the Training	From September 2019	Rescheduled (from October 2019)
3-11 Verification of effects of the Training	From September 2019	Rescheduled (from October 2019)

The Project Team kindly requests JCC members to note/accept/approve the progress, proposed solutions, revision of PO.

Thank you very much.

THE END

1 Progress
1-1 Progress of Inputs

[The South African Side]

Project Personnel

All project members including Chairperson of Project Management Committee, Project Director, Project Manager, and members and associates have been involved in the Project (refer to Table 1).

Table 1: List of Project Members

Role in Project Implementation	Title and Position
Project Management Committee (PMC) Chairperson	Chief Director: Engineering Services, NWRI, DWS Mr. Aloious Chamituka
Project Director	Director: Technical Engineering Services, NWRI, DWS Mr. Vincent Montene
PMC Task Manager	Director: Water Sustainability and Innovations SALGA Ms. William Moraka
Co-Project Director	Centre Manager, IBTC, DWS Ms. Rosa Mfomadi Rahube
Project Manager (Operational)	Director: Water Use Efficiency, P&I, DWS Mr. Hadebe Xolani
PMC Task Manager	Director: ODA, IWS, DWS Mr. Albert Mmbidi
Member PMC Secretary / Task Manager	Director: Operational Support, PMU, DWS Ms. Kentse Mathiba
Member	Director: Planning, Monitoring and Evaluation, DWS-KZN Mr. Michael Singh
Member	Training Manager, IBTC, DWS Ms. Kgoputso Sekgollane
Member	Quality Assurer, IBTC, DWS Ms. Makola Lerato
Member	IBTC, DWS
Member	Ms. Verusha Govender
Member	Water Use Efficiency, P&I, DWS Mr. Thabo Masike
Member	Water Use Efficiency, P&I, DWS Mr. Padi Andries
Member	Operational Support, PMU, DWS Mr. Maphutha Tsibiso
Member	Construction, NWRI, DWS Mr. Armand Basson
PMC Task Coordinator	Construction, NWRI, DWS Mr. Riaan Stassen

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To Chief Representative of JICA South Africa Office

PROJECT MONITORING SHEETS (DRAFT)

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-

Revenue Water

Version of the Sheet: Ver. 4 (Term covered: March, 2019 - September, 2019)

Name: Akinori Miyoshi

Title: Chief Advisor

Submission Date: 17 October 2019

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The 2nd training in Japan was conducted between 29th July and 9th August 2019, for seventeen (17) delegation officials at the working level from DWS (Headquarters and Kwa-Zulu Natal Regional Office), South African Local Government Association (SALGA), Local Government Sector Education and Training Authority (LGSETA), and eight (8) Municipalities; Buffalo City, Cape Town, Ekurhuleni, George, Johannesburg, Mbombela, Tshwane and Ugu.

The officials prepared benchmark report. Refer to Annex-3.
All costs for the training from DWS were sponsored by JICA, except travelling costs for seven (7) officials from DWS which was covered by DWS.

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Role in Project Implementation	Title and Position
Members	Facilitators on the NRW Training
Secretary	Official Development Assistance, IWS, DWS Ms. Msweni Zanu

Land, Building and Facilities

Office spaces and necessary facilities at the Infrastructure Branch Training Centre (IBTC) and Water Use Efficiency's office of the Department of Water and Sanitation (DWS) have been provided to the Japanese side. WiFi and network have been not available due to DWS's security restriction.

Local Costs

Administrative costs in DWS/IBTC and logistic costs for facilitator meetings and the National NRW Training, such as accommodation, travelling/transport and catering, have been provided.

[The Japanese Side]

JICA Experts

JICA Expert Team consisting of a Chief Advisor and members for seven areas of expertise were assigned to work in South Africa (refer to Table 2).

Table 2: List of JICA Experts

Position in the Project	Name
Chief Advisor / NRW Management	Mr. Akinori MIYOSHI
Deputy Chief Advisor / NRW Management	Mr. Taketoshi FUJIYAMA*1
Skills Programme Planning / Organization Coordination	Mr. Kenichiro SUGIYA
Water Leakage Detection	Mr. Hiroki NIIMURA
Water Distribution Control / Commercial Loss	Mr. Hiroyuki MORITA
Training Yard Design and Supervision	Mr. Masuji IDE
Procurement / Administrative Coordination	Mr. Toshinobu KASUYA
Training Management / Human Resource Development	Mr. Nobutaka MARUYAMA

Remarks *1: No assignment in this monitoring period.

Equipment

Based on the National NRW Training programme, equipment were procured from local suppliers through quotation comparison, and were handed over from JICA Expert Team to DWS (refer to Annex-1).

Facilities

Based on the National NRW Training programme, training yard at IBTC was constructed by a local contractor awarded through nominated competitive tender, and was handed over from JICA Expert Team to DWS (refer to Annex-2).

Training of the South African Project Members

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PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
1-4	Benchmark water supply services and its skills development in Japan.	- Progress: 50%, Behind PO ₃ : 0.0 months	<ul style="list-style-type: none"> - The 2nd training in Japan, which targets mainly facilitators to be selected, should be implemented for strengthening municipal NRW management skills and IBTC's training capacity. - Contents of the 2nd training should correspond to the NRW Training curriculum and be reviewed and finalized in accordance with selection of facilitators. - In line with Activity 3-7, the 2nd training is scheduled currently between 20th and 31st May 2019 for 2 weeks. - However, the 2nd training should be rescheduled (postponed) in consideration of progress of other activities and inputs, and also general election, associated changes and events in May and June 2019. 	<ul style="list-style-type: none"> - Completed - The 2nd training in Japan for mainly facilitators was conducted from 29th July to 9th August 2019 (refer to Annex-3) 	- None

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PM Form 3-1 Monitoring Sheet Summary

1-2 Progress of Activities

Activities for Output-1: [PDM₁] Training information on water supply sector is accumulated at IBTC and shared with SALGA and Municipalities.]

[PDM₂] Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

Table 3: Progress of Activities for Output-1

No	Activity	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
1-1	Conduct baseline survey on skills development and NRW in municipalities	- Completed.	-	/	/
1-2	Compile and analyze skills development and NRW in municipalities.	<ul style="list-style-type: none"> - Progress: 95%, Behind PO₃: 7.0 months - Baseline survey report was presented in the 2nd JCC meeting, which includes status quo, overview of NRW in South Africa, observation and suggestions. 	- This activity will be completed by final review for seminar (Activity 1-5).	- Completed	- None
1-3	Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.	- Progress: 95%, Behind PO ₃ : 7.0 months	- This activity will be completed by final review for seminar (Activity 1-5).	- Completed	- None

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Activities for Output-2: [PDM₁] IBTC's training management capacity in water supply sector is improved.

[PDM₂] IBTC's NRW Training capacity is improved.

Table 4: Progress of Activities for Output-2

No	Activity	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
2-1	Prepare the NRW Training Business Plan.	<ul style="list-style-type: none"> - Progress: 95%, Behind PO₄: 10.0 months - Based on the results of the activities for Output-1, the NRW Training Business Plan was drafted and presented in the 3rd JCC meeting. 	<ul style="list-style-type: none"> - The NRW Training Business Plan should be approved in the next JCC meeting after review and finalization of selection criteria of facilitator and target participating municipalities (learners). 	<ul style="list-style-type: none"> - Completed 	<ul style="list-style-type: none"> - None
2-2	Prepare and take procedures for funding the NRW Training.	<ul style="list-style-type: none"> - Progress: 75%, Behind PO₄: 6.0 months - Expenditure of the NRW Training was estimated and incorporated into the DWS's expenditure (budget plan) 2019. - The proposal for funding support was presented to LGSETA (COO & Manager: ETQA) in December 2018 and February 2019. 	<ul style="list-style-type: none"> - Progress of budget approval and allocation should be followed up. - In response to comments from LGSETA, the proposal for funding support should be revised/finalized and resubmitted to LGSETA to be put on the agenda of board meeting on 20th March 2019, followed by Service Level Agreement in April 2019 if proposal is accepted. 	<ul style="list-style-type: none"> - Progress: 95%, Behind PO₄: 5.0 months - DWS's budget for the National NRW Training was allocated (5 million Rand for FY2019/20). - The revised proposal was submitted to LGSETA and approved according to COO of LGSETA (ZAR7,000/learner) - However, DWS has been waiting for an award. 	<ul style="list-style-type: none"> - The Project team has utilized DWS's budget for the National NRW Training - DWS budget for the National NRW Training should be not ad-hoc but regular basis. - Budget for implementation of NRW management in participating municipalities should be properly considered. - DWS is planning to develop the National NRW Training as an accredited programme (e.c. Part- or specialized qualification of Water Reticulation Practitioner) to ensure funding and enhance programme status for sustainability. - This activity should be rescheduled.

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No	Activity	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
1-5	Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	<ul style="list-style-type: none"> - Progress: 0%, Behind PO₄: 0.0 months 	<ul style="list-style-type: none"> - A seminar on the results of the baseline survey, benchmark and the NRW Training curriculum as an outcome, should be held as soon as the selection of facilitators and its official concurrence, currently scheduled in March 2019. - The seminar has been suggested to be held jointly with water services-related events by DWS, SALGA, CoGTA and MISA - However, the seminar cannot be held unless official concurrence of facilitators is confirmed. 	<ul style="list-style-type: none"> - Progress: 50%, Behind PO₄: 3.0 months - The Project team has attended and presented the Project in several water sector seminar, workshop and forum, for example in North-West and KZN provinces, as well as facilitator meeting. 	<ul style="list-style-type: none"> - The Project team needs to utilize opportunities of events effectively by enhancing collaboration with other Directorates and stakeholders such as SALGA, CoGTA, LGSETA, MISA, etc. - This activity should be rescheduled as a continuous activity.

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PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
2-6	Revise the NRW Training Business Plan through the activities of Output-3.	- Progress: 0%, Behind PO ₃ : 0.0 month	- The Business Plan should be revised if any difficulty, non-functionality and incoherence in business model, training operation and implementation.	- Progress: 0%, Behind PO ₃ : 0.0 month	- The Business Plan should be revised if any difficulties, non-functionality and incoherence in business model, training operation and implementation. - This activity should be rescheduled according to other activities.
2-7	Conduct capacity assessment of IBTC.	- Progress: 0%, Behind PO ₃ : 0.0 month	- Capacity of IBTC (the National NRW Training) can be developed in facilitator meetings and actual National NRW Trainings.	- Progress: 25%, Behind PO ₃ : 3.0 months - Facilitators were nominated and appointed and also the National NRW Training contents were developed through facilitator meetings in July and September 2019. - The National NRW Training for 1 st group was conducted and evaluation were done by participants.	- Capacity of IBTC (the National NRW Training) has been developed in facilitator meetings and the actual National NRW Training based on lessons learnt and evaluation. - This activity should be rescheduled according to other activities (such as Activity 3-9).

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PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
2-3	Prepare Terms of Reference for the NRW Training.	- Progress: 95%, Behind PO ₃ : 10.0 months - Organogram, personnel plan and terms of reference for the NRW Training were prepared and described in the NRW Training Business Plan (Activity 2-1).	- This activity will be completed by finalization of the NRW Training Business Plan (Activity 2-1). - DWS will second staff or combine posts if difficult to employ new staff.	- Completed	- DWS/IBTC needs to ensure or enhance training implementation workforce at both IBTC and workplaces.
2-4	Prepare Standard Operation Procedures (SOP) of the NRW Training.	- Progress: 10%, Behind PO ₃ : 10.0 months - Subjects to be covered by standard operating procedures (SOPs) and manuals were listed.	- Process and formats/templates used throughout planning, implementation, operation and maintenance should be prepared and recorded as SOPs and manuals by IBTC's quality assurer and task teams. - SOP Task Team has been preparing the standard format/template. - Existing process and formats/templates of DWS aiming at ISO9001 should be utilized if any.	- Progress: 80%, Behind PO ₃ : 2.0 months - Subjects to be covered by standard operating procedures (SOPs) and manuals were listed. - SOP Task Team prepared the draft platform with standard format/template.	- Overall SOP for training implementation is in the process of development through actual experiences. - Existing process and formats/templates of DWS aiming at ISO9001 should be utilized if any. - This activity should be rescheduled.
2-5	Revise the SOP of the NRW Training through the activities of Output-3.	- Progress: 0%, Behind PO ₃ : 0.0 month	- SOPs and manuals should be used in the National NRW Training, and improved/ revised by reflecting knowledge and lesson learnt obtained through the activities of Output-3	- Progress: 0%, Behind PO ₃ : 0.0 month	- SOPs and manuals should be used in the National NRW Training, and improved/ revised by reflecting knowledge and lesson learnt obtained through the activities of Output-3. - This activity should be rescheduled according to other activities.

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PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
			<ul style="list-style-type: none"> model for NRW reduction, the target participating municipalities should be strategically-selected during the Project period. 		
3-3	Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the NRW Training from DWS/IBTC and stakeholders.	<ul style="list-style-type: none"> Progress: 50%, Behind PO₃: 10.0 months Selection criteria for facilitators was finalized. Candidate facilitators were proposed and updated. 	<ul style="list-style-type: none"> The facilitators were supposed to concur officially by the end of February 2019. However, it has delayed due to delay of official inter-organizational communication between DWS and the organizations to which they belong. Obtaining official concurrence from each stakeholder should be postponed. Though participants-to-be in the 2nd Training in Japan (scheduled in May 2019) should be nominated from facilitators, application process has not started yet. 	<ul style="list-style-type: none"> Completed The Project team secured facilitators from DWS and municipalities as below. DWS-HQs: 1 DWS-IBTC: 2 (training yard) DWS-KZN: 1 EC - Buffalo City: 2 GP - Ekurhuleni: 1 GP - Johannesburg: 1 GP - Tshwane: 2 KZN - eThekweni: 2 KZN - Ugu: 1 MP - Mbombela: 1 WC - Cape Town: 6 WC - George: 1 	<ul style="list-style-type: none"> The Project team needs to ensure their active/sustainable participation in the National NRW Training at IBTC and workplaces. The Project team needs to expand a pool of facilitators and mentors from stakeholders.

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PM Form 3-1 Monitoring Sheet Summary

Activities for Output-3: [PDM₁] Trainings on Non-Revenue Water (NRW) are conducted at IBTC.
[PMD₂] The NRW Training is conducted with training improvement cycle.

Table 5: Progress of Activities for Output-3

No	Activity	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
3-1	Design the NRW Training based on the results of Output-1.	<ul style="list-style-type: none"> Completed The NRW Training was designed based on observation and concepts obtained through the activities of Output-1. 	<ul style="list-style-type: none"> Based on modules of the NRW Training curriculum, the NRW Training should be customized flexibly according to conditions and needs of participating municipalities. Physical support in workplace training at participating municipalities should be considered. For sustainability of the NRW Training and interaction with qualification "Water Reticulation Practitioner", the NRW Training should be developed and implemented. 	/	/
3-2	Secure the site(s) for workplace of the NRW Training.	<ul style="list-style-type: none"> Progress: 50%, Behind PO₃: 4.0 months Selection criteria for municipalities (learners) as workplace was finalized. Top-5 municipalities of each Province and the target participating municipalities (learners) as workplace were proposed and updated. 	<ul style="list-style-type: none"> The target participating municipalities (learners) as workplace were supposed to concur officially by the end of February 2019. However, it has delayed due to delay of official inter-organizational communication between DWS and the municipalities. Obtaining official concurrence from each stakeholder should be postponed. To establish the NRW Training as a successful 	<ul style="list-style-type: none"> Progress: 75%, Behind PO₄: 5.0 months The Project team mobilized 4 municipalities for the 1st group of the NRW National Training. (One of them declined due to challenge in preparation and will be targeted in 2nd or 3rd group.) The Project team started to mobilize other 4 municipalities for the 2nd group of the NRW National Training. 	<ul style="list-style-type: none"> Communication, appointment, letter issuance and mobilization with participating municipalities should be scheduled properly and conducted smoothly in collaboration between DWS/WUE and SALGA. This activity should be rescheduled.

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PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
3-5	Procure equipment, instruments/tools and materials for the NRW Training.	<ul style="list-style-type: none"> - Progress: 50%, Behind PO₃: 11.0 months - Procurement was planned in consideration of equipment distribution and procurement conditions in South Africa. - The NRW Training equipment was designed based on modules of the NRW Training curriculum, information from DWS, municipalities as water services authority and local consultants. 	<ul style="list-style-type: none"> - The NRW Training equipment should be procured in South Africa for future maintenance and service. - The equipment should be procured by comparison in quotations as a procurement process of JICA Expert Team in accordance with JICA's procurement guideline and regulation between March and April 2019. 	<ul style="list-style-type: none"> - Progress: 95%, Behind PO₄: 3.5 months - Training equipment were procured from local suppliers. - Training tools and materials have been procured according to actual training implementation. 	<ul style="list-style-type: none"> - Training equipment is handed over from JICA Expert Team to DWS. - This activity should be rescheduled.
3-6	Develop teaching/ learning materials for the NRW Training with incorporating good practices from baseline survey into the materials if any.	<ul style="list-style-type: none"> - Progress: 20%, Behind PO₃: 7.0 months - Partially prepared, but delayed due to postponement and rescheduling of JICA Experts' trips to South Africa. 	<ul style="list-style-type: none"> - To develop teaching/learning materials smoothly in facilitator technical meetings (Activity 3-7), JICA Experts should take the initiative in drafting the materials. - Existing NRW-related documents should be utilized, for example, which was prepared well by Water Research Commission (WRC). Teaching/learning materials should be practical/ interpretive for municipal staff as supplementary to existing documents. This leads strengthening understanding and cooperation of stakeholders for the NRW Training. 	<ul style="list-style-type: none"> - Progress: 85%, Behind PO₄: 3.0 months - The Project team and facilitators have developed teaching/learning materials (textbook, facilitation guidance and presentation). 	<ul style="list-style-type: none"> - Teaching/learning materials should be improved/ revised through the actual Training cycles. - This activity should be rescheduled.

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PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
3-4	Develop training yard for the NRW Training at IBTC.	<ul style="list-style-type: none"> - Progress: 50%, Behind PO₃: 11.0 months - The NRW Training yard was designed based on modules of the NRW Training curriculum, field information, experience and knowledge of municipalities as water service authority, as well as discussions among relevant parties. - The NRW Training yard aims at practices of the training for measuring/ metering, water balance analysis, planning and project proposal. - Water flow meter and customer meters, and pump to be installed will be donated some private suppliers by the cooperation of City of Tshwane. - Bid tender was held successfully on 28th February 2019 as a procurement process of JICA Expert Team in accordance with JICA's procurement guideline and regulation. 	<ul style="list-style-type: none"> - Construction should commence as soon as entering into a contract through evaluation meetings. - According to PO₃, construction is supposed to be completed by the end of April 2019. - However, it has delayed due to re-arrangement of tender process (securement of several bidders). - Construction should be re-scheduled with the successful bidder, of which completion seems to be the middle of June 2019. 	<ul style="list-style-type: none"> - Progress: 95%, Behind PO₄: 3.5 months - Construction was completed in August 2019, but final payment process has delayed due to delay in quantity confirmation. 	<ul style="list-style-type: none"> - Defect warranty will be until the end of the Project. - Training yard is handed over from JICA Expert Team to DWS. - This activity should be rescheduled.

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PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
3-8	Prepare for conducting the NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.).	- Progress: 0%, Behind PO ₂ : 1.0 month	- As initial development of the NRW Training, the target participating municipalities (learners) are selected and funding support will be proposed to LGSETA. - The NRW Training should be implemented regularly based SOPs and financial plan, and according to multiple-year programme and annual plan.	- Progress: 50%, Behind PO ₄ : 2.0 months - The Project team has prepared for conducting the Training for the 1 st group.	- The Project team has to start to prepare for conducting the Training 2 nd and 3 rd groups. - Task coordination and task schedule control are keys to smooth implementation on programme schedule. - This activity should be rescheduled as continuous activity.
3-9	Conduct the NRW Training by facilitators with support from JICA Experts.	- Progress: 0%, Behind PO ₂ : 0.0 month	- The NRW Training is scheduled to commence in July 2019. - However, it should be rescheduled to September 2019 due to postponement of Activity 3-2, 3-3, 3-4 and 3-7.	- Progress: 00%, Behind PO ₄ : 1.0 month - As of 17 th October 2019, the Project team has conducted the National NRW Training for the 1 st group from 7 th October 2019. - 15 learners from 3 participating municipalities (Mogale City LM, Mopani DM and uMgungundlovu DM) and DWS/WUE regional champions have attended.	- The Project team should complete 3 groups at least in the Project period. - Task coordination and task schedule control are keys to smooth implementation on programme schedule. - This activity should be rescheduled.
3-10	Monitor the NRW Training and feed the results back under training improvement cycle.	- Progress: 0%, Behind PO ₂ : 0.0 month	- Ditto	- Progress: 0%, Behind PO ₄ : 1.0 month	- This activity should be rescheduled according to other activities (such as Activity 3-9).
3-11	Verify effects of the NRW Training in sampled municipalities.	- Progress: 0%, Behind PO ₂ : 0.0 month	- Ditto	- Progress: 0%, Behind PO ₄ : 1.0 month	- This activity should be rescheduled according to other activities (such as Activity 3-9).

PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
3-7	Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the NRW Training.	- Progress: 0%, Behind PO ₂ : 4.0 months	- Through several facilitator technical meetings, significance of the NRW Training should be shared properly among the selected facilitators. Curriculum, modules, teaching/learning materials, and workplace training should be discussed and revised. - Facilitator technical meetings are supposed to be conducted between March and April 2019. - However, it seems to delay due to delay of obtaining official concurrence of facilitators (Activity 3-3). - Therefore, facilitator technical meetings should be postponed to between June and July 2019. - DWS financial constraints has caused to difficulty in conducting facilitator technical meetings.	- Completed. - The Project team conducted facilitator meeting twice on 3 rd -5 th July 2019 and 19 th -20 th September 2019 at IBTC.	- The Project team needs to ensure meeting opportunities in the actual Training at IBTC and workplace. - The Project team needs to consider additional facilitator meetings to share lessons learnt among facilitators in the Project period.

No	Indicator	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄	Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄
The Project team has communicated with Directorate: Communication for branding and PR, but needs to ensure enhancement of them by web development and promotion for sustainability of the National NRW Training.			

Output-2: [PDM₁] IBTC's training management capacity in water supply sector is improved.
[PDM₂] IBTC's NRW Training capacity is improved.

Table 7: Achievement of Output-2

No	Indicator	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄	Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄
2-1	Appropriate organizational structure for the NRW Training is established at IBTC.	- None (as scheduled).	- Organizational structure for the National NRW Training has been developed in collaboration with facilitator. (Training operational support should be strengthened.)
2-2	No. of revision of Standard Operation Procedures (SOP) of the NRW Training is increased.	- None (as scheduled).	- SOP has been developed.
2-3	No. of revision of the NRW Training Business Plan is increased.	- None (as scheduled).	- Business plan was prepared.

Verification of Achievement and Implementing Process

As of 17th October 2019, the Project team started to conduct the National NRW Training for the 1st group from 7th October 2019.

Output-3: [PDM₁] IBTC's training management capacity in water supply sector is improved.
[PDM₂] IBTC's NRW Training capacity is improved.

Table 8: Achievement of Output-3

No	Indicator	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄	Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄
3-1	No. of Facilitator Technical Meeting is increased.	- None (as scheduled).	- Twice (3 rd -5 th July, 19 th -20 th September 2019)
3-2	No. of NRW Training is increased.	- None (as scheduled).	- The National NRW Training for the 1 st group is ongoing from 7 th October 2019.
3-3	Learner's satisfaction with the NRW Training is increased.	- None (as scheduled).	- Evaluation of the National NRW Training for the 1 st group is ongoing from 7 th October 2019.

1-3 Achievement of Outputs

Output-1: [PDM₁] Training information on water supply sector is accumulated at IBTC and shared with SALGA and Municipalities.
[PDM₂] Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

Table 6: Achievement of Output-1

No	Indicator	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄	Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄
1-1	Analyzed/organized information of skills development of municipalities is submitted to DWS (list of no. of staff, attended training, mentor resources, training providers, manuals, workshops and yards, subsidies/grants, good practices, etc.)	- Baseline Survey report was prepared.	- Baseline Survey report was prepared.
1-2	Analyzed/organized information of NRW and needs of municipalities is submitted to DWS.	- Baseline Survey report was prepared.	- Baseline Survey report was prepared.
1-3	Benchmarked matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.)	- Benchmark report was prepared by officials in the 1 st training in Japan, then submitted to the DWS management.	- Benchmark reports were prepared by officials in the 1 st and 2 nd trainings in Japan (submitted to the DWS management or presented in the 2 nd facilitator meeting)
1-4	Information sharing occasions are provided.	- None (as scheduled).	- Occasions of presentation of the National NRW Training have been provided in seminar, workshop and forum at the Provincial level. - Directorate: Communication has involved in IBTC branding and public relations of the National NRW Training

Verification of Achievement and Implementing Process

To be of reference to South Africa for improvement, the benchmark report of the 2nd training in Japan covers lessons learnt and observation in wide-ranging categories as well as recommendation.

1-5 Changes of Risks and Actions for Mitigation

None.

(1) Progress of Actions undertaken by the Japanese side

None.

(2) Progress of Actions undertaken by the South African side

None.

1-6 Other matters to be considered (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)

(1) General Election 2019

In the previous monitoring, DWS highlighted, the general election 2019 on 8th May 2019, which was announced officially in early February 2019, may affect the Project implementation including activities and inputs in May and June 2019, particularly the 2nd Training in Japan (facilitators and administration) scheduled currently in the second half of May 2019 because of possible temporary slowdown of DWS's internal procedures by new administration. Accordingly, the 2nd Training in Japan was finally rescheduled and conducted from 29th July to 9th August 2019.

(2) Systematic and sustainable business plan of the National NRW Training

In the process of preparation, administration, actual implementation of facilitator meetings and the National NRW Training for the 1st group, the Project Team has observed comments from municipal facilitators and learners, finding and lessons learnt to be reflected into the current business plan.

For the FY2019/2020 and later in consideration of sustainability of the National NRW Training, the Project needs to review and revise the National NRW Training business plan to be systematic and sustainable (including training design/components to be realistic) ahead of schedule (Activity 2-6), from the viewpoints of both the operational side including resources (such as budget, funding and municipal facilitators for training provision and implementation), stakeholder cooperation) and the participating side (such as learners, workplaces and NRW management implementation with continuous/follow-up support, stakeholder cooperation).

(3) Understanding and cooperation of relevant DWS's Branches/Chief-Directorates/Directorates and Stakeholders

As a driving force and core function of the National NRW Training, roles and responsibilities of Directorate: Water Use Efficiency (WUE) has been increasing. Also, the necessity of public relations has been highlighted for training advertisement. Furthermore, the necessity of

No	Indicator	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄	Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄
3-4	No. of feedback/utilization of skills trained into water services at municipalities is increased.	- None (as scheduled).	- None (not ready).

Verification of Achievement and Implementing Process

The Project team needs to ensure meeting opportunities in the actual National NRW Training at IBTC and workplace as well as to consider additional facilitator meetings to share lessons learnt among facilitators in the Project period.

1-4 Achievement of the Project Purpose

[PDM₁] Project Purpose: NRW Skills Programme is continuously provided at IBTC, based on organizational and technical needs.

[PDM₂] The NRW Training is conducted with training improvement cycle.

Table 9: Achievement of the Project Purpose

No	Indicator	Previous Monitoring (as at Feb.2019) *base on PDM ₂ &PO ₄	Current Monitoring (as at Sep.2019) * based on PDM ₂ &PO ₄
1	No. of the NRW Training at IBTC is increased.	- None (as scheduled).	- The National NRW Training for the 1 st group is ongoing from 7 th October 2019.
2	No. of water balance submission is increased.	- None (as scheduled).	- None (not ready).
3	No. of NRW reduction plan in participating municipalities is increased.	- None (as scheduled).	- None (not ready).

Verification of Achievement and Implementing Process

Indicators won't be obtained and there is no implementation during this monitoring period.

3-11	NRW Training Verification of effects of the National NRW Training	From September 2019	00%, 1.0 month
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Remarks *1: The Project team has conducted the National NRW Training for the 1st group from 7th October 2019

(2) Action to be taken

In consideration of updated overall programme (refer to Annex-4) of the National NRW Training which targets three (3) groups during the Project period, the Project should revise Plan of Operations from PO₄ to PO₅ comprehensively.

(3) Roles of Responsible Persons/Organization

- The JCC members are requested to approve the PO revision in the 5th JCC meeting.
- PMC re-clarifies/updates tasks by 17th October 2019.
- PMC Chairperson and Task Leaders ensure active engagement and adherence to tasks.
- PMC coordinator ensures task coordination and schedule/progress control with support from PMC Chairperson, Task Leaders and JICA Experts.
- Task Leaders and members ensure adherence to roles, responsibilities and communication for performing tasks more than ever.

2-2 Systematic and sustainable Business Plan

(1) Details and Cause

In the process of preparation, administration, actual implementation of facilitator meetings and the National NRW Training for the 1st group, the Project Team has observed comments from municipal facilitators and learners, finding and lessons learnt to be reflected into the current Business Plan.

(2) Action to be taken

For the FY2019/2020 and later in consideration of sustainability of the National NRW Training, the Project needs to review and revise the Business Plan to be systematic and sustainable (including training design/components to be realistic) ahead of Activity 2-6 schedule, from the viewpoints of both the operational side including resources (such as budget, alternative/supplementary funding, municipal facilitators for training provision and implementation, stakeholder cooperation) and the participating side (such as learners, workplaces, NRW management implementation with continuous/follow-up support with grants, stakeholder cooperation).

(3) Roles of Responsible Persons/Organization

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stakeholder participation in the Project has also been increasing as mentioned above. Therefore, the Project needs to enhance understanding and cooperation of relevant DWS's Branches/Chief-Directorates/Directorates and stakeholders.

(4) Project Management and Operation

The Project has entered into the implementation stage of the National NRW Training. The Project team has observed difficulties and challenges in ongoing preparation, communication and implementation of the National NRW Training for the 1st group. The Project needs to re-clarifies/updates tasks in detail, ensure strengthening task coordination and adherence to roles, responsibilities, schedule and communication for performing tasks more than ever.

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

2-1 Delay of the Activities (Tasks)

(1) Details and Cause

According to current PO₄ revised in the previous 4th JCC meeting in March 2019, activities (restated into tasks in actual works) have been carried on. However, some of them have delayed as below (refer to Table 10).

Table 10: Status of Activities (Tasks)

Activities (Tasks)	Current Timeline (PO ₄)	Actual Progress and Delayed
1-5 Seminar(s) with stakeholders	By the end of June 2019	50%, 3.0 months
2-2 Securing budget and fund	By the end of April 2019	95%, 5.0 months
2-4 SOP development	By the end of July 2019	80%, 2.0 months
2-5 Revision of SOP	(No delay)	00%, 0.0 month
2-6 Revision of Business Plan	(No delay)	00%, 0.0 month
2-7 Capacity assessment	By the end of June 2019	25%, 3.0 months
3-2 Selection of the target participating municipalities (workplaces and learners)	By the end of April 2019	75%, 5.0 months
3-4 Training yard	By the middle of June 2019	95%, 3.5 months
3-5 Training equipment	By the middle of June 2019	95%, 3.5 months
3-6 Teaching/learning materials development	By the end of June 2019	85%, 3.0 months
3-8 Preparation of the National NRW Training	By the end of July 2019	50%, 2.0 months
3-9 The National NRW Training	From September 2019	00%, 1.0 month *1
3-10 Monitoring of the National	From September 2019	00%, 1.0 month

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(2) Action to be taken

The Project needs to re-clarify/updates tasks in detail, ensure strengthening task coordination and adherence to roles, responsibilities, schedule and communication for performing tasks more than ever.

(3) Roles of Responsible Persons/Organization

- Same as "2-1 Delay of the Activities (Tasks)",
- PMC re-clarifies/updates tasks by 17th October 2019.
- PMC Chairperson and Task Leaders ensure active engagement and adherence to tasks.
- PMC coordinator ensures task coordination and schedule/progress control with support from PMC Chairperson, Task Leaders and JICA Experts.
- Task Leaders and members ensure adherence to roles, responsibilities and communication for performing tasks more than ever.

3 Revision of Project Design Matrix and Plan of Operations

3-1 Project Design Matrix (PDM)

There is no revision on PDM, however revision might be required hereafter in more practical development and implementation of the National NRW Training.

3-2 Plan of Operations (PO)

The Project revises schedule of activities and inputs as below (refer to Table 11).

Table 11: Summary of PO Revision

Activities (Tasks)	Current Timeline (POs)	Revised (POs)
1-5 Seminars) with stakeholders	By the end of June 2019	Continuously until the end of July 2020 (seminars, workshops and forums at national and provincial level)
2-2 Securing budget and fund	By the end of April 2019	By the end of December 2019
2-4 SOP development	By the end of July 2019	By the end of December 2019
2-5 Revision of SOP	(No delay)	Rescheduled
2-6 Revision of Business Plan	(No delay)	Rescheduled
2-7 Capacity assessment	By the end of June 2019	Continuously until the end of July 2020
3-2 Selection of the target participating municipalities (workplaces and learners)	By the end of April 2019	By the end of March 2020 (by group)

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- PMC reactivates task for review and revision of the Business Plan.
- WUE takes leadership technically but Technical Engineering Services, IBTC also take responsibility of this task.
- Task team drafts the revised Business Plan including budget plan for FY2019/20 by the beginning of December 2019
- Task team considers conditional grants for municipalities as funding model.
- PMC approves the revised Business Plan by the middle of December 2019.
- Task team communicate with relevant DWS's Branches/Chief-Directorates/Directorates and stakeholders to ensure business model.
- PMC and JICA experts supports the task team

2-3 Understanding and cooperation of relevant DWS's Branches/Chief-Directorates/Directorates and Stakeholders

(1) Details and Cause

As a driving force and core function of the National NRW Training, roles and responsibilities of Directorate: Water Use Efficiency (WUE) has been increasing. Also, the necessity of public relations has been highlighted for training advertisement. Furthermore, the necessity of stakeholder participation in the Project has also been increasing.

(2) Action to be taken

The Project needs to enhance understanding and cooperation of relevant DWS's Branches/Chief-Directorates/Directorates and stakeholders.

(3) Roles of Responsible Persons/Organization

- PMC Chairperson and task leaders invite/engage relevant DWS's Branches/Chief-Directorates/Directorates (such as CD: Water Services & Local Water Management, RBIG and Communication) and stakeholders (such as COGTA, MISA, WRC, etc.) to project meetings and events until the end of the Project.
- Liaison task team with support from SALGA creates communication channels with Stakeholders before the end of December 2019.
- PMC discusses possible collaboration with stakeholders before the end of March 2020.
- JICA Experts support PMC and relevant task teams.

2-4 Project Management and Operation

(1) Details and Cause

The Project has entered into the implementation stage of the National NRW Training. The Project team has observed difficulties and challenges in ongoing preparation, communication and implementation of the National NRW Training for the 1st group.

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For sustainability, DWS has recognized the National NRW Training as a pilot differing from existing model/approach, to be aligned practically with occupational qualification "Water Reticulation Practitioner", which is currently registered in the South African Qualifications Authority (SAQA) under National Qualification Framework.

(2) Action to be taken

DWS scrutinizes resemblance between the National NRW Training and the occupational qualification "Water Reticulation Practitioner", prepares documentation and takes procedures for service provision accreditation (possibly as a part- or specialized qualification) to Quality Council for Trades and Occupations (QCTO).

(3) Roles of Responsible Persons/Organization

- PMC creates new task for accreditation.
- OS and IBTC take responsibility of this task.
- Task team collects requirement for accreditation of the occupational qualification "Water Reticulation Practitioner" by the middle of December 2019.
- Task team checks and compare between the National NRW Training and the occupational qualification "Water Reticulation Practitioner" by the middle of December 2019.
- Task team prepares submission and applies for accreditation by the end of March 2020
- The Project obtains accreditation by end of the Project, but it depends on the feedback and approval received from QCTO via SETAs
- PMC and JICA experts supports the task team

II. Project Monitoring Sheet I & II (as attached)

Annex

- Annex-1: Handover certificate (equipment)
- Annex-2: Handover certificate (training yard)
- Annex-3: Benchmark report of the 2nd Training in Japan
- Annex-4: Overall programme (calendar)

Abbreviations

- CoGTA : Department of Cooperative Governance and Traditional Affairs
- DWS : Department of Water and Sanitation
- EWSETA : Energy and Water Sector Education and Training Authority
- IBOM : Infrastructure Build, Operate and Maintenance (a Branch of DWS, former NWRl)
- IBTC : Infrastructure Branch Training Centre (under IBOM)
- IWS : International Water Support (a Branch of DWS)

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3-4	Training yard	By the middle of June 2019	By the end of October 2019
3-5	Training equipment	By the middle of June 2019	By the end of October 2019
3-6	Teaching/learning materials development	By the end of June 2019	By the end of October 2019
3-8	Preparation of the National NRW Training	By the end of July 2019	By the end of March 2020 (by group)
3-9	The National NRW Training	From September 2019	Rescheduled (from October 2019)
3-10	Monitoring of the National NRW Training	From September 2019	Rescheduled (from October 2019)
3-11	Verification of effects of the National NRW Training	From September 2019	Rescheduled (from October 2019)

4 Preparation by the South African side toward after completion of the Project

4-1 Committee for the National NRW Training

(1) Details and causes

The National NRW Training needs a national board or council function for sustainability after the Project period.

(2) Action to be taken

DWS prepares, develops terms of reference (TOR) and establishes a committee to supervise the National NRW Training, discuss the direction, modification, further development of the Training among DWS, SALGA and stakeholders after the Project.

(3) Roles of Responsible Persons/Organization

- PMC creates new task for establishment of the committee.
- WUE takes responsibility of this task.
- Task team drafts TOR by the middle of December 2019
- Task team selects members (such as COGTA, MISA, WRC and municipalities) by the middle of December 2019
- PMC finalizes TOR by the end of March 2020
- The Project establishes the committee by end of the Project
- PMC and JICA experts supports the task team

4-2 Accreditation Preparation

(1) Details and causes

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Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water
 Project Period: August 2017 to July 2019 (36 months)
 Implementing Organization: Department of Water and Sanitation (DWS) / IBTC
 Direct Beneficiaries: DWS, IBTC and its personnel, Facilitators selected
 Indirect Beneficiaries: Municipalities
 End Beneficiaries: Customers / Consumers of water supplied by Municipalities
 Project Site: Gauteng Province

Version 2
 Dated 25 Jul. 2018

Monitoring: 17 Oct. 2019

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
<Overall Goal> Non-Revenue Water (NRW) management skills are utilized in NRW reduction projects of participating municipalities.	1. NRW reduction projects using developed NRW management skills in participating municipalities are increased. 2. NRW ratio in participating municipalities is decreased.	1. Monitoring report of participating municipalities 2. DWS's No-Drop report and/or report from participating municipalities		None.	
Project Purpose NRW management skills are developed for participating municipalities through the NRW Training by IBTC.	1. No. of the NRW Training at IBTC is increased. 2. No. of water balance submission is increased. 3. No. of NRW reduction plan in participating municipalities is increased.	1. IBTC's annual training report 2&3. DWS's No-Drop report and/or report from participating municipalities	- Dramatic reduction of budget and public grants on skills development for Municipalities does not happen.	- The Training for the 1st group is ongoing from 7th October 2019.	
<Outputs> 1. Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.	1-1. Analyzed/organized information of skills development of municipalities is submitted to DWS (list of no. of staff, attached training, mentor resources, training providers, manuals, workshops and yards, subsidies/grants, good practices, etc.) 1-2. Analyzed/organized information of NRW and needs of municipalities is submitted to DWS. 1-3. Benchmarked matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.)	1-1&2. Baseline survey report and training curriculum 1-3. Benchmark report 1-4. Seminar report and presentations		- Baseline Survey was prepared. - Benchmark reports were prepared. - Presentation occasions have been provided at provincial seminar, workshop and forum. - Directorate: Communication has	
2. IBTC's NRW Training capacity is improved.	2-1. Appropriate organizational structure for the NRW Training is established at IBTC. 2-2. No. of revision of Standard Operation Procedures (SOP) of the NRW Training is increased. 2-3. No. of revision of the NRW Training Business Plan is increased.	2-1. Capacity assessment report and/or organogram of IBTC 2-2. Standard Operation Procedures (SOP) of the NRW Training 2-3. The NRW Training Business Plan		- Organizational structure has been developed in collaboration with facilitator - SOP has been developed - Business plan was prepared.	
3. The NRW Training is conducted with training improvement cycle.	3-1. No. of Facilitator Technical Meeting is increased. 3-2. No. of NRW Training is increased. 3-3. Trainee's satisfaction with the NRW Training is increased. 3-4. No. of feedback/utilization of skills trained into water services at municipalities is increased.	3-1&2. IBTC annual report 3-3. Training evaluation questionnaire to trainees (training management/contents and individual achievement) 3-4. Survey of participating municipalities in sampled municipalities.		- Twice (3rd-5th July, 18th-20th September 2019) - The National NRW Training for the 1st group is ongoing from 7th October 2019. - Evaluation of the Training for the 1st group is ongoing from 7th October 2019.	

Note:

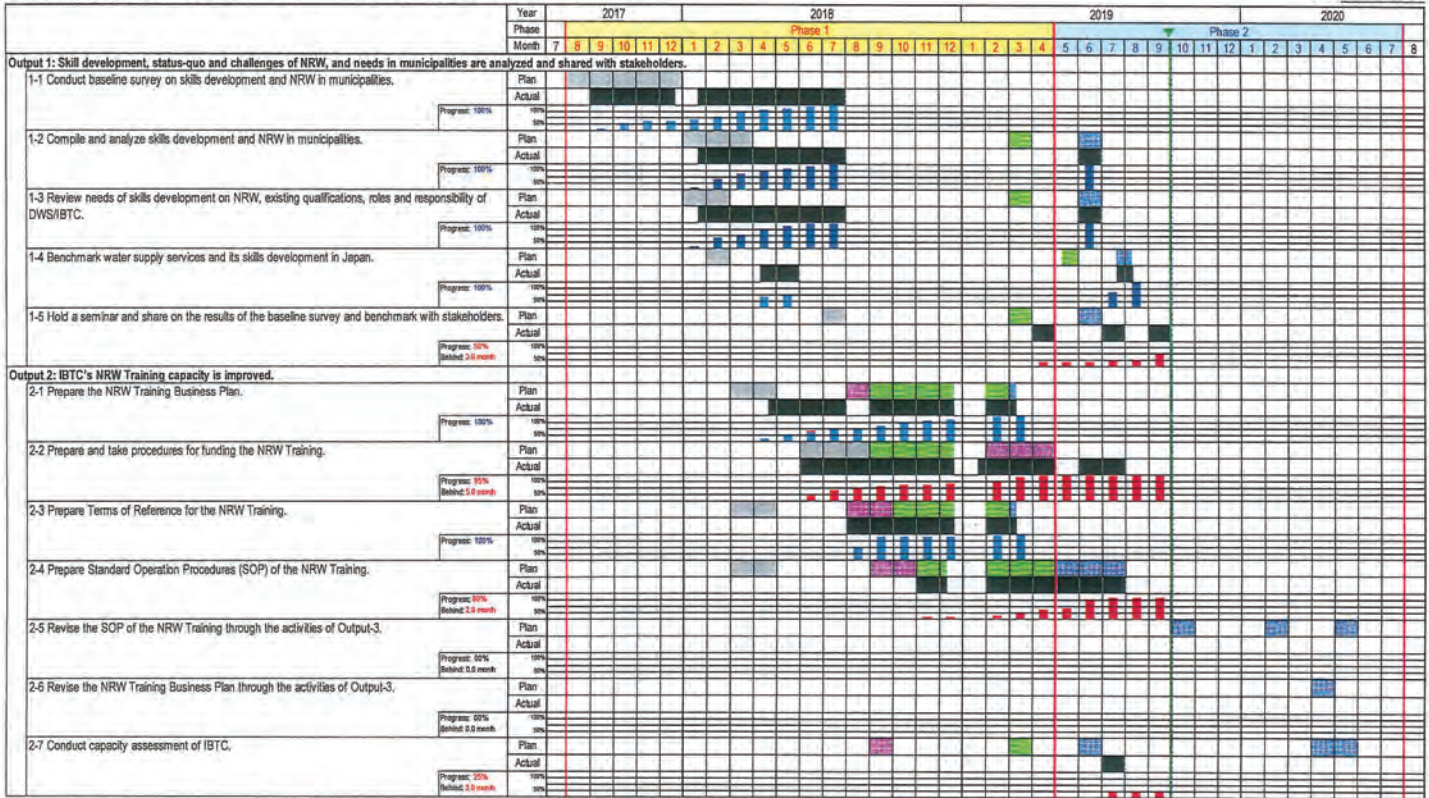
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PM Form 3-1 Monitoring Sheet Summary

- JCC : Joint Coordinating Committee
- JICA : Japan International Cooperation Agency
- LGSETA : Local Government Sector Education and Training Authority
- MISA : Municipal Infrastructure Support Agency
- NRW : Non-Revenue Water
- OS : Operational Support (a Directorate in DWS)
- PDM : Project Design Matrix
- PMC : Project Management Committee
- PO : Plan of Operations
- QCTO : Quality Council for Trades and Occupations
- RBIG : Regional Bulk Infrastructure Grant
- SALGA : South African Local Government Association
- SAQA : South African Qualifications Authority
- SETA : Sector Education and Training Authority
- WBS : Work Breakdown Structure
- WRC : Water Research Commission
- WRP : Water Reticulation Practitioner (an occupational qualification)
- WSA : Water Services Authority
- WSP : Water Services Provider
- WSIG : Water Services Infrastructure Grant
- WUE : Water Use Efficiency (a Directorate in DWS)

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Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water



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 2019
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Inputs		Important Assumption	
<p>Activities for Output 1</p> <p>1-1. Conduct baseline survey on skills development and NRW in municipalities. 1-2. Compile and analyze skills development and NRW in municipalities. 1-3. Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC. 1-4. Benchmark water supply services and its skills development in Japan. 1-5. Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.</p> <p>Activities for Output 2</p> <p>2-1. Prepare the NRW Training Business Plan. 2-2. Prepare and take procedures for funding the NRW Training. 2-3. Prepare Terms of Reference for the NRW Training. 2-4. Prepare Standard Operation Procedures (SOP) of the NRW Training. 2-5. Revise the SOP of the NRW Training through the activities of Output-3. 2-6. Revise the NRW Training Business Plan through the activities of Output-3. 2-7. Conduct capacity assessment of IBTC.</p> <p>Activities for Output 3</p> <p>3-1. Design the NRW Training based on the results of Output-1. 3-2. Secure the site(s) for workplace of the NRW Training. 3-3. Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the NRW Training from DWS/IBTC and stakeholders. 3-4. Develop training yard for the NRW Training at IBTC. 3-5. Procure equipment, instruments/tools and materials for the NRW Training. 3-6. Develop teaching/learning materials for the NRW Training with incorporating good practices from baseline survey into the materials if any. 3-7. Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the NRW Training. 3-8. Prepare for conducting the NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.). 3-9. Conduct the NRW Training by facilitators with support from JICA Experts. 3-10. Monitor the NRW Training and feed the results back under training improvement cycle. 3-11. Verify effects of the NRW Training in sampled municipalities.</p>	<p>The South African Side</p> <p>1. Project Personnel</p> <p>1) JCC Chairperson: Chief Director of Global Cooperation, DWS 2) Project Director (PD): Director of NWRI, DWS 3) Co-Project Director (PD): SALGA 4) Project Manager (PM): Centre Manager, IBTC 5) Co-Project Manager (PM): Director, Water Use Efficiency 6) Training Manager, IBTC 7) Quality Assurer, IBTC 8) Dedicated NRW Training personnel, IBTC 9) Municipal Coordinator (Technical), SALGA 10) Municipal Coordinator (HRD), SALGA 11) Facilitator 12) Candidate Facilitator 13) Other personnel mutually agreed upon as necessary</p> <p>2. Land, Building and Facilities</p> <p>1) Office space and facilities for JICA Experts, including water, electricity, internet connection and air conditioners if necessary 2) Land for training yard 3) Other facilities mutually agreed upon as necessary</p> <p>3. Local Cost</p> <p>1) Allowance, accommodation, travelling cost and foods for project personnel, facilitators and trainees in South Africa (born by DWS, municipalities, etc.) 2) Administration and operational costs including cost for demurrage at local customs point and licensing of equipment/instruments if necessary 3) Other costs mutually agreed upon as necessary</p>	<p>The Japanese Side</p> <p>1. JICA Experts</p> <p>1) Chief Advisor / NRW Management 2) Deputy Chief Advisor / NRW Management 3) Training Planning / Organization Coordination 4) Water Leakage Detection 5) Water Distribution Control / Commercial Loss 6) Training Yard Design and Supervision 7) Procurement / Administrative Coordination 8) Training Management / Human Resources Development 9) Other Expert(s) if necessary</p> <p>2. Facilities</p> <p>1) Training yard 2) Web site development and maintenance 3) Other facilities mutually agreed upon as necessary</p> <p>3. Equipment, instruments, tools and materials</p> <p>1) Bulk water flow meter 2) Leak detection equipment/instruments 3) Tools for training 4) Materials such as pipe, fittings, valve, meter and etc. 5) Other equipment, instruments, tools and materials mutually agreed upon as necessary</p> <p>4. Training</p> <p>1) Training in Japan 2) Training in the third country if necessary</p>	<p>Pre-Conditions</p> <p>- DWS and SALGA agree on their collaboration and cooperation for the Project - DWS allocates/ assigns personnel in charge of NRW Skills Programs at IBTC.</p> <p>Issues & Countermeasures</p> <p>1) Delay of the Activities (Tasks) 2) Systematic and sustainable business plan of the National NRW Training 3) Understanding and cooperation of relevant DWS's Branches/Chief-Directors/Directors and Stakeholders 4) Project Management and Operation 5) Committee for the National NRW Training 6) Accreditation preparation</p> <p>For details, refer to "2. Delay of Work Schedule and/or Problems (if any)" and "4. Preparation by the South African side toward after completion of the Project" of "1. Summary".</p>

Note: Indicators were discussed and finalized based on the baseline survey and were agreed at Joint Coordinating Committee (JCC). As an all-inclusive term, "Facilitator" in the Project may act as facilitator, trainer, mentor, coach and supervisor.

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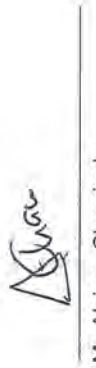
CERTIFICATE OF HANDOVER

17th October, 2019

Project: The Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

This is to certify that the equipment in the attached list for the above mentioned project have been handed over properly to Department of Water and Sanitation, as of 17th October, 2019.


Mr. Akinori Miyoshi
Chief Advisor,
JICA Expert Team


Mr. Aloious Chaminuka
Chief Director: Engineering Services,
Department of Water and Sanitation

Cc: Japan International Cooperation Agency

Attachment: Equipment List

EQUIPMENT LIST

No.	Item	Purpose or Required Specification	Qty	Remarks	Supplier
1	Ultrasonic Flow-meter	To measure system input volume as a bulk meter	2	Primayer PrimeFlo T RXG 845 with thickness gauge SA40	NLD
2	Pressure Logger	To measure and log water pressure continuously	2	Primayer Primelog+2i + XAP Display	NLD
3	Leak Noise Correlator	To measure distance to leakage point from sensors	1	Technolog Cello 4S	WRP
4	Ground Microphone	To detect loudest noise point of surface	1	Gutermann AquaScan 610	NLD
5	PVC Locator	To generate noise and locate PVC or ACP pipeline	1	Gutermann AquaScope 3-C	NLD
6	Metal Pipe Locator	To locate metallic pipe or electric cable	1	Seba KMT-HL5000 Pro	WRP
7	Buried Valve Locator	To detect buried water valves	1	Fujitecom DNR-18	H2O
8	Electric Listening Stick	To listen to leak sound at pipe fittings	1	Fujitecom NPL-100	NLD
9	Listening Stick	To listen to leak sound at pipe fittings (analogue)	5	Gutermann AquaTracer 200	NLD
10	Walking Measure	To measure distance of ground surface	1	Gutermann Magscan 100	NLD
11	Hammer Drill with 3 bits	To make a 19mm hole to asphalt to insert listening stick to confirm underground leakage	1	Gutermann AquaScope 2 with tripo	NLD
12	Boring Bar	To bore a hole (12-15mm) to insert listening stick to confirm underground leakage	2	Fujitecom RH1440 with 3 bits	NLD
13	Reference Meter	To compare accuracy with water meter	1	Fujitecom Boring bar 1.0m	NLD
				Sensus iPerf	NLD

NLD: National Leak Detection

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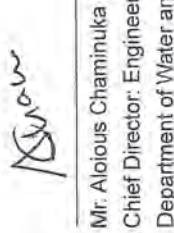
CERTIFICATE OF HANDOVER

17th October, 2019

Project: The Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

This is to certify that the training yard for the above mentioned project have been handed over properly to Department of Water and Sanitation, as of 17th October, 2019.


Mr. Akinori Miyoshi
Chief Advisor,
JICA Expert Team


Mr. Aloious Chaminuka
Chief Director: Engineering Services,
Department of Water and Sanitation

Cc: Japan International Cooperation Agency

Attachment: Training Yard Construction Documents

The 2nd Training in Japan

Course Name: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water (Facilitators & Administration)

Course Objective:

At the working level, to benchmark the Japanese cases in water services administration, human resources development, training provision and water services delivery by authorities, particularly NRW reduction.

Module Outputs:

- To understand practices in human resources development, skill transfer and knowledge management of Japanese water utilities
- To understand attitudes and efforts in water service delivery and NRW reduction of Japanese water utilities
- To benchmark human resources development and training provision of Japanese water utilities
- To review and improve the National NRW Training programme developed in the Project

Receiving Organization: JICA, Ministry of Health, Labour and Welfare (MHLW), Japan Water Works Association (JWWA), Yokohama City Waterworks Bureau, Tokyo Metropolitan Bureau of Waterworks,

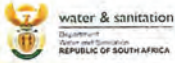
Curriculum

- Program Orientation
- Outline of Water Supply in Japan
- The Introduction of Yokohama Waterworks
- Miyagase Dam Managed by Kanagawa Water Supply Authority (KWSA)
- Aoyama Settling Basin & Role of Intake, Yokohama Waterworks Bureau (YWWB)
- Kawai Water Purification Plant (Low Energy Type Membrane Filtration), YWWB
- Effective Water Supply System
- Distribution Reservoir incl. attached Facilities
- Nishiya Pump Station and attached Facilities
- Outline of Japan Water Works Association (JWWA)
- Human Resources Development Program for Water Utilities by JWWA
- Common Challenge of Water Service Management
- Courtesy Visit to the South African Embassy in Japan
- Countermeasures against Non-Revenue Water (NRW)
- Construction of Pipe Installation
- Construction Management
- Human Resources Development Plan of YWWB
- Training Yard for Water Leakage Survey
- Q & A, Exchange Session
- Human Resource Development System of Bureau of Waterworks, Tokyo Metropolitan Government
- Tour of the Practical Training Facility
- Wrap-up Discussion/ Review of the Training Programme
- Preparation of Benchmarking Results
- Debriefing Session with Benchmarking Results

Period: 29th July to 9th August 2019

Project for Strengthening the Training Capacity of Infrastructure Branch Training Centre (IBTC) on Non-Revenue Water

Results of the Benchmarking Session in Japan (29 July – 9 August 2019)



1

Presentation Outline

- Introduction
- Background (Non-Revenue Water)
- Benchmarking
- Lessons Learnt And Observation
- Recommendations
- Conclusion

2

1. Introduction

The Department of Water and Sanitation in conjunction with SALGA entered into a 3 year Technical Cooperation Agreement with the Japan International Cooperation Agency (JICA) to strengthen the training capacity of the DWS Infrastructure Branch Training Centre (IBTC).

The project aims to skill and capacitate water service authorities (WSAs) employees on the management of Non-Revenue Water (NRW), learning from best practices in Japan.

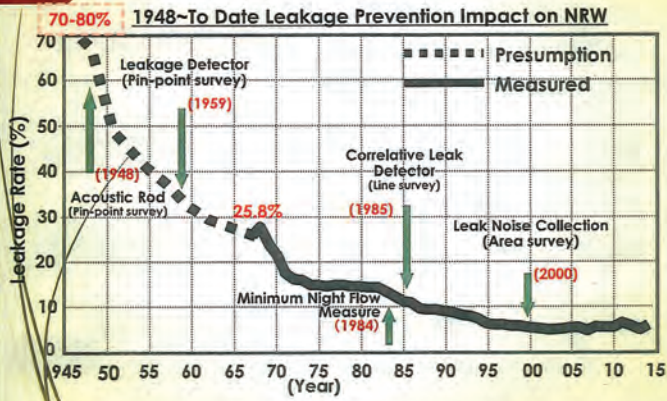
Introduction (continued)

- First Benchmarking exercise:
 - The benchmarking session was conducted in May 2018.
 - Ten officials from the Department, Salga, Sector Education and Training Authority (SETA), Tshwane University of Technology and selected Municipalities
- Second Benchmarking exercise
 - Benchmarking session from 29 July to 9 August 2019.
 - 17 member delegation from DWS, SALGA, LGSETA and participating municipalities

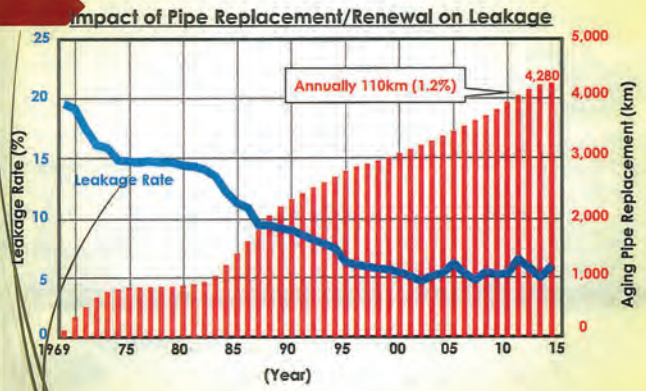
Annex 3: The 2nd Training in Japan

Participants: 17 delegation officials

Name	Organization	Position
Mr. MONENE Vincent	Department of Water and Sanitation (DWS)	Director: Technical Engineering Services, Engineering Services, Infrastructure Build Operation and Maintenance
Mr. HADEBE Xolani	Department of Water and Sanitation (DWS)	Director: Water Use Efficiency, Planning & Information
Mr. MUSARA Tapiwanashe	Department of Water and Sanitation (DWS)	Chief Engineer, Engineering Services, Infrastructure Build Operation and Maintenance
Mr. BASSON Armand	Department of Water and Sanitation (DWS)	Project Manager, Construction Management, Infrastructure Build Operation and Maintenance
Ms. KGOPUTSO Sekgollane Braydar	Department of Water and Sanitation (DWS)	Deputy Director: Training Manager, Infrastructure Build Operation and Maintenance
Mr. PADI Andries Maubane	Department of Water and Sanitation (DWS)	Environmental Officer, Water Use Efficiency, Planning & Information
Mr. SINGH Michael Lutchman	Department of Water and Sanitation (DWS)	Director: Planning, Monitoring and Evaluation, Kwa-Zulu Natal
Ms. YEKANE Sibongiseni Sikiza	Buffalo City Metropolitan Municipality	Senior Technician, WCWDM, Water Supply Services
Mr. BVUMBI Muijalo Justice	City of Ekurhuleni	Senior Specialist Engineer, Planning
Mr. NTHUTANG Pholo	Johannesburg Water Company	Manager: Physical Loss, Technical Services
Mr. SCHMULIAN Nico	City of Tshwane	Functional Head: Water Demand Management, Water and Sanitation
Ms. MWELASE Lorraine Thulisile	Ugu District Municipality	Manager: Water Resources Management, Water Services
Mr. MOABELO Koena Given	City of Mbombela	Senior Engineering Technician, Water and Sanitation
Mr. JONI Ndzululwazi	City of Cape Town	Regional Operations Manager, Water and Sanitation
Mr. JANSEN Henry Kenneth	George Local Municipality	Deputy Director: Water and Wastewater Services, Civil Engineering Services
Ms. TSHABANGU Milliscent	South African Local Government Association (SALGA)	Director: Municipal Capability & Governance Cluster
Ms. MODISE Onkemetse Roselyn	Local Government Sector Education and Training Authority (LGSETA)	Quality Assurer, Operations



9



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Water Balance for Yokohama: Japan=3-5% overall

Distributed Water 100%	Revenue 92.3%	Billed metered consumption	92.3
		Billed unmetered consumption	+0.0
	Non-Revenue 7.7%	Unbilled metered consumption	0.3
		Unbilled unmetered consumption	0.5
		Unauthorized consumption	0.0
		Customer meter inaccuracies	1.9
		Leakage Water (assumed)	5.0

HRD: SKILLS RETENTION AND TRANSFER

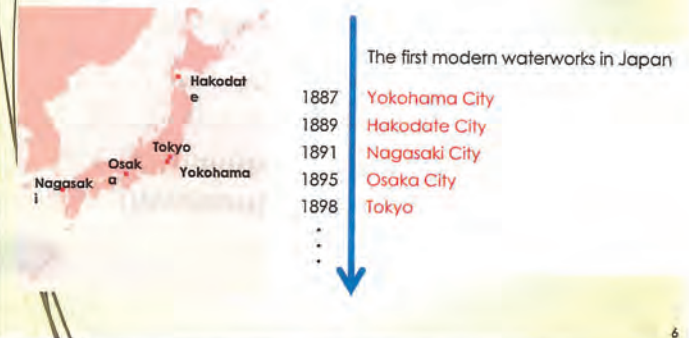
- HRD: Human Resource Development
- An individual chooses a company than a company choosing an individual
- The company places individuals in any part of the organization it deems suitable for the individual
- HRD based on needs of the organization than individual
- Technical or administrative training conducted in-house by experienced technical or admin personnel
- Most waterworks bureau have their technical training facilities for skills transfer
- Lecturers are either professors, industry professionals or internal experienced staff members
- They implement a three-pong approach, mostly concentrating on On-the-Job-Training (OJT), Off-the-Job Training (Off JT) and then self development.

Why Japan?

- a) History Modern Water Supply and NRW
- a) Measures and Impact on NRW
- a) HRD and Skills Transfer

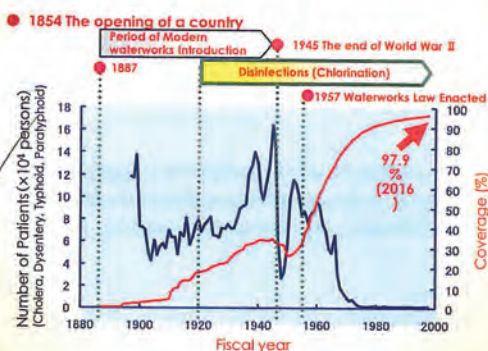
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HISTORY OF MODERN WATER SUPPLY AND NRW



6

CONTINUED.....



CONTINUED.....

- NRW in 1948 assumed to be in the region of 70 to 80 % of the total system volume
- The assumptions were based on the following factor:
 - Large Kanto earthquake measuring M7.9 in 1923
 - Bombing of Japan in 1948: World War 2
- The following were measures introduced to reduce NRW in the country to date:
 - 1948: Various leak detection and repairs
 - 1984: Measurement of Minimum Night Flows
 - 1969: Replacement of old and weak pipes
- Resulting to 100% water supply coverage and metering as well as approximately 98% revenue collection.
- *see impact on next slide!

GENERIC COMPARISON

ITEM	Japan	SA
Technical	<ul style="list-style-type: none"> Design of infrastructure and material is based on their conditions hence less physical water loss Design philosophy entails maintaining same pressure within a supply area. (7 bar) 	<ul style="list-style-type: none"> Infrastructure design good, but issues around workmanship and appropriate technology & costs remains a challenge Design philosophy entails constructing reservoirs on high lying areas, difficult to maintain same pressure
Innovation and Technology	<ul style="list-style-type: none"> Innovation is encouraged (infrastructure optimization e.g. Hydropower and solar) 	<ul style="list-style-type: none"> Innovation is encouraged but more compliance driven

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GENERIC COMPARISON

ITEM	Japan	SA
NRW Revenue water and Apparent loss	<ul style="list-style-type: none"> No free basic water Collection rate 100% 0% of unauthorized (illegal)connections Rising Block Tariff (cost reflective) Standard brass mechanical water meters: replaced every 8 years Water budget and revenue are ring-fenced 	<ul style="list-style-type: none"> Free basic water Culture of non-payment High % unauthorized (illegal) connections Various Tariff regimes used Various types of water meter employed but no regular replacement due to budget constraints Water budget and revenue not ring-fenced

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GENERIC COMPARISON

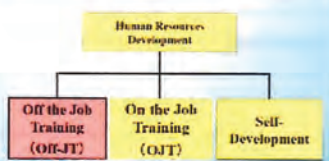
ITEM	Japan	SA
Real losses	<ul style="list-style-type: none"> 5% Pipe replacement program in place (1.25% ratio e.g. Yokohama) Active leakage control Response time on repairs and maintenance is effective 	<ul style="list-style-type: none"> 37% Pipe replacement program in place but insufficiently funding. Limited leakage control Response time on repairs and maintenance is not effective

GENERIC COMPARISON CONTI.....

ITEM	Japan	SA
HRD	<ul style="list-style-type: none"> Lower emphasis is placed on formal qualifications On-the-Job training system is effective, with less Off –the-job Training mostly done by in-house technical experts More practical Use of Japanese language is which is seen an advantage Three categories of plumbers: service pipe, reticulation and domestic 	<ul style="list-style-type: none"> Formal qualification is required and regulated Little to no in-house training Training mostly done by external service providers More theoretical Use of English as medium (2nd language- barriers to some people) Only domestic plumber

Continued.....

Structure of Human Resources Development

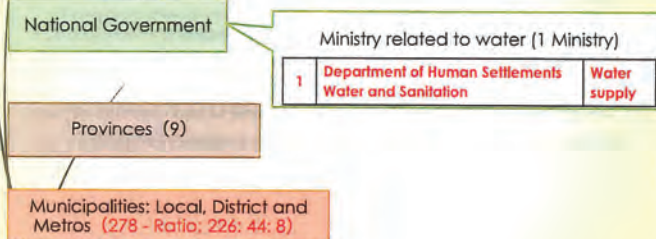


Results:

- Staff retention more than 75%
- Skills retention more than 90%

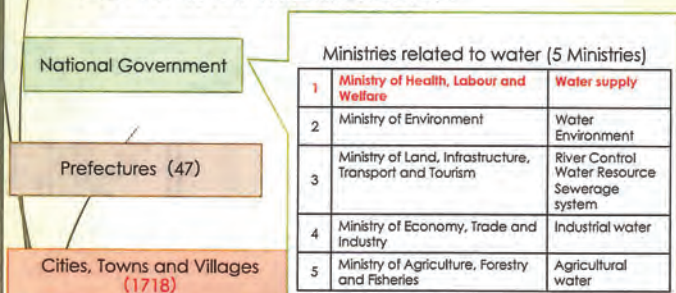
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ADMINISTRATION: SOUTH AFRICA



14

ADMINISTRATION: JAPAN



GENERIC COMPARISON

ITEMS	Japan	SA
Institutional arrangement	<ul style="list-style-type: none"> Water utilities are autonomous (water services is ring-fenced) JWWA was formed voluntarily by water utilities for WU 	<ul style="list-style-type: none"> WSA have political interferences WRC, JASWIC & SANAS
Administration	<ul style="list-style-type: none"> Flexible (not policy oriented) Procurement systems are more efficient is faster Procurement: outsource all maintenance and construction work (they only supervise) 	<ul style="list-style-type: none"> Rigid and controlled by legislations and policies Slow regulated procurement system Mixed procurement methods

RECOMMENDATIONS

RECOMMENDED ACTIVITY	SECTOR RESPONSIBLE
Design training for municipality based on critical skills needs analysis by identifying and addressing critical priorities, which would include empowering staff. There is a need to establish a baseline and measure projected benefits and value over time	<ul style="list-style-type: none"> Department of COGTA and SALGA to extend to selected municipalities the establishment of training facilities similar to the training yard built at the Infrastructure Branch Training Centre (IBTC) at Roodeplaat. The Department to expand the current training yard to also include training and capacity building on the management and improvement of Non-Revenue for bulk infrastructure and also spearhead the development of comprehensive curriculum to address water sector challenges and NRW training and also be expanded to include other water sector strategies.

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RECOMMENDATIONS

RECOMMENDED ACTIVITY	SECTOR RESPONSIBLE
Mandates, roles and responsibilities of all water sector stakeholder institutions should be realigned and integrated to improve efficiencies in water management, especially NRW including real and apparent losses	<ul style="list-style-type: none"> The DWS in collaboration with COGTA and SALGA to strengthen ring-fencing of funding from different grants to focus on improving water infrastructure efficiency and alignment. The DWS should enforce Policy on mandatory metering on all conveyance and abstraction lines. Water utilities should comply with submission of updated monthly water use records as required under water use efficiency directorate.

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RECOMMENDATIONS

RECOMMENDED ACTIVITY	SECTOR RESPONSIBLE
Due to limited resources, the IBTC must be developed as the model in terms of piloting the Japanese system (similar to the Water Bureaus) of implementing an integrated comprehensive water loss training facility. Investigate the possibilities of decentralising the training to the 8 metros or water boards and these institutions must construct similar training facilities	The Department to expand the training yard to incorporate other water infrastructure like bulk pipeline and open channels among others to ensure a comprehensive and inclusive capacity building training programme to improve management of NRW from source to tap.
The training facility should also be accessible to contractors/service providers for income generation who trains for same skills and standards for income generations – this will assist with maintaining standards	The DWS to develop a business development strategy to ensure that the training facilities can be accessible to State Own Enterprises (SOEs) and private sector who needs training on other training programmes like pressure management, water balancing and pipe laying and maintenance.

RECOMMENDATIONS

RECOMMENDED ACTIVITY	SECTOR RESPONSIBLE
Funding should be sourced from donors, water utilities or beneficiary institutions (WSAs), the current supportive environment should be leveraged towards securing resources for fighting non-revenue water.	COGTA and SALGA to develop business cases and plans in collaboration with provincial and local government and submit comprehensive funding proposal to leverage toward sourcing financial and technical resources for fighting NRW.
Municipalities must be empowered and assisted to develop the 5 year water conservation / water demand management (WCWDM), non-revenue water management strategies. Project selection and prioritization will be based using return on investment (ROI) or projected actual savings	COGTA and SALGA to facilitate this integrated planning which include WCWDM and NRW improvement in local government.

GENERIC COMPARISON CONTI.....

ITEMS	Japan	SA
Socio-cultural/political/Economical	<ul style="list-style-type: none"> Company oriented (lifetime employment) Selection of company not a job (Sense of belonging) No political interference 	<ul style="list-style-type: none"> Job oriented (temporary employment) Select the job not the company Political interference

21

Photo Slides

22

RECOMMENDATIONS

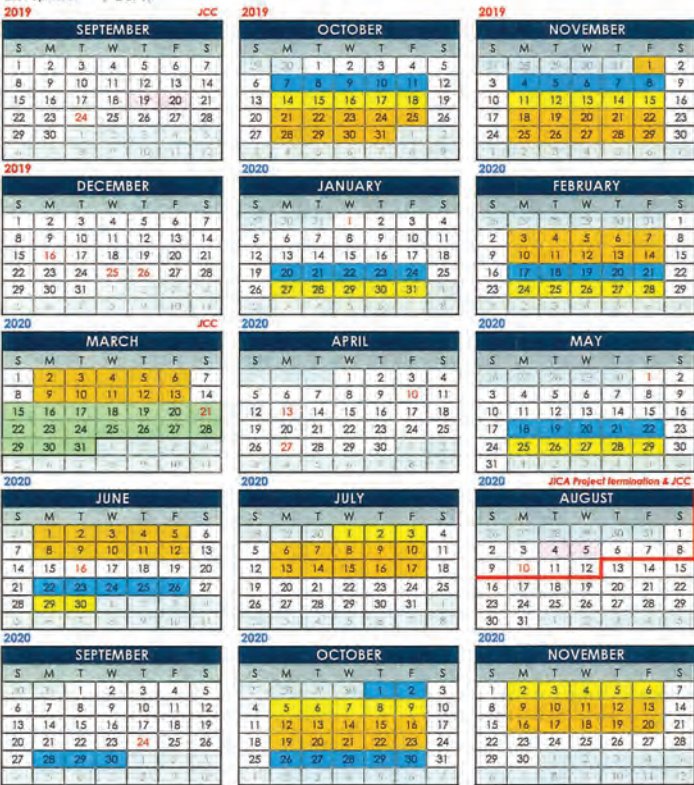
RECOMMENDED ACTIVITY	SECTOR RESPONSIBLE
Fast-tracking of the policy and review of water utilities (municipal water services authorities) to be stand-alone water business	<ul style="list-style-type: none"> DWS to fast track the process of developing a Water Infrastructure Agency. Department of Cooperative Governance and traditional Affairs (COGTA) in consultation with SALGA to review the current institutional model of local government and funding and work towards enforcing the ring-fencing of water expenditure and revenue. DWS to enforce conditions on the use of Municipal Infrastructure Grant (MIG) and other water related infrastructure grant funding to ensure that the portion allocated to water infrastructure for the operations and maintenance is ring-fenced to improve operation and maintenance of the water infrastructure.

RECOMMENDATIONS

RECOMMENDED ACTIVITY	SECTOR RESPONSIBLE
Innovative and focused way to mitigate and deal with the various challenges and obstacles facing the water services sector, in the same way as Japan dealt with the situation post World War II and impacts and risks of earthquakes	<ul style="list-style-type: none"> SALGA and the Department of COGTA in collaboration with the local government sector develop a strategy to improve infrastructure efficiency through refurbishment and ensuring 100% metering of all water abstraction line. DWS to spearhead the development of customised training centres tailor made to address water sector capacity gaps from source to tap. The training facilities should be equipped with facilities that depict encountered real life field conditions.

Overall Programme of The National NRW Training

Last Update: 7-Oct-19



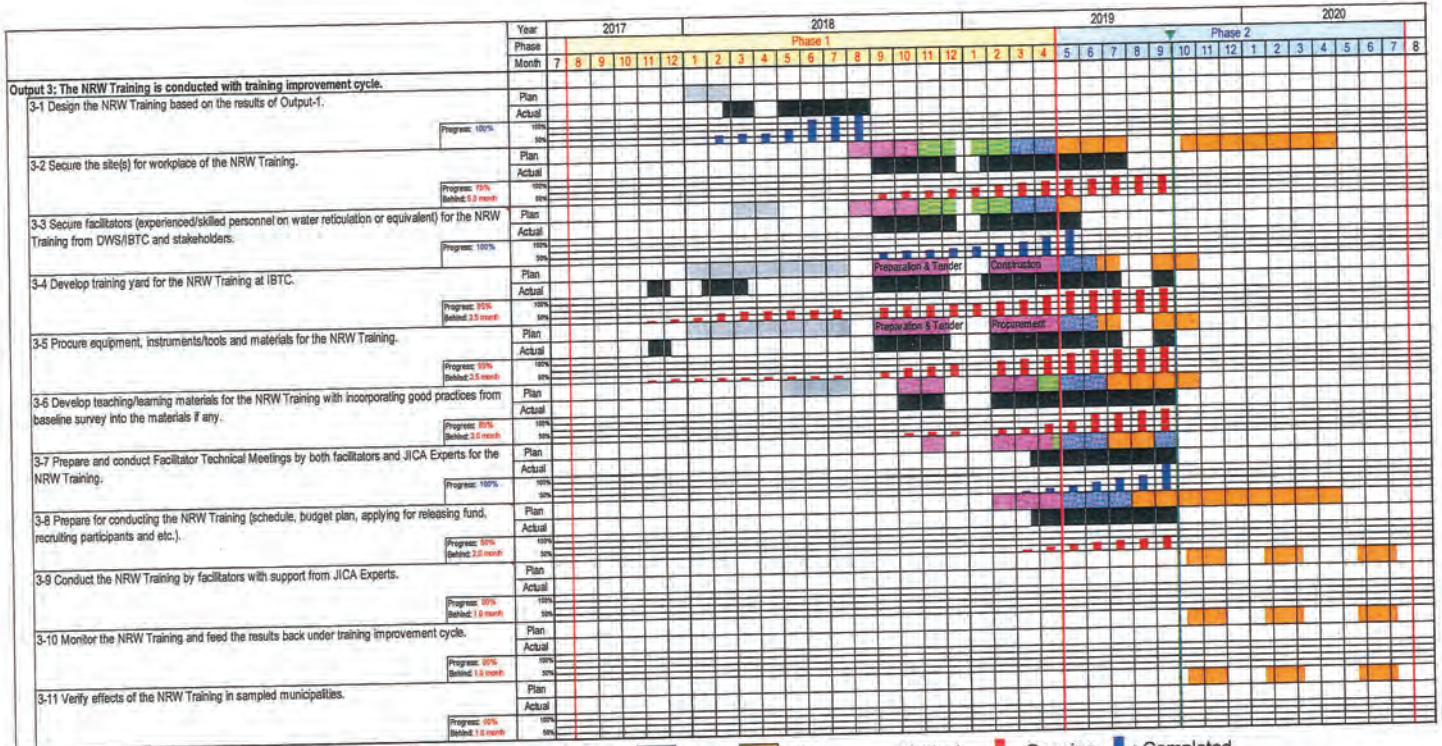
Period	Phase	Participation
1st Group		
7 Oct - 11 Oct	IBC: 5 weekdays solid	All Facilitators
14 Oct - 18 Oct	Preparation for Workplace	3-4 days of each week/Facilitator (3 fac. x 4 munics.)
21 Oct - 1 Nov	Workplace: 10 weekdays	
4 Nov - 8 Nov	IBC: 5 weekdays solid	All Facilitators
11 Nov - 15 Nov	Preparation for Workplace	3-4 days of each week/Facilitator (3 fac. x 4 munics.)
18 Nov - 29 Nov	Workplace: 10 weekdays	
* Review and improvement of the NRW training in November and December 2019		
* Preparation for 2nd Group Training (4 munics)		
2nd Group		
20 Jan - 24 Jan	IBC: 5 weekdays solid	
27 Jan - 31 Jan	Preparation for Workplace	Facilitator In-charged
3 Feb - 14 Feb	Workplace: 10 weekdays	3-4 days of each week/Facilitator (2 fac. x 4 munics.)
17 Feb - 21 Feb	IBC: 5 weekdays solid	
24 Feb - 28 Feb	Preparation for Workplace	Facilitator In-charged
2 Mar - 13 Mar	Workplace: 10 weekdays	3-4 days of each week/Facilitator (2 fac. x 4 munics.)
* Submission of 1st fiscal year completion report to LGSETA in March 7 (if granted)		
* JICA HQs Project Evaluation Mission (5 month prior to the Completion) in March or April		
* Review and improvement of the NRW Training in April 2020		
* Preparation for 3rd Group Training (4 munics)		
3rd Group		
18 May - 22 May	IBC: 5 weekdays solid	Facilitator In-charged
25 May - 29 May	Preparation for Workplace	3-4 days of each week/Facilitator (2 fac. x 4 munics.)
1 Jun - 12 Jun	Workplace: 10 weekdays	
15 Jun - 24 Jun	IBC: 5 weekdays solid	
29 Jun - 3 Jul	Preparation for Workplace	Facilitator In-charged
6 Jul - 17 Jul	Workplace: 10 weekdays	3-4 days of each week/Facilitator (2 fac. x 4 munics.)
4-5 Aug. (tentative)	DWS-SALGA-JICA Project Closing Seminar	All Facilitators
* JICA Project Termination on 12th August 2020		
* Preparation for 4th Group Training (4 munics)		
Legend (Color)		
	: IBC Training	
	: Preparation for Workplace	
	: Workplace Training	
	: Mile stones	
To be continued (until 2025), 3 to 4 groups per annum		

RECOMMENDATIONS

RECOMMENDED ACTIVITY	SECTOR RESPONSIBLE
Create and facilitate implementation framework of appropriate policy, regulations to address and secure compliance in a positive or negative environment. For example to enhance and support use of recently retired personnel with critical skills and experience (like Japan). This will assist with preventing companies and contractors using these staff as consultants. Appropriate rules be a limitation of at least five years before one may consult on State work	The Department in collaboration with COGTA, SALGA, Department of Public Service and Administration (DPSA) and National Treasury to develop a retention strategy to retain retired engineers and other technical specialist to ensure retention of capacity to assist the water sector with required skills to implement and ensure efficient operation and maintenance water infrastructure, but also to facilitate skills transfer.
Based on the above, create technical committees of experts to sustain institutional memory and a mentorship pool, and should have mechanism to incentivize the experts	The Department and COGTA in collaboration with SALGA to establish technical committees comprising of the retired engineers and other technical specialist and young engineers and other technical specialists within the water sector and develop skills transfer programmes and succession planning.

RECOMMENDATIONS

RECOMMENDED ACTIVITY	SECTOR RESPONSIBLE
Water utilities should be autonomous (water services functions and funds should be ring fenced), and fast track the water independent regulator	The DWS and Department of COGTA in collaboration with SALGA to work towards establishing autonomous water utilities by first enforcing ring-fencing of funding for water infrastructure projects from the different grants.

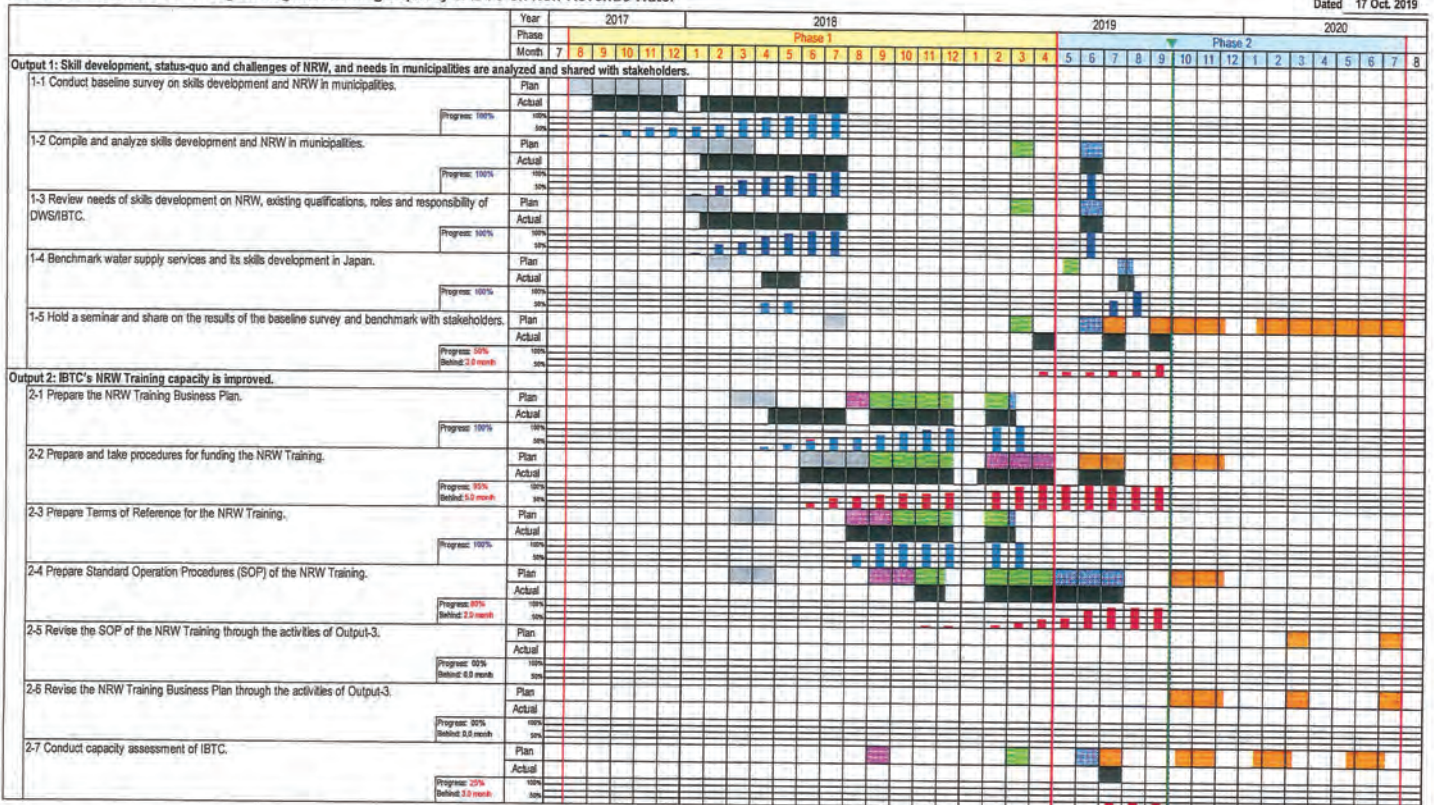


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Project Monitoring Sheet II (Revision of Plan of Operation)

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

POs
Version 5
Dated 17 Oct. 2019



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Project for Strengthening the Training Capacity of Infrastructure Branch Training Centre (IBTC) on Non-Revenue Water

Proposal Sustainability Plan
JCC 17 October 2019

PROJECTS BASED APPROACH

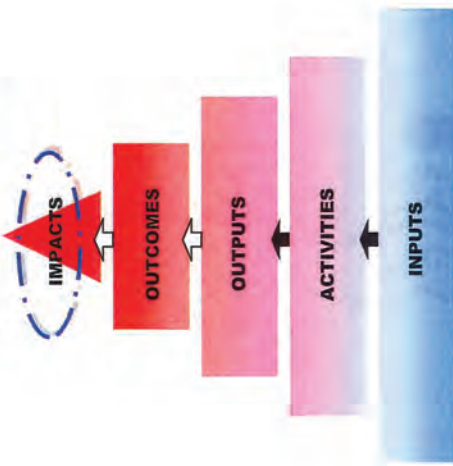


Input	Year	2017												2018												2019												2020							
		Phase 1	Phase 1												Phase 2												Phase 2																		
Phase	Month	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8						
Experts	Plan																																												
①-1 Chief Advisor / NRW Management	Actual																																												
①-2 Deputy-Chief Advisor/ NRW Management	Plan																																												
Actual	Actual																																												
② Training Planning / Organization Coordination	Plan																																												
Actual	Actual																																												
③ Water Leakage Detection	Plan																																												
Actual	Actual																																												
④ Water Distribution Management / Commercial Loss	Plan																																												
Actual	Actual																																												
⑤ Training Yard Design and Supervision	Plan																																												
Actual	Actual																																												
⑥ Procurement / Administrative Coordination	Plan																																												
Actual	Actual																																												
Long-Term Expert	Plan																																												
Actual	Actual																																												
Equipment Procurement	Plan																																												
Actual	Actual																																												
National Consultant/Contractor	Plan																																												
Actual	Actual																																												
Training in Japan	Plan																																												
Actual	Actual																																												
Monitoring	Plan																																												
Actual	Actual																																												
Reports/Documents	Plan																																												
Actual	Actual																																												
Public Relations	Plan																																												
Actual	Actual																																												

Horizontal PO1(Original) Actual PO2 PO3 PO4 PO5 Vertical Ongoing Completed

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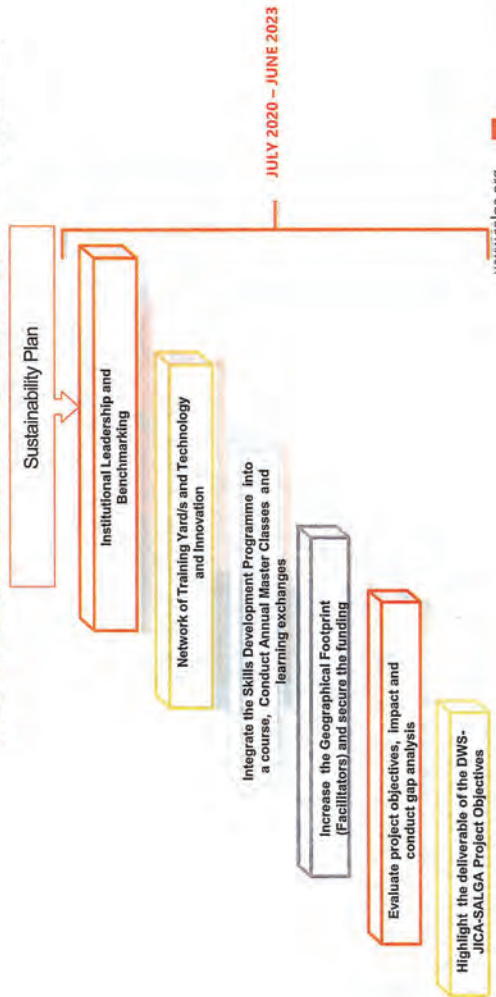
ENVISIONED PROCESS



Recommendations

- JCC Notes the presentation
- Provides input on the proposed elements of the plan
- SALGA to lead the development of the plan with support from JICA and DWS
- The Plan be presented at appropriate Project Governance Structure/s
- The Plan from part and parcel of the Launch once approved by JCC

ELEMENTS/PILLARS TOWARDS A SUSTAINABILITY PLAN



**MINUTES OF MEETING ON
THE 6TH MEETING OF JOINT COORDINATING COMMITTEE
(CANCELED DUE TO COVID-19 PANDEMIC)**

26th March 2020

**Project Monitoring Sheet Ver.5 only
(October 2019 to March 2020)**

To Chief Representative of JICA South Africa Office

PROJECT MONITORING SHEETS (DRAFT)

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

Version of the Sheet: Ver. 5 (Term covered: October, 2019 - March, 2020)

Name: Akinori Miyoshi

Title: Chief Advisor

Submission Date: 26 March 2020

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I. Summary

1 Progress

1-1 Progress of Inputs

[The South African Side]

Project Personnel

All project members including Project Management Committee (PMC) Chairperson, Project Director, Project Manager, PMC Leaders, PMC Coordinator and members and associates have been involved in the Project (refer to Table 1):

Table 1: List of Project Members

Role in Project Implementation	Title and Position
Project Management Committee (PMC) Chairperson	Chief Director: Engineering Services, IBOM, DWS Mr. Aloious Chamunuka
Project Director PMC Leader	Director: Technical Engineering Services, IBOM, DWS Mr. Vincent Monene
Co-Project Director PMC Advisor / Leader	Director: Water Sustainability and Innovations SALGA Ms. William Moraka
Project Manager (Operational) PMC Leader	Centre Manager, IBTC, DWS Ms. Rosa Mfomadi Rahube
Co-Project Manager (Technical) PMC Leader	Director, Water Use Efficiency, P&I, DWS Mr. Hadebe Xolani
Member PMC Secretary / Leader	Director: ODA, IWS, DWS Mr. Albert Mmbidi
Member PMC Leader	Director: Operational Support, PMU, DWS Ms. Kentse Mathiba
Member	Director: Planning, Monitoring and Evaluation, DWS-KZN Mr. Michael Singh
Member	Training Manager, IBTC, DWS Ms. Kgotso Sekgollane
Member	Quality Assurer, IBTC, DWS Ms. Makola Lerato
Member	IBTC, DWS Ms. Verusha Govender
Member	Water Use Efficiency, P&I, DWS Mr. Thabo Masike
Member	Water Use Efficiency, P&I, DWS Mr. Padi Andries
Member	Operational Support, PMU, DWS Mr. Maphutha Tsibiso
Member PMC Coordinator	Construction, IBOM, DWS Mr. Armand Basson
Member	Construction, IBOM, DWS Mr. Riaan Stassen

Role in Project Implementation	Facilitators of the National NRW Training	Title and Position
Members	ODA, IWS, DWS	
Secretary	Ms. Mtsweni Zanu	

Land, Building and Facilities

Office spaces and necessary facilities at the Infrastructure Branch Training Centre (IBTC) and Directorate: Water Use Efficiency of the Department of Water and Sanitation (DWS) have been provided to the Japanese Experts. WiFi and network is not available due to DWS's security restriction, but this has not affected much the Project operation.

Local Costs

All administrative and logistics costs including communication, accommodation, travelling/transport and catering for South African members and officials in mobilization and the National NRW Training implementation at IBTC and workplaces have been provided.

[The Japanese Side]

JICA Experts

JICA Expert Team consisting of a Chief Advisor and members for seven areas of expertise were assigned to work in South Africa as below.

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Table 2: List of JICA Experts

Position in the Project	Name
Chief Advisor / NRW Management	Mr. Akinori MIYOSHI
Deputy Chief Advisor / NRW Management	Mr. Takeoshi FUJIYAMA*1
Skills Programme Planning / Organization Coordination	Mr. Kenichiro SUGIYA
Water Leakage Detection	Mr. Hiroki NIIMURA
Water Distribution Control / Commercial Loss	Mr. Hiroyuki MORITA
Training Yard Design and Supervision	Mr. Masuji IDE*1
Procurement / Administrative Coordination	Mr. Toshinobu KASUYA*1
Training Management / Human Resource Development	Mr. Nobutaka MARUYAMA

Remarks *1: No assignment in this monitoring period.

Facilities

The training yard for practicals of the National NRW Training at IBTC, which was completed and handed over to DWS in October 2019, has been utilized.

Equipment

The training equipment of the National NRW Training, which were procured and handed over to DWS in October 2019, has been utilized.

Training of the South African Project Member and Facilitator in Japan

Although outside the scope of the Project, a project member from DWS and a facilitator from City

of Cape Town, who were nominated under the Project, participated in Leakage Control Training Course by JICA in February 2020. All costs for the training were sponsored by JICA.

1-2 Progress of Activities

Activities for Output-1: [PDM₁] Training information on water supply sector is accumulated at IBTC and shared with SALGA and Municipalities.]

[PDM₂] Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

Table 3: Progress of Activities for Output-1

No	Activity	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
1-1	Conduct baseline survey on skills development and NRW in municipalities				
1-2	Compile and analyze skills development and NRW in municipalities.	- Completed	- None		
1-3	Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.	- Completed	- None		
1-4	Benchmark water supply services and its skills development in Japan.	- Completed - The 2 nd training in Japan for mainly facilitators was conducted from 29 th July to 9 th August 2019	- None		
1-5	Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	- Progress: 50%, Behind PO ₄ : 3.0 months The Project team attended and presented the Project in several water sector seminar, workshop and forum, for example in North-West and KZN provinces, as well as facilitator meeting.	- The Project team needs to utilize opportunities of events effectively by enhancing collaboration with other Directorates and stakeholders such as SALGA, COGTA, LGSETA, MISA, etc. - This activity should be continuous activity.	- Progress: 65%, Behind PO ₅ : 0.0 months - The Project team utilized opportunities such as the NRW Training output seminar and SALGA water and sanitation group meeting.	- Same as the previous monitoring, the Project Team should enhance collaboration with other Directorates and stakeholders such as COGTA, MISA and LGSETA, etc.

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Activities for Output-2: [PDM₁] IBTC's training management capacity in water supply sector is improved.

[PDM₂] IBTC's NRW Training capacity is improved.

Table 4: Progress of Activities for Output-2

No	Activity	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
2-1	Prepare the NRW Training Business Plan.	- Completed	- None		
2-2	Prepare and take procedures for funding the NRW Training.	- Progress: 95%, Behind PO ₄ : 5.0 months - DWS's budget for the National NRW Training was allocated (5 million Rand for FY2019/20). - The revised proposal was submitted to LGSETA and approved according to COO of LGSETA (ZAR7,000/learner) - However, DWS has been waiting for an award.	- The Project team has utilized DWS's budget for the National NRW Training - DWS budget for the National NRW Training should be not ad-hoc but regular basis. - Budget for implementation of NRW management in participating municipalities should be properly considered. - DWS is planning to develop the National NRW Training as an accredited programme (e.c. Part- or specialized qualification of Water Reticulation Practitioner) to ensure funding and enhance programme status for sustainability. - This activity should be rescheduled.	- Completed. - DWS's budget FY2019/20 for the National NRW Training was allocated and utilized for the 1 st and 2 nd Groups (5 million Rand). - DWS's budget FY2020/21 for the National NRW Training was requested and listed (5 million Rand). - DWS has suspended pushing LGSETA for an award due to this exceptional case for funding non-accredited training programme.	- Allocation amount of DWS's budget FY2020/21 for the National NRW Training will be confirmed in April 2020. - DWS should budget for the National NRW Training on not ad-hoc but regular basis for sustainability. - To ensure funding and enhance programme status for sustainability, DWS is working on registering IBTC as an accredited training services provider of WRP qualification to open up the possibility of integration and harmonization with the National NRW Training and its practicality. - DWS registered IBTC as an accredited assessment centre of Water Reticulation Practitioner (WRP) qualification.
2-3	Prepare Terms of Reference for the NRW Training.	- Completed	- DWS/IBTC needs to ensure or enhance training implementation workforce at both IBTC and workplaces.		- Same as the previous monitoring, DWS/IBTC needs to ensure or enhance training implementation workforce at both IBTC and workplaces.

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PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
2-4	Prepare Standard Operation Procedures (SOP) of the NRW Training.	<ul style="list-style-type: none"> - Progress: 80%, Behind PO₄: 2.0 months - Items to be covered by standard operating procedures (SOPs) and manuals were listed. - SOP Task Team prepared the draft platform with standard format/template. 	<ul style="list-style-type: none"> - Overall SOP for training implementation is in the process of development through actual experiences. - Existing process and formats/templates of DWS aiming at ISO9001 should be utilized if any. - This activity should be rescheduled. 	- Completed	- None
2-5	Revise the SOP of the NRW Training through the activities of Output-3.	<ul style="list-style-type: none"> - Progress: 0%, Behind PO₄: 0.0 month 	<ul style="list-style-type: none"> - SOPs and manuals should be used in the National NRW Training, and improved/ revised by reflecting knowledge and lesson learnt obtained through the activities of Output-3. - This activity should be rescheduled according to other activities. 	<ul style="list-style-type: none"> - Progress: 40%, Behind PO₅: 0.0 month - Based on actual experiences in preparation and implementation of the National NRW Training, the Project Team reviewed items to be covered by standard operating procedures (SOPs) and manuals. - The Project Team has reviewed items and finalized SOP packaging. 	<ul style="list-style-type: none"> - SOPs and manuals should be practical and user friendly, and also improved/revised by reflecting knowledge and lessons learnt obtained through the activities of Output-3.
2-6	Revise the NRW Training Business Plan through the activities of Output-3.	<ul style="list-style-type: none"> - Progress: 0%, Behind PO₄: 0.0 month 	<ul style="list-style-type: none"> - The Business Plan should be revised if any difficulties, non-functionality and incoherence in business model, training operation and implementation. - This activity should be rescheduled according to other activities. 	<ul style="list-style-type: none"> - Progress: 25%, Behind PO₅: 0.0 month 	<ul style="list-style-type: none"> - The Business Plan should be reviewed and revised if facilitators' limited participation is not solved (refer to Atcity 3-3), and in accordance with TOR of Steering Committee as a sustainability plan.
2-7	Conduct capacity assessment of IBTC.	<ul style="list-style-type: none"> - Progress: 25%, Behind PO₄: 3.0 months - Facilitators were nominated and appointed and also the National NRW Training 	<ul style="list-style-type: none"> - Capacity of IBTC (the National NRW Training) has been developed in facilitator meetings and the actual National NRW Training based 	<ul style="list-style-type: none"> - Progress: 70%, Behind PO₅: 0.0 months - Capacity of IBTC (the National NRW Training) has been developed in the actual 	

PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
		<ul style="list-style-type: none"> contents were developed through facilitator meetings in July and September 2019. - The National NRW Training for 1st group was conducted and evaluation were done by participants. 	<ul style="list-style-type: none"> on lessons learnt and evaluation. - This activity should be rescheduled according to other activities (such as Activity 3-9). 	<ul style="list-style-type: none"> National NRW Training for the 1st and 2nd groups based on lessons learnt, self-evaluation and evaluation by participants. 	

**Activities for Output-3: [PDM₁] Trainings on Non-Revenue Water (NRW) are conducted at IBTC.
[PMD₂] The NRW Training is conducted with training improvement cycle.**

Table 5: Progress of Activities for Output-3

No	Activity	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
3-1	Design the NRW Training based on the results of Output-1.				
3-2	Secure the site(s) for workplace of the NRW Training.	<ul style="list-style-type: none"> - Progress: 75%, Behind PO₄: 5.0 months - The Project team mobilized 4 municipalities for the 1st group of the NRW National Training. (One of them declined due to challenge in preparation and will be targeted in 2nd or 3rd group.) - The Project Team started to mobilize other 4 municipalities for the 2nd group of the NRW National Training. 	<ul style="list-style-type: none"> - Communication, appointment, letter issuance and mobilization with participating municipalities should be scheduled properly and conducted smoothly in collaboration between DWS/WUE and SALGA. - This activity should be rescheduled. 	<ul style="list-style-type: none"> - Progress: 85%, Behind PO₅: 0.0 months - The Project team mobilized 4 municipalities for the 2nd group of the NRW National Training. 	<ul style="list-style-type: none"> - Though the Project Team started to mobilize 4 participating municipalities for the 3rd group of the NRW National Training, it has been suspended due to measures against COVID-19 in March 2020. - Proper selection of workplaces is a key to smooth implementation and bearing fruits. Though the Project Team prepared selection criteria of workplace and explained participating municipalities about it in mobilization, the Team concluded not enough from

PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
					the results of the 1st and 2nd group training. - The Project should improve approaches to participating municipalities in mobilization.
3-3	Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the NRW Training from DWS/IBTC and stakeholders.	- Completed - The Project Team secured 20 facilitators from DWS and municipalities as below: DWS-HQs: 1 DWS-KZN: 1 EC - Buffalo City: 2 GP - Ekurhuleni: 1 GP - Johannesburg: 2 GP - Tshwane: 2 KZN - eThekweni: 2 KZN - Ugu: 1 MP - Mbombela: 1 WC - Cape Town: 6 WC - George: 1 - Additionally, DWS-IBTC: 2 for training yard and equipment	- The Project Team needs to ensure their active/sustainable participation in the National NRW Training at IBTC and workplaces. - The Project team needs to expand a pool of facilitators and mentors from stakeholders.		- Though DWS communicated with facilitators to allocate them for the National NRW Training implementation in IBTC and workplaces, the Project has observed not all of them participated and some failed to participate as planned. - Following 14 facilitators attended: DWS-HQs: 1 DWS-KZN: 1 EC - Buffalo City: 0 GP - Ekurhuleni: 1 GP - Johannesburg: 1 GP - Tshwane: 2 KZN - eThekweni: 1 KZN - Ugu: 0 MP - Mbombela: 1 WC - Cape Town: 6 - Additionally, DWS-IBTC: 1 for training yard and equipment - The Project should ensure early communication, steady coordination and logistics arrangement, and strong initiatives by DWS with support from SALGA.
3-4	Develop training yard for the NRW Training at IBTC.	- Progress: 95%, Behind PO ₄ : 3.5 months - Construction was completed	- Defect warranty will be until the end of the Project. - Training yard is handed over	- Completed - Training yard was handed over from JICA Expert Team	- Defect warranty will be until 30 th June 2020.

PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
		in August 2019, but final payment process has delayed due to delay in quantity confirmation.	from JICA Expert Team to DWS. - This activity should be rescheduled.	to DWS on 17 th October 2019.	
3-5	Procure equipment, instruments/tools and materials for the NRW Training.	- Progress: 95%, Behind PO ₄ : 3.5 months - Training equipment were procured from local suppliers. - Training tools and materials have been procured according to actual training implementation.	- Training equipment is handed over from JICA Expert Team to DWS. - This activity should be rescheduled.	- Completed. - Equipment/instruments were handed over from JICA Expert Team to DWS on 17 th October 2019.	- Minor tools and consumables have been and will be procured as necessary in each training group. - Additional equipment/instrument will be discussed prior to the 3 rd group training.
3-6	Develop teaching/ learning materials for the NRW Training with incorporating good practices from baseline survey into the materials if any.	- Progress: 85%, Behind PO ₄ : 3.0 months - The Project team and facilitators have developed teaching/learning materials (textbook, facilitation guidance and presentation).	- Teaching/learning materials should be improved/ revised through the actual Training cycles. - This activity should be rescheduled.	- Completed.	- Teaching/learning materials should be upgraded/ improved based on lessons learned in the actual training.
3-7	Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the NRW Training.	- Completed. - The Project team conducted facilitator meeting twice on 3 rd -5 th July 2019 and 19 th -20 th September 2019 at IBTC.	- The Project team needs to ensure meeting opportunities in the actual Training at IBTC and workplace. - The Project team needs to consider additional facilitator meetings to share lessons learnt among facilitators In the Project period.		- The Project Team should have additional facilitator meetings or equivalent to share lessons learnt among facilitators In the Project period.
3-8	Prepare for conducting the NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.).	- Progress: 50%, Behind PO ₄ : 2.0 months - The Project team has prepared for conducting the Training for the 1 st group.	- The Project team has to start to prepare for conducting the Training 2 nd and 3 rd groups. - Task coordination and task schedule control are keys to smooth implementation on programme schedule. - This activity should be	- Progress: 75%, Behind PO ₅ : 0.0 months - The Project team completed the 1 st and 2 nd group training and has prepared for conducting the 3 rd group training.	- Participation of Civil Engineer or Technician and Billing/ Finance officials as learners from participating municipalities is a key to smooth implementation and bearing fruits. Though the Project Team prepared

PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
			rescheduled as continuous activity.		nomination guide of learners and explained participating municipalities about it in mobilization, the Team concluded not enough from the results of the 1 st and 2 nd group trainings. - The Project should improve approaches to participating municipalities in mobilization.
3-9	Conduct the NRW Training by facilitators with support from JICA Experts.	- Progress: 00%, Behind PO ₄ : 1.0 month - As of 17 th October 2019, the Project team has conducted the National NRW Training for the 1 st group from 7 th October 2019. - 15 learners from 3 participating municipalities (Mogale City LM, Mopani DM and uMgungundlovu DM) and 8 DWS/WUE regional champions have attended.	- The Project team should complete 3 groups at least in the Project period. - Task coordination and task schedule control are keys to smooth implementation on programme schedule. - This activity should be rescheduled.	- Progress: 70%, Behind PO ₅ : 0.0 month - The Project team completed the 1 st and 2 nd group training and started preparation for the 3 rd group training. - <u>The 1st group training from 7th Oct. to 29th Nov. 2019</u> : 15 learners from 3 municipalities (Mogale City, Mopani and uMgungundlovu) and 8 DWS/WUE regional champions. - <u>The 2nd group training from 27th Jan. to 6th Mar. 2020</u> : 17 learners from 4 municipalities (JB Marks, King Cetshwayo, Mbombela and Metsimaholo) and 3 officials of DWS/WUE and DWS/KZN.	- Though the 3 rd group training is scheduled from 11 th May to 19 th June 2020, it may be rescheduled due to measures against COVID-19 in March 2020.
3-10	Monitor the NRW Training and feed the results back under training improvement cycle.	- Progress: 0%, Behind PO ₄ : 1.0 month	- This activity should be rescheduled according to other activities (such as Activity 3-9).	- Progress: 70%, Behind PO ₅ : 0.0 month - The Project has monitored the National NRW Training by self-evaluation and evaluation by participants for improvement.	- The Project Team should ensure steady improvement based on results.

PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄		Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
3-11	Verify effects of the NRW Training in sampled municipalities.	- Progress: 0%, Behind PO ₄ : 1.0 month	- This activity should be rescheduled according to other activities (such as Activity 3-9).	- Progress: 70%, Behind PO ₅ : 0.0 month - As effects, all participating municipalities conducted survey, analysis including simplified water balance, planning and ideally measures to reduce NRW in the workplaces, and prepared suggestions and actions to be taken for way forward at the end of the training.	- The Project Team should support municipalities in realization of suggestions and actions. - The Project Team should monitor impacts on municipalities after the training.

1-3 Achievement of Outputs

Output-1: [PDM₁] Training information on water supply sector is accumulated at IBTC and shared with SALGA and Municipalities.

[PDM₂] Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

Table 6: Achievement of Output-1

No	Indicator	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄	Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅
1-1	Analyzed/organized information of skills development of municipalities is submitted to DWS (list of no. of staff, attended training, mentor resources, training providers, manuals, workshops and yards, subsidies/grants, good practices, etc.)	- Baseline Survey report was prepared.	- Same as previous monitoring
1-2	Analyzed/organized information of NRW and needs of municipalities is submitted to DWS.	- Baseline Survey report was prepared.	- Same as previous monitoring
1-3	Benchmarked matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.)	- Benchmark reports were prepared by officials in the 1 st and 2 nd trainings in Japan (submitted to the DWS management or presented in the 2 nd facilitator meeting)	- Same as previous monitoring
1-4	Information sharing occasions are provided.	- Occasions of presentation of the National NRW Training have been provided in seminar, workshop and forum at the Provincial level. - Directorate: Communication has involved in IBTC branding and public relations of the National NRW Training	- Occasions of presentation of the National NRW Training have been provided in output seminar of the Training and SALGA water and sanitation group. - Directorate: Communication has involved in IBTC branding (logo design) and public relations (DWS magazine and web site) of the National NRW Training
Verification of Achievement and Implementing Process			
The Project should ensure enhancement of public relations for sustainability of the National NRW Training together with SALGA and stakeholders for Indicator 1-4.			

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Output-2: [PDM₁] IBTC's training management capacity in water supply sector is improved.

[PDM₂] IBTC's NRW Training capacity is improved.

Table 7: Achievement of Output-2

No	Indicator	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄	Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅
2-1	Appropriate organizational structure for the NRW Training is established at IBTC.	- Organizational structure for the National NRW Training has been developed in collaboration with facilitators. (Training operational support should be strengthened.)	- Though organizational structure for the National NRW Training has been developed in collaboration with facilitators, it should be reviewed if facilitators' limited participation is not solved.
2-2	No. of revision of Standard Operation Procedures (SOP) of the NRW Training is increased.	- SOP has been developed.	- SOPs have been developed respectively and reviewed currently for packaging.
2-3	No. of revision of the NRW Training Business Plan is increased.	- Business plan was prepared.	- The Business Plan should be reviewed and revised if facilitators' limited participation is not solved, and in accordance with TOR of Steering Committee as a sustainability plan.
Verification of Achievement and Implementing Process			
Organization structure, SOPs and Business Plan has been developed and prepared practically only through actual implementation of the National NRW Training.			

Output-3: [PDM₁] Trainings on Non-Revenue Water (NRW) are conducted at IBTC.

[PDM₂] The NRW Training is conducted with training improvement cycle.

Table 8: Achievement of Output-3

No	Indicator	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄	Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅
3-1	No. of Facilitator Technical Meeting is increased.	- Twice (3 rd -5 th July, 19 th -20 th September 2019)	- None.
3-2	No. of NRW Training is increased.	- The National NRW Training for the 1 st group is ongoing from 7 th October 2019.	- The National NRW Training for the 1 st and 2 nd groups were conducted.
3-3	Learner's satisfaction with the NRW Training is increased.	- Evaluation of the National NRW Training for the 1 st group is ongoing from 7 th October 2019.	- The National NRW Training for the 1 st and 2 nd groups was evaluated by learners and it was rated high respectively.
3-4	No. of feedback/utilization of skills trained into water services at municipalities is increased.	- None (not ready).	- As a principle, skills trained were utilized practically into workplace during training.

No	Indicator	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄	Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅
Verification of Achievement and Implementing Process			
The Project should monitor post-training impacts on municipalities for Indicator 3-4.			

1-4 Achievement of the Project Purpose

[PDM₁] NRW Skills Programme is continuously provided at IBTC, based on organizational and technical needs.

[PDM₂] NRW management skills are developed for participating municipalities through the NRW Training by IBTC.

Table 9: Achievement of the Project Purpose

No	Indicator	Previous Monitoring (as at Sep.2019) *base on PDM ₂ &PO ₄	Current Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅
1	No. of the NRW Training at IBTC is increased.	- The National NRW Training for the 1 st group is ongoing from 7 th October 2019.	- The National NRW Training for the 1 st and 2 nd groups were conducted.
2	No. of water balance submission is increased.	- None (not ready).	- All participating municipalities conducted survey, <u>analysis including simplified water balance</u> , planning and ideally measures to reduce NRW in the workplaces, and prepared suggestions and actions to be taken for way forward at the end of the training.
3	No. of NRW reduction plan in participating municipalities is increased.	- None (not ready).	- All participating municipalities conducted survey, analysis including simplified water balance, <u>planning</u> and ideally measures to reduce NRW in the workplaces, and prepared <u>suggestions and actions to be taken for way forward</u> at the end of the training.
Verification of Achievement and Implementing Process			
The Project has regarded lack of fundamental/basic information (technical and financial) and their discrepancy in participating municipalities which affected training implementation as problems and issues in municipal water services. These caused difficulties in training implementation and obtaining expected indicators.			

1-5 Changes of Risks and Actions for Mitigation

COVID-19 has affected the Project implementation in South Africa since March 2020, specifically by "Statement by President Cyril Ramaphosa on Measures to combat COVID-19 Epidemic (refer to Annex 1)" on 15th March 2020 as well as the JICA Headquarters' instruction to countermand all JICA Experts temporarily worldwide in consideration of international situation on 17th March 2020.

In response to these, the following actions were concluded in their joint names of Project Director, JICA Chief Advisor and Director: ODA of DWS on 20th March 2020:

- a. The Project suspends mobilization task for the 3rd group municipalities followed by logistics task.
- b. The Project continues other administrative tasks such as SOP re-packaging, teaching/learning materials upgrade/improvement, publicity enhancement (including web site), sustainability plan including Steering Committee's TOR development, etc.
- c. The Project postponed the 5th JCC meeting, instead, enhances "electronically-based communication, such as emails and instant messenger application to avoid close contact" for the above tasks in a coming couple of weeks.
- d. The Project will have the next PMC meeting in the week of 12th April 2020, after Easter Holidays ending on 13th April 2020, to see further updates and re-plan the 3rd group training if situations get better.

(1) Progress of Actions undertaken by the Japanese side

- a. JICA Experts has assisted DWS/IBTC in reassembling and packaging SOP.
- b. JICA Experts has worked on upgrade/improvement of teaching/learning materials.
- c. JICA Experts has assisted DWS and SALGA in developing TOR of Steering Committee as a sustainability planning task.

(2) Progress of Actions undertaken by the South African side

- a. DWS/IBTC has led reassembling and packaging SOP.
- b. DWS and SALGA has worked on publicity enhancement particularly web site development.
- c. DWS and SALGA has worked on developing TOR of Steering Committee as a sustainability planning task.

In addition, as of 23rd March 2020, "Statement by President Cyril Ramaphosa on Escalation of Measures to combat the COVID-19 Epidemic (refer to Annex 2)" was released about national shutdown for 21 days from 26th March 2020.

1-6 Other matters to be considered (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)

None.

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

2-1 Slow Progress of the Activities (Tasks)

(1) Details

According to current POs revised in the previous 5th JCC meeting in October 2019, activities (restated into tasks in actual works) have been carried on. However, some of them have progressed slowly as below, for example Activities 1-5, 2-5 and 2-6 (refer to Table 10).

Table 10: Status of Activities (Tasks)

Activities (Tasks)	Current Timeframe (POs)	Progress and Delayed
1-5 Seminar(s) with stakeholders	By the end of July 2020	65%, 0.0 months
2-5 Revision of SOP	By the end of July 2020	40%, 0.0 month
2-6 Revision of Business Plan	By the end of July 2020	25%, 0.0 month
2-7 Capacity assessment	By the beginning of July 2020	70%, 0.0 months
3-2 Selection of the target participating municipalities (workplaces and learners)	By the end of April 2020	85%, 0.0 months
3-8 Preparation of the National NRW Training	By the end of April 2020	75%, 0.0 months
3-9 The National NRW Training	By the beginning of July 2020	70%, 0.0 months
3-10 Monitoring of the National NRW Training	By the beginning of July 2020	70%, 0.0 months
3-11 Verification of effects of the National NRW Training	By the beginning of July 2020	70%, 0.0 months

(2) Action to be taken

In consideration of updated overall programme (refer to Annex 3) of the National NRW Training which targets the 3rd group in the remaining Project period, the Project should manage schedule of the above activities without delay.

(3) Roles of Responsible Persons/Organization

- PMC updates progress of ongoing activities in the week of 12th April 2020.
- PMC Chairperson, PMC Leaders and Task Leaders ensure active engagement and adherence to tasks.
- PMC Coordinator ensures task coordination and schedule/progress control with support from PMC Chairperson, Task Leaders and JICA Experts.

- Task Leaders and members ensure adherence to roles, responsibilities and communication for performing tasks more than ever.

2-2 Sustainable and Practical Business Plan of the National NRW Training

(1) Details

The Business Plan of the National NRW Training needs to be reviewed and revised with sustainability and practicality from the viewpoints of both the operational side including resources (budget, funding, facilitators, DWS internal and stakeholder understanding/cooperation, etc.) and the participating side (learners, workplaces, follow-up supports, etc.).

(2) Action to be taken

Operational Side

- The Project should budget for the National NRW Training on not ad-hoc but regular basis for sustainability, or ensure effective approaches to SETAs for grants through training outputs sharing. (*Budget and funding)
- The Project should enhance the status of the National NRW Training in DWS top management with the cross-Branch/Chief Directorate/Directorate perspective through regular reporting. (*Budget and DWS internal understanding/cooperation)
- The Project should attract stakeholders' interest through training outputs sharing for collaboration and cooperation on information and human resources. (*Funding, Stakeholder understanding/cooperation)
- The Project should ensure early communication, steady coordination and logistics arrangement, and strong initiatives by DWS with support from SALGA. (*Facilitators)

Participating Side

- The Project should improve approaches to participating municipalities in mobilization for proper selection of workplaces as well as participation of Civil Engineer or Technician and Billing/Finance officials as learners. (*Learners and workplaces)
- The Project should support participating municipalities for improvement in their NRW management after the training. (*Follow-up supports)

(3) Roles of Responsible Persons/Organization

Operational Side

- PMC reactivates task for review and revision of the Business Plan.
- Task Leader of Business Plan and PMC Coordinator ensures task coordination and schedule/progress control with support from PMC Chairperson, Task Leaders and JICA Experts.
- Task Teams for budget and funding discuss and review/revise budget planning and funding

- application to be on regular basis.
- PMC Chairperson and PMC Leaders creates/utilizes opportunities of briefing the National NRW Training to top management regularly.
- PMC ensures frequent communication with and early invitation to stakeholders into the meetings, training output seminars, etc.
- Mobilization Task Team and PMC Coordinator ensure early communication and coordination with facilitators.
- Logistics Task Team ensures arrangement of travelling, accommodation, etc.
- PMC Chairperson and PMC Leaders have the strong initiative in facilitator allocation with support from SALGA.
- PMC makes a re-engagement plan of facilitators, then Mobilization Task Team and IBTC visit municipalities to which facilitators belong if necessary.
- PMC holds another facilitator meeting if possible.
- PMC extends the gratitude to municipalities which has contributed to the National NRW Training by facilitator allocation.
- Mobilization Task Team and IBTC expand a pool of facilitators and mentoring supporters from learners who participated in the past training as well as stakeholders.

Participating Side

- Mobilization Task Team and IBTC ensure early communication with municipalities and guide them for proper selection of workplaces as well as participation of Civil Engineer or Technician and Billing/Finance officials as learners, by using an improved mobilization tools.
- Mobilization Task Team and IBTC ensure transmitting information, reporting to and communication with participating municipalities, and also join learners in their explanation or presentation to their management.
- Mobilization Task Team and IBTC communicate with DWS's Directorate: Regional Bulk Infrastructure Grant (RBIG) for DWS's grant for municipal water services, Water Services Infrastructure Grant (WSIG).
- JICA Experts support PMC and relevant Task Teams.

3 Revision of Project Design Matrix and Plan of Operations

3-1 Project Design Matrix (PDM)

There is no PDM revision suggested as a result of this monitoring.

3-2 Plan of Operations (PO)

Some activities (tasks) have progressed slowly as mentioned above, so the Project will catch up those progress without delay. Therefore, there is no PO revision suggested as a result of this

monitoring, however revision might be required hereafter due to suspension of mobilization to the 3rd group participating municipalities (Activity 3-2).

4 Preparation by the South African side toward after completion of the Project

4-1 Steering Committee for the National NRW Training

(1) Details and causes

The National NRW Training needs a national board or council function for sustainability after the Project period.

(2) Action to be taken

The Project Team prepares terms of reference (TOR) and establish a steering committee to supervise/monitor the National NRW Training, discuss the future direction, modification, further development of the Training among DWS, SALGA and stakeholders after the Project.

(3) Roles of Responsible Persons/Organization

- PMC created new task for establishment of the steering committee.
- However, Experts on behalf of Task Team to be led by WUE have drafted TOR in consultation with PMC Leaders (refer to Annex 4) because of WUE availability.
- TOR specifies member nomination from DWS, SALGA, COGTA/MISA, EWSETA, LGSETA and municipalities.
- PMC finalizes the TOR to be approved by the next PMC and/or ideally the next JCC meeting supposed to be in March 2020.
- The Project establishes the steering committee by end of the Project
- PMC and JICA experts accelerates this process.

4-2 Accreditation Preparation

(1) Details and causes

For sustainability, DWS has recognized the National NRW Training as a pilot differing from existing model/approach, to be aligned practically with occupational qualification "Water Reticulation Practitioner (WRP)", which is currently registered in the South African Qualifications Authority (SAQA) under National Qualification Framework.

(2) Action to be taken

DWS scrutinizes resemblance between the National NRW Training and WRP qualification, prepares documentation and takes procedures for service provision accreditation (possibly as a part- or specialized qualification) to Quality Council for Trades and Occupations (QCTO). Actually, DWS is working on registering IBTC as an accredited training services provider of

WRP qualification to open up the possibility of integration and harmonization with the National NRW Training and its practicality.

Ahead of the above accreditation, DWS already registered IBTC as an accredited assessment centre of WRP qualification.

(3) Roles of Responsible Persons/Organization

- Accreditation Preparation Task Team and IBTC takes responsibility of this task.
- Accreditation Preparation Task Team and IBTC collect requirement for accreditation of the WRP qualification.
- Accreditation Preparation Task Team and IBTC prepares submission and applies for accreditation.
- DWS obtains an accreditation ideally by end of the Project, but it depends on the feedback and approval received from QCTO via SETAs.
- PMC and JICA Experts supports the task team

II. Project Monitoring Sheet I & II (as attached)

Annex

- Annex 1: Statement by President on Measures to combat COVID-19 Epidemic on 15th March 2020
- Annex 2: Statement by President Cyril Ramaphosa on Escalation of Measures to combat the COVID-19 Epidemic on 23rd March 2020
- Annex 3: Overall Programme (Calendar Style)
- Annex 4: TOR of Steering Committee

Abbreviations

CoGTA	: Department of Cooperative Governance and Traditional Affairs
DWS	: Department of Water and Sanitation
EWSETA	: Energy and Water Sector Education and Training Authority
IBOM	: Infrastructure Build, Operate and Maintenance (a Branch of DWS, former NWRU)
IBTC	: Infrastructure Branch Training Centre (under IBOM)
IWS	: International Water Support (a Branch of DWS)
JCC	: Joint Coordinating Committee
JICA	: Japan International Cooperation Agency
LGSETA	: Local Government Sector Education and Training Authority
MISA	: Municipal Infrastructure Support Agency
NRW	: Non-Revenue Water
OS	: Operational Support (a Directorate in DWS)
PDM	: Project Design Matrix
PMC	: Project Management Committee
PO	: Plan of Operations
QCTO	: Quality Council for Trades and Occupations
RBIG	: Regional Bulk Infrastructure Grant
SALGA	: South African Local Government Association
SAQA	: South African Qualifications Authority
SETA	: Sector Education and Training Authority
WBS	: Work Breakdown Structure
WRC	: Water Research Commission
WRP	: Water Reticulation Practitioner (an occupational qualification)
WSA	: Water Services Authority
WSP	: Water Services Provider
WSIG	: Water Services Infrastructure Grant
WUE	: Water Use Efficiency (a Directorate in DWS)

Project Monitoring Sheet I (Revision of Project Design Matrix)

Version 2
Dated 25 Jul, 2018

Self-Monitoring: 26 Mar. 2020

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water
Project Period: August 2017 to July 2020 (36 months)
Implementing Organization: Department of Water and Sanitation (DWS) / IBTC
Direct Beneficiaries: DWS, IBTC and its personnel, Facilitators selected
Indirect Beneficiaries: Municipalities
End Beneficiaries: Customers / Consumers of water supplied by Municipalities
Project Site: Gauteng Province

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
<p><Overall Goal> Non-Revenue Water (NRW) management skills are utilized in NRW reduction projects of participating municipalities.</p>	<p>1. NRW reduction projects using developed NRW management skills in participating municipalities are increased. 2. NRW ratio in participating municipalities is decreased.</p>	<p>1. Monitoring report of participating municipalities 2. DWS's No-Drop report and/or report from participating municipalities</p>	<p>None.</p>	<p>None.</p>	
<p>Project Purpose NRW management skills are developed for participating municipalities through the NRW Training by IBTC.</p>	<p>1. No. of the NRW Training at IBTC is increased. 2. No. of water balance submission is increased. 3. No. of NRW reduction plan in participating municipalities is increased.</p>	<p>1. IBTC's annual training report 2&3. DWS's No-Drop report and/or report from participating municipalities</p>	<p>- Dramatic reduction of budget and public grants on skills development for participating municipalities does not happen.</p>	<p>- The Trainings for the 1st and 2nd groups were completed.</p>	
<p>Outputs 1. Skill development, status-quo and challenges of NRW, and needs in participating municipalities are analyzed and shared with stakeholders.</p>	<p>1-1. Analyzed/organized information of skills development of municipalities is submitted to DWS (list of no. of staff, attended training, mentor resources, training providers, manuals, workshops and yards, subsidies/grants, good practices, etc.) 1-2. Analyzed/organized information of NRW and needs of municipalities is submitted to DWS. 1-3. Benchmarked matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.) 1-4. Information, studies, cases are provided. 2-1. Appropriate organizational structure for the NRW Training is established at IBTC. 2-2. No. of revision of Standard Operation Procedures (SOP) of the NRW Training is increased. 2-3. No. of revision of the NRW Training Business Plan is increased.</p>	<p>1-1&2. Baseline survey report and training curriculum 1-3. Benchmark report 1-4. Seminar report and presentations</p>		<p>1-1&2. Baseline Survey was prepared. 1-3. Benchmark reports were prepared. 1-4. Presentation occasions of the Training have been provided. 1-4. IBTC branding (logo design) and communication has involved. 2-1. Organizational structure for the Training has been developed in collaboration with facilitators. 2-2. SOPs have been developed respectively and reviewed currently for packaging. 2-3. The Business Plan was prepared but should be reviewed and revised.</p>	<p>1-4. In output seminar of the Training and SALGA water and sanitation group 1-4. IBTC branding (logo design) and public relations (DWS magazine and web site) 2-1. It should be reviewed if facilitators' participation is not solved. 2-3. In accordance with TOR of Steering Committee as a sustainability plan</p>
<p>2. IBTC's NRW Training capacity is improved. 3. The NRW Training is conducted with training improvement cycle.</p>	<p>3-1. No. of Facilitator Technical Meeting is increased. 3-2. No. of NRW Training is increased. 3-3. Trainee's satisfaction with the NRW Training is increased. 3-4. No. of feedback/utilization of skills trained into water services at municipalities is increased.</p>	<p>2-1. Capacity assessment report and/or organogram of IBTC 2-2. Standard Operation Procedures (SOP) of the NRW Training 2-3. The NRW Training Business Plan</p> <p>3-1&2. IBTC annual report 3-3. Training evaluation questionnaire to trainees (training management/contents and individual achievement) 3-4. Survey of participating municipalities in sampled municipalities</p>		<p>3-1. Twice (3rd-5th July, 18th-20th September 2019) 3-2. The Trainings for the 1st and 2nd groups were conducted. 3-3. The National NRW Training for the 1st and 2nd groups was evaluated by learners and it was rated high respectively. 3-4. skills trained were utilized practically into workplace during training.</p>	

Note:

	Inputs	Important Assumption	
<p>Activities for Output 1</p> <p>1-1. Conduct baseline survey on skills development and NRW in municipalities.</p> <p>1-2. Compile and analyze skills development and NRW in municipalities.</p> <p>1-3. Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.</p> <p>1-4. Benchmark water supply services and its skills development in Japan.</p> <p>1-5. Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.</p>	<p>The South African Side</p> <p>1. Project Personnel</p> <p>1) JCC Chairperson: Chief Director of Global Cooperation, DWS</p> <p>2) Project Director (PD): Director of NWRI, DWS</p> <p>3) Co-Project Director (PD): SALGA</p> <p>4) Project Manager (PM): Centre Manager, IBTC</p> <p>5) Co-Project Manager (PM): Director, Water Use Efficiency</p> <p>6) Training Manager, IBTC</p> <p>7) Quality Assurer, IBTC</p> <p>8) Dedicated NRW Training personnel, IBTC</p> <p>9) Municipal Coordinator (Technical), SALGA</p> <p>10) Municipal Coordinator (HRD), SALGA</p> <p>11) Facilitator</p> <p>12) Candidate Facilitator</p> <p>13) Other personnel mutually agreed upon as necessary</p>	<p>The Japanese Side</p> <p>1. JICA Experts</p> <p>1) Chief Advisor / NRW Management</p> <p>2) Deputy Chief Advisor / NRW Management</p> <p>3) Training Planning / Organization</p> <p>4) Coordination</p> <p>5) Water Leakage Detection</p> <p>6) Water Distribution Control / Commercial Loss</p> <p>7) Training Yard Design and Supervision</p> <p>8) Procurement / Administrative Coordination</p> <p>9) Training Management / Human Resources Development</p> <p>10) Other Expert(s) if necessary</p>	<p>Important Assumption</p> <p>Pre-Conditions</p> <p>- DWS and SALGA agree on their collaboration and cooperation for the Project</p> <p>- DWS allocates/ assigns personnel in charge of NRW Skills Programme at IBTC.</p>
<p>Activities for Output 2</p> <p>2-1. Prepare the NRW Training Business Plan.</p> <p>2-2. Prepare and take procedures for funding the NRW Training.</p> <p>2-3. Prepare Terms of Reference for the NRW Training.</p> <p>2-4. Prepare Standard Operation Procedures (SOP) of the NRW Training.</p> <p>2-5. Revise the SOP of the NRW Training through the activities of Output-3.</p> <p>2-6. Revise the NRW Training Business Plan through the activities of Output-3.</p> <p>2-7. Conduct capacity assessment of IBTC.</p>	<p>2. Land, Building and Facilities</p> <p>1) Office space and facilities for JICA Experts, including water, electricity, internet connection and air conditioners if necessary</p> <p>2) Land for training yard</p> <p>3) Other facilities mutually agreed upon as necessary</p>	<p>2. Facilities</p> <p>1) Training yard</p> <p>2) Web site development and maintenance</p> <p>3) Other facilities mutually agreed upon as necessary</p>	<p>Issues & Countermeasures</p> <p>1) As a risk, COVID-19 has affected the Project implementation since March 2020.</p> <p>2) Slow Progress of the Activities (Tasks)</p> <p>3) Sustainable and Practical Business Plan of the National NRW Training</p> <p>4) Steering Committee for the National NRW Training</p> <p>5) Accreditation preparation</p> <p>For details, refer to "1-5. Changes of Risks and Actions for Mitigation", "2. Delay of Work Schedule and/or Problems (if any)" and "4. Preparation by the South African side toward after completion of the Project" of "1. Summary".</p>
<p>Activities for Output 3</p> <p>3-1. Design the NRW Training based on the results of Output-1.</p> <p>3-2. Secure the site(s) for workplace of the NRW Training.</p> <p>3-3. Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the NRW Training from DWS/IBTC and stakeholders.</p> <p>3-4. Develop training yard for the NRW Training at IBTC.</p> <p>3-5. Procure equipment, instruments/tools and materials for the NRW Training.</p> <p>3-6. Develop teaching/learning materials for the NRW Training with incorporating good practices from baseline survey into the materials, if any.</p> <p>3-7. Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the NRW Training.</p> <p>3-8. Prepare for conducting the NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.).</p> <p>3-9. Conduct the NRW Training by facilitators with support from JICA Experts.</p> <p>3-10. Monitor the NRW Training and feed the results back under training improvement cycle.</p> <p>3-11. Verify effects of the NRW Training in sampled municipalities.</p>	<p>3. Equipment, instruments, tools and materials</p> <p>1) Bulk water flow meter</p> <p>2) Leak detection equipment/instruments</p> <p>3) Tools for training</p> <p>4) Materials such as pipe, fittings, valve, meter and etc.</p> <p>5) Other equipment, instruments, tools and materials mutually agreed upon as necessary</p>	<p>3. Equipment, instruments, tools and materials</p> <p>1) Bulk water flow meter</p> <p>2) Leak detection equipment/instruments</p> <p>3) Tools for training</p> <p>4) Materials such as pipe, fittings, valve, meter and etc.</p> <p>5) Other equipment, instruments, tools and materials mutually agreed upon as necessary</p>	<p>4. Training</p> <p>1) Training in Japan</p> <p>2) Training in the third country if necessary</p>

Note: Indicators were discussed and finalized based on the baseline survey and were agreed at Joint Coordinating Committee (JCC). As an all-inclusive term, "Facilitator" in the Project may act as facilitator, trainer, mentor, coach and supervisor.

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

	Year	2017												2018												2019												2020							
		Phase 1												Phase 1												Phase 2												Phase 2							
		7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8						
Output 1: Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.																																													
1-1 Conduct baseline survey on skills development and NRW in municipalities.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
1-2 Compile and analyze skills development and NRW in municipalities.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
1-3 Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
1-4 Benchmark water supply services and its skills development in Japan.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
1-5 Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 65%																																												
	Behind 0.0 month																																												
Output 2: IBTC's NRW Training capacity is improved.																																													
2-1 Prepare the NRW Training Business Plan.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
2-2 Prepare and take procedures for funding the NRW Training.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
2-3 Prepare Terms of Reference for the NRW Training.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
2-4 Prepare Standard Operation Procedures (SOP) of the NRW Training.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
2-5 Revise the SOP of the NRW Training through the activities of Output-3.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 40%																																												
	Behind 0.0 month																																												
2-6 Revise the NRW Training Business Plan through the activities of Output-3.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 25%																																												
	Behind 0.0 month																																												
2-7 Conduct capacity assessment of IBTC.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 70%																																												
	Behind 0.0 month																																												
Output 3: The NRW Training is conducted with training improvement cycle.																																													
3-1 Design the NRW Training based on the results of Output-1.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
3-2 Secure the site(s) for workplace of the NRW Training.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 85%																																												
	Behind 0.0 month																																												
3-3 Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the NRW Training from DWS/IBTC and stakeholders.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
3-4 Develop training yard for the NRW Training at IBTC.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
3-5 Procure equipment, instruments/tools and materials for the NRW Training.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
3-6 Develop teaching/learning materials for the NRW Training with incorporating good practices from baseline survey into the materials if any.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
3-7 Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the NRW Training.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 100%																																												
3-8 Prepare for conducting the NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.).	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 75%																																												
	Behind 0.0 month																																												
3-9 Conduct the NRW Training by facilitators with support from JICA Experts.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 70%																																												
	Behind 0.0 month																																												
3-10 Monitor the NRW Training and feed the results back under training improvement cycle.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 70%																																												
	Behind 0.0 month																																												
3-11 Verify effects of the NRW Training in sampled municipalities.	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Progress: 70%																																												
	Behind 0.0 month																																												
Input																																													
Experts																																													
①-1 Chief Advisor / NRW Management	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
Akinori MIYOSHI	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
①-2 Deputy-Chief Advisor / NRW Management	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
Takatoshi FUJIIYAMA	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
② Training Planning / Organization Coordination	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
Kenichiro SUGIYA	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
③ Water Leakage Detection	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
Hiroki NIIMURA	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
④ Water Distribution Management / Commercial Loss	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
Hiroyuki MORITA	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
⑤ Training Yard Design and Supervision	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
Masuji IDE	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
⑥ Procurement / Administrative Coordination	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
Toshinobu KASUYA	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
Long-Term Expert																																													
⑦ Training Management / Capacity Development	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
Nobutaka MARUYAMA	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
Equipment Procurement																																													
Equipment for Water Leakage Detection	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
National Consultant/Contractor																																													
Training Yard Construction	Plan	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							
	Actual	[Gantt bars]												[Gantt bars]												[Gantt bars]												[Gantt bars]							

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

		2017				2018				2019				2020													
Phase		Phase 1												Phase 2													
Month		7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
Training Field Construction																											
Web Site Development and Maintenance																											
Training in Japan																											
Phase-1 Training in Japan (for Management / Decision Making Level)																											
Phase-2 Training in Japan (for Candidate Facilitators / Working Level)																											
Monitoring																											
Monitoring																											
Joint Coordination Committee																											
Set-up the Detailed Plan of Operation																											
Submission of Monitoring Sheet																											
Monitoring Mission from Japan																											
Joint Monitoring																											
Post Monitoring																											
Reports/Documents																											
Project Progress Report																											
Project Completion Report																											
Project Brief Note																											
Public Relations																											
Web Site																											
Press Release, Press Conference, Public Relations Magazine, Newsletter																											

STATEMENT BY PRESIDENT CYRIL RAMAPHOSA ON MEASURES TO COMBAT COVID-19 EPIDEMIC

15 MARCH 2020

Fellow South Africans,

I am addressing you this evening on a matter of great national importance.

The world is facing a medical emergency far graver than what we have experienced in over a century.

The World Health Organisation has declared the coronavirus outbreak as a global pandemic.

There are now more than 162 000 people who have tested positive for the coronavirus across the globe.

Given the scale and the speed at which the virus is spreading, it is now clear that no country is immune from the disease or will be spared its severe impact.

Never before in the history of our democracy has our country been confronted with such a severe situation.

From the start of the outbreak in China earlier this year, the South African government has put in place measures to screen visitors entering the country, to contain its spread and to treat those infected.

As of now, South Africa has 61 confirmed cases of people infected with the virus, and this number is expected to rise in the coming days and weeks.

Initially, it was people who had travelled out of the country, especially from Italy, who had positively tested for the virus.

It is concerning that we are now dealing with internal transmission of the virus.

This situation calls for an extraordinary response; there can be no half-measures.

Cabinet held a special meeting earlier today.

After which, due to the serious measures we are going to announce, I have consulted the premiers.

We have decided to take urgent and drastic measures to manage the disease, protect the people of our country and reduce the impact of the virus on our society and on our economy.

We have now declared a national state of disaster in terms of the Disaster Management Act.

This will enable us to have an integrated and coordinated disaster management mechanism that will focus on preventing and reducing the outbreak of this virus.

We will also be able to set up emergency, rapid and effective response systems to mitigate the severity of its impact.

Following an extensive analysis of the progression of the disease worldwide and in South Africa, Cabinet has decided on the following measures:

Firstly, to limit contact between persons who may be infected and South African citizens

We are imposing a travel ban on foreign nationals from high-risk countries such as Italy, Iran, South Korea, Spain, Germany, the United States, the United Kingdom and China as from 18 March 2020.

We have cancelled visas to visitors from those countries from today and previously granted visas are hereby revoked.

South African citizens are advised to refrain from all forms of travel to or through the European Union, United States, United Kingdom and other identified high-risk countries such as China, Iran and South Korea. This is effective immediately.

As we have said before, the current circumstances require extraordinary measures to curb the spread of infections. Countries that have heeded the call to implement these radical measures, have fared much better than those that do not.

Therefore to encourage social distancing Cabinet has decided on these additional measures:

Gatherings of more than 100 people will be prohibited.

Mass celebrations of upcoming national days such as Human Rights Day and other large government events will be cancelled.

Where small gatherings are unavoidable, organisers will need to put in place stringent measures of prevention and control.

Schools will be closed from Wednesday, 18 March, and will remain closed until after the Easter Weekend.

To compensate, the mid-year school holidays will be shortened by a week.

Government is working closely with colleges, universities and other public facilities such as Parliament, prisons, police stations and military installations to intensify hygiene control.

Visits to all correctional centres are suspend for 30 days with immediate effect.

Government is aware of the confirmed case of a student who has tested positive for the coronavirus at Wits University.

Those who have been in contact with the student will be quarantined.

The Minister of Higher Education, Science and Innovation is consulting with vice chancellors of universities and colleges across the country and will soon be announcing measures in this regard.

We call on all businesses including mining, retail, banking, farming to ensure that they take all necessary measures to intensify hygiene control.

Government will continue to regularly issue travel alerts referring to specific cities, countries or regions as the situation evolves based on the risk level.

Any foreign national who has visited high-risk countries in the past 20 days will be denied a visa.

South African citizens returning from high-risk countries will be subjected to testing and self-isolation or quarantine on return to South Africa.

Travellers from medium-risk countries - such as Portugal, Hong Kong and Singapore - will be required to undergo high intensity screening.

All travellers who have entered South Africa from high-risk countries since mid-February will be required to present themselves for testing.

We will strengthen surveillance, screening and testing measures at OR Tambo, Cape Town and King Shaka International Airports

South Africa has 72 ports of entry in the country which are land, sea and air ports.

Of the 53 land ports, 35 will be shut down with effect from Monday 16 March.

2 of the 8 sea ports will be closed for passengers and crew changes.

Effective immediately, all non-essential travel for all spheres of government outside of the Republic is prohibited

We further discourage all non-essential domestic travel, particularly by air, rail, taxis and bus.

Secondly, it is essential therefore that we minimize the risk of the spread of this virus by limiting contact amongst groups of people.

While we appreciate the economic, religious, and cultural significance of social and community gatherings, the coronavirus is spread through contact between persons.

We also call on the management of malls, entertainment centres and other places frequented by large numbers of people to bolster their hygiene control.

Thirdly, to further strengthen our health response:

Government is strengthening its surveillance and testing systems.

We are in process of identifying isolation and quarantine sites in each district and metro.

Capacity is being increased at designated hospitals in all provinces.

We are also increasing the capacity of existing contact tracing processes.

We are partnering with the private sector to set up a national tracking, tracing and monitoring system of all people infected with the coronavirus and those they have been in contact with

We are undertaking a mass communication campaign on good hygiene and effective prevention behaviour.

Therefore, we are calling on everyone to:

- Wash their hands frequently with soap and water or hand sanitisers for at least 20 seconds;
- over their nose and mouth when coughing and sneezing with tissue or flexed elbow;
- Avoid close contact with anyone with cold or flu-like symptoms.

In essence, we are calling for a change of behavior amongst all South Africans.

We must minimise physical contact with other people, and, encourage the elbow greeting rather than shaking hands.

Because of the severity of this virus and its rapid spreading, government will make funding available to capacitate the sectors dealing with the national response to the Coronavirus outbreak.

Since the outbreak of this pandemic, our government's response has been led by an Inter-Ministerial Committee, chaired by the Minister of Health, Dr Zweli Mkhize.

We congratulate them on the outstanding work they have done - together with their able support teams - to steer our country through this challenging and un-certain period.

As part of the intensification of this effort, we have decided to establish a National Command Council chaired by the President.

This Command Council will include, amongst others, members of the Inter-Ministerial Committee and will meet three times a week, to coordinate all aspects of our extraordinary emergency response.

My fellow South Africans,

In addition to the impact that this pandemic will have on health and well-being of our people, and the impact it will have on the day-to-day life of our society, COVID-19 will also have a significant and potentially lasting impact on our economy.

In the last few weeks, we have seen a dramatic decline in economic activity in our major trading partners, a sudden drop in international tourism and severe instability across all global markets.

The anticipated effects of the decline in exports and tourist arrivals will be exacerbated by both an increase in infections and the measures we are required to take to contain the spread of the disease.

This will have a potentially severe impact on production, the viability of businesses, job retention and job creation.

Cabinet is therefore in the process of finalising a comprehensive package of interventions to mitigate the expected impact of COVID-19 on our economy.

This package, which will consist of various fiscal and other measures, will be concluded following consultation with business, labour and other relevant institutions.

It is clear that this disease will be extremely disruptive.

Our priority must be to safeguard the health and well-being of all South Africans, to minimise the number of infections and to ensure all those infected get proper treatment.

While we are battling a contagious virus, perhaps the greatest dangers to our country at this time are fear and ignorance.

We must appreciate the extent of the threat that this disease presents, we must accept the anxiety that it causes, but we cannot allow ourselves to be overwhelmed by fear and panic.

We should stop spreading fake and unverified news and create further apprehension and alarm.

While we are facing a medical emergency far graver than we have experienced in recent times, we are not helpless.

We have the knowledge, the means and the resources to fight this disease.

If we act swiftly, with purpose and collectively we can limit the effects of the coronavirus on our people and our country.

Although we may be limiting physical contact, this epidemic has the potential to bring us closer together.

We are responding as a united nation to a common threat.

This national emergency demands cooperation, collaboration and common action.

More than that, it requires solidarity, understanding and compassion.

Those who have resources, those who are healthy, need to assist those who are in need and who are vulnerable.

All the institutions of the state will be mobilised to lead this effort, but, if we are to succeed, every company, trade union, NGO, university, college, school, religious group and taxi association will need to play its part.

We thank those people who suspected they may have been exposed to the virus for coming forward to be tested and for taking measures - such as self-isolation - to prevent further transmission.

We thank the medical teams around the country who are leading our response and are putting the well-being of others ahead of the risks they face themselves.

On Saturday we welcomed 104 of our compatriots who were in Wuhan City, China.

We thank the repatriation team for the task they performed with pride and efficiency to return them to the country and ultimately to their families.

The repatriation has been successful and those who have returned have settled in the quarantine area.

We thank the military health officials, pilots, cabin crew and all those who participated in this exercise.

We thank the leadership and the people of Polokwane and Limpopo for warmly welcoming our fellow South Africans.

We also extend our gratitude to the staff and management of the Ranch Hotel who have accommodated our compatriots and also subjected themselves to quarantine.

We extend our appreciation too to the companies, organisations and individuals who have taken it upon themselves to disseminate information about this virus and to raise awareness.

We thank those businesses that have taken steps to protect their employees, and those unions that have taken steps to protect their members.

Statement by President Cyril Ramaphosa on escalation of measures to combat the Covid-19 epidemic, Union Buildings, Tshwane

23 March 2020 - 12:00am



My fellow South Africans,

It is a week since we declared the coronavirus pandemic a national disaster and announced a package of extraordinary measures to combat this grave public health emergency.

The response of the South African people to this crisis has been remarkable. Millions of our people have understood the gravity of the situation.

Most South Africans have accepted the restrictions that have been placed on their lives and have taken responsibility for changing their behaviour.

I am heartened that every sector of society has been mobilised and has accepted the role that it needs to play.

From religious leaders to sporting associations, from political parties to business people, from trade unions to traditional leaders, from NGOs to public servants, every part of our society has come forward to confront this challenge.

Many have had to make difficult choices and sacrifices, but all have been determined that these choices and sacrifices are absolutely necessary if our country is to emerge stronger from this disaster.

Over the past week, South Africans have demonstrated their determination, their sense of purpose, their sense of community and their sense of responsibility.

For this, we salute you and we thank you.

On behalf of the nation, I would also like to thank the health workers, our doctors, nurses and paramedics who are on the frontline of the pandemic, our teachers, border officials, police and traffic officers and all the other people who have been leading our response.

Since the national state of disaster was declared, we have put in place a range of regulations and directives.

These regulations have restricted international travel, prohibited gatherings of more than 100 people, closed schools and other educational institutions and restricted the sale of alcohol after 6pm.

We reiterate that the most effective way to prevent infection is through basic changes in individual behaviour and hygiene.

We are therefore once more calling on everyone to:

- wash hands frequently with hand sanitisers or soap and water for at least 20 seconds;

- cover our nose and mouth when coughing and sneezing with tissue or flexed elbow;

Ministers who are at the frontline of coordinating our response to this crisis will be briefing the nation tomorrow, where they will unpack details in relation to the measures we announced tonight.

Fellow South Africans, this is the most definitive Thuma Mina moment for our country.

I have great trust that our people will respond positively to this call to common action.

Fellow South Africans,

This epidemic will pass.

But it is up to us to determine how long it will last, how damaging it will be, and how long it will take our economy and our country to recover.

It is true that we are facing a grave emergency.

But if we act together, if we act now, and if we act decisively, we will overcome it.

I thank you.

- avoid close contact with anyone with cold or flu-like symptoms.

Everyone must do everything within their means to avoid contact with other people. Staying at home, avoiding public places and cancelling all social activities is the preferred best defence against the virus.

Over the past week, as we have been implementing these measures, the global crisis has deepened.

When I addressed the nation last Sunday there were over 160,000 confirmed COVID-19 cases worldwide.

Today, there are over 340,000 confirmed cases across the world.

In South Africa, the number of confirmed cases has increased six-fold in just eight days from 61 cases to 402 cases.

This number will continue to rise.

It is clear from the development of the disease in other countries and from our own modelling that immediate, swift and extraordinary action is required if we are to prevent a human catastrophe of enormous proportions in our country.

Our fundamental task at this moment is to contain the spread of the disease.

A 04 - 022
I am concerned that a rapid rise in infections will stretch our health services beyond what we can manage and many people will not be able to access the care they need.

We must therefore do everything within our means to reduce the overall number of infections and to delay the spread of infection over a longer period – what is known as flattening the curve of infections.

It is essential that every person in this country adheres strictly – and without exception – to the regulations that have already been put in place and to the measures that I am going to announce this evening.

Our analysis of the progress of the epidemic informs us that we need to urgently and dramatically escalate our response.

The next few days are crucial.

Without decisive action, the number of people infected will rapidly increase from a few hundred to tens of thousands, and within a few weeks to hundreds of thousands.

This is extremely dangerous for a population like ours, with a large number of people with suppressed immunity because of HIV and TB, and high levels of poverty and malnutrition.

We have learnt a great deal from the experiences of other countries.

Those countries that have acted swiftly and dramatically have been far more effective in controlling

the spread of the disease.

As a consequence, the National Coronavirus Command Council has decided to enforce a nation-wide lockdown for 21 days with effect from midnight on Thursday 26 March.

This is a decisive measure to save millions of South Africans from infection and save the lives of hundreds of thousands of people.

While this measure will have a considerable impact on people's livelihoods, on the life of our society and on our economy, the human cost of delaying this action would be far, far greater.

The nation-wide lockdown will be enacted in terms of the Disaster Management Act and will entail the following:

- From midnight on Thursday 26 March until midnight on Thursday 16 April, all South Africans will have to stay at home.

- The categories of people who will be exempted from this lockdown are the following: health workers in the public and private sectors, emergency personnel, those in security services – such as the police, traffic officers, military medical personnel, soldiers – and other persons necessary for our response to the pandemic.

It will also include those involved in the production, distribution and supply of food and basic goods, essential banking services, the maintenance of power, water and telecommunications services, laboratory services, and the provision of medical and hygiene products. A full list of essential personnel will be published.

- Individuals will not be allowed to leave their homes except under strictly controlled circumstances, such as to seek medical care, buy food, medicine and other supplies or collect a social grant.

- Temporary shelters that meet the necessary hygiene standards will be identified for homeless people. Sites are also being identified for quarantine and self-isolation for people who cannot self-isolate at home.

- All shops and businesses will be closed, except for pharmacies, laboratories, banks, essential financial and payment services, including the JSE, supermarkets, petrol stations and health care providers.

Companies that are essential to the production and transportation of food, basic goods and medical supplies will remain open.

We will publish a full list of the categories of businesses that should remain open. Companies whose operations require continuous processes such as furnaces, underground mine operations will be required to make arrangements for care and maintenance to avoid damage to their continuous operations.

Firms that are able to continue their operations remotely should do so.

- Provision will be made for essential transport services to continue, including transport for essential staff and for patients who need to be managed elsewhere.

The nation-wide lockdown is necessary to fundamentally disrupt the chain of transmission across society.

I have accordingly directed the South African National Defence Force be deployed to support the South African Police Service in ensuring that the measures we are announcing are implemented.

This nationwide lockdown will be accompanied by a public health management programme which will significantly increase screening, testing, contact tracing and medical management.

Community health teams will focus on expanding screening and testing where people live, focusing first on high density and high-risk areas.

To ensure that hospitals are not overwhelmed, a system will be put in place for 'centralised patient management' for severe cases and 'decentralised primary care' for mild cases.

Emergency water supplies – using water storage tanks, water tankers, boreholes and communal standpipes – are being provided to informal settlements and rural areas.

A number of additional measures will be implemented with immediate effect to strengthen prevention measures. Some of those measures are that:

- South African citizens and residents arriving from high-risk countries will automatically be placed under quarantine for 14 days.

A 01 - 323
Non-South Africans arriving on flights from high-risk countries we prohibited a week ago will be turned back.

- International flights to Lanseria Airport will be temporarily suspended.

- International travellers who arrived in South Africa after 9 March 2020 from high-risk countries will be confined to their hotels until they have completed a 14-day period of quarantine.

Fellow South Africans,

Our country finds itself confronted not only by a virus that has infected more than a quarter of a million people across the globe, but also by the prospects of a very deep economic recession that will cause businesses to close and many people to lose their jobs.

Therefore, as we marshal our every resource and our every energy to fight this epidemic, working together with business, we are putting in place measures to mitigate the economic impact both of this disease and of our economic response to it.

We are today announcing a set of interventions that will help to cushion our society from these economic difficulties.

This is the first phase of the economic response, and further measures are under consideration and will be deployed as needed.

These interventions are quick and targeted. Firstly, we are supporting the vulnerable.

- Following consultation with social partners, we have set up a Solidarity Fund, which South African businesses, organisations and individuals, and members of the international community, can contribute to.

The Fund will focus efforts to combat the spread of the virus, help us to track the spread, care for those who are ill and support those whose lives are disrupted.

The Fund will complement what we are doing in the public sector.

I am pleased to announce that this Fund will be chaired by Ms Gloria Serobe and the deputy Chairperson is Mr Adrian Enthoven.

The Fund has a website – www.solidarityfund.co.za – and you can begin to deposit monies into the account tonight.

The Fund will be administered by a reputable team of people, drawn from financial institutions, accounting firms and government.

It will fully account for every cent contributed and will publish the details on the website.

It will have a board of eminent South Africans to ensure proper governance.

To get things moving, Government is providing seed capital of R150 million and the private sector has already pledged to support this fund with financial contributions in the coming period.

We will be spending money to save lives and to support the economy.

In this regard, we must applaud the commitment made in this time of crisis by the Rupert and Oppenheimer families of R1 billion each to assist small businesses and their employees affected by the coronavirus pandemic.

- We are concerned that there are a number of businesses that are selling certain goods at excessively high prices. This cannot be allowed.

Regulations have been put in place to prohibit unjustified price hikes, to ensure shops maintain adequate stocks of basic goods and to prevent people from 'panic buying'.

It is important for all South Africans to understand that the supply of goods remains continuous and supply chains remain intact.

Government has had discussions with manufacturers and distributors of basic necessities, who have indicated that there will be a continuous supply of these goods. There is therefore no need for stockpiling of any items.

- A safety net is being developed to support persons in the informal sector, where most businesses will suffer as a result of this shutdown. More details will be announced as soon as we have completed the work of assistance measures that will be put in place.

- To alleviate congestion at payment points, old age pensions and disability grants will be available for collection from 30 and 31 March 2020, while other categories of grants will be available for collection from 01 April 2020.

All channels for access will remain open, including ATMs, retail point of sale devices, Post Offices and cash pay points.

Secondly, we are going to support people whose livelihoods will be affected.

- We are in consultation on a proposal for a special dispensation for companies that are in distress because of COVID-19. Through this proposal employees will receive wage payment through the Temporary Employee Relief Scheme, which will enable companies to pay employees directly during this period and avoid retrenchment.

- Any employee who falls ill through exposure at their workplace will be paid through the Compensation Fund.

- Commercial banks have been exempted from provisions of the Competition Act to enable them to develop common approaches to debt relief and other necessary measures.

We have met with all the major banks and expect that most banks will put measures in place within the next few days.

A 01 - Many large companies that are currently closed have accepted their responsibility to pay workers affected. We call on larger businesses in particular to take care of their workers during this period.

- In the event that it becomes necessary, we will utilise the reserves within the UIF system to extend support to those workers in SMEs and other vulnerable firms who are faced with loss of income and whose companies are unable to provide support. Details of these will be made available within the next few days.

Thirdly, we are assisting businesses that may be in distress.

- Using the tax system, we will provide a tax subsidy of up to R500 per month for the next four months for those private sector employees earning below R6,500 under the Employment Tax Incentive. This will help over 4 million workers.

- The South African Revenue Service will also work towards accelerating the payment of employment tax incentive reimbursements from twice a year to monthly to get cash into the hands of compliant employers as soon as possible.

- Tax compliant businesses with a turnover of less than R50 million will be allowed to delay 20% of their pay-as-you-earn liabilities over the next four months and a portion of their provisional corporate income tax payments without penalties or interest over the next six months. This intervention is expected to assist over 75 000 small and medium-term enterprises.

- We are exploring the temporary reduction of employer and employee contributions to the Unemployment Insurance Fund and employer contributions to the Skill Development Fund.

- The Department of Small Business Development has made over R500 million available immediately to assist small and medium enterprises that are in distress through a simplified application process.

- The Industrial Development Corporation has put a package together with the Department of Trade, Industry and Competition of more than R3 billion for industrial funding to address the situation of vulnerable firms and to fast-track financing for companies critical to our efforts to fight the virus and its economic impact.

- The Department of Tourism has made an additional R200 million available to assist SMEs in the tourism and hospitality sector who are under particular stress due to the new travel restrictions.

I want to make it clear that we expect all South Africans to act in the interest of the South African nation and not in their own selfish interests.

We will therefore act very strongly against any attempts at corruption and profiteering from this crisis.

I have directed that special units of the NPA be put together to act immediately and arrest those against whom we find evidence of corruption.

We will work with the judiciary to expedite cases against implicated persons and make sure the guilty go to jail.

South Africa has a safe, sound, well-regulated and resilient financial sector. Since the global financial crisis, we have taken steps to strengthen the banking system, including increasing capital, improving liquidity and reducing leverage.

With a strong financial sector and deep and liquid domestic capital markets, we have the space to provide support to the real economy.

We can make sure money flows to firms and households. We can ensure that our markets are efficient.

Last week, in line with its Constitutional mandate, the South African Reserve Bank cut the repo rate by 100 basis point. This will provide relief to consumers and businesses.

The South African Reserve Bank has also proactively provided additional liquidity to the financial system.

The Governor has assured me that the Bank is ready to do 'whatever it takes' to ensure the financial sector operates well during this pandemic.

The banking system will remain open, the JSE will continue to function, the national payment system will continue to operate and the Reserve Bank and the commercial banks will ensure that bank notes and coins remain available.

The action we are taking now will have lasting economic costs.

But we are convinced that the cost of not acting now would be far greater.

We will prioritise the lives and livelihoods of our people above all else, and will use all of the measures that are within our power to protect them from the economic consequences of this pandemic.

In the days, weeks and months ahead our resolve, our resourcefulness and our unity as a nation will be tested as never before.

I call on all of us, one and all, to play our part.

To be courageous, to be patient, and above all, to show compassion. Let us never despair.

For we are a nation at one, and we will surely prevail. May God protect our people.

Nkosi Sikelel' iAfrika. Morena boloka setjhaba sa heso. God seën Suid-Afrika. God bless South Africa. Mudzimu fhatutshedza Afurika. Hosi katekisa Afrika.

I thank you.

Overall Programme of The National NRW Training

Last Update: 10-Mar-20

2019 JCC

2019

OCTOBER						
S	M	T	W	T	F	S
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

1st Group

NOVEMBER						
S	M	T	W	T	F	S
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
1	2	3	4	5	6	7

2019

DECEMBER						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
Not in operation						
29	30	31	1	2	3	4
5	6	7	8	9	10	11

JCC

JANUARY						
S	M	T	W	T	F	S
Not in operation						
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1
2	3	4	5	6	7	8

FEBRUARY						
S	M	T	W	T	F	S
26	27	28	29	30	1	2
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
1	2	3	4	5	6	7

2nd Group

MARCH						
S	M	T	W	T	F	S
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
29	30	31	1	2	3	4
5	6	7	8	9	10	11

JCC

APRIL						
S	M	T	W	T	F	S
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	1	2
3	4	5	6	7	8	9

MAY						
S	M	T	W	T	F	S
2	3	4	5	6	7	8
9	10	11	12	13	14	15
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

3rd Group

JUNE						
S	M	T	W	T	F	S
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2	3	4
5	6	7	8	9	10	11

JCC

JULY						
S	M	T	W	T	F	S
28	29	30	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1
2	3	4	5	6	7	8

Project Reporting

AUGUST						
S	M	T	W	T	F	S
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

JICA Project termination & JCC

SEPTEMBER						
S	M	T	W	T	F	S
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	3
4	5	6	7	8	9	10

OCTOBER						
S	M	T	W	T	F	S
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

4th Group

NOVEMBER						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5
6	7	8	9	10	11	12

DECEMBER						
S	M	T	W	T	F	S
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

GP: Mogale City LM, LM: Mopani DM, KZN: uMgungudlovu DM

7 Oct. - 11 Oct.	IBTC: 5 weekdays
14 Oct. - 18 Oct.	Preparation for Workplace
21 Oct. - 1 Nov.	Workplace: 10 weekdays
5 Nov. - 8 Nov.	IBTC: 4 weekdays
11 Nov. - 15 Nov.	Preparation for Workplace
19 Nov. - 28/29 Nov.	Workplace: 6-8 weekdays
* Review and Improvement of the NRW training in November and December 2019	
* Preparation for 2nd Group Training (3-4 munic)	

Duration Revision

NW: JB Marks LM, MP: Mboombela LM, FS: Metsimaholo LM, KZN: King Cetshwayo DM

27 Jan. - 31 Jan.	IBTC: 5 weekdays
3 Feb. - 7 Feb.	Preparation for Workplace
10 Feb. - 14 Feb.	Workplace: 5 weekdays
17 Feb. - 21 Feb.	Buffer for Workplace
24 Feb. - 28 Feb.	Workplace: 5 weekdays
5 Mar. - 6 Mar.	IBTC: 2 weekdays
* Review and Improvement of the NRW Training in April 2020	
* Preparation for 3rd Group Training (3-4 munic)	

EC: Amatole DM, GP: Ekurhuleni Metro, NC: Sol Plaatje LM, WC:Saldanha Bay LM

11 May -15 May	IBTC: 5 weekdays
18 May - 22 May	Preparation for Workplace
25 May - 29 May	Workplace: 5 weekdays
1 Jun. - 5 Jun.	Buffer for Workplace
8 Jun. - 12 Jun.	Workplace: 5 weekdays
18 Jul. - 19 Jul.	IBTC: 2 weekdays
* Review and Improvement of the NRW Training in July 2020	
* Preparation for 4th Group Training (3-4 munic)	

DWS-SALGA-JICA Project Closing Seminar, Steering Committee Kick Off Meeting

- PRs continuously through media, magazine, web and conference
- Project Steering Committee (PSC) should be established.
- Submission of report to LGSETA in March ? (if funded)
- JICA HQs Project Evaluation Mission (6 month prior to the Completion) in March or April (TBC)
- Project Termination on not later than 12th August 2020

Legend (Color)

- IBTC Training
- Preparation or Buffer for Workplace
- Workplace Training
- Mile stones
- Holidays

To be continued (until 2025)

**THE NATIONAL NON-REVENUE WATER (NRW) TRAINING
“BY MUNICIPALITIES FOR MUNICIPALITIES”**

**STEERING COMMITTEE
ON
THE NATIONAL NRW TRAINING PROGRAMME**

TERMS OF REFERENCE

VERSION. 1.1

MARCH 2020



VERSION HISTORY

Date	Doc. Ver.	Document Revision History	Document Author/Reviser
//2020	1.1	Formulation of TOR	

APPROVAL

Date	Doc. Ver.	Approver Name and Title	Approver Signature
//2020	1.1		

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ACRONYMS

CoGTA	Department of Cooperative Governance and Traditional Affairs
DHET	Department of Higher Education and Training
DWS	Department of Water and Sanitation
IBOM	Infrastructure Build, Operate and Maintenance (Branch)
IBTC	Infrastructure Branch Training Centre (DWS)
EWSETA	Energy & Water Sector Education and Training Authority
FETWater	Framework Programme for Research, Education & Training in the Water Sector
IMESA	Institute of Municipal Engineering of Southern Africa
IWS	International Water Support (DWS)
JCC	Joint Coordination Committee
JICA	Japan International Cooperation Agency
LGSETA	Local Government Sector Education and Training Authority
MISA	Municipal Infrastructure Support Agent
NDP	National Development Plan
NGO	Non-Governmental Organisation
NSDS	National Skills Development Strategy
NRW	Non-Revenue Water
NWRS	National Water Resources Strategy
OS	Operational Support (DWS)
QCTO	Quality Council for Trades and Occupations
RBIG	Regional Bulk Infrastructure Grant
SAICE	South African Institution of Civil Engineering
SALGA	South African Local Government Association
SACA	South African Qualifications Authority
TOR	Terms of Reference
WC/WDM	Water Conservation and Water Demand Management
WRP	Water Reticulation Practitioner
WSA	Water Services Authority
WSDP	Water Services Development Plan
WSIG	Water Services Infrastructure Grant
WSLG	Water Sector Leadership Group
WSP	Water Services Provider
WUE	Water Use Efficiency (DWS)

CHAPTER 1: INTRODUCTION

1-1. PUPORSE

The purpose of this document is to define the Terms of Reference (TOR) for the Steering Committee on the National Non-Revenue Water (NRW) Training Programme (hereinafter "the Steering Committee").

1-2. BACKGROUND

In the process of reconstruction and decentralization in South Africa from 1990's, municipalities in South Africa have taken a responsibility of Water Services Authority (WSA) and/or Provider (WSP) with human resources transfer and technical supports from the Department of Water and Sanitation (DWS) as well as Water Boards. However, most of the municipalities have faced challenges such as deterioration of services and operation & maintenance due to the loss of competent personnel, lack of adequate technology and knowledge succession, and insufficiency of systematic training opportunity. This deterioration causes a difficulty in improving NRW in South Africa struggling against frequent water scarcity. Therefore, human resources development, enhancement and dissemination of skills and knowledge such as NRW reduction are keys to success in sustainable water supply services of municipalities.

Together with job creation, capacity development and human resources development of municipalities are national priority issues emphasized under National Development Plan 2030 (NDP) and National Water Resources Strategy II (NWRS-II). Furthermore, the Department of Higher Education and Training (DHET) and Sector Educational and Training Authority (SETA) in local government and energy & water sectors are focusing on increase in skilled workers and artisans under National Skills Development Strategy III (NSDS-III).

Against this background, DWS intends to position "Infrastructure Branch Training Centre (IBTC)" of Infrastructure Build, Operate and Maintenance (IBOM) Branch as a training provider of skills development of municipal staff and also as a hub of coordination and information sharing of human resources development in water sector. DWS has established a training scheme and procedures as well as has strengthened training implementation to improve IBTC's management capacity of skills development and training in water sector through "Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water" (hereinafter "the Project") in collaboration with South African Local Government Association (SALGA) and an international development partner "Japan International Cooperation Agency (JICA)".

The Project began in August 2017 and will terminate in July 2020 (36 months). The summary of the project design is shown below:

Overall Goal: NRW management skills are utilized in NRW reduction projects of participating municipalities.

Project Purpose: NRW management skills are developed for participating municipalities through the National NRW Training Programme by IBTC.

Output 1: Skill development, status-quo and challenges of NRW, and needs in municipalities are analysed and shared with stakeholders.

Output 2: IBTC's capacity of the National NRW Training Programme is improved.

Output 3: The National NRW Trainings Programme is conducted with training improvement cycle.

During the Project, the following major activities were conducted under the leadership of Joint Coordinating Committee (JCC):

- a. Baseline survey to understand the current situation of skills development and NRW in municipalities.
- b. Benchmarking (comparison with) water supply services and its skills development in Japan.
- c. Preparation of a business plan of the National NRW Training Programme.
- d. Preparation of standard operating procedures (SOPs) of the National NRW Training Programme.
- e. Development of the National NRW Training Programme.
- f. Mobilization of facilitators and conducting facilitator meetings for the National NRW Training Programme.
- g. Procurement/construction of a training yard and equipment for the National NRW Training Programme.
- h. Development of teaching/learning materials for the National NRW Training Programme.
- i. Implementation of the National NRW Training Programme (3 intakes for 7 participating municipalities).

The Project was successfully completed in July 2020.

1-3. ESTABLISHMENT OF THE STEERING COMMITTEE

After the completion of the Project, DWS and SALGA organizes the Steering Committee, which succeeds the roles and responsibilities of the JCC.

Title of Committee: Steering Committee of the National NRW Training Programme

Date of Establishment: ** July 2020

CHAPTER 2: GOAL AND OBJECTIVES

The goal of the National NRW Training Programme (hereinafter "the training programme") is "NRW management skills, which learners obtain in the training, are utilized in NRW reduction projects of participating municipalities."

In other words, under the key concept "By Municipalities For Municipalities" with support from DWS, SALGA and stakeholders, it is to ensure developing human resources in NRW management of municipalities, and ultimately to reduce the NRW nationwide.

The following objectives for this goal are defined:

- a. To cultivate the facilitators being capable of NRW management skills.
- b. To select and mobilize municipalities to participate in the training programme.
- c. To train the learners nominated from municipalities for acquiring NRW management skills.
- d. To increase the skilled and knowledgeable municipal staffs on NRW management.
- e. To develop and enhance municipalities' collaboration in terms of knowledge, information and human resources including facilitators.
- f. To review the training programme regularly including curriculum and learning/teaching materials.
- g. To enhance the presence and public relations of the training programme

- h. To conduct baseline survey about the current situation of skills development and NRW in municipalities at least once every five years.
- i. To align with other training programmes for occupational qualifications such as “Water Reticulation Practitioner (WRP)” which was developed under the initiatives of Framework Programme for Research, Education & Training in the Water Sector (FETWater).
- j. To collaborate with not only members but also other-than-member stakeholders such as Institute of Municipal Engineering of Southern Africa (IMESA), South African Institution of Civil Engineering (SAICE), international development partners, NGOs and private sector.

CHAPTER 3: KEY DELIVERABLES

The key deliverables of the training programme include:

- a. Annual plan of the training programme
- b. Annual report of the training programme
- c. Annual financial report of the training programme, and
- d. Report of each training intake

CHAPTER 4: PURPOSE OF THE STEERING COMMITTEE

The purpose of the Steering Committee is to provide support, guidance, approval, endorsement, monitoring and oversight of the planning, implementation and review of the training programme.

The Steering Committee is also responsible for assisting budget planning and grant application of the training programme every year for financial sustainability.

CHAPTER 5: GOVERNING STRUCTURE OF THE STEERING COMMITTEE

The Steering Committee shall be governed under the following structure.

Position	Major Duty	Organisation
Chair (1)	To represent the Steering Committee, control its affairs overall and convoker/chair it.	DWS or SALGA
Deputy Chair (1)	To assist the Chair and act for the Chair in his/her absence.	SALGA or DWS
Secretary General (1)	To take charge of administrative and accounting affairs.	DWS
Deputy Secretary General (1)	To assist the Secretary General.	SALGA
Technical Advisors	To give technical advices based on municipality's experiences.	Cape Town, Ekurhuleni, eThekweni, Johannesburg, Mbombela, Tshwane
Sector Advisors	To give advices from the institutional standpoint.	LGSETA, EWSETA, CoGTA, MISA, Water Boards
Secretariats (Training Practitioners)	To plan, report and suggest on the training programme to the Executives as well as to practice	DWS, SALGA

administrative and accounting affairs of the Steering Committee

The position of Chair and Deputy Chair shall be rotated between DWS and SALGA annually. DWS has secretarial duties in administrative aspects in the Steering Committee, but SALGA has coordination/mobilization duties in participation of technical advisors from municipalities.

For the detailed information of members, refer to the “CHAPTER 8: MEMBERSHIP”.

CHAPTER 6: RESPONSIBILITIES OF THE STEERING COMMITTEE CHAIR

The Steering Committee Chair shall be a nominated representative from DWS as well as the Deputy Chair from SALGA, or vice versa. The Deputy Chair shall take a responsibility as the Chair, should the Chair be unable to attend/chair the meeting.

The responsibilities of the Steering Committee Chair are as follows:

- a. To convene meetings.
- b. To set agendas for each meeting.
- c. To ensure that meeting materials including an agenda are delivered to members well in advance of the meeting.
- d. To make the purpose of each meeting clear to members and explain agendas at the beginning of the meeting.
- e. To conduct the meeting smoothly with time management.
- f. To encourage broad participants from members in discussion by calling on different people.
- g. To end each meeting with a summary of decisions, assignments and timeframe.
- h. To follow up with consistently absent members to determine if they wish to discontinue membership.
- i. To find replacements for members who discontinue membership.

The Chair shall be fully assisted by the Secretary General, Deputy Secretary General, and secretariats in practices of administrative and accounting affairs of the Steering Committee.

CHAPTER 7: RESPONSIBILITIES OF THE STEERING COMMITTEE MEMBERS

7-1. GENERAL

All Steering Committee members have the following responsibilities:

- a. To understand the goal, objectives and key deliverables of the training programme.
- b. To understand and represent the interests of all the concerned stakeholders.
- c. To act on opportunities to communicate positively about the training programme.
- d. To participate actively in meetings through attendance, discussion and review of reports and other documents.
- e. To support open discussion, debate and encourage fellow Steering Committee members to voice their insights.

Each Steering Committee member institution/organisation has also respective responsibilities as below.

7-2. DEPARTMENT OF WATER AND SANITATION (DWS)

- a. To secure own budget and grants to implement the training programme.

- b. With SALGA, to prepare an annual plan of the training programme for each year.
- c. With SALGA, to prepare a list of the candidate municipalities for each year.
- d. With SALGA, to mobilize the candidate municipalities based on the approved list.
- e. With SALGA, to coordinate and develop an annual allocation plan of facilitators.
- f. To coordinate and develop an annual allocation plan of DWS coordinators.
- g. To arrange logistics (accommodation in IBTC) for learners from the participating municipalities.
- h. To arrange logistics (accommodation and transportation in IBTC and workplaces) for facilitators and DWS coordinators.
- i. To implement the training programme in the IBTC and the participating municipalities' workplaces.
- j. To conduct the output seminar at the end of each training intake.
- k. To monitor, evaluate and review the training programme.
- l. To maintain the appropriateness and sustainability of the training programme.
- m. To enhance public relations of the training programme.

7-3. SOUTH AFRICAN LOCAL GOVERNMENT ASSOCIATION (SALGA)

- a. To give advices in budgeting and grants to implement the training programme.
- b. With DWS, to prepare an annual plan of the training programme for each year.
- c. With DWS, to prepare a list of the candidate municipalities for each year.
- d. With DWS, to mobilize the candidate municipalities based on the approved list.
- e. With DWS, to coordinate and develop an annual allocation plan of facilitators.
- f. To attend the output seminar at the end of each training intake.
- g. To monitor, evaluate and review the training programme.
- h. To maintain the appropriateness and sustainability of the training programme.
- i. To enhance public relations of the training programme.

7-4. MUNICIPALITIES:

E.G. CAPE TOWN, EKURHULENI, ETHEKWINI, JOHANNESBURG, MBOMBELA AND TSHWANE

- a. To input the demands and needs in municipal water services into the training programme, particularly about technical aspects such as contents, curriculum and teaching/learning materials.
- b. To assist in the annual plan of the training programme.
- c. To assist in the implementation of the training programme as facilitator providers.
- d. To attend the output seminar at the end of each training intake.
- e. To evaluate and review the training programme.

7-5. LOCAL GOVERNMENT SECTOR EDUCATION AND TRAINING AUTHORITY (LGSETA)

- a. To assist in grant application and securing a grant for the training programme.
- b. To ensure smooth grant disbursement and procurement.
- c. To assist in the annual plan of the training programme.
- d. To assist in the implementation of the training programme as a sector interface for skills development.
- e. To attend the output seminar at the end of each training intake.
- f. To give advices in reviewing the training programme.
- g. To assist in public relations of the training programme.

7-6. ENERGY & WATER SECTOR EDUCATION AND TRAINING AUTHORITY (EWSETA)

- a. To assist in grant application and securing a grant for the training programme.
- b. To ensure smooth grant disbursement and procurement.
- c. To assist in the annual plan of the training programme.
- d. To assist in the implementation of the training programme as a sector interface for skills development.
- e. To attend the output seminar at the end of each training intake.
- h. To give advices in reviewing the training programme.
- f. To assist in public relations of the training programme.

7-7. DEPARTMENT OF COOPERATIVE GOVERNANCE AND TRADITIONAL AFFAIRS (COGTA)

- a. To assist in the annual plan of the training programme.
- b. To attend the output seminar at the end of each training intake.
- c. To give advices in reviewing the training programme.

7-8. MUNICIPAL INFRASTRUCTURE SUPPORT AGENCY (MISA)

- a. To assist in the annual plan of the training programme.
- b. To attend the output seminar at the end of each training intake.
- c. To give advices in reviewing the training programme. Additionally in the future.
- d. To assist in the implementation of the training programme (e.g. facilitators and/or workplace mentors).

7-9. WATER BOARDS

- a. To assist in the annual plan of the training programme.
- b. To attend the output seminar at the end of each training intake.
- c. To give advices in reviewing the training programme. Additionally in the future.
- d. To assist in the implementation of the training programme (e.g. facilitators and/or workplace mentors).
- e. To give advices in reviewing the teaching/learning materials of the training programme.

CHAPTER 8: MEMBERSHIP

The representatives from each organisation are required to be on a decision-making level, accountable for the planning, implementation and monitoring of the training programme and communications. In order to respond to the changes in the circumstances, the member composition shall be changed with other organisations or institutions as needed.

The membership to the Steering Committee is shown in the table below.

Table 2: Steering Committee Members

Organisation	Directorate/Division/Section	Decision-Making Level
DWS	IBOM Engineering Services	Chief Director, Director
	IBTC	Centre Manager
	Water Use Efficiency (WUE)	Director
	Operational Support	Director
	RBIG (WSIG)	Director
	Regional Offices	Director
	International Water Support (IWS)	Director

Organisation	Directorate/Division/Section	Decision-Making Level
SALGA	Water Sustainability and Innovations	Director
	Municipal Capability & Governance Cluster	Director
Municipalities	Cape Town	****
	Ekurhuleni	****
	eThekweni	****
	Johannesburg	****
	Mbombela	****
Tshwane	****	
LGSETA	Education and Training Quality Assurer	Director
EWSETA	Water Sector	Manager
CoGTA	****	****
MISA	****	****
Water Boards	****	****
	****	****
	****	****

CHAPTER 9: GENERALS

9-1. SECRETARIAT ADDRESS AND CONTACT

DWS: Infrastructure Branch Training Centre (IBTC), 1 KwaMhlanga / Moloto Road (R 573), Rodeplaai, Pretoria
Tel: 012 808 9979/80

SALGA: Head Office, Menlyn Corporate Park Block B, 175 Corobay Avenue, Cnr Garsfontein and Corobay, Waterkloof Glen Ext.11, Pretoria
Tel: 012 *** ****

9-2. QUORUM

A minimum number of **six** institutions/organisations in the Steering Committee members are required for decision-making purposes.

The quorum must include a minimum number of **2** from DWS, **1** from SALGA, **2** from Municipalities, **1** from other institutions/organizations.

9-3. DECISION-MAKING PROCESS

The process that the Steering Committee will use to make decisions will be based on the majority principle where a course of action requires support from more than 50% members who attend the meeting, if there is quorum.

9-4. FREQUENCY AND VENUE

The Steering Committee meeting is scheduled on **once or twice** a year basis (plenary/general and interim/extraordinary), for example in **April and December** of each year.

DWS provides a schedule of dates well in advance for the year and confirmation of the next meeting will be done at the respective meetings.

In case of emergency and/or urgent necessity, DWS/SALGA will also be able to gather the Steering Committee members at their will.

Unless otherwise arranged and members notified in advance, the venue for the meeting will be held at the board room of IBTC, DWS Head Office or SALGA Head Office in Pretoria.

The meeting should be two hours and a half or less in principle.

9-5. AGENDA, MINUTES AND DECISION PAPERS

A set of the meeting materials are sent electronically to the Steering Committee members at least **five** business days in advance of the meeting.

Meeting materials include the following:

- Agenda for the upcoming meeting
- Minutes of the previous meeting
- Copies of presentation to be done at the upcoming meeting
- Any other documents/information to be discussed at the upcoming meeting

9-6. REPORTING STRUCTURE

The reports of training intakes, including the feedback from participants, are compiled by DWS/SALGA (training practitioners) at least within **30 days** after the completion of each training intake. Afterwards, the reports are shared electronically and immediately with the Steering Committee members.

The reports shall be assembled into an annual training report to be presented in the Steering Committee.

CHAPTER 10: CONFIDENTIALITY

The Steering Committee members must exercise reasonable care to prevent disclosure of confidential information it may have acquired as a direct or indirect result of the Steering Committee meetings and other information related to the participants of the trainings, unless written consent is obtained from the members providing such information.

The respective organisation shall each be liable for any improper disclosure of confidential information by their respective members.

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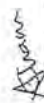
**MINUTES OF MEETING ON
THE 6TH MEETING OF JOINT COORDINATING COMMITTEE**

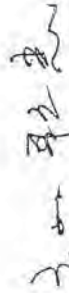
17th July 2020


MINUTES OF MEETING
ON
THE SIXTH MEETING OF JOINT COORDINATING COMMITTEE
FOR
PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER


HELD BY
ONLINE MEETING

17th July 2020


Mr. Aloious Chaminuka
Chief Director: Engineering Services
Department of Water and Sanitation
(DWS)
Republic of South Africa


Mr. Akinori Miyoshi
Chief Advisor,
Japan International Cooperation
Agency (JICA) Expert Team


Mr. William Moraka
Head: Technology and Innovative
Projects,
South African Local Government
Association (SALGA),
Republic of South Africa


Mr. Tomohiro Seki
Chief Representative,
JICA South Africa Office

Attached Document

For monitoring, discussion on issues, challenges, solutions and way forward of the Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water (hereinafter referred to as "the Project"), the sixth meeting of Joint Coordinating Committee (hereinafter referred to as "JCC") was held online on 17th July 2020.

1. Remarks

The Chairperson Mr. Aloious Chaminuka, Chief Director: Engineering Services, Infrastructure Build, Operate and Maintenance Branch, Department of Water and Sanitation (DWS), opened the meeting.

As an opening remark, Mr. William Moraka, Director: Water Sustainability & Innovation, South Africa Local Government Association (SALGA) paid his courtesy to project members for having kept our relationship and expressed:

- SALGA wishes to commit to assist in ensuring sustainability of the Project.
- SALGA can create the municipality network.
- As a mission, DWS/SALGA should further explore opportunities and the partnership with JICA using online platforms, and
- We should look forward under the current circumstance.

Mr. Tomohiro Seki, Chief Representative of Japan International Cooperation Agency (JICA) South Africa Office, expressed his gratitude to DWS/SALGA for hosting attendances in spite of the difficult conditions and emphasized:

- Within the extended duration of the Project, new ideas and flexible responses will be required, such as the implementation of online training and the arrangement of on-the-job training while monitoring the status of relaxation of travel restrictions.
- DWS/SALGA's leadership is expected since JICA does not have a lot of experience in the online-based training.
- The online system will have advantages, such as enabling more people to gather in virtual space with saving costs.
- Activities during the project period are important. However, it is more critical that non-revenue water training of IBTC is going to be implemented steadily after the Project's completion, and this measure will be disseminated. It is highly expected that a training system will be

established during the Project period to lay the foundation for ongoing training.

- JICA has a network among neighbouring countries interested in the Project, so JICA is willing to collaborate.
- The Project can contribute to increasing revenue of municipalities by improving NRW ratio to ensure their service delivery.
- We can overcome the difficulties.

Before closing the meeting, Ms. Yoko Hattori, Director of Water Resources Team 2 of JICA Headquarters gave their thanks and message to the Project Team as below:

- Although we are under unusual and difficult circumstances due to COVID-19, JICA would like to continue technical cooperation.
- The Project is attempting a breakthrough by using the online system as a new approach against the big challenge. This would be a model case to other JICA projects.
- The Project is now at the final stage and JICA can support the training only one more time. It is important to establish how to continue the National NRW Training in the extended project duration.
- JICA pay high attention to sustainability of the Training.
- The new indicators of PDM provides the clarified goal, and we should work towards it.

As closing remarks, Mr. Aloious Chaminuka, gave his thanks to JCC members for their attendance and approvals. He wrapped up the meeting by highlighting:

- The Project should confront this changing circumstance.
- Reducing NRW leads to increasing revenue and providing more water for COVID-19 responses. This should be got across properly among stakeholders.
- It is expected that the Project members and JICA Experts put concepts and ideas which we concluded today into practice for realization.
- The super goal set today is crucial to South Africa.
- We now move forward to the success and sustainability of the National NRW Training.

2. Presentations

Mr. Armand Basson, Project Management Committee (PMC) Coordinator, DWS made a presentation on project status report as of June 2020 including Background and introduction, Objectives, Suspended activities and outstanding challenges, Direction and scenarios of project operation, Conditions and consideration in project operation and Recommendations (refer to Appendix 3).

During the presentation, he added more explanation about the sustainability as below:

Thus far,

- TOR for Steering Committee has been discussed, however, not yet been ready due to suspension.
 - Directorate: Operational Support and IBTC has discussed an alignment with Water Reticulation Practitioner (WRP) qualification. Registration as an assessment centre has been processed but suspended.
 - The Project has tried to approach to Local Government Sector Education and Training Authority (LGSETA) as well as Regional Bulk Infrastructure Grant (RBIG) / Water Services Infrastructure Grant (WSIG) for funding, however, it has not come to fruition.
 - DWS has developed IBTC website, however, it has been suspended due to DWS server problem since February 2020.
- Hereafter under the additional Activity 2-9 "Develop sustainability plans for the National NRW Training.",
- The Project will ensure the Steering Committee establishment.
 - Directorate: Operational Support and IBTC will review the National NRW Training as the part/special-qualification of WRP with LGSETA.
 - DWS will ensure a certain volume of the NRW training budget every year, and involve RBIG/WSIG into funding the participating municipalities, and keep communicating relevant Sector Education and Training Authorities (SETAs).
 - DWS will follow up website development. JICA Experts and SALGA should assist it as necessary.
 - The Project will have a plan to expand facilitators.
 - SALGA is willing to take a key role of developing sustainability plans holistically in accordance with the national programme by DWS-SALGA-Treasury.

He then requested the JCC members to recognize them.

Mr. Akinori Miyoshi, Chief Advisor of JICA. Expert Team explained about revision history of Project Design Matrix (PDM) and Plan of Operation (PO) and further revision from currently PDM₂ to PDM₃ as well as PO₅ to PO₆ (refer to Appendix 4).

3. Main Points discussed

3-1. Objectives in Project Operation

The JCC members offered their supports to the following objectives of project operation in the current circumstances by COVID-19:

- To carry on and upgrade the Project with ingenuity and flexible mind-set.
- To keep aiming at achievement of the project purpose and three outputs by means of activities and inputs.

3-2. Suspended Project Activities and Outstanding Challenges

The JCC members confirmed that the following project activities have been suspended as of today (refer to Appendix 5 for details):

Table 1: Status of Project Activities

Activities	Current Timeline (PO ₆)	Actual Progress and Delayed
1-5 Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	By July 2020	65%, 2.5 months
2-5 Revise the Standard Operating Procedures (SOP) of the National NRW Training through the activities of Output-3.	By July 2020	40%, 0.0 month
2-6 Revise the National NRW Training Business Plan through the activities of Output-3.	By July 2020	25%, 2.5 month
2-7 Conduct capacity assessment of IBTC.	By July 2020	70%, 1.0 month
3-2 Secure the site(s) for workplace of the National NRW Training. <i>*Note: This includes mobilization of participating municipalities.</i>	By April 2020	85%, 2.5 months
3-8 Prepare for conducting the National NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.). <i>*Note: This includes allocation of facilitators.</i>	By April 2020	75%, 2.5 months
3-9 Conduct the National NRW Training by facilitators with support from JICA Experts.	By July 2020	70%, 1.0 month

Activities	Current Timeline (PO ₆)	Actual Progress and Delayed
3-10 Monitor the National NRW Training and feed the results back under training improvement cycle.	By July 2020	70%, 1.0 month
3-11 Verify effects of the National NRW Training in sampled municipalities.	By July 2020	70%, 1.0 month

The JCC members identified that the following remain as outstanding challenges:

- a. The self-supporting training has not yet been put into practice adequately.
- b. The format of problem analysis and solution in NRW-related aspects has not yet been transferred adequately and practically.
- c. The system for sustainability has not yet been developed adequately (facilitators, steering committee, monitoring & evaluation, self-improvement cycle, PRs, web site, collaboration with Water Reticulation Practitioner qualification, etc.).

3-3. Direction and Timeframe of Project Operation

The JCC members offered their supports to the direction of project operation to primarily conduct the National NRW Training for the 3rd group/intake by necessary extension of the project duration in accordance with timeframe of possible scenario.

Three scenarios were tabled by PMC and the "Scenario-3" was recommended to be selected (refer to Appendix 6 for details).

Scenario-1: Training: 12th October to 20th November 2020.

Project completion: December 2020 at earliest

Scenario-2: Training: 2nd November to 11th December 2020

Project completion: February 2021 at earliest

Scenario-3: Training: 1st February to 12th March 2021

Project completion: March 2021

Assuming the Scenario-3 is selected which will end in March 2021 during the financial year 2020/21, the project duration should be extended for eight months from 12th August 2020 to 12th April 2021.

3-4. Conditions and Considerations in Project Operation

The JCC members recognized the following items, which affect the project operation, would be subject to mostly relaxation of the Alert Level of "COVID-19 Risk Adjusted Strategy" of South African Government as an external condition.

- a. Domestic transportation
- b. Accommodation in IBTC, Pretoria and workplaces
- c. Catering at IBTC
- d. Guideline or regulation about physical gathering (training and seminar) in terms of social distancing
- e. Receiving external officials by the participating municipalities in mobilization and workplace training
- f. Staff release from municipalities and partners to gathering.
- g. DWS's budget disbursement as planned for the Training
- h. Travelling of the JICA Experts: Immigration control, health screening at airports, Antibody test and/or vaccination certificate, Quarantine if necessary and Resumption of normal commercial flights, and
- i. Others

3-5. Recommendations (Additional Project Activities)

The current circumstances by COVID-19 has willy-nilly urged us to change our living and work styles. In particular, "social distancing" to protect our health and lives affects the National NRW Training from a variety of viewpoints. In this context, it is necessary to examine/adapt online system and alternatives to keep conducting the Training with a certain level of social distancing among participants.

The following additional project activities (particularly on online system adaptation and sustainability) in the timeframe of Scenario-3 to ensure conducting the Training for 3rd group/intake steadily were proposed as well as resumption and acceleration of suspended project activities were emphasised by PMC (refer to Appendix Z for details).

- 2-8: Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.
- 2-9: Develop sustainability plans for the National NRW Training.
- 3-12: Assess the feasibility and sustainability of online system adaptation into

the National NRW Training.

- 3-13: Review, revise or upgrade the programme/curriculum, and develop new form and ways of the National NRW Training with online system adaptation.
- 3-14: Review, revise or upgrade learning/teaching materials and tools for online system adaptation.
- 3-15: Procure additional services, equipment, instruments/tools and materials for online system adaptation.

3-6. Remote Assistance by JICA Experts

During the period of the Alert Level 3 or 2 (probably the 1st Term period), the JICA Experts should assist the South African colleagues remotely to the extent possible.

3-7. Revision of PDM₂ and PO₅

Revision of PDM and PO for clarification of project direction, which specifies more objectively-verifiable indicators and means of verification of both the overall goal and the project purpose as well as includes the above-proposed additional activities, was tabled to review the project framework (refer to Appendix 8 for details).

By taking this opportunity, JICA Experts emphasized the Project should aim ultimately/primarily/ambitiously at NRW reduction in municipal water services for the way forward as long as the Project develops the National NRW Training for municipalities, and the JCC concluded to set a "Super Goal" of the Project optionally as below separately from PDM:

Super Goal: "NRW ratios decrease in participating municipalities utilizing the NRW management skills obtained from the National NRW Training."

4. Comments, Questions and Answers

Comments, questions and answers among participants were made as below:

4-1. Manual Development

Field survey is important to deal with NRW, so manuals should cover it and/or

be revised for it in conducting the National NRW Training.

The Project will deal with it in consideration of the suggestion by the activities (2-5 and 3-14).

4-2. IT Environment for Online System Adaptation

IT environment and communicating cost can stand in the way of online system. Information/data sharing among DWS, SALGA, facilitators and learners (participating municipalities) is also a challenge. How can the Project deal with them, for example by distributing Wi-Fi modem and router?

IBTC has currently communicated with IT officers about its IT situation. The Project will have brainstorming sessions among task members, and assess the situation and feasibility of IBTC, facilitators and learners (participating municipalities) overall and then take necessary measures by the additional activities (2-8, 3-12 and 3-13) and inputs.

4-3. Strategic Planning for Online System Adaptation

While the current circumstance is significant challenge, online system will bring an opportunity of new ways and innovation in the National NRW Training.

For example, the Project assembled theoretical and practical modules in five days in the existing training programme, but they can be dissembled and reprogrammed flexibly from the viewpoint of remote attendance of facilitator/learner as well as monitoring. This must be very exciting and amazing, however, strategic planning based on the overall assessment is a key.

Furthermore, approaches and outcomes in the Project will contribute to standardization in water sector of South Africa.

4-4. Sustainability of the National NRW Training

Ensuring sustainability of the Training is a key issue, and steering committee will play a key role to ensure it. The steering committee must be established within the Project period. TOR for steering committee has been developed, but what is the next step?

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Once the TOR is drafted which covers key deliverables, purpose, governing structure, member's responsibilities and membership, etc., the next step will probably be communication and mobilization to candidate members.

In addition, the Directorate: Operational Support can play a role in communication and coordination with stakeholders as well as WRP qualification.

5. Approval of PDM₃ and PO₆

Based on the presentation and the results of discussion, the JCC members approved PDM₃ and PO₆ (refer to [Appendix 9](#) and [10](#)).

6. Endorsement of Extension of the Project Duration

Based on the timeframe of Scenario-3 and revision of PDM and PO, the JCC members endorsed extension of the project duration for eight months until 12th April 2021.

Extension of the project duration will be formalized by the amendment of Record of Discussion (RD) by both Governments.

END

Appendix

Appendix 1: Programme/Agenda

Appendix 2: Attendance Register

Appendix 3: Presentation: Project Status Report

Appendix 4: Presentation: Revision of PDM and PO

Appendix 5: Current PO₅ as of June 2020

Appendix 6: Project Timeframe and Scenarios

Appendix 7: Existing activities and proposed additional activities based on timeframe of Scenario-3

Appendix 8: Revision History of PDM

Appendix 9: PDM₃

Appendix 10: PO₆

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National Water Resource Infrastructure Branch (NWRI)
Infrastructure Branch Training Centre (IBTC)

assisted by
Japan International Cooperation Agency (JICA)

**PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER**

PROGRAMME/AGENDA FOR 6TH JCC MEETING

Co-Chaired by Mr. Aloious Chaminuka and Mr. Tomohiro Seki
Venue: Online Meeting

Date: 11:00, Friday, 17th July 2020 (SAST)

- 11:00 - 11:05 1. Introduction of Participants
- 11:05 - 11:10 2. Remarks by SALGA: Mr. William Moraka (Head: Technology and Innovative Projects)
- 11:10 - 11:15 3. Remarks by JICA South Africa Office: Mr. Tomohiro Seki (Chief Representative)
- 11:15 - 11:40 4. Project Status Report as of June 2020:
- PMC Coordinator: Mr. Armand Basson
 - PMC Leaders: Mr. Xolani (Director: WUE), Ms. Rosa (IBTC Centre Manager) and Ms. Kentse (Director: Operational Support)
- 11:40 - 11:55 5. Revision of Project Design Matrix (PDM) and Plan of Operations (PO):
Mr. Akinori Miyoshi (Chief Advisor, JICA Expert)
- 11:55 - 12:15 6. Questions, answers and discussion
- 12:15 - 12:20 7. Approval of PDM and PO, and Endorsement of Extension of Project Period
- 12:20 - 12:25 8. Message by JICA Headquarters: Ms. Yoko Hattori (Director of Water Resources Team 2) and/or Mr. Hiroshi Kubota (Senior Advisor) and/or Mr. Hideki Osawa (Programme Officer)
- 12:25 - 12:30 9. Way Forward and Closing Remarks by DWS: Mr. Aloious Chaminuka (Chief Director: Engineering Services, Infrastructure Build, Operate and Maintenance Branch)

National Water Resource Infrastructure Branch (NWRI)
Infrastructure Branch Training Centre (IBTC)

assisted by
Japan International Cooperation Agency (JICA)

**PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER
6TH JCC MEETING (ONLINE)**

Co-Chaired by Mr. Aloious Chaminuka and Mr. Tomohiro Seki
Venue: Online Meeting

Date: 11:00, Friday, 17th July 2020 (SAST)

ATTENDANCE REGISTER

No	Name	Role in Project	Title and Position
South African Side			
1	Aloious Chaminuka	Project Director, PMC Chairperson	Chief Director: Engineering Services, IBOM, DWS
2	William Moraka	Co-Project Director, PMC Advisor/Leader	Head: Technology and Innovative Projects, SALGA
3	Rosa M. Rahube	Project Manager (Operational), PMC Leader	Centre Manager, IBTC, DWS
4	Hadebe Xolani	Co-Project Manager (Technical), PMC Leader	Director, Water Use Efficiency, P&I, DWS
5	Albert Mmbidi	Member PMC Secretariat/Leader	Director: ODA, IWS, DWS
6	Michael Singh	Member	Director: Planning, Monitoring and Evaluation, DWS-KZN
7	Kgoputso Sekgoleane	Member	Training Manager, IBTC, DWS
8	Verusha Govender	Member	IBTC, DWS
9	Maphutha Tsibiso	Member	Operational Support, PMU, DWS
10	Armand Basson	Member PMC Coordinator	Construction, IBOM, DWS
11	Riaan Stassen	Member	Construction, IBOM, DWS
Japanese Side			
12	Akinori Miyoshi	JICA Expert	Chief Advisor / NRW Management
13	Nobutaka Maruyama	JICA Expert	Training Management / Human Resource Development
14	Kenichiro Sugiya	JICA Expert	Skills Programme Planning / Organization Coordination
15	Hiroki Niimura	JICA Expert	Water Leakage Detection

Appendix-2

No	Name	Role in Project	Title and Position
16	Hirayuki Morita	JICA Expert	Water Distribution Control / Commercial Loss
17	Tomohiro Seki	JICA South Africa Office	Chief Representative
18	Yoko Hattori	JICA Headquarters	Director of Water Resources Team 2
19	Hiroshi Kubota	JICA Headquarters	Senior Advisor
20	Taisuke Morimoto	JICA South Africa Office	Representative
21	Hideki Osawa	JICA Headquarters	Programme Officer
22	Lerato Sibisi	JICA South Africa Office	Staff

APOLOGIES FOR ABSENCE

No	Name	Role in Project	Title and Position
1	Vincent Monene	PMC Leader	Director: Technical Engineering Services, IBOM, DWS
2	Kentse Mathiba	PMC Leader	Director: Operational Support, PMU, DWS

Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

PROJECT STATUS REPORT

As of June 2020

17th July 2020

Presentation Outline

1. Background and introduction
2. Objectives of project operation
3. Suspended activities and outstanding challenges
4. Direction and scenarios of project operation
5. Conditions and consideration in project operation
6. Recommendations

1. Background and Introduction



✓ The South African Government officials are **restricted** under the Alert Levels of “**COVID-19 Risk Adjusted Strategy**” for the time being, and may need a certain amount of time for being back in the swing after relaxations.

✓ Meanwhile, the foreign nationals including **JICA Experts** are facing **difficulties in traveling abroad**, particularly **not allowed** into South Africa under the current Alert Level 3.

✓ Obviously **it won't be able to complete the Project** before its expiry date “**12th August 2020**” in accordance with the RD.



2. Objectives of Project Operation

1. Background and Introduction

- 1st March: **The first case** later confirmed with COVID-19 in South Africa
- 15th March: Statement by President: Measures to combat COVID-19 Epidemic (National State of Disaster)
- 17th March: JICA HQs’ instruction to all JICA Experts worldwide for temporary return
- 22nd March: All **JICA Experts returned** to Japan.
- 23rd March: Statement by President on Escalation of Measures to combat the COVID-19 Epidemic
- 26th March: **National Lockdown** for 21 days
- 9th April: Extension of Lockdown to the end of April
- 23th April: Statement by President on SA’s Response to the COVID-19 Pandemic (**Risk Adjusted Strategy**)
- 1st May: **Relaxation of the Alert Level from 5 to 4** of Risk Adjusted Strategy
- 24th May: Statement by President: Developments in Risk Adjusted Strategy
- 1st June: **Relaxation of the Alert Level from 4 to 3** of Risk Adjusted Strategy
- 17th June: Address by President: SA’s response to the COVID-19
- 25th June: **Restriction Ease of the current Alert Level 3** of Risk Adjusted Strategy
- 12th July: Curfew (13th July -). Extension of National State of Disaster to 15th August 2020

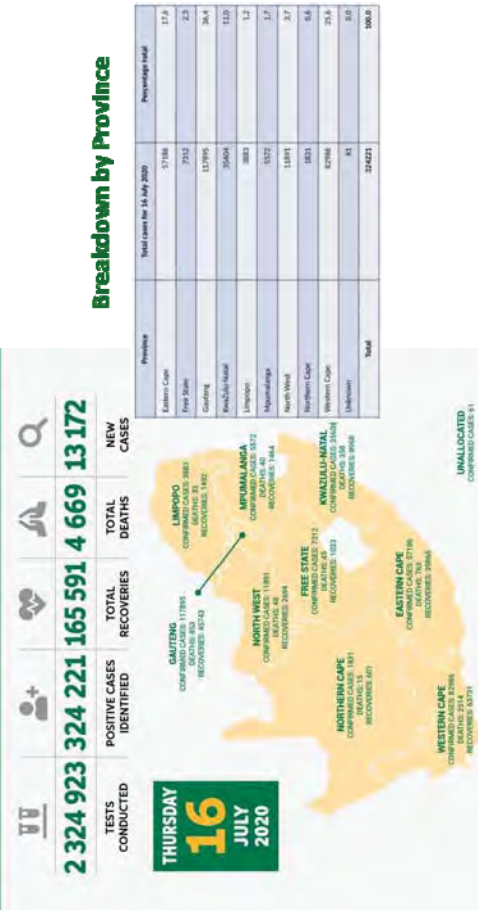
3. Suspended Activities & Outstanding Challenges

1. Background and Introduction

2. Objectives of Project Operation

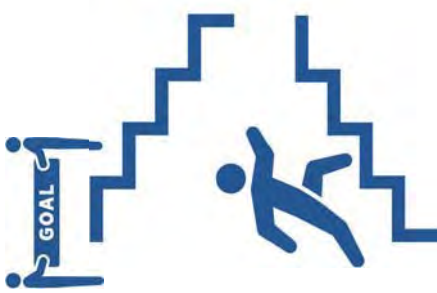
3. Suspended Activities & Outstanding Challenges

COVID-19 STATISTICS IN SA



✓ To carry on and upgrade the Project with ingenuity and flexible mind-set.

✓ To keep aiming at achievement of the project purpose and three outputs by means of activities and inputs.



1. Background and Introduction

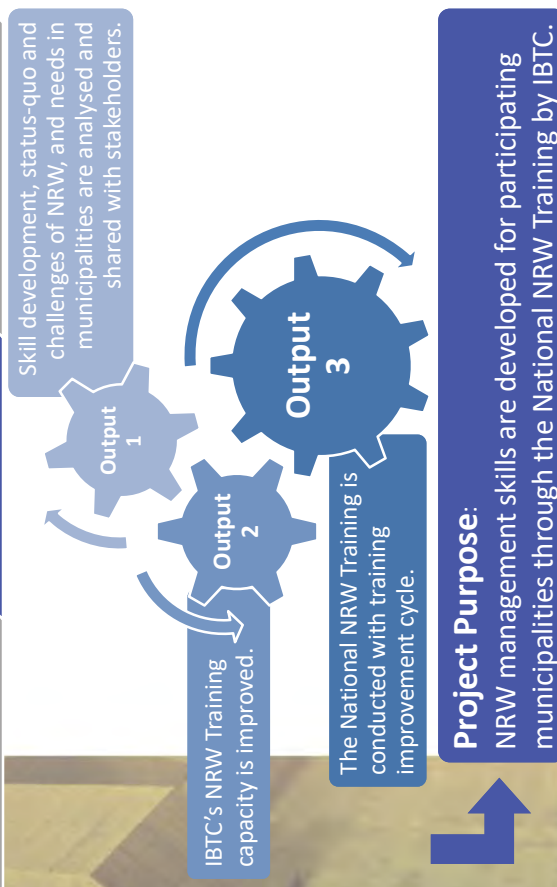
2. Objectives of Project Operation

3. Suspended Activities & Outstanding Challenges

1. Background and Introduction

2. Objectives of Project Operation

3. Suspended Activities & Outstanding Challenges



1. Background and Introduction

2. Objectives of Project Operation

3. Suspended Activities & Outstanding Challenges

	Existing Suspended Activities	Current Timeline (PO.)	Actual Progress and Delayed
1-5	Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	By July 2020	65%, 2.5 months
2-5	Revise the Standard Operating Procedures (SOP) of the National NRW Training through the activities of Output-3.	By July 2020	40%, 0.0 month
2-6	Revise the National NRW Training Business Plan through the activities of Output-3.	By July 2020	25%, 2.5 month
2-7	Conduct capacity assessment of IBTC.	By July 2020	70%, 1.0 month
3-2	Secure the site(s) for workplace of the National NRW Training. (*Note: This includes mobilization of participating municipalities.)	By April 2020	85%, 2.5 months
3-8	Prepare for conducting the National NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.). *Note: This includes allocation of facilitators.	By April 2020	75%, 2.5 months
3-9	Conduct the National NRW Training by facilitators with support from JICA Experts.	By July 2020	70%, 1.0 month
3-10	Monitor the National NRW Training and feed the results back under training improvement cycle.	By July 2020	70%, 1.0 month
3-11	Verify effects of the National NRW Training in sampled municipalities.	By July 2020	70%, 1.0 month

1. Background and Introduction

The self-supporting training

- has **not** yet been put into practice **adequately**.

The format of problem analysis and solution in NRW-related aspects

- has **not** yet been transferred **adequately** and **practically**.

The system for sustainability

- has **not** yet been developed **adequately**.

2. Objectives of Project Operation

3. Suspended Activities & Outstanding Challenges

4. Direction and Scenarios

5. Conditions and Consideration

6. Recommendations

Most Reasonable

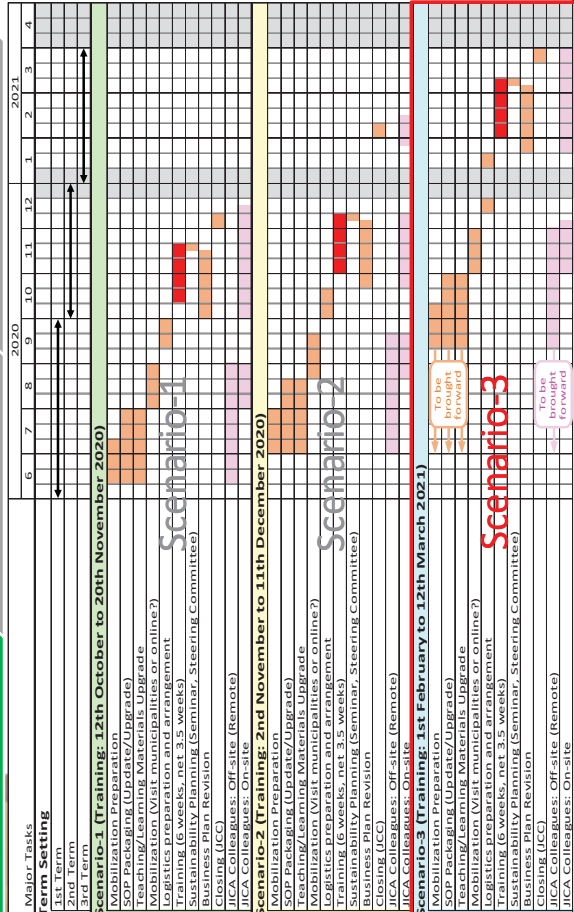
Scenario	1	2	3
3 rd Group / Intake Training	<ul style="list-style-type: none"> • 12th Oct. to 20th Nov. 2020 	<ul style="list-style-type: none"> • 2nd Nov. to 11th Dec. 2020 	<ul style="list-style-type: none"> • 1st Feb. to 12th Mar. 2021
Project Completion	<ul style="list-style-type: none"> • Dec. 2020 at earliest 	<ul style="list-style-type: none"> • Feb. 2021 at earliest 	<ul style="list-style-type: none"> • Mar. 2021

However, the RD defines 12th August 2020 as the expiry date of the Project.

4. Direction and Scenarios

5. Conditions and Consideration

6. Recommendations



PMC recommends:

Extension of the Project Duration for 8 months from 12th August 2020 to 12th April 2021



Resumption and acceleration of the suspended project activities



Additional project activities for online system adaptation and sustainability enhancement



Remote Assistance by JICA Experts

Additional Activities for Output-2

2-8: Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.
2-9: Develop sustainability plans for the National NRW Training.

Additional Activities for Output-3

3-12: Assess the feasibility and sustainability of online system adaptation into the National NRW Training.
3-13: Review, revise or upgrade the programme/curriculum, and develop new form and ways of the National NRW Training with online system adaptation.
3-14: Review, revise or upgrade learning/teaching materials and tools for online system adaptation.
3-15: Procure additional services, equipment, instruments/tools and materials for online system adaptation.

Followed by Revision of PDM and PO

The PMC kindly requests
JCC members to note/accept/approve
the recommendations as well as revision of
PDM and PO.

Thank you very much.

THE END

Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water REVISION OF PDM AND PO

17th July 2020

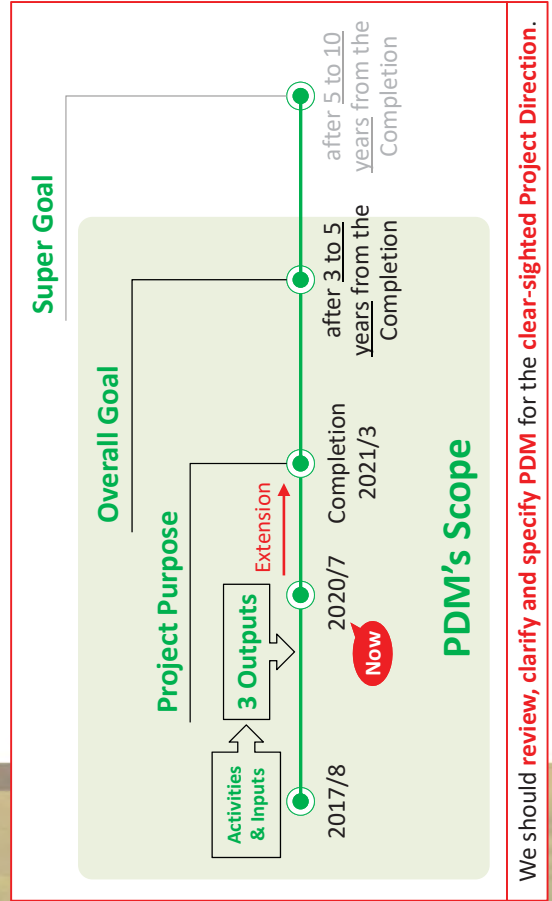
Presentation Outline

1. Project Framework
2. PDM Revision
3. PO Revision

1. Project Framework

2. PDM Revision

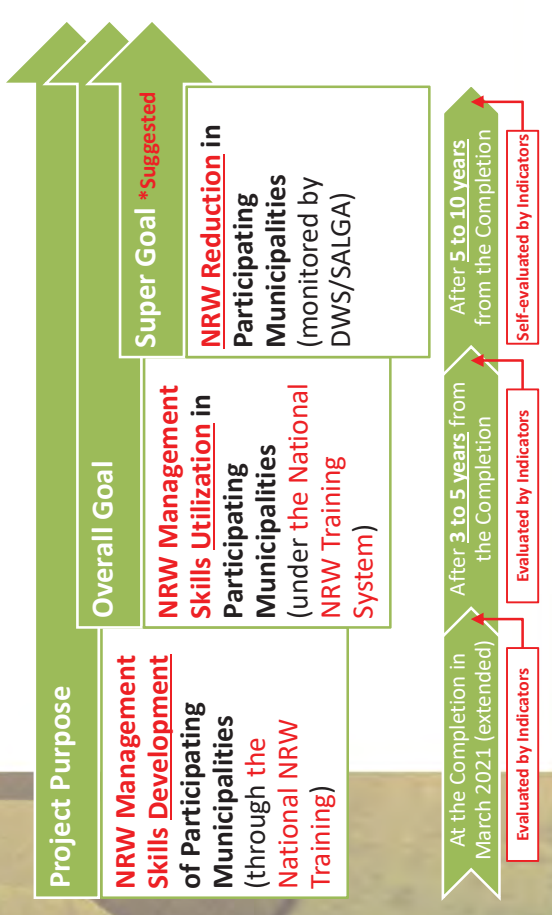
3. PO Revision



1. Project Framework

2. PDM Revision

3. PO Revision



1. Project Framework

2. PDM Revision

3. PO Revision

Super Goal *Suggested

- **NRW ratios decrease in participating municipalities utilizing the NRW management skills obtained from the National NRW Training.**

Objectively Verifiable Indicators

- NRW ratios of participating municipalities are decreased.

Means of Verification

- No-Drop reports or reports from participating municipalities, and/or monitoring/follow-up reports.

Super Goal is suggested to be **set optionally** and **outside the PDM's scope**.

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1. Project Framework

2. PDM Revision

3. PO Revision

Former PDM,	Current PDMs,	Proposed PDMs,	Remarks
Project Period August 2017 to July 2020 (36 months)	August 2017 to July 2020 (36 months)	August 2017 to March 2021 (44 months)	Extended due to COVID-19
Implementing Organisation Department of Water and Sanitation (DWS) / IBTC	Department of Water and Sanitation (DWS) / IBTC	Department of Water and Sanitation (DWS) / IBTC South African Local Government Association (SALGA)	SALGA has not been positioned specifically on PDM.
Project Site Gauteng Province	Gauteng Province	Gauteng Province and all other Provinces	The National NRW Training targets all municipalities as Water Services Authority nationwide.
Overall Goal To be evaluated in 3 to 5 years after the completion of the Project Non-Revenue Water (NRW) management development for municipalities are continuously conducted under the IBTC's direction in collaboration with SALGA.	Non-Revenue Water (NRW) management skills are utilized in NRW reduction projects of participating municipalities.	Non-Revenue Water (NRW) management skills are utilized in participating municipalities under the established National NRW Training system.	Not limited to NRW reduction projects, NRW management skills include skills and knowledge about NRW and reticulation basics as well as the created outcomes.
Objectively Verifiable Indicators 1. Actual trainings in IBTC (No. of trainings / trades or skills) 2. IBTC organization / individual performance (degree / status) 3. Programmes planned in Strategic Business Model (trades or skills) 4. Status of accreditation of NRW Unit Standards applied to SETA Municipalities (No. of training)	1. NRW reduction projects using developed NRW management skills in participating municipalities are increased. 2. NRW ratio in participating municipalities is decreased.	1. No. of confirmed DMAs in participating municipalities is increased. 2. Any actions in NRW-related aspects are initiated in participating municipalities. 3. No. of the National NRW Trainings conducted with facilitators is increased as scheduled in annual programme (at least, three times a year). 4. Business plan, SOP teaching/ learning materials are revised periodically (at least, biennially) 5. Participating municipalities are monitored and followed up regularly.	1. To be more specific. 1. (i.e.) Zone configuration, step test, billing data analysis and water balance 2. (Ex.) Mapping revision, meter installation/replacement/audit, preventive maintenance, etc.; these should be captured and monitored continuously by DWS.
Substantial Change Change for Clear Picture			

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1. Project Framework

2. PDM Revision

3. PO Revision

Former PDM,	Current PDMs,	Proposed PDMs,	Remarks
Means of Verification 1. Annual Training Report 2. Capacity Assessment Report 3. IBTC Strategic Business Model	1. Monitoring report of participating municipalities 2. DWS's No-Drop report and/or report from participating municipalities 3. Monitoring/follow-up results of participating municipalities 4. Minutes of meeting of steering committee	4. Steering committee meeting is held regularly (at least, annually) 1. 182.2. Monitoring/follow-up results of participating municipalities 3. 384. IBTC's training reports 5. Monitoring/follow-up results of participating municipalities 6. Minutes of meeting of steering committee	Accordingly by revision in the above indicators.
Project Purpose To be evaluated at the completion of the Project NRW management skills are developed for participating municipalities through the National NRW Training.	NRW management skills are developed for participating municipalities through the National NRW Training.	NRW management skills are developed for participating municipalities through the National NRW Training.	1. Add "National", and knowledge about NRW and reticulation basics as well as the created outcomes (such as presentations). To be more specific.
Objectively Verifiable Indicators 1. Actual trainings (No. of trainings / trades or skills) 2. IBTC organization / individual performance / capacity 3. Programmes planned in Strategic Business Model (trades or skills) 4. Status of accreditation of NRW Unit Standards applied to SETA	1. No. of the NRW Training at IBTC is increased. 2. No. of water balance submission is increased. 3. No. of NRW reduction plan in participating municipalities is increased.	1. No. of the National NRW Training is increased (three times or more) 2. No. of pilot DMAs for problem solution is increased (11 or more). 3. No. of facilitators is increased (adequate resources to conduct the Training: 16 or more). 4. No. of learners is increased (44 or more from 11 municipalities and others) 5. No. of debrief reports as outcomes are prepared (11 or more) 6. Learners' satisfaction scales are kept high or increased. 7. Steering committee kick-off meeting is held.	1. To be presented by learners to municipality executives
Substantial Change Change for Clear Picture			

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1. Project Framework

2. PDM Revision

3. PO Revision

Former PDM,	Current PDMs,	Proposed PDMs,	Remarks
Means of Verification 1. Annual Training Report 2. Capacity Assessment Report 3. IBTC Strategic Business Model 4. SETA Accreditation Certificate	1. IBTC's annual training report 2. 283. DWS's No-Drop report and/or report from participating municipalities	8. Business plan, SOP teaching/learning materials, committee TOR are finalized as version-1. 1. 182&2.3. IBTC's training reports 1. 182&2.3. Other relevant documents	Accordingly by revision in the above indicators.
Output 1 Training information on water supply sector is accumulated at IBTC and shared with SALGA and Municipalities.	Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.	Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.	No change.
Objectively Verifiable Indicators 1. List of training resources by providers, programmes, human resources, manuals, subsidies/grants, etc.) 1.2. Benchmarked matrix (summary) of Japan and South Africa on water services (comparative features, strength/weakness, methodology, etc.)	1.1. Analyzed/organized information of skills development of municipalities is submitted to DWS (list of no. of staff, attended training, mentor resources, training providers, manuals, workshops and yards, subsidies/grants, good practices, etc.) 1.2. Analyzed/organized information of NRW and needs of municipalities is submitted to DWS. 1.3. Benchmarked matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.) 1.4. Information sharing occasions are provided.	1.1. Analyzed/organized information of skills development of municipalities is submitted to DWS (list of no. of staff, attended training, mentor resources, training providers, manuals, workshops and yards, subsidies/grants, good practices, etc.) 1.2. Analyzed/organized information of NRW and needs of municipalities is submitted to DWS. 1.3. Benchmarked matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.) 1.4. Information sharing occasions are provided.	No change.
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1. Project Framework

2. PDM Revision

3. PO Revision

Former PDM,	Current PDM,	Proposed PDM,	Remarks
<p>Means of Verification</p> <p>1-1. Baseline survey report and training curriculum</p> <p>1-2. Same as above</p> <p>1-3. Benchmark report</p> <p>1-4. Seminar report and presentations</p>	<p>1-1. Baseline survey report and training curriculum</p> <p>1-2. Same as above</p> <p>1-3. Benchmark report</p> <p>1-4. Seminar report and presentations</p>	<p>1-1. Baseline survey report and training curriculum</p> <p>1-2. Same as above</p> <p>1-3. Benchmark report</p> <p>1-4. Seminar report and presentations</p>	No change.
<p>Output 2</p> <p>IBTC's training management capacity in water supply sector is improved.</p> <p>Objectively Verifiable Indicators</p> <p>2-1. IBTC organization/ individual performance / capacity</p> <p>2-2. Progress of organizational setting update</p> <p>2-3. Record of SOPs (actual revisions)</p> <p>2-4. Progress of update of IBTC Strategic Business Model</p>	<p>IBTC's NRW Training capacity is improved.</p> <p>2-1. Appropriate organizational structure for the NRW Training is established at IBTC</p> <p>2-2. No. of revision of Standard Operation Procedures (SOP) of the NRW Training is increased.</p> <p>2-3. No. of revision of the NRW Training Business Plan is increased.</p> <p>2-4. Sustainability plans including steering committee for the National NRW Training are finalized.</p>	<p>IBTC's National NRW Training capacity is improved.</p> <p>2-1. Appropriate organizational structure for the National NRW Training is established at IBTC</p> <p>2-2. No. of revision of Standard Operation Procedures (SOP) of the National NRW Training is increased.</p> <p>2-3. No. of revision of the National NRW Training Business Plan is increased.</p> <p>2-4. Sustainability plans including steering committee for the National NRW Training are finalized.</p>	<p>Add "National".</p> <p>2-1. Add "National".</p> <p>2-2. Same as above.</p> <p>2-3. Same as above.</p> <p>2-4. Sustainability is more focused.</p>
<p>Means of Verification</p> <p>2-1. Capacity Assessment Report</p> <p>2-2. Proposed Organogram of IBTC</p> <p>2-3. Standard Operating Procedure (SOP) of the NRW Training</p> <p>2-4. Draft revised IBTC Strategic Business Model</p>	<p>2-1. Capacity assessment report and/or organogram of IBTC (including IT environment)</p> <p>2-2. Standard Operating Procedures (SOP) of the NRW Training</p> <p>2-3. The National NRW Training Business Plan</p> <p>2-4. Next year's annual programme, TOR of steering committee or equivalent, etc.</p>	<p>2-1. Capacity assessment report and/or organogram of IBTC (including IT environment)</p> <p>2-2. Standard Operating Procedures (SOP) of the National NRW Training</p> <p>2-3. The National NRW Training Business Plan</p> <p>2-4. Next year's annual programme, TOR of steering committee or equivalent, etc.</p>	<p>2-1. For online system adaptation in the National NRW Training under/post COVID-19</p> <p>2-2. Add "National".</p> <p>2-3. Same as above.</p> <p>2-4. Sustainability is more focused.</p>
<p>Substantial Change</p> <p>Change for Clear Picture</p>			

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1. Project Framework

2. PDM Revision

3. PO Revision

Former PDM,	Current PDM,	Proposed PDM,	Remarks
<p>Output 3</p> <p>Trainings on Non-Revenue Water (NRW) are conducted at IBTC.</p> <p>Objectively Verifiable Indicators</p> <p>3-1. Actual training on NRW Skills Programme (No. of trainings, trainees)</p> <p>3-2. Appropriateness of NRW Skills Programme (trainees' evaluation)</p> <p>3-3. Feedback / utilization of skills trained at IBTC into the water services at sampled Municipality(ies)</p>	<p>The NRW Training is conducted with training improvement cycle.</p> <p>3-1. No. of Facilitator Technical Meeting is increased.</p> <p>3-2. No. of NRW Training is increased.</p> <p>3-3. Trainee's satisfaction with the NRW Training is increased.</p> <p>3-4. No. of feedback/utilization of skills trained into water services at municipalities is increased.</p>	<p>The National NRW Training is conducted with training improvement cycle.</p> <p>3-1. No. of Facilitator Technical Meeting is increased. (both physical and online basis)</p> <p>3-2. No. of National NRW Training is increased. (both physical and online basis)</p> <p>3-3. Learners' satisfaction scales are kept high or increased.</p> <p>3-4. Feedback/utilization of skills, knowledge and outcomes into water services of participating municipalities is increased.</p>	<p>Add "National".</p> <p>3-1. Online adaptation is considered.</p> <p>3-2. Add "National" and online system adaptation is considered.</p> <p>3-3. Minor correction.</p> <p>3-4. Minor correction.</p>
<p>Means of Verification</p> <p>3-1. IBTC annual report</p> <p>3-2. Training evaluation questionnaire to trainees (training management / contents and individual achievement)</p> <p>3-3. Survey report in sampled Municipality(ies)</p>	<p>3-1. IBTC annual report</p> <p>3-2. IBTC's reports</p> <p>3-3. Training evaluation questionnaire</p> <p>3-4. Briefing reports by learners and/or monitoring/follow-up results</p>	<p>3-1. IBTC's reports</p> <p>3-2. IBTC's reports</p> <p>3-3. Briefing reports by learners and/or monitoring/follow-up results</p>	<p>3-1. Minor correction.</p> <p>3-2. Minor correction.</p> <p>3-3. Minor correction.</p> <p>3-4. Minor correction.</p>
<p>Substantial Change</p> <p>Change for Clear Picture</p>			

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1. Project Framework

2. PDM Revision

3. PO Revision

Former PDM,	Current PDM,	Proposed PDM,	Remarks
<p>Activities for Output 1</p> <p>1-1. Conduct baseline survey on skills development in water supply sector (programme, human resources, materials and management)</p> <p>1-2. Compile and analyze training resources, good practices, lessons learnt in water supply sector.</p> <p>1-3. Share training resources, good practices, lessons learnt with SALGA and municipalities.</p> <p>1-4. Incorporate good practices into training materials.</p> <p>1-5. Benchmark water supply services and its skills development in Japan.</p> <p>1-6. Hold a seminar on the result of the baseline survey and benchmark.</p>	<p>1-1. Conduct baseline survey on skills development and NRW in municipalities.</p> <p>1-2. Compile and analyze skills development and NRW in municipalities.</p> <p>1-3. Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.</p> <p>1-4. Benchmark water supply services and its skills development in Japan.</p> <p>1-5. Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.</p>	<p>1-1. Conduct baseline survey on skills development and NRW in municipalities.</p> <p>1-2. Compile and analyze skills development and NRW in municipalities.</p> <p>1-3. Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.</p> <p>1-4. Benchmark water supply services and its skills development in Japan.</p> <p>1-5. Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.</p>	<p>1-1. No change.</p> <p>1-2. No change</p> <p>1-3. No change</p> <p>1-4. No change</p> <p>1-1. This activity covers the National NRW Training as well.</p>
<p>Activities for Output 2</p> <p>2-1. Review roles and responsibility of IBTC for skills development of municipalities in water supply sector based on the results of Output-1.</p> <p>2-2. Draft proposed organogram of IBTC including NRW Training Sector.</p> <p>2-3. Prepare Terms of Reference for Training Sections related to skills development in water supply sector.</p> <p>2-4. Prepare draft Standard Operating Procedures (SOP) of skills</p>	<p>2-1. Prepare the National NRW Training Business Plan.</p> <p>2-2. Prepare and take procedures for funding the National NRW Training.</p> <p>2-3. Prepare Terms of Reference for the National NRW Training.</p> <p>2-4. Prepare Standard Operating Procedures (SOP) of the NRW Training.</p> <p>2-5. Revise the SOP of the National NRW Training through the activities of Output-3.</p> <p>2-6. Revise the National NRW Training Business Plan through the activities of Output-3.</p> <p>2-7. Conduct capacity assessment of IBTC.</p>	<p>2-1. Prepare the National NRW Training Business Plan.</p> <p>2-2. Prepare and take procedures for funding the National NRW Training.</p> <p>2-3. Prepare Terms of Reference for the National NRW Training.</p> <p>2-4. Prepare Standard Operating Procedures (SOP) of the National NRW Training.</p> <p>2-5. Revise the SOP of the National NRW Training through the activities of Output-3.</p> <p>2-6. Revise the National NRW Training Business Plan through the activities of Output-3.</p>	<p>2-1. Add "National".</p> <p>2-2. Same as above.</p> <p>2-3. Same as above.</p> <p>2-4. Same as above.</p> <p>2-5. Same as above.</p> <p>2-6. Same as above.</p> <p>2-7. Same as above.</p>
<p>Substantial Change</p> <p>Change for Clear Picture</p>			

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1. Project Framework

2. PDM Revision

3. PO Revision

Former PDM,	Current PDM,	Proposed PDM,	Remarks
<p>Output 3</p> <p>Trainings on Non-Revenue Water (NRW) are conducted at IBTC.</p> <p>Objectively Verifiable Indicators</p> <p>3-1. Actual training on NRW Skills Programme (No. of trainings, trainees)</p> <p>3-2. Appropriateness of NRW Skills Programme (trainees' evaluation)</p> <p>3-3. Feedback / utilization of skills trained at IBTC into the water services at sampled Municipality(ies)</p>	<p>The NRW Training is conducted with training improvement cycle.</p> <p>3-1. No. of Facilitator Technical Meeting is increased.</p> <p>3-2. No. of NRW Training is increased.</p> <p>3-3. Trainee's satisfaction with the NRW Training is increased.</p> <p>3-4. No. of feedback/utilization of skills trained into water services at municipalities is increased.</p>	<p>The National NRW Training is conducted with training improvement cycle.</p> <p>3-1. No. of Facilitator Technical Meeting is increased. (both physical and online basis)</p> <p>3-2. No. of National NRW Training is increased. (both physical and online basis)</p> <p>3-3. Learners' satisfaction scales are kept high or increased.</p> <p>3-4. Feedback/utilization of skills, knowledge and outcomes into water services of participating municipalities is increased.</p>	<p>Add "National".</p> <p>3-1. Online adaptation is considered.</p> <p>3-2. Add "National" and online system adaptation is considered.</p> <p>3-3. Minor correction.</p> <p>3-4. Minor correction.</p>
<p>Means of Verification</p> <p>3-1. IBTC annual report</p> <p>3-2. Training evaluation questionnaire to trainees (training management / contents and individual achievement)</p> <p>3-3. Survey report in sampled Municipality(ies)</p>	<p>3-1. IBTC annual report</p> <p>3-2. IBTC's reports</p> <p>3-3. Training evaluation questionnaire</p> <p>3-4. Briefing reports by learners and/or monitoring/follow-up results</p>	<p>3-1. IBTC's reports</p> <p>3-2. IBTC's reports</p> <p>3-3. Briefing reports by learners and/or monitoring/follow-up results</p>	<p>3-1. Minor correction.</p> <p>3-2. Minor correction.</p> <p>3-3. Minor correction.</p> <p>3-4. Minor correction.</p>
<p>Substantial Change</p> <p>Change for Clear Picture</p>			

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1. Project Framework

2. PDM Revision

3. PO Revision

Former PDM,	Current PDM,	Proposed PDM,	Remarks
<p>Activities for Output 2</p> <p>2-7. Conduct capacity assessment of IBTC's organization, individuals and facilitators developed.</p>	<p>2-7. Conduct capacity assessment of IBTC</p>	<p>2-7. Conduct capacity assessment of IBTC</p> <p>2-8. Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.</p> <p>2-9. Develop sustainability plans for the National NRW Training.</p>	<p>2-7. No change</p> <p>2-8. For online system adaptation under/post COVID-19</p> <p>2-9. Sustainability is more focused.</p>
<p>Activities for Output 3</p> <p>3-1. Review situation / needs of skills development on NRW from the results of baseline survey of Activity 1-1.</p> <p>3-2. Select registered Unit Standards related to NRW from existing qualifications of SAQA.</p> <p>3-3. Design NRW Skills Programme consisting of the selected Unit Standards and supplementary items if any.</p> <p>3-4. Select facilitators (qualified / skilled artisans on water reticulation or equivalent) for NRW Skills Programme from Municipalities and IBTC (DWS).</p> <p>3-5. Schedule Training of Trainer (TOT), Assessors and Moderators for NRW Skills Programme at IBTC.</p> <p>3-6. Develop training materials for the National NRW Training.</p>	<p>3-1. Design the NRW Training based on the results of Output-1.</p> <p>3-2. Secure the site(s) for workplace of the NRW Training.</p> <p>3-3. Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the NRW Training from DWS/IBTC and stakeholders.</p> <p>3-4. Develop training / yard for the NRW Training at IBTC.</p> <p>3-5. Procure equipment, instruments / tools and materials for the NRW Training.</p> <p>3-6. Develop teaching / learning materials incorporating good practices from baseline survey into the materials if any.</p> <p>3-7. Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the NRW Training.</p>	<p>3-1. Design the National NRW Training based on the results of Output-1.</p> <p>3-2. Secure the participating municipalities and site(s) for workplace of the National NRW Training.</p> <p>3-3. Secure facilitators (experienced/ skilled personnel on water reticulation or equivalent) for the National NRW Training from DWS/IBTC and stakeholders.</p> <p>3-4. Develop training yard for the National NRW Training at IBTC.</p> <p>3-5. Procure equipment, instruments / tools and materials for the National NRW Training.</p> <p>3-6. Develop teaching / learning materials incorporating good practices from baseline survey into the materials if any.</p> <p>3-7. Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the National NRW Training.</p>	<p>3-1. Add "National".</p> <p>3-2. Add "National" and minor change.</p> <p>3-3. Add "National".</p> <p>3-4. Same as above.</p> <p>3-5. Same as above.</p> <p>3-6. Same as above.</p> <p>3-7. Same as above.</p>
<p>Substantial Change</p> <p>Change for Clear Picture</p>			

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1. Project Framework 2. PDM Revision 3. PO Revision

Former PDMs	Current PDMs	Proposed PDMs	Remarks
Activities for Output 3			
3-8. Develop training / learning materials for NRW Skills Programme at IBTC. 3-9. Conduct TOT by both JICA Experts and South African Facilitators for NRW Skills Programme at IBTC. 3-10. Develop NRW Skills Programme as an accredited programme by SETA. a) Apply for registration of facilitators / moderator / facilitator from SETA. b) Prepare Quality Management System of NRW Skills Programme at IBTC. c) Apply for accreditation of NRW Skills Programme to SETA. 3-11. Prepare Annual Plan of NRW Skills Programme including budget plan at IBTC. 3-12. Recruit participants from Municipalities through SALGA for NRW Skills Programme at IBTC. 3-13. Conduct trainings by South African Facilitators for NRW Skills Programme at IBTC. 3-14. Monitor implementation of NRW Skills Programme and feed the results back into Annual Plan and Innovation.	3-8. Prepare for conducting the NRW Training (schedule, budget, plan, applying for releasing fund, recruiting participants and etc.) 3-9. Conduct the NRW Training by facilitators with support from JICA Experts. 3-10. Monitor the NRW Training and feed the results back under training improvement cycle. 3-11. Verify effects of the NRW Training in sampled municipalities.	3-8. Prepare for conducting the National NRW Training (schedule, budget, plan, applying for releasing fund, recruiting participants and etc.) 3-9. Conduct the National NRW Training by facilitators with support from JICA Experts. 3-10. Monitor the National NRW Training and feed the results back under training improvement cycle. 3-11. Verify effects of the National NRW Training in sampled municipalities. 3-12. Assess the feasibility and sustainability of online system adaptation into the National NRW Training . 3-13. Review, revise or upgrade the programme / curriculum, and develop new form and ways of the National NRW Training with online system adaptation. 3-14. Review, revise or upgrade learning / teaching materials and tools for online system adaptation. 3-15. Procure additional services, equipment, instruments / tools and materials for online system adaptation.	3-8. Same as above. 3-9. Same as above. 3-10. Same as above. 3-11. Same as above. 3-12. For online system adaptation under/post COVID-19. 3-13. Same as above. 3-14. Same as above. 3-15. Same as above.
Substantial Change 			

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1. Project Framework 2. PDM Revision 3. PO Revision

Former PDMs	Current PDMs	Proposed PDMs	Remarks
Inputs (South African Side)			
1. Project Personnel 1) JCC Chairperson: Chief Director of Global Cooperation, DWS 2) Project Director (PD): Director of NWRI, DWS 3) Co-Project Director (PD): SALGA Manager, IBTC 4) Project Manager (PM): Centre Manager, IBTC 5) Training Manager (TM): Director, Water Use Efficiency 6) Quality Assurer, IBTC 7) NRW Training Personnel, IBTC 8) Municipal Coordinator (Technical), SALGA 9) Municipal Coordinator (HRD), SALGA 10) TOT Facilitator 11) Candidate Facilitator 12) Other project personnel mutually agreed upon as necessary	1) JCC Chairperson: Chief Director of Global Cooperation, DWS 2) Project Director (PD): Director of NWRI, DWS 3) Co-Project Director (PD): SALGA Manager, IBTC 4) Project Manager (PM): Centre Manager, IBTC 5) Water Use Efficiency 6) Training Manager, IBTC 7) Quality Assurer, IBTC 8) Dedicated NRW Training personnel, IBTC 9) Municipal Coordinator (Technical), SALGA 10) Municipal Coordinator (HRD), SALGA 11) Facilitator 12) Candidate Facilitator 13) Other personnel mutually agreed upon as necessary	1) JCC Chairperson: Chief Director of Global Cooperation, IWS, DWS 2) JCC Chairperson-Alternate (PMC Chairperson): Chief Director: Engineering Services, IBOM, DWS 3) Project Director: Director: Technical Engineering Services, IBOM, DWS 4) Co-Project Director: Head: Technology and Innovative Projects, SALGA 5) Project Manager (Operational): Centre Manager: IBTC, DWS 6) Co-Project Manager (Technical): Director: Water Use Efficiency, PMU, DWS 7) Director: ODA, IWS, DWS 8) Director: Operational Support, PMU, DWS 9) Training Manager, IBTC 10) Quality Assurer, IBTC 11) Officials from IBTC, WUE, Construction, Operational Support, ODA and Provincial offices 12) Municipal Coordinator (Technical), SALGA 13) Municipal Coordinator (HRD), SALGA 14) Facilitators 15) Secretary 16) Other personnel mutually agreed upon as necessary	Updated according to the actual project implementing structure.
Substantial Change 			

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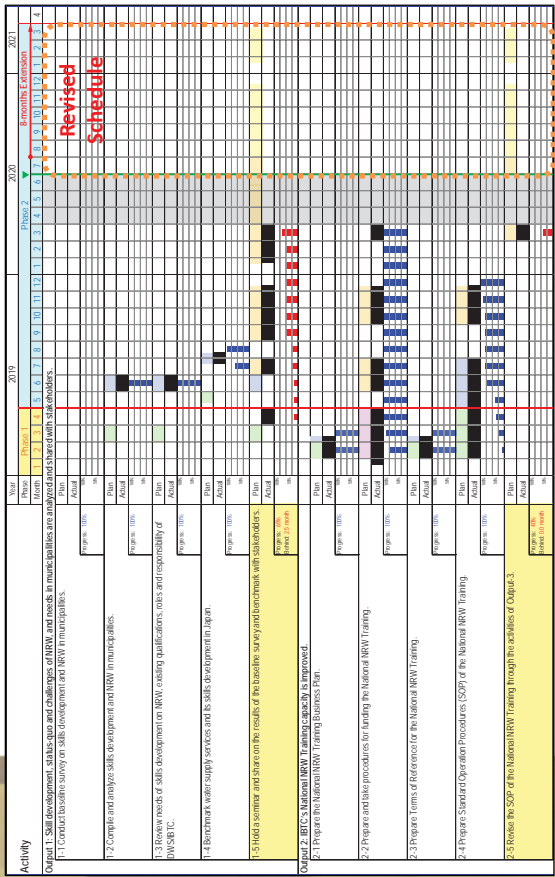
1. Project Framework 2. PDM Revision 3. PO Revision

Former PDMs	Current PDMs	Proposed PDMs	Remarks
Inputs (Japanese Side)			
1. Facilities 1) Training yard 2) Web site development and maintenance 3) Other facilities mutually agreed upon as necessary	1) Training yard 2) Web site development and maintenance 3) Other facilities mutually agreed upon as necessary	1) Training yard 2) Web site development and maintenance 3) Other facilities mutually agreed upon as necessary (e.g. for online system adaptation)	3) For online system adaptation under/post COVID-19.
2. Equipment, instruments, tools and materials 1) Portable ultrasonic water flow meter 2) Leak detection equipment / instruments 3) Tools for training 4) Materials such as pipe, fittings, valve, meter and etc. 5) Other equipment, instruments, tools and materials mutually agreed upon as necessary	1) Bulk water flow meter 2) Leak detection equipment / instruments 3) Tools for training 4) Materials such as pipe, fittings, valve, meter and etc. 5) Other equipment, instruments, tools and materials mutually agreed upon as necessary	1) Bulk water flow meter 2) Leak detection equipment / instruments 3) Tools for training 4) Materials such as pipe, fittings, valve, meter and etc. 5) Other equipment, instruments, tools and materials mutually agreed upon as necessary (e.g. for online system adaptation)	For online system adaptation under/post COVID-19.
Substantial Change 			

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1. Project Framework 2. PDM Revision 3. PO Revision



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The PMC kindly requests
JCC members to note/accept/approve
the recommendations as well as revision of
PDM and PO.

Thank you very much.

THE END

Next Steps for Project Members and Experts



Management Tool to be friendly, accessible and uncomplicated

Current PO₅ as of June 2020

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water
Overall Goal: Non-Revenue Water (NRW) management skills are utilized in NRW reduction projects of participating municipalities.
Project Purpose: NRW management skills are developed for participating municipalities through the NRW Training by IBTC.
Project Period: August 2017 to July 2020 (36 months)
Implementing Organization: Department of Water and Sanitation (DWS) / IBTC

Activity	Year	2017												2018												2019												2020								
		Phase	Phase 1												Phase 1												Phase 2												Phase 2							
		Month	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8						
Output 1: Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.																																														
1-1 Conduct baseline survey on skills development and NRW in municipalities.	Actual																																													
1-2 Compile and analyze skills development and NRW in municipalities.	Actual																																													
1-3 Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.	Actual																																													
1-4 Benchmark water supply services and its skills development in Japan.	Actual																																													
1-5 Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	Actual																																													
Output 2: IBTC's NRW Training capacity is improved.																																														
2-1 Prepare the NRW Training Business Plan.	Actual																																													
2-2 Prepare and take procedures for funding the NRW Training.	Actual																																													
2-3 Prepare Terms of Reference for the NRW Training.	Actual																																													
2-4 Prepare Standard Operation Procedures (SOP) of the NRW Training.	Actual																																													
2-5 Revise the SOP of the NRW Training through the activities of Output-3.	Actual																																													
2-6 Revise the NRW Training Business Plan through the activities of Output-3.	Actual																																													
2-7 Conduct capacity assessment of IBTC.	Actual																																													
Output 3: The NRW Training is conducted with training improvement cycle.																																														
3-1 Design the NRW Training based on the results of Output-1.	Actual																																													
3-2 Secure the site(s) for workplace of the NRW Training.	Actual																																													
3-3 Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the NRW Training from DWS/IBTC and stakeholders.	Actual																																													
3-4 Develop training yard for the NRW Training at IBTC.	Actual																																													
3-5 Procure equipment, instruments/tools and materials for the NRW Training.	Actual																																													
3-6 Develop teaching/learning materials for the NRW Training with incorporating good practices from baseline survey into the materials if any.	Actual																																													
3-7 Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the NRW Training.	Actual																																													
3-8 Prepare for conducting the NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.).	Actual																																													
3-9 Conduct the NRW Training by facilitators with support from JICA Experts.	Actual																																													
3-10 Monitor the NRW Training and feed the results back under training improvement cycle.	Actual																																													
3-11 Verify effects of the NRW Training in sampled municipalities.	Actual																																													

Suspended period by COVID-19

Appendix 5

Input	Year Phase Month	2017			2018 Phase 1						2019				2020 Phase 2												
		7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
Experts																											
①-1 Chief Advisor / NRW Management Akinori MIYOSHI	Plan																										
Actual																											
①-2 Deputy Chief Advisor / NRW Management Taketoshi FUJIYAMA	Plan																										
Actual																											
② Training Planning / Organization Coordination Kenichiro SUGIYA	Plan																										
Actual																											
③ Water Leakage Detection Hirotoki NIMURA	Plan																										
Actual																											
④ Water Distribution Management / Commercial Loss Hiroyuki MORITA	Plan																										
Actual																											
⑤ Training Yard Design and Supervision Masuji IDE	Plan																										
Actual																											
⑥ Procurement / Administrative Coordination Toshinobu KASUYA	Plan																										
Actual																											
Long-Term Expert																											
⑦ Training Management / Capacity Development Nobutaka MARIYAMA	Plan																										
Actual																											
Equipment Procurement																											
Equipment for Water Leakage Detection	Plan																										
Actual																											
National Consultant/Contractor																											
Training Yard Construction	Plan																										
Actual																											
Web Site Development and Maintenance	Plan																										
Actual																											
Training in Japan																											
Phase-1 Training in Japan (for Management / Decision Making Level)	Plan																										
Actual																											
Phase-2 Training in Japan (for Candidate Facilitators / Working Level)	Plan																										
Actual																											
Monitoring																											
Monitoring																											
Joint Coordination Committee	Plan																										
Actual																											
Set-up the Detailed Plan of Operation	Plan																										
Actual																											
Submission of Monitoring Sheet	Plan																										
Actual																											
Monitoring Mission from Japan	Plan																										
Actual																											
Joint Monitoring	Plan																										
Actual																											
Post Monitoring	Plan																										
Actual																											
Reports/Documents																											
Project Progress Report	Plan																										
Actual																											
Project Completion Report	Plan																										
Actual																											
Project Brief Note	Plan																										
Actual																											
Public Relations																											
Web Site	Plan																										
Actual																											
Press Release, Press Conference, Public Relations Magazine, Newsletter	Plan																										
Actual																											

Suspended period by COVID-19

Project Timeframe and Scenarios

Major Tasks	2020							2021				
	6	7	8	9	10	11	12	1	2	3	4	
Term Setting												
1st Term	←————→											
2nd Term					←————→							
3rd Term								←————→				
Scenario-1 (Training: 12th October to 20th November 2020)												
Mobilization Preparation	■	■										
SOP Packaging (Update/Upgrade)	■	■	■									
Teaching/Learning Materials Upgrade	■	■	■									
Mobilization (Visit municipalities or online?)			■	■								
Logistics preparation and arrangement				■	■							
Training (6 weeks, net 3.5 weeks)						■	■	■				
Sustainability Planning (Seminar, Steering Committee)							■	■				
Business Plan Revision						■	■	■				
Closing (JCC)							■					
JICA Colleagues: Off-site (Remote)	■	■	■	■								
JICA Colleagues: On-site			■	■	■	■	■					
Scenario-2 (Training: 2nd November to 11th December 2020)												
Mobilization Preparation		■	■									
SOP Packaging (Update/Upgrade)		■	■	■								
Teaching/Learning Materials Upgrade		■	■	■								
Mobilization (Visit municipalities or online?)				■	■							
Logistics preparation and arrangement					■	■						
Training (6 weeks, net 3.5 weeks)						■	■	■				
Sustainability Planning (Seminar, Steering Committee)							■	■				
Business Plan Revision						■	■	■				
Closing (JCC)									■			
JICA Colleagues: Off-site (Remote)		■	■	■	■							
JICA Colleagues: On-site			■	■	■	■	■		■	■		
Scenario-3 (Training: 1st February to 12th March 2021)												
Mobilization Preparation		■	■	■	■							
SOP Packaging (Update/Upgrade)		■	■	■	■							
Teaching/Learning Materials Upgrade		■	■	■	■							
Mobilization (Visit municipalities or online?)						■	■		■	■		
Logistics preparation and arrangement							■	■				
Training (6 weeks, net 3.5 weeks)									■	■	■	■
Sustainability Planning (Seminar, Steering Committee)										■	■	
Business Plan Revision									■	■	■	■
Closing (JCC)											■	
JICA Colleagues: Off-site (Remote)		■	■	■	■	■	■					
JICA Colleagues: On-site			■	■	■	■	■		■	■	■	■
<p>Three terms in the Timeframe</p> <p>1st Term: June to September 2020</p> <p>2nd Term: October to December 2020</p> <p>3rd Term: January to March 2021</p> <p>Public Holidays in South Africa</p> <p>2020: 10th August (Mon), 24th September (Thu), 16th December (Wed) and 25th December (Fri)</p> <p>2020/21 Christmas & New Year Holidays: 12th December (Sat) to 17th January (Sun)</p> <p>2021: 1st January (Fri), 22nd March (Mon), 2nd April (Fri) and 5th April (Mon)</p>												

Existing Activities and Proposed Additional Activities based on Timeframe of Scenario-3

Status	No.	Activity	Term			Task Team	Remarks
			1 st	2 nd	3 rd		
Existing	1-5	Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	X	X	XX	IBTC, WUE	Not only the baseline survey and benchmark but also the National NRW Training as an outcome. Webinar(s) may replace physical seminar(s).
Existing	2-5	Revise the SOPs of the National NRW Training through the activities of Output-3.	XX	X	X	IBTC, all other Teams	This activity should be accelerated and align with additional activities. IBTC should develop social distancing measures in the training based on governmental and/or DWS guidelines.
Existing	2-6	Revise the National NRW Training Business Plan through the activities of Output-3.		X	XX	IBTC, all other Teams	This activity should align with additional activities.
Existing	2-7	Conduct capacity assessment of IBTC.	X		XX	IBTC	This activity should align with additional activities.
Newly-Added	2-8	Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.	XX	X		IBTC, WUE	Items for example: cloud platform, system, security, software, hardware, bulk data communication/sharing/storage, audio-visual devices, terminal devices and etc. among DWS/IBTC, facilitators, coordinators and participating municipalities, learners, and outposts if available. Outposts may replace individual access. This activity should align with other additional activities.
Newly-Added	2-9	Develop sustainability plans for the National NRW Training.	XX	X	X	SALGA, IBTC, WUE and OS	Steering Committee preparation, PRs, collaboration with an occupational qualification "Water Reticulation

Status	No.	Activity	Term			Task Team	Remarks
			1 st	2 nd	3 rd		
							Practitioner", budget/fund/grants, etc. This activity should be accelerated.
Existing	3-2	Secure the site(s) for workplace of the National NRW Training.	XX	X		WUE, IBTC and SALGA	Target four participating municipalities: EC-Amathole DM, GP-Ekurhuleni Metro, WC-Saldanha Bay LM, NC-Sol Plaatjie LM, or strategically scale down (three, two or one), or reselect ones from neighbouring municipalities. Online method may be adapted for mobilization but it is necessary to check state of readiness. This activity should align with additional activities.
Existing	3-8	Prepare for conducting the National NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.).	X	XX	X	IBTC	This activity should align with additional activities. Review of FY2020/21 budget and planning of FY2021/22 budget are important concerns.
Existing	3-9	Conduct the National NRW Training by facilitators with support from JICA Experts.			XX	IBTC, WUE	This activity should align with additional activities. Online method may be adapted.
Existing	3-10	Monitor the National NRW Training and feed the results back under training improvement cycle.		X	XX	IBTC, WUE	This activity should align with additional activities. Online method may be adapted.
Existing	3-11	Verify effects of the National NRW Training in sampled municipalities.		X	XX	IBTC, WUE	This activity should align with additional activities. Online method may be adapted.
Newly-Added	3-12	Assess the feasibility and sustainability of online system adaptation into the National NRW Training.	XX	X		WUE, IBTC, OS, SALGA	At the each stage for example: Preparation stage including facilitator coordination/meeting, mobilization to participating municipalities and logistics, Actual

Status	No.	Activity	Term			Task Team	Remarks
			1 st	2 nd	3 rd		
						(and Facilitators)	training stage by theoretical, practical and workplace categories, and Evaluation and follow-up stage. Routine online communication among project members avails confirming sustainability. This activity should align with other additional activities.
Newly-Added	3-13	Review, revise or upgrade the programme/curriculum, and develop new form and ways of the National NRW Training with online system adaptation.	XX	X		WUE, IBTC and Facilitators	Add modules if necessary according to needs or demands. Identify modules by ways of training: conventional group training, virtual group training, eLearning and others (hybrid/blended/combined approach may be effective). This activity should align with other additional activities.
Newly-Added	3-14	Review, revise or upgrade learning/teaching materials and tools for online system adaptation.	XX	X		WUE, IBTC and Facilitators	This activity should align with other additional activities.
Newly-Added	3-15	Procure additional services, equipment, instruments/tools and materials for online system adaptation.	XX	X		IBTC, WUE	This activity should align with other additional activities.

Remarks: Yellow-coloured hatching: Proposed Additional Activities X: Conducted XX: Conducted intensively

17th July 2020Revision History of PDM (currently PDM₂ to proposed PDM₃)

Former PDM ₁	Current PDM ₂	Proposed PDM ₃	Remarks
Project Period			
August 2017 to July 2019 (36 months)	August 2017 to July 2020 (36 months)	August 2017 to March 2021 (44 months)	Extended due to COVID-19
Implementing Organization			
Department of Water and Sanitation (DWS) / IBTC	Department of Water and Sanitation (DWS) / IBTC	Department of Water and Sanitation (DWS) / IBTC South African Local Government Association (SALGA)	SALGA has not been positioned specifically on PDM.
Project Site			
Gauteng Province	Gauteng Province	Gauteng Province and all other Provinces	The National NRW Training targets all municipalities as Water Services Authority nationwide.
Overall Goal (*To be evaluated in 3 to 5 years after the completion of the Project)			
Non-Revenue Water (NRW) skills development for Municipalities are continuously conducted under the IBTC's direction in collaboration with SALGA.	Non-Revenue Water (NRW) management skills are utilized in NRW reduction projects of participating municipalities.	Non-Revenue Water (NRW) management skills are utilized in participating municipalities under the established National NRW Training system.	Not limited to NRW reduction projects. NRW management skills includes skills and knowledge about NRW and reticulation basics as well as the created outcomes.
Objectively Verifiable Indicators			
<ol style="list-style-type: none"> Actual trainings in IBTC (No. of trainings / trades or skills) IBTC organization / individual performance (degree / status) Programmes planned in Strategic Business Model (trades or skills) Actual trainings of NRW in Municipalities (No. of training) 	<ol style="list-style-type: none"> NRW reduction projects using developed NRW management skills in participating municipalities are increased. NRW ratio in participating municipalities is decreased. 	<ol style="list-style-type: none"> No. of confirmed DMAs in participating municipalities is increased. Any actions in NRW-related aspects are initiated in participating municipalities. No. of the National NRW Trainings conducted with facilitators is increased as scheduled in annual programme (at least, three times a year). Business plan, SOP, teaching/ learning materials are revised periodically (at least, biennially) 	<ol style="list-style-type: none"> To be more specific. (i.e.) Zone configuration, step test, billing data analysis and water balance (Ex.) Mapping revision, meter installation/replacement/audit, preventive maintenance, etc.; these should be captured and monitored continuously by DWS.

Appendix-8

Former PDM ₁	Current PDM ₂	Proposed PDM ₃	Remarks
		5. Participating municipalities are monitored and followed up regularly. 6. Steering committee meeting is held regularly (at least, annually)	
Means of Verification			
1&4. Annual Training Report 2. Capacity Assessment Report 3. IBTC Strategic Business Model	1. Monitoring report of participating municipalities 2. DWS's No-Drop report and/or report from participating municipalities	1&2. Monitoring/follow-up results of participating municipalities 3&4. IBTC's training reports 5. Monitoring/follow-up results of participating municipalities 6. Minutes of meeting of steering committee	Accordingly by revision in the above indicators.
Project Purpose (*To be evaluated at the completion of the Project)			
NRW Skills Programme is continuously provided at IBTC, based on organizational and technical needs	NRW management skills are developed for participating municipalities through the NRW Training by IBTC.	NRW management skills are developed for participating municipalities through the National NRW Training.	Add "National". NRW management skills includes skills and knowledge about NRW and reticulation basics as well as the created outcomes (such as presentations).
Objectively Verifiable Indicators			
1. Actual trainings (No. of trainings / trades or skills) 2. IBTC organization / individual performance / capacity 3. Programmes planned in Strategic Business Model (trades or skills) 4. Status of accreditation of NRW Unit Standards applied to SETA	1. No. of the NRW Training at IBTC is increased. 2. No. of water balance submission is increased. 3. No. of NRW reduction plan in participating municipalities is increased.	1. No. of the National NRW Training is increased (three times or more) 2. No. of pilot DMAs for problem solution is increased (11 or more). 3. No. of facilitators is increased (adequate resources to conduct the Training: 16 or more). 4. No. of learners is increased (44 or more from 11 municipalities and others) 5. No. of debrief reports as outcomes are prepared (11 or more) 6. Learners' satisfaction scales are kept high or increased. 7. Steering committee kick-off meeting is	To be more specific. 5. To be presented by learners to municipality executives

Appendix-8

Former PDM ₁	Current PDM ₂	Proposed PDM ₃	Remarks
		held. 8. Business plan, SOP, teaching/learning materials, committee TOR are finalized as version-1.	
Means of Verification			
1. Annual Training Report 2. Capacity Assessment Report 3. IBTC Strategic Business Model 4. SETA Accreditation Certificate	1. IBTC's annual training report 2&3. DWS's No-Drop report and/or report from participating municipalities	1&2&3. IBTC's training reports 1&2&3. Other relevant documents	Accordingly by revision in the above indicators.
Output 1			
Training information on water supply sector is accumulated at IBTC and shared with SALGA and Municipalities.	Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.	Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.	No change.
Objectively Verifiable Indicators			
1-1. List of training resources (by providers, programmes, human resources, manuals, subsidies/grants, etc.) 1-2. Benchmarked matrix (summary) of Japan and South Africa on water services (comparative features, strength/weakness, methodology, etc.)	1-1. Analyzed/organized information of skills development of municipalities is submitted to DWS (list of no. of staff, attended training, mentor resources, training providers, manuals, workshops and yards, subsidies/grants, good practices, etc.) 1-2. Analyzed/organized information of NRW and needs of municipalities is submitted to DWS. 1-3. Benchmarked matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.) 1-4. Information sharing occasions are provided.	1-1. Analyzed/organized information of skills development of municipalities is submitted to DWS (list of no. of staff, attended training, mentor resources, training providers, manuals, workshops and yards, subsidies/grants, good practices, etc.) 1-2. Analyzed/organized information of NRW and needs of municipalities is submitted to DWS. 1-3. Benchmarked matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.) 1-4. Information sharing occasions are provided.	No change.
Means of Verification			

Appendix-8

Former PDM ₁	Current PDM ₂	Proposed PDM ₃	Remarks
1-1. Baseline Survey Report 1-2. Benchmark Report	1-1. Baseline survey report and training curriculum 1-2. Same as above 1-3. Benchmark report 1-4. Seminar report and presentations	1-1. Baseline survey report and training curriculum 1-2. Same as above 1-3. Benchmark report 1-4. Seminar report and presentations	No change.
Output 2			
IBTC's training management capacity in water supply sector is improved.	IBTC's NRW Training capacity is improved.	IBTC's National NRW Training capacity is improved.	Add "National".
Objectively Verifiable Indicators			
2-1. IBTC organization / individual performance / capacity 2-2. Progress of Organizational setting update 2-3. Record of SOPs (actual revisions) 2-4. Progress of update of IBTC Strategic Business Model	2-1. Appropriate organizational structure for the NRW Training is established at IBTC. 2-2. No. of revision of Standard Operation Procedures (SOP) of the NRW Training is increased. 2-3. No. of revision of the NRW Training Business Plan is increased.	2-1. Appropriate organizational structure for the National NRW Training is established at IBTC. 2-2. No. of revision of Standard Operation Procedures (SOP) of the National NRW Training is increased. 2-3. No. of revision of the National NRW Training Business Plan is increased. 2-4. Sustainability plans including steering committee for the National NRW Training are finalized.	2-1. Add "National". 2-2. Same as above. 2-3. Same as above. 2-4. Sustainability is more focused.
Means of Verification			
2-1. Capacity Assessment Report 2-2. Proposed Organogram of IBTC 2-3. Standard Operating Procedure (SOP) 2-4. Draft revised IBTC Strategic Business Model	2-1. Capacity assessment report and/or organogram of IBTC 2-2. Standard Operation Procedures (SOP) of the NRW Training 2-3. The NRW Training Business Plan	2-1. Capacity assessment report and/or organogram of IBTC (including IT environment) 2-2. Standard Operation Procedures (SOP) of the National NRW Training 2-3. The National NRW Training Business Plan 2-4. Next year's annual programme, TOR of steering committee or equivalent, etc.	2-1. For online system adaptation in the National NRW Training under/post COVID-19 2-2. Add "National". 2-3. Same as above. 2-4. Sustainability is more focused.
Output 3			
Trainings on Non-Revenue Water (NRW)	The NRW Training is conducted with	The National NRW Training is conducted	Add "National".

Appendix-8

Former PDM ₁	Current PDM ₂	Proposed PDM ₃	Remarks
are conducted at IBTC.	training improvement cycle.	with training improvement cycle.	
Objectively Verifiable Indicators			
3-1. Actual trainings on NRW Skills Programme (No. of trainings, trainees) 3-2. Appropriateness of NRW Skills Programme (trainees' evaluation) 3-3. Feedback / utilization of skills trained at IBTC into the water services at sampled Municipality(ies)	3-1. No. of Facilitator Technical Meeting is increased. 3-2. No. of NRW Training is increased. 3-3. Trainee's satisfaction with the NRW Training is increased. 3-4. No. of feedback/utilization of skills trained into water services at municipalities is increased.	3-1. No. of Facilitator Technical Meeting is increased. (both physical and online basis) 3-2. No. of National NRW Training is increased. (both physical and online basis) 3-3. Learners' satisfaction scales are kept high or increased. 3-4. Feedback/utilization of skills, knowledge and outcomes into water services of participating municipalities is increased.	3-1. Online adaptation is considered. 3-2. Add "National", and online system adaptation is considered. 3-3. Minor correction. 3-4. Minor correction.
Means of Verification			
3-1. IBTC annual report 3-2. Training evaluation questionnaire to trainees 3-3. Survey report in sampled Municipality(ies)	3-1. IBTC annual report 3-2. IBTC annual report 3-3. Training evaluation questionnaire to trainees (training management / contents and individual achievement) 3-4. Survey of participating municipalities in sampled municipalities	3-1. IBTC's reports 3-2. IBTC's reports 3-3. Training evaluation questionnaire 3-4. Debriefing reports by learners and/or monitoring/follow-up results	3-1. Minor correction. 3-2. Minor correction. 3-3. Minor correction. 3-4. Minor correction.
Activities for Output 1			
1-1. Conduct baseline survey on Skills Development in water supply sector (programme, human resources, materials and management). 1-2. Compile and analyze training resources, good practices, lessons learnt in water supply sector. 1-3. Share training resources, good practices, lessons learnt with SALGA and Municipalities.	1-1. Conduct baseline survey on skills development and NRW in municipalities. 1-2. Compile and analyze skills development and NRW in municipalities. 1-3. Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC. 1-4. Benchmark water supply services and	1-1. Conduct baseline survey on skills development and NRW in municipalities. 1-2. Compile and analyze skills development and NRW in municipalities. 1-3. Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC. 1-4. Benchmark water supply services and	1-1. No change. 1-2. No change. 1-3. No change. 1-4. No change.

Former PDM ₁	Current PDM ₂	Proposed PDM ₃	Remarks
1-4. Incorporate good practices into training materials. 1-5. Benchmark water supply services and its skills development in Japan. 1-6. Hold a seminar on the result of the baseline survey and benchmark.	its skills development in Japan. 1-5. Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	its skills development in Japan. 1-5. Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	1-5. This activity covers the National NRW Training as well.
Activities for Output 2			
2-1. Review roles and responsibility of IBTC for skills development of Municipalities in water supply sector based on the results of Output-1. 2-2. Draft proposed organogram of IBTC including NRW Training Section. 2-3. Prepare Terms of Reference for Training Sections related to skills development in water supply sector. 2-4. Prepare draft Standard Operating Procedures (SOP) of skills development provision. 2-5. Revise the SOP through the activities of Output-3. 2-6. Draft revised IBTC Strategic Business Model. 2-7. Conduct capacity assessment of IBTC's organization, individuals and facilitators developed.	2-1. Prepare the NRW Training Business Plan. 2-2. Prepare and take procedures for funding the NRW Training. 2-3. Prepare Terms of Reference for the NRW Training. 2-4. Prepare Standard Operation Procedures (SOP) of the NRW Training. 2-5. Revise the SOP of the NRW Training through the activities of Output-3. 2-6. Revise the NRW Training Business Plan through the activities of Output-3. 2-7. Conduct capacity assessment of IBTC.	2-1. Prepare the National NRW Training Business Plan. 2-2. Prepare and take procedures for funding the National NRW Training. 2-3. Prepare Terms of Reference for the National NRW Training. 2-4. Prepare Standard Operation Procedures (SOP) of the National NRW Training. 2-5. Revise the SOP of the National NRW Training through the activities of Output-3. 2-6. Revise the National NRW Training Business Plan through the activities of Output-3. 2-7. Conduct capacity assessment of IBTC. 2-8. Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3. 2-9. Develop sustainability plans for the National NRW Training.	2-1. Add "National". 2-2. Same as above. 2-3. Same as above. 2-4. Same as above. 2-5. Same as above. 2-6. Same as above. 2-7. No change 2-8. For online system adaptation under/post COVID-19 2-9. Sustainability is more focused.
Activities for Output 3			
3-1. Review situation / needs of skills development on NRW from the results of baseline survey of Activity	3-1. Design the NRW Training based on the results of Output-1. 3-2. Secure the site(s) for workplace of	3-1. Design the National NRW Training based on the results of Output-1. 3-2. Secure the participating	3-1. Add "National". 3-2. Add "National" and minor

Former PDM ₁	Current PDM ₂	Proposed PDM ₃	Remarks
1-1. 3-2. Select registered Unit Standards related to NRW from existing qualifications of SAQA. 3-3. Design NRW Skills Programme consisting of the selected Unit Standards and supplementary items if any. 3-4. Select facilitators (qualified / skilled artisans on water reticulation or equivalent) for NRW Skills Programme from Municipalities and IBTC (DWS). 3-5. Schedule Training of Trainer (facilitator) (TOT), Assessors and Moderators for NRW Skills Programme at IBTC. 3-6. Develop training yard for NRW Skills Programme at IBTC. 3-7. Procure equipment, instruments / tools and materials for NRW Skills Programme at IBTC. 3-8. Develop training / learning materials for NRW Skills Programme at IBTC. 3-9. Conduct TOT by both JICA Experts and South African Facilitators for NRW Skills Programme at IBTC. 3-10. Develop NRW Skills Programme as an accredited programme by SETA. a) Apply for registration of facilitators of NRW Skills Programme as assessor / moderator / facilitator from	the NRW Training. 3-3. Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the NRW Training from DWS/IBTC and stakeholders. 3-4. Develop training yard for the NRW Training at IBTC. 3-5. Procure equipment, instruments/tools and materials for the NRW Training. 3-6. Develop teaching/learning materials for the NRW Training with incorporating good practices from baseline survey into the materials if any. 3-7. Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the NRW Training. 3-8. Prepare for conducting the NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.). 3-9. Conduct the NRW Training by facilitators with support from JICA Experts. 3-10. Monitor the NRW Training and feed the results back under training improvement cycle. 3-11. Verify effects of the NRW Training in sampled municipalities.	municipalities and sites for workplace of the National NRW Training. 3-3. Secure facilitators (experienced/ skilled personnel on water reticulation or equivalent) for the National NRW Training from DWS/IBTC and stakeholders. 3-4. Develop training yard for the National NRW Training at IBTC. 3-5. Procure equipment, instruments/ tools and materials for the National NRW Training. 3-6. Develop teaching/learning materials for the National NRW Training with incorporating good practices from baseline survey into the materials if any. 3-7. Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the National NRW Training. 3-8. Prepare for conducting the National NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.). 3-9. Conduct the National NRW Training by facilitators with support from JICA Experts. 3-10. Monitor the National NRW Training and feed the results back under training improvement cycle. 3-11. Verify effects of the National NRW Training in sampled municipalities. 3-12. Assess the feasibility and	correction. 3-3. Add "National". 3-4. Same as above. 3-5. Same as above. 3-6. Same as above. 3-7. Same as above. 3-8. Same as above. 3-9. Same as above. 3-10. Same as above. 3-11. Same as above. 3-12. For online system adaptation

Appendix-8

Former PDM ₁	Current PDM ₂	Proposed PDM ₃	Remarks
SETA. b) Prepare Quality Management System of NRW Skills Programme at IBTC. c) Apply for accreditation of NRW Skills Programme to SETA. 3-11. Prepare Annual Plan of NRW Skills Programme including budget plan at IBTC. 3-12. Recruit participants from Municipalities through SALGA for NRW Skills Programme at IBTC. 3-13. Conduct trainings by South African Facilitators for NRW Skills Programme at IBTC. 3-14. Monitor implementation of NRW Skills Programme and feed the results back into Annual Plan and Programme. 3-15. Verify effects of NRW Skills Programme and provide necessary support by JICA Experts and IBTC in sampled Municipality(ies) if any.		sustainability of online system adaptation into the National NRW Training. 3-13. Review, revise or upgrade the programme/curriculum, and develop new form and ways of the National NRW Training with online system adaptation. 3-14. Review, revise or upgrade learning/teaching materials and tools for online system adaptation. 3-15. Procure additional services, equipment, instruments/tools and materials for online system adaptation.	under/post COVID-19. 3-13. Same as above. 3-14. Same as above. 3-15. Same as above.
Inputs (South African Side)			
1. Project Personnel			
1) JCC Chairperson: Chief Director of Global Cooperation, DWS 2) Project Director (PD): Director of NWRI, DWS 3) Co-Project Director (PD): SALGA 4) Project Manager (PM): Centre Manager, IBTC 5) Training Manager, IBTC	1) JCC Chairperson: Chief Director of Global Cooperation, DWS 2) Project Director (PD): Director of NWRI, DWS 3) Co-Project Director (PD): SALGA 4) Project Manager (PM): Centre Manager, IBTC 5) Co-Project Manager (PM): Director,	1) JCC Chairperson: Chief Director: Global Cooperation, IWS, DWS 2) JCC Chairperson-Alternate (PMC Chairperson): Chief Director: Engineering Services, IBOM, DWS 3) Project Director: Director: Technical Engineering Services, IBOM, DWS 4) Co-Project Director: Head:	Updated according to the actual project implementing structure.

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Former PDM ₁	Current PDM ₂	Proposed PDM ₃	Remarks
6) Quality Assurer, IBTC 7) NRW Training Personnel, IBTC 8) Municipal Coordinator (Technical), SALGA 9) Municipal Coordinator (HRD), SALGA 10) TOT Facilitator 11) Candidate Facilitator 12) Other project personnel mutually agreed upon as necessary	Water Use Efficiency 6) Training Manager, IBTC 7) Quality Assurer, IBTC 8) Dedicated NRW Training personnel, IBTC 9) Municipal Coordinator (Technical), SALGA 10) Municipal Coordinator (HRD), SALGA 11) Facilitator 12) Candidate Facilitator 13) Other personnel mutually agreed upon as necessary	Technology and Innovative Projects, SALGA 5) Project Manager (Operational): Centre Manager, IBTC, DWS 6) Co-Project Manager (Technical): Director, Water Use Efficiency, P&I, DWS 7) Director: ODA, IWS, DWS 8) Director: Operational Support, PMU, DWS 9) Training Manager, IBTC 10) Quality Assurer, IBTC 11) Officials from IBTC, WUE, Construction, Operational Support, ODA and Provincial offices 12) Municipal Coordinator (Technical), SALGA 13) Municipal Coordinator (HRD), SALGA 14) Facilitators 15) Secretary 16) Other personnel mutually agreed upon as necessary	
Inputs (Japanese Side)			
2. Facilities			
1) Training yard 2) Web site development and maintenance 3) Other facilities mutually agreed upon as necessary	1) Training yard 2) Web site development and maintenance 3) Other facilities mutually agreed upon as necessary	1) Training yard 2) Web site development and maintenance 3) Other facilities mutually agreed upon as necessary (e.g. for online system adaptation)	3) For online system adaptation under/post COVID-19.
3. Equipment, instruments, tools and materials			
1) Portable ultrasonic water flow meter 2) Leak detection equipment /	1) Bulk water flow meter 2) Leak detection equipment /	1) Bulk water flow meter 2) Leak detection equipment /	

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Former PDM ₁	Current PDM ₂	Proposed PDM ₃	Remarks
instruments 3) Tools for training 4) Materials such as pipe, fittings, valve, meter and etc. 5) Other equipment, instruments, tools and materials mutually agreed upon as necessary	instruments 3) Tools for training 4) Materials such as pipe, fittings, valve, meter and etc. 5) Other equipment, instruments, tools and materials mutually agreed upon as necessary	instruments 3) Tools for training 4) Materials such as pipe, fittings, valve, meter and etc. 5) Other equipment, instruments, tools and materials mutually agreed upon as necessary (e.g. for online system adaptation)	5) For online system adaptation under/post COVID-19.

Optionally-set Super Goal (separately from PDM)

Former PDM ₁	Current PDM ₂	Proposed PDM ₃	Remarks
Super Goal (*To be evaluated in 5 to 10 years after the completion of the Project)			
-	-	Non-Revenue Water (NRW) ratios decrease in participating municipalities utilizing the NRW management skills obtained from the National NRW Training.	The Project should aim ultimately/ primarily/ambitiously at NRW reduction in municipal water services as long as the Project establishes the National NRW Training for municipalities.
Objectively Verifiable Indicators			
-	-	1. NRW ratios of participating municipalities are decreased.	Baseline data setting (timing, whole municipalities or DMAs) should be discussed.
Means of Verification			
-	-	1. No-Drop reports or reports from participating municipalities, and/or monitoring/follow-up results	

Project Monitoring Sheet I (Revision of Project Design Matrix)

Version 3
Dated 17-Jul-20

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water
Project Period: August 2017 to March 2021 (44 months)
Implementing Organization: Department of Water and Sanitation (DWS) / IBTC, South African Local Government Association (SALGA)

Direct Beneficiaries: DWS, IBTC and its personnel, Facilitators selected

Indirect Beneficiaries: Municipalities

End Beneficiaries: Customers / Consumers of water supplied by Municipalities

Project Site: Gauteng Province and all other Provinces

Overall Goal	Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
<p>Non-Revenue Water (NRW) management skills are utilized in participating municipalities under the established National NRW Training system.</p>	<p>1. No. of confirmed DMAs in participating municipalities is increased. 2. Any actions in NRW-related aspects are initiated in participating municipalities. 3. No. of the National NRW Trainings conducted with facilitators is increased as scheduled in annual programme (at least, three times a year). 4. No. of Business plan, SOP, teaching/learning materials are revised periodically (at least, biennially). 5. Participating municipalities are monitored and followed up regularly. 6. Steering committee meeting is held regularly (at least, annually).</p>	<p>1. No. of confirmed DMAs in participating municipalities is increased. 2. Any actions in NRW-related aspects are initiated in participating municipalities. 3. No. of the National NRW Trainings conducted with facilitators is increased as scheduled in annual programme (at least, three times a year). 4. No. of Business plan, SOP, teaching/learning materials are revised periodically (at least, biennially). 5. Participating municipalities are monitored and followed up regularly. 6. Steering committee meeting is held regularly (at least, annually).</p>	<p>1&2. Monitoring/follow-up results of participating municipalities 3&4. IBTC's training reports 5. Monitoring/follow-up results of participating municipalities 6. Minutes of meeting of steering committee</p>	<p>- Dramatic reduction of budget and public grants on skills development for Municipalities does not happen.</p>		
<p>Project Purpose NRW management skills are developed for participating municipalities through the National NRW Training by IBTC.</p>	<p>1. No. of the National NRW Training is increased (three times or more). 2. No. of pilot DMAs for problem solution is increased (11 or more). 3. No. of facilitators is increased (adequate resources to conduct the Training: 16 or more). 4. No. of learners is increased (44 or more from 11 participating municipalities and others). 5. No. of debrief reports as outcomes are prepared (11 or more). 6. Learners' satisfaction scales are kept high or increased. 7. Steering committee kick-off meeting is held. 8. Business plan, SOP, teaching/learning materials, committee TOR are finalized as Version-1.</p>	<p>1. No. of the National NRW Training is increased (three times or more). 2. No. of pilot DMAs for problem solution is increased (11 or more). 3. No. of facilitators is increased (adequate resources to conduct the Training: 16 or more). 4. No. of learners is increased (44 or more from 11 participating municipalities and others). 5. No. of debrief reports as outcomes are prepared (11 or more). 6. Learners' satisfaction scales are kept high or increased. 7. Steering committee kick-off meeting is held. 8. Business plan, SOP, teaching/learning materials, committee TOR are finalized as Version-1.</p>	<p>All. IBTC's training reports All. Other relevant documents</p>	<p>- Dramatic reduction of budget and public grants on skills development for Municipalities does not happen.</p>		
<p>Outputs 1. Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.</p>	<p>1-1. Analyzed/organized information of skills development of municipalities is submitted to DWS (list of no. of staff, attended training, mentor resources, training providers, manuals, workshops and yards, subsidies/grants, good practices, etc.) 1-2. Analyzed/organized information of NRW and needs of municipalities is submitted to DWS. 1-3. Benchmarked matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.) 1-4. Information sharing occasions are provided.</p>	<p>1-1&2. Baseline survey report and training curriculum 1-3. Benchmark report 1-4. Seminar report and presentations</p>	<p>1-1&2. Baseline survey report and training curriculum 1-3. Benchmark report 1-4. Seminar report and presentations</p>			
<p>2. IBTC's National NRW Training capacity is improved.</p>	<p>2-1. Appropriate organizational structure for the National NRW Training is established at IBTC. 2-2. No. of revision of Standard Operation Procedures (SOP) of the National NRW Training is increased. 2-3. No. of revision of the National NRW Training Business Plan is increased. 2-4. Sustainability plans including steering committee or equivalent for the National NRW Training are finalized.</p>	<p>2-1. Capacity assessment report and/or organogram of IBTC (including IT environment) 2-2. Standard Operation Procedures (SOP) of the National NRW Training 2-3. The National NRW Training Business Plan 2-4. Next year's annual programme, TOR of steering committee or equivalent, etc.</p>	<p>2-1. Capacity assessment report and/or organogram of IBTC (including IT environment) 2-2. Standard Operation Procedures (SOP) of the National NRW Training 2-3. The National NRW Training Business Plan 2-4. Next year's annual programme, TOR of steering committee or equivalent, etc.</p>			
<p>3. The National NRW Training is conducted with training improvement cycle.</p>	<p>3-1. No. of Facilitator Technical Meeting is increased. (both physical and online basis) 3-2. No. of the National NRW Training is increased. (both physical and online basis) 3-3. Learners' satisfaction scales are kept high or increased. 3-4. Feedback/utilization of skills, knowledge and outcomes into water services of participating municipalities is increased.</p>	<p>3-1. IBTC's reports 3-2. IBTC's reports 3-3. Training evaluation questionnaire 3-4. Debriefing reports by learners and/or monitoring/follow-up results</p>	<p>3-1. IBTC's reports 3-2. IBTC's reports 3-3. Training evaluation questionnaire 3-4. Debriefing reports by learners and/or monitoring/follow-up results</p>			

Note: Optionally-set Super Goal: NRW ratios decrease in participating municipalities utilizing the NRW management skills obtained from the National NRW Training. Objectively Verifiable Indicators: NRW ratios of participating municipalities are decreased. Means of Verification: No-Drop reports or reports from participating municipalities, and/or monitoring/follow-up report.
NRW management skills includes skills and knowledge about NRW and reticulation basics as well as the created outcomes.

Activities for Output 1	Inputs	The Japanese Side	Important Assumption
<p>Activities for Output 1</p> <p>1-1. Conduct baseline survey on skills development and NRW in municipalities.</p> <p>1-2. Compile and analyze skills development and NRW in municipalities.</p> <p>1-3. Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.</p> <p>1-4. Benchmark water supply services and its skills development in Japan.</p> <p>1-5. Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.</p>	<p>The South African Side</p> <p>1. Project Personnel</p> <p>1) JCC Chairperson: Chief Director: Global Cooperation, IWS, DWS</p> <p>2) JCC Chairperson-Alternate (PMC Chairperson): Chief Director: Engineering Services, IBOM, DWS</p> <p>3) Project Director: Director: Technical Engineering Services, IBOM, DWS</p> <p>4) Co-Project Director: Head: Technology and Innovative Projects, SALGA</p> <p>5) Project Manager (Operational): Centre Manager: IBTC, DWS</p> <p>6) Co-Project Manager (Technical): Director: Water Use Efficiency, P&I, DWS</p> <p>7) Director: ODA, IWS, DWS</p> <p>8) Director: Operational Support, PMU, DWS</p> <p>Other members such as</p> <p>9) Training Manager, IBTC</p> <p>10) Quality Assurer, IBTC</p> <p>11) Officials from IBTC, WUE, Construction, Operational Support, ODA and Provincial offices</p> <p>12) Municipal Coordinator (Technical), SALGA</p> <p>13) Municipal Coordinator (HRD), SALGA</p> <p>14) Facilitators</p> <p>15) Secretary</p> <p>16) Other personnel mutually agreed upon as necessary</p> <p>2. Land, Building and Facilities</p> <p>1) Office space and facilities for JICA Experts, including water, electricity, internet connection and air conditioners if necessary</p> <p>2) Land for training yard</p> <p>3) Other facilities mutually agreed upon as necessary</p>	<p>The Japanese Side</p> <p>1. JICA Experts</p> <p>1) Chief Advisor / NRW Management</p> <p>2) Deputy Chief Advisor / NRW Management</p> <p>3) Training Planning / Organization Coordination</p> <p>4) Water Leakage Detection</p> <p>5) Water Distribution Control / Commercial Loss</p> <p>6) Training Yard Design and Supervision</p> <p>7) Procurement / Administrative Coordination</p> <p>8) Training Management / Human Resources Development</p> <p>9) Other Expert(s) if necessary</p> <p>2. Facilities</p> <p>1) Training yard</p> <p>2) Web site development and maintenance</p> <p>3) Other facilities mutually agreed upon as necessary (e.g. for online system adaptation)</p> <p>3. Equipment, instruments, tools and materials</p> <p>1) Bulk water flow meter</p> <p>2) Leak detection equipment/instruments</p> <p>3) Tools for training</p> <p>4) Materials such as pipe, fittings, valve, meter and etc.</p> <p>5) Other equipment, instruments, tools and materials mutually agreed upon as necessary (e.g. for online system adaptation)</p> <p>4. Training</p> <p>1) Training in Japan</p> <p>2) Training in the third country if necessary</p>	<p>Pre-Conditions</p> <p>- DWS and SALGA agree on their collaboration and cooperation for the Project</p> <p>- DWS allocates/ assigns personnel in charge of NRW Skills Programme at IBTC.</p>
<p>Activities for Output 2</p> <p>2-1. Prepare the National NRW Training Business Plan.</p> <p>2-2. Prepare and take procedures for funding the National NRW Training.</p> <p>2-3. Prepare Terms of Reference for the National NRW Training.</p> <p>2-4. Prepare Standard Operation Procedures (SOP) of the National NRW Training.</p> <p>2-5. Revise the SOP of the National NRW Training through the activities of Output-3.</p> <p>2-6. Revise the National NRW Training Business Plan through the activities of Output-3.</p> <p>2-7. Conduct capacity assessment of IBTC.</p> <p>2-8. Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.</p> <p>2-9. Develop sustainability plans for the National NRW Training.</p>	<p>The South African Side</p> <p>1. Project Personnel</p> <p>1) JCC Chairperson: Chief Director: Global Cooperation, IWS, DWS</p> <p>2) JCC Chairperson-Alternate (PMC Chairperson): Chief Director: Engineering Services, IBOM, DWS</p> <p>3) Project Director: Director: Technical Engineering Services, IBOM, DWS</p> <p>4) Co-Project Director: Head: Technology and Innovative Projects, SALGA</p> <p>5) Project Manager (Operational): Centre Manager: IBTC, DWS</p> <p>6) Co-Project Manager (Technical): Director: Water Use Efficiency, P&I, DWS</p> <p>7) Director: ODA, IWS, DWS</p> <p>8) Director: Operational Support, PMU, DWS</p> <p>Other members such as</p> <p>9) Training Manager, IBTC</p> <p>10) Quality Assurer, IBTC</p> <p>11) Officials from IBTC, WUE, Construction, Operational Support, ODA and Provincial offices</p> <p>12) Municipal Coordinator (Technical), SALGA</p> <p>13) Municipal Coordinator (HRD), SALGA</p> <p>14) Facilitators</p> <p>15) Secretary</p> <p>16) Other personnel mutually agreed upon as necessary</p> <p>2. Land, Building and Facilities</p> <p>1) Office space and facilities for JICA Experts, including water, electricity, internet connection and air conditioners if necessary</p> <p>2) Land for training yard</p> <p>3) Other facilities mutually agreed upon as necessary</p>	<p>The Japanese Side</p> <p>1. JICA Experts</p> <p>1) Chief Advisor / NRW Management</p> <p>2) Deputy Chief Advisor / NRW Management</p> <p>3) Training Planning / Organization Coordination</p> <p>4) Water Leakage Detection</p> <p>5) Water Distribution Control / Commercial Loss</p> <p>6) Training Yard Design and Supervision</p> <p>7) Procurement / Administrative Coordination</p> <p>8) Training Management / Human Resources Development</p> <p>9) Other Expert(s) if necessary</p> <p>2. Facilities</p> <p>1) Training yard</p> <p>2) Web site development and maintenance</p> <p>3) Other facilities mutually agreed upon as necessary (e.g. for online system adaptation)</p> <p>3. Equipment, instruments, tools and materials</p> <p>1) Bulk water flow meter</p> <p>2) Leak detection equipment/instruments</p> <p>3) Tools for training</p> <p>4) Materials such as pipe, fittings, valve, meter and etc.</p> <p>5) Other equipment, instruments, tools and materials mutually agreed upon as necessary (e.g. for online system adaptation)</p> <p>4. Training</p> <p>1) Training in Japan</p> <p>2) Training in the third country if necessary</p>	<p>Pre-Conditions</p> <p>- DWS and SALGA agree on their collaboration and cooperation for the Project</p> <p>- DWS allocates/ assigns personnel in charge of NRW Skills Programme at IBTC.</p>
<p>Activities for Output 3</p> <p>3-1. Design the National NRW Training based on the results of Output-1.</p> <p>3-2. Secure the participating municipalities and site(s) for workplace of the National NRW Training.</p> <p>3-3. Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the National NRW Training from DWS/IBTC and stakeholders.</p> <p>3-4. Develop training yard for the National NRW Training at IBTC.</p> <p>3-5. Procure equipment, instruments/tools and materials for the National NRW Training.</p> <p>3-6. Develop teaching/learning materials for the National NRW Training with incorporating good practices from baseline survey into the materials if any.</p> <p>3-7. Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the National NRW Training.</p> <p>3-8. Prepare for conducting the National NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.).</p> <p>3-9. Conduct the National NRW Training by facilitators with support from JICA Experts.</p> <p>3-10. Monitor the National NRW Training and feed the results back under training improvement cycle.</p> <p>3-11. Verify effects of the National NRW Training in sampled municipalities.</p> <p>3-12. Assess the feasibility and sustainability of online system adaptation into the National NRW Training.</p> <p>3-13. Review, revise or upgrade the programme / curriculum, and develop new form and ways of the National NRW Training with online system adaptation.</p> <p>3-14. Review, revise or upgrade learning / teaching materials and tools for online system adaptation.</p> <p>3-15. Procure additional services, equipment, instruments / tools and materials for online system adaptation.</p>	<p>The South African Side</p> <p>1. Project Personnel</p> <p>1) JCC Chairperson: Chief Director: Global Cooperation, IWS, DWS</p> <p>2) JCC Chairperson-Alternate (PMC Chairperson): Chief Director: Engineering Services, IBOM, DWS</p> <p>3) Project Director: Director: Technical Engineering Services, IBOM, DWS</p> <p>4) Co-Project Director: Head: Technology and Innovative Projects, SALGA</p> <p>5) Project Manager (Operational): Centre Manager: IBTC, DWS</p> <p>6) Co-Project Manager (Technical): Director: Water Use Efficiency, P&I, DWS</p> <p>7) Director: ODA, IWS, DWS</p> <p>8) Director: Operational Support, PMU, DWS</p> <p>Other members such as</p> <p>9) Training Manager, IBTC</p> <p>10) Quality Assurer, IBTC</p> <p>11) Officials from IBTC, WUE, Construction, Operational Support, ODA and Provincial offices</p> <p>12) Municipal Coordinator (Technical), SALGA</p> <p>13) Municipal Coordinator (HRD), SALGA</p> <p>14) Facilitators</p> <p>15) Secretary</p> <p>16) Other personnel mutually agreed upon as necessary</p> <p>2. Land, Building and Facilities</p> <p>1) Office space and facilities for JICA Experts, including water, electricity, internet connection and air conditioners if necessary</p> <p>2) Land for training yard</p> <p>3) Other facilities mutually agreed upon as necessary</p>	<p>The Japanese Side</p> <p>1. JICA Experts</p> <p>1) Chief Advisor / NRW Management</p> <p>2) Deputy Chief Advisor / NRW Management</p> <p>3) Training Planning / Organization Coordination</p> <p>4) Water Leakage Detection</p> <p>5) Water Distribution Control / Commercial Loss</p> <p>6) Training Yard Design and Supervision</p> <p>7) Procurement / Administrative Coordination</p> <p>8) Training Management / Human Resources Development</p> <p>9) Other Expert(s) if necessary</p> <p>2. Facilities</p> <p>1) Training yard</p> <p>2) Web site development and maintenance</p> <p>3) Other facilities mutually agreed upon as necessary (e.g. for online system adaptation)</p> <p>3. Equipment, instruments, tools and materials</p> <p>1) Bulk water flow meter</p> <p>2) Leak detection equipment/instruments</p> <p>3) Tools for training</p> <p>4) Materials such as pipe, fittings, valve, meter and etc.</p> <p>5) Other equipment, instruments, tools and materials mutually agreed upon as necessary (e.g. for online system adaptation)</p> <p>4. Training</p> <p>1) Training in Japan</p> <p>2) Training in the third country if necessary</p>	<p>Pre-Conditions</p> <p>- DWS and SALGA agree on their collaboration and cooperation for the Project</p> <p>- DWS allocates/ assigns personnel in charge of NRW Skills Programme at IBTC.</p>
<p>Issues & Countermeasures</p>			

Note: Indicators were discussed and finalized based on the baseline survey and were agreed at Joint Coordinating Committee (JCC). As an all-inclusive term, "Facilitator" in the Project may act as facilitator, trainer, mentor, coach and supervisor.

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

Activity	Year	2019												2020												2021			
		Phase 1												Phase 2												8-months Extension			
		Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Output 1: Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.																													
1-1 Conduct baseline survey on skills development and NRW in municipalities.	Plan																												
	Actual																												
	Progress: 100%																												
1-2 Compile and analyze skills development and NRW in municipalities.	Plan																												
	Actual																												
	Progress: 100%																												
1-3 Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.	Plan																												
	Actual																												
	Progress: 100%																												
1-4 Benchmark water supply services and its skills development in Japan.	Plan																												
	Actual																												
	Progress: 100%																												
1-5 Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	Plan																												
	Actual																												
	Progress: 65% Behind: 2.5 month																												
Output 2: IBTC's National NRW Training capacity is improved.																													
2-1 Prepare the National NRW Training Business Plan.	Plan																												
	Actual																												
	Progress: 100%																												
2-2 Prepare and take procedures for funding the National NRW Training.	Plan																												
	Actual																												
	Progress: 100%																												
2-3 Prepare Terms of Reference for the National NRW Training.	Plan																												
	Actual																												
	Progress: 100%																												
2-4 Prepare Standard Operation Procedures (SOP) of the National NRW Training.	Plan																												
	Actual																												
	Progress: 100%																												
2-5 Revise the SOP of the National NRW Training through the activities of Output-3.	Plan																												
	Actual																												
	Progress: 40% Behind: 0.0 month																												
2-6 Revise the National NRW Training Business Plan through the activities of Output-3.	Plan																												
	Actual																												
	Progress: 25% Behind: 2.5 month																												
2-7 Conduct capacity assessment of IBTC.	Plan																												
	Actual																												
	Progress: 70% Behind: 1.0 month																												
2-8 Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.	Plan																												
	Actual																												
	Progress: 00% Behind: 0.0 month																												
2-9 Develop sustainability plans for the National NRW Training.	Plan																												
	Actual																												
	Progress: 00% Behind: 0.0 month																												
Output 3: The National NRW Training is conducted with training improvement cycle.																													
3-1 Design the National NRW Training based on the results of Output-1.	Plan																												
	Actual																												
	Progress: 100%																												
3-2 Secure the participating municipalities and site(s) for workplace of the National NRW Training.	Plan																												
	Actual																												
	Progress: 85% Behind: 2.5 month																												
3-3 Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the National NRW Training from DWS/IBTC and stakeholders.	Plan																												
	Actual																												
	Progress: 100%																												
3-4 Develop training yard for the National NRW Training at IBTC.	Plan																												
	Actual																												
	Progress: 100%																												
3-5 Procure equipment, instruments/tools and materials for the National NRW Training.	Plan																												
	Actual																												
	Progress: 100%																												
3-6 Develop teaching/learning materials for the National NRW Training with incorporating good practices from baseline survey into the materials if any.	Plan																												
	Actual																												
	Progress: 100%																												
3-7 Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the National NRW Training.	Plan																												
	Actual																												
	Progress: 100%																												
3-8 Prepare for conducting the National NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.).	Plan																												
	Actual																												
	Progress: 75% Behind: 2.5 month																												
3-9 Conduct the National NRW Training by facilitators with support from JICA Experts.	Plan																												
	Actual																												
	Progress: 70% Behind: 1.0 month																												
3-10 Monitor the National NRW Training and feed the results back under training improvement cycle.	Plan																												
	Actual																												
	Progress: 70% Behind: 1.0 month																												
3-11 Verify effects of the National NRW Training in sampled municipalities.	Plan																												
	Actual																												
	Progress: 70% Behind: 1.0 month																												
3-12 Assess the feasibility and sustainability of online system adaptation into the National NRW Training.	Plan																												
	Actual																												
	Progress: 00%																												

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

Activity	Year		2019												2020												2021				
	Phase		Phase 1												Phase 2				8-months Extension												
	Month		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	
Additional Activities	3-13 Review, revise or upgrade the programme/curriculum, and develop new form and ways of the National NRW Training with online system adaptation.	Behind: 0.0 month																													
		50%																													
		Plan																													
	3-14 Review, revise or upgrade learning/teaching materials and tools for online system adaptation.	Progress: 00%																													
		Behind: 0.0 month	50%																												
		100%	Plan																												
	3-15 Procure additional services, equipment, instruments/tools and materials for online system adaptation.	Progress: 00%																													
		Behind: 0.0 month	50%																												
		100%	Plan																												
Input	Experts	①-1 Chief Advisor / NRW Management	Akinori MIYOSHI	Plan																											
		Actual																													
	①-2 Deputy-Chief Advisor / NRW Management	Taketoshi FUJIYAMA	Plan																												
	Actual																														
	② Training Planning / Organization Coordination	Kenichiro SUGIYA	Plan																												
	Actual																														
	③ Water Leakage Detection	Hiroki NIMURA	Plan																												
	Actual																														
	④ Water Distribution Management / Commercial Loss	Hirokyu MORITA	Plan																												
Actual																															
Long Term Expert	⑦ Training Management / Capacity Development	Nobutaka MARUYAMA	Plan																												
		Actual																													
	Equipment Procurement	Equipment for Water Leakage Detection	Plan																												
		Actual																													
	Add. Services and Equipment for Online System Adaptation	Plan																													
		Actual																													
	National Consultant/Contractor	Training Yard Construction	Plan																												
		Actual																													
	Web Site Development and Maintenance	Plan																													
Actual																															
Training in Japan	Phase-1 Training in Japan (for Management / Decision Making Level)	Plan																													
	Actual																														
Phase-2 Training in Japan (for Candidate Facilitators / Working Level)	Plan																														
	Actual																														
Monitoring	Monitoring	Joint Coordination Committee	Plan																												
		Actual																													
		Set-up the Detailed Plan of Operation	Plan																												
		Actual																													
		Submission of Monitoring Sheet	Plan																												
		Actual																													
		Monitoring Mission from Japan	Plan																												
		Actual																													
	Joint Monitoring	Plan																													
	Actual																														
	Post Monitoring	Plan																													
	Actual																														
	Reports/Documents	Project Progress Report	Plan																												
		Actual																													
		Project Completion Report	Plan																												
Actual																															
Public Relations	Project Brief Note	Plan																													
	Actual																														
Web Site	Plan																														
	Actual																														
	Plan																														
Press Release, Press Conference, Public Relations Magazine, Newsletter	Plan																														
	Actual																														

**MINUTES OF MEETING ON
THE 7TH MEETING OF JOINT COORDINATING COMMITTEE**

12th February 2021

**including Project Monitoring Sheet Ver.6
(April 2020 to January 2021)**

MINUTES OF MEETING
ON
THE SEVENTH MEETING OF JOINT COORDINATING COMMITTEE
FOR
PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER

HELD BY
ONLINE MEETING

12th February 2021



Mr. Aloious Chaminuka
Chief Director: Engineering Services
Department of Water and Sanitation
(DWS)
Republic of South Africa



Mr. Akinori Miyoshi
Chief Advisor,
Japan International Cooperation
Agency (JICA) Expert Team



Mr. William Moraka
Head: Technology and Innovative
Projects,
South African Local Government
Association (SALGA),
Republic of South Africa



Mr. Tomohiro Seki
Chief Representative,
JICA South Africa Office

Attached Document

For monitoring, discussion on issues, challenges, solutions and way forward of the Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water (hereinafter referred to as "the Project"), the seventh meeting of Joint Coordinating Committee (hereinafter referred to as "JCC") was held online on 12th February 2021.

1. Remarks

The Chairperson Mr. Aloious Chaminuka, Chief Director: Engineering Services, Infrastructure Build, Operate and Maintenance Branch, Department of Water and Sanitation (DWS), opened the meeting.

As an opening remark, Mr. William Moraka, Director: Technology and Innovative Projects, South Africa Local Government Association (SALGA) appreciated the efforts of everyone under this circumstances and expressed:

- It has been difficult situation since 2020 for all of us, however we have managed to navigate the Project.
- We have reimagined how best to deliver the Training and in this regard opted for online training to ensure the continuity of the project.
- Municipalities are drawing inspiration on objectives and key deliverable of the programme amongst other interventions in arresting Non-Revenue Water (NRW) and therefore the sustainability of the Training is important beyond March 2021.
- SALGA working in collaboration with partners are in a process of designing a national NRW programme based on the five pillars of water conservation and demand and hopefully the programme will be implemented within the 2021 financial year.
- The Country has adopted the concept of the District Development Model (DDM), and we need to rethink the sustainability of the Project under this context.
- I extend my sincere thanks to JICA for the successful seminar between SALGA and Japan Water Works Association (JWWA), which will be a trigger for further collaboration in taking water management between Japan and South Africa forward.

Before closing the meeting, Mr. Tomohiro Seki, Chief Representative of Japan

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International Cooperation Agency (JICA) South Africa Office gave his appreciation to all JCC members even in this circumstance and then emphasized:

- We hope the various contents of the training package will be reviewed and compiled, and an effective Sustainability Plan will be established by the end of March.
- JICA will continue the cooperation on non-revenue water, or more broadly, the water sector, after the completion of the IBTC project.
- The aim of the Project is to contribute to increasing the revenue of municipalities by improving NRW ratio to ensure their service delivery. NRW reduction is necessary for the people of our country, moving towards the big goal.

As closing remarks, Mr. Aloious Chaminuka, gave his thanks to both JCC and project members for participating the Project. He said we can achieve objectives of the Project and looks forward to handover ceremony in March 2021.

2. Presentations

Mr. Armand Basson, Project Management Committee (PMC) Coordinator, DWS made a presentation on project monitoring report as of January 2021 including Circumstances surround the Project, Project outline, Progress and current achievement, Issues and challenges, Recommendations, and High priority tasks (refer to [Appendix 3](#)). He then requested the JCC members to accept them.

Ms. Yoko Hattori, Director of Water Resources Team 2 of JICA Headquarters paid her courtesy to project members for their contribution to the Project and SALGA-JWWA Joint Seminars in the beginning of the presentation. Then, Mr. Hideki Osawa, Programme Officer made a presentation on JICA's follow-up after the completion of the Project including Key messages, How JICA will support/follow-up, its Blueprint, and Conclusion/way forward (refer to [Appendix 3](#)).

3. Main Points discussed

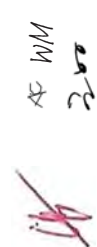
3-1. Outstanding Activities, Issues and Challenges

The JCC members confirmed the outstanding activities:

Table 1: Outstanding Activities

Outstanding Activities	Current Timeline (POs)	Actual Progress and Delayed
1-5 Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	By Mar. 2021	80%, 0.0 month
2-5 Revise the Standard Operating Procedures (SOP) of the National NRW Training through the activities of Output-3.	By Mar. 2021	75%, 0.0 month
2-6 Revise the National NRW Training Business Plan through the activities of Output-3.	By Mar. 2021	35%, 0.0 month
2-7 Conduct capacity assessment of IBTC.	By Mar. 2021	80%, 0.0 month
2-8 Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.	By Dec. 2020	75%, 1.0 month
2-9 Develop sustainability plans for the National NRW Training.	By Mar. 2021	60%, 0.0 month
3-2 Secure the site(s) for workplace of the National NRW Training. <i>*Note: This includes mobilization of participating municipalities.</i>	By Dec. 2020	95%, 1.0 month
3-8 Prepare for conducting the National NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.). <i>*Note: This includes allocation of facilitators.</i>	By Mar. 2021	85%, 0.0 month
3-9 Conduct the National NRW Training by facilitators with support from JICA Experts.	By Mar. 2021	90%, 0.0 month
3-10 Monitor the National NRW Training and feed the results back under training improvement cycle.	By Mar. 2021	90%, 0.0 month
3-11 Verify effects of the National NRW Training in sampled municipalities.	By Mar. 2021	70%, 3.0 month
3-12 Assess the feasibility and sustainability of online system adaptation into the National NRW Training.	By Dec. 2020	90%, 1.0 month
3-13 Review, revise or upgrade the programme/curriculum, and develop new form and ways of the National NRW Training with online system adaptation.	By Dec. 2020	90%, 1.0 month
3-14 Review, revise or upgrade learning/teaching materials and tools for online system adaptation.	By Dec. 2020	90%, 1.0 month
3-15 Procure additional services, equipment, instruments/tools and materials for online system adaptation.	By Dec. 2020	75%, 1.0 month

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3-2. Issues and Challenges

The JCC members identified the following issues and challenges:

- Difficulty in conducting practices and workplace training of the 3rd group in February - March 2021 due to COVID-19 pandemic.
- Difficulty in extending project duration again in principle because of milestones being hard to be scheduled.
- Some outstanding activities such as: SOP update/improvement, business plan review/revision, sustainability plan enhancement, stakeholder involvement.
- The National NRW Training has been not yet developed as "a sustainable system".
- The actual progress should be accelerated intensively under the leadership of Project Director, Manager and Task Leaders.

3-3. Recommendations

The JCC members understood the recommendations:

- To keep the current project duration ending in March 2021.
- To postpone the 3rd group workplace training and subordinate activities after the project period due to COVID-19
- To concentrate and ensure the completion of activities/tasks for "Training System Development" in the remaining period until March 2021.
- Project Team has developed the prioritized task allocation and schedule, and members have been working on them.
- Their completion with deliverables will be reported in the final/closing JCC meeting.
- The final/closing JCC meeting and hand-over ceremony (online) are scheduled tentatively on Thursday 25th March 2021.

3-4. High Priority Tasks

Project Management Committee (PMC) and Task members have identified high priority tasks as below, their allocation and schedule to complete the Project in the remaining period. PMC emphasized to JCC members that we had agreed to weekly meetings to monitor the progress and complete all tasks before the final/closing JCC meeting.


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High priority tasks: Training packaging, SOPs, Business plan, Sustainability plan, Closing report and Handover

3-5. JICA's Follow-up

All participants understood the draft idea of JICA's follow-up after the completion of the Project:

Key messages:

- The Project will be completed in March 2021, and we have to discuss what should be done before and after the completion of the Project.
- JICA expects the National NRW Training Program will be continued and further developed by South African initiative even after the Project completion.
- The completion of the Project does NOT mean the completion of JICA's cooperation with water sector in South Africa. JICA will continue to support the National NRW training after the Project.

Draft JICA's Follow-up Plan after the Project:

- JICA will offer Training Program in Japan for steering committee members, facilitators and/or municipalities.
- JICA will offer short term on-site support for 3rd workplace training, which was not conducted due to COVID-19 outbreak.
- JICA will dispatch long-term JICA expert to DBSA (Development Bank of Southern Africa) to monitor the National NRW training.

3-6. Sustainability Plan and Steering Committee

The Task team has developed a draft sustainability strategic (master) plan suggested to be implemented post March 2021.

Further that SALGA emphasized the necessity of gearing the Training to be beneficial to neighbouring African countries.

In response to a JICA's question, SALGA suggested that the kick-off meeting of proposed steering committee be held before the end of February 2021. Furthermore that as the envisaged JICA Expert to be deployed to DBSA be


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2021

included as a member of steering committee and not as an observer.

It was suggested that the JCC adopts the JICA's follow-up plan to roll out and needs to respond formally at the upcoming final JCC meeting scheduled in March 2021, further that JICA colleagues be invited and contribute in shaping the sustainability plan.

3-7. National NRW Programme

SALGA and partners such as the Department of Cooperative Governance and Traditional Affairs (CoGTA), Municipal Infrastructure Support Agency (MISA), Development Bank of Southern Africa (DBSA) are currently designing National NRW Programme which is expected to be implemented during the 2021 financial year.

Further suggested that the proposed JICA Expert to be deployed to DBSA could collaborate with South African partners and contribute in the design and implementation of the Programme.

3-8. Handover Ceremony

The Task team has communicated with the Minister's office but the Minister's final approval has not been confirmed yet for handover ceremony to be showcase with media. Cutting ribbon could be considered but Directorate: Communication may have the other way.

If the Minister is not available, the Deputy Minister or Director General will be delegated.


4. Acceptance of Presentations

Based on the presentation and the results of discussion, the JCC members accepted presentations on project monitoring report and JICA's follow-up (refer to [Appendix 3 and 4](#)).

5. Final/closing JCC Meeting

The final JCC meeting will be tentatively on Thursday, 25th March 2021.

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Appendix

- Appendix 1: Programme/Agenda
- Appendix 2: Attendance Register
- Appendix 3: Presentation: Project Monitoring Report
- Appendix 4: Presentation: JICA's Follow-up
- Appendix 5: Project Design Matrix (PDM₃)
- Appendix 6: Plan of Operation (PO₆)

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National Water Resource Infrastructure Branch (NWRI)
Infrastructure Branch Training Centre (IBTC)
assisted by
Japan International Cooperation Agency (JICA)

**PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER
7TH JCC MEETING (ONLINE)**

Co-Chaired by Mr. Aloious Chaminuka and Mr. Tomohiro Seki
Venue: Online Meeting
Date: 10:00, Friday, 12th February 2021 (SAST)

ATTENDANCE REGISTER

No	Name	Role in Project	Title and Position
South African Side			
1	Aloious Chaminuka	Project Director, PMC Chairperson	Chief Director: Engineering Services, IBOM, DWS
2	William Moraka	Co-Project Director, PMC Advisor/Leader	Head: Technology and Innovative Projects, SALGA
3	Rosa M. Rahube	Project Manager (Operational), PMC Leader	Centre Manager, IBTC, DWS
4	Hadebe Xolani	Co-Project Manager (Technical), PMC Leader	Director, Water Use Efficiency, P&I, DWS
5	Albert Mmbidi	Member PMC Secretariat/Leader	Director: ODA, IWS, DWS
6	Thabo Masike	Member	Water Use Efficiency, P&I, DWS
7	Lerato Makola	Member	IBTC, DWS
8	Verusha Govender	Member	IBTC, DWS
9	Armand Basson	Member / PMC Coordinator	Construction, IBOM, DWS
10	Riaan Stassen	Member	Construction, IBOM, DWS
11	Mtsweni Zanu	Member	ODA, IWS, DWS
Japanese Side			
12	Tomohiro Seki	JICA South Africa Office	Chief Representative
13	Yoko Hattori	JICA Headquarters	Director of Water Resources Team 2
14	Hiroshi Kubota	JICA Headquarters	Senior Advisor
15	Hideki Osawa	JICA Headquarters	Programme Officer
16	Taisuke Morimoto	JICA South Africa Office	Representative
17	Takhiro Otsuka	JICA Headquarters	Staff
18	Akinori Miyoshi	JICA Expert	Chief Advisor / NRW Managt
19	Nobutaka Maruyama	JICA Expert	Training Management / HRD
20	Kenichiro Sugiya	JICA Expert	Skills Programme Planning /



National Water Resource Infrastructure Branch (NWRI)
Infrastructure Branch Training Centre (IBTC)
assisted by
Japan International Cooperation Agency (JICA)

**PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER**

PROGRAMME/AGENDA FOR 7TH JCC MEETING

Co-Chaired by Mr. Aloious Chaminuka and Mr. Tomohiro Seki
Venue: Online Meeting
Date: 10:00, Friday, 12th February 2021 (SAST)

- 10:00 - 10:05 1. Introduction of Participants
- 10:05 - 10:10 2. Remarks by SALGA: Mr. William Moraka (Head: Technology and Innovative Projects)
- 10:10 - 10:40 3. Project Monitoring Report as of end-January 2021:
- Coordinator: Mr. Armand Basson
 - Task Leaders: Mr. Monene (Director: Engineering Services), Ms. Rosa (IBTC Centre Manager), Mr. William (Head, SALGA), Mr. Xolani (Director: WUE) and Mr. Mmbidi (Director: ODA)
- 10:40 - 11:00 4. JICA's follow-up after completion of the Project by JICA Headquarters:
Ms. Yoko Hattori (Director of Water Resources Team 2) and Mr. Hideki Osawa (Programme Officer)
- 11:00 - 11:20 5. Discussion and confirmation of monitoring results, and wrap-up
- 11:20 - 11:25 6. Remarks by JICA South Africa Office: Mr. Tomohiro Seki (Chief Representative)
- 11:25 - 11:30 7. Way Forward and Closing Remarks by DWS: Mr. Aloious Chaminuka (Chief Director: Engineering Services, Infrastructure Build, Operate and Maintenance Branch)
- Note:
The final JCC meeting: Thursday, 25th March 2021 (tentative)
Handover ceremony: Thursday, 25th March 2021 (tentative)

Appendix-2

No	Name	Role in Project	Title and Position
			Organization Coordination
21	Hiroki Niimura	JICA Expert	Water Leakage Detection
22	Hiroyuki Morita	JICA Expert	Water Distribution Control / Commercial Loss
23	Risa Koshiyama	JICA Expert	Procurement / Coordination

APOLOGIES FOR ABSENCE

No	Name	Role in Project	Title and Position
1	Vincent Monene	PMC Leader	Director, Technical Engineering Services, IBOM, DWS
2	Kentse Mathiba	PMC Leader	Director: Operational Support, PMU, DWS

Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

PROJECT MONITORING REPORT (SUMMARY)

As of End-January 2021

12th February 2021

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1

Presentation Outline

1. Circumstances surrounding the Project
2. Project Outline
3. Progress and Current Achievement
4. Issues and Challenges
5. Recommendations
6. High-Priority Tasks

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1. Circumstances surrounding the Project

- 1st March: **The first case** later confirmed with COVID-19 in South Africa
- 15th March: Statement by President: Measures to combat COVID-19 Epidemic (National State of Disaster)
- 17th March: JICA HQs' instruction to all JICA Experts worldwide for temporary return
- 22nd March: All **JICA Experts returned** to Japan.
- 23rd March: Statement by President on Escalation of Measures to combat the COVID-19 Epidemic
- 26th March: **National Lockdown** for 21 days
- 9th April: Extension of Lockdown to the end of April
- 23th April: Statement by President on SA's Response to the COVID-19 Pandemic (**Risk Adjusted Strategy**)
- 1st May: **Relaxation of the Alert Level from 5 to 4** of Risk Adjusted Strategy
- 24th May: Statement by President: Developments in Risk Adjusted Strategy
- 1st June: **Relaxation of the Alert Level from 4 to 3** of Risk Adjusted Strategy
- 17th June: Address by President: SA's response to the COVID-19
- 25th June: **Restriction Ease of the current Alert Level 3** of Risk Adjusted Strategy
- 12th July: Curfew (13th July -). Extension of National State of Disaster to 15th August

2. Project Outline

3. Progress and Current Achievement

1. Circumstances surrounding the Project

- 15th August: Statement by President: Peak-out and Extension of National State of Disaster to 15th Sep.
- 18th August: **Relaxation of the Alert Level from 3 to 2** of Risk Adjusted Strategy
- 14th September: Statement by President: Extension of National State of Disaster to 15th October
- 16th September: Statement by President: SA's response to the COVID-19
- 21st September: **Relaxation of the Alert Level from 2 to 1** of Risk Adjusted Strategy
- 1st October: Boarder Reopening and Resumption of International Commercial Flights
- 14th October: **Extension of the Alert Level 1** and National State of Disaster to 15th November
- 14th November: **Extension of the Alert Level 1** and National State of Disaster to 15th December
- 14th December: Hotspots and additional restrictions
- 28th December: The **adjusted Alert Level 3** and National State of Disaster to 15th January
- 11th January: **Extension of the adjusted Alert Level 3** and National State of Disaster to 15th February
- Early February: A few **JICA Experts returned** to South Africa.

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1. Background and Introduction

2. Project Outline

3. Progress and Current Achievement

● **Project Period:**

- Phase-1: August 2017 to April 2019 (21 months)
- Phase-2: May 2019 to March 2021 (23 months)

● **Implementing Organization:**

Department of Water and Sanitation (DWS)
South African Local Government Association (SALGA)

● **Beneficiaries:**

Participating Municipalities/staff, DWS/IBTC and their personnel and Facilitators

● **End Beneficiaries:**

Customers / Consumers of water supplied by Municipalities

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1. Background and Introduction

2. Project Outline

3. Progress and Current Achievement

Project Design

2017.8

- Outputs**
1. Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.
 2. IBTC's National NRW Training capacity is improved.
 3. The National NRW Training is conducted with training improvement cycle.

Project

Project Purpose

NRW management skills are developed for participating municipalities through the National NRW Training.

2021.3

Overall Goal

Non-Revenue Water (NRW) management skills are utilized in participating municipalities under the established National NRW Training system.

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1. Background and Introduction

2. Project Outline

3. Progress and Current Achievement



Project Purpose:
NRW management skills are developed for participating municipalities through the National NRW Training by IBTC.

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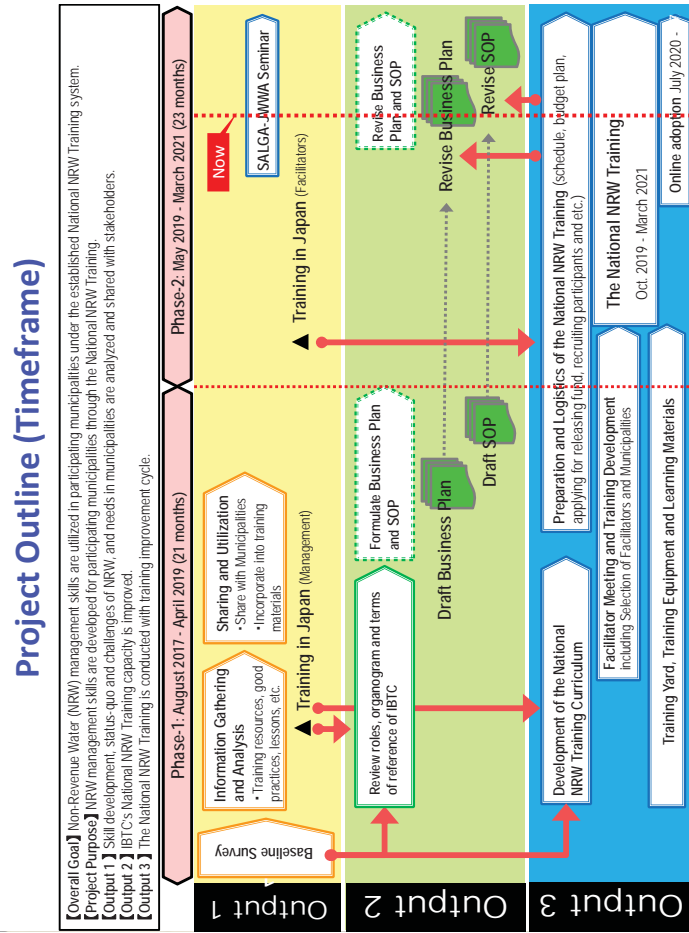
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1. Background and Introduction

2. Project Outline

3. Progress and Current Achievement



1. Background and Introduction

2. Project Outline

3. Progress and Current Achievement

Summary of Activity Progress

Exiting Activities	Current Timeline (PO _s)	Actual Progress and Delayed
1-5 Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	By March 2021	80%, 0.0 month
2-5 Revise the Standard Operating Procedures (SOP) of the National NRW Training through the activities of Output-3.	By March 2021	75%, 0.0 month
2-6 Revise the National NRW Training Business Plan through the activities of Output-3.	By March 2021	35%, 3.0 month
2-7 Conduct capacity assessment of IBTC.	By March 2021	80%, 0.0 month
2-8 Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.	By December 2020	75%, 1.0 month
2-9 Develop sustainability plans for the National NRW Training.	By March 2021	60%, 0.0 month
3-2 Secure the participating municipalities and the site(s) for workplace of the National NRW Training.	By December 2020	95%, 1.0 month
3-8 Prepare for conducting the National NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.). * Note: This includes allocation of facilitators.	By March 2021	85%, 0.0 month
3-9 Conduct the National NRW Training by facilitators with support from JICA Experts.	By March 2021	90%, 0.0 month

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1. Background and Introduction

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3. Progress and Current Achievement

Output 1: Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

- **Activity 1-1: Conduct baseline survey on skills development and NRW in municipalities.**
 - Completed.
- **Activity 1-2: Compile and analyze skills development and NRW in municipalities.**
 - Completed.
- **Activity 1-3: Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.**
 - Completed.

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1. Background and Introduction

2. Project Outline

3. Progress and Current Achievement

Exiting Activities	Current Timeline (PO _s)	Actual Progress and Delayed
3-10 Monitor the National NRW Training and feed the results back under training improvement cycle.	By March 2021	90%, 0.0 month
3-11 Verify effects of the National NRW Training in sampled municipalities.	By March 2021	70%, 3.0 month
3-12 Assess the feasibility and sustainability of online system adaptation into the National NRW Training.	By December 2020	90%, 1.0 month
3-13 Review, revise or upgrade the programme/curriculum, and develop new form and ways of the National NRW Training with online system adaptation.	By December 2020	90%, 1.0 month
3-14 Review, revise or upgrade learning/teaching materials and tools for online system adaptation.	By December 2020	90%, 1.0 month
3-15 Procure additional services, equipment, instruments/tools and materials for online system adaptation.	By December 2020	75%, 1.0 month

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1. Background and Introduction

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Activity 1-4: Benchmark water supply services and its skills development in Japan.

- Completed.
- SALGA has explored partnership with Japan Water Works Association (JWWA) with support from DWS and JICA since November 2020.
- **Activity 1-5: Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.**
 - Progress: 80%, Behind: 0.0 months
 - SALGA introduced the Training in the WRC/SALGA's Water Technology and Innovation Forum on 28th September 2020.
 - The Project team needs to utilize **opportunities of events** effectively by enhancing collaboration with **other Directorates** and stakeholders such as **COGTA, LGSETA, MISA** etc.
 - SALGA and JWWA had the **1st joint seminar (webinar)** on municipality's water supply of both countries on 28th-29th January 2021 and will have two more joint seminars in February and March 2021, so the Project team will introduce the Training to stakeholders in this opportunity.

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Output 2: IBTC's National NRW Training capacity is improved.

- **Activity 2-1: Prepare the National NRW Training Business Plan.**
- Completed.
- **Activity 2-2: Prepare and take procedures for funding the National NRW Training.**
- Completed.
- DWS's budget for FY2020/21 was allocated (5 million Rand), but has been not spent as planned due to no physical components at IBTC/yard and workplaces.
- The Project Team will secure the DWS's budget for FY2021/22.
- DWS's budget should be not ad-hoc but regular basis.
- DWS has taken the procedures to get the NRW Training accredited (e.g. part- or specialized qualification of WRP) to upgrade the status for possible funding.
- Budget for implementation of NRW management in participating municipalities should be properly considered with support from stakeholders such as water boards, MISA and funding agencies.

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Activity 2-3: Prepare Terms of Reference for the National NRW Training.

- Completed.
- DWS/IBTC needs to ensure or enhance training implementation workforce at IBTC, workplaces and online.
- **Activity 2-4: Prepare Standard Operation Procedures (SOP) of the National NRW Training.**
- Completed.
- **Activity 2-5: Revise the SOP of the National NRW Training through the activities of Output-3.**
- Progress: 75%, Behind: 0.0 month
- SOPs and manuals should be improved/revised by reflecting knowledge and lessons learnt gained through the activities of Output-3.
- Online training and its preparation should be covered.
- All task teams concerned should contribute and assist the SOP task team.

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Output 2: IBTC's National NRW Training capacity is improved.

- **Activity 2-6: Revise the National NRW Training Business Plan through the activities of Output-3.**
- Progress: 35%, Behind: 3.0 month
- The Business Plan should be reviewed/revised to deal with difficulties, non-functionality and incoherence in business model (including training composition, online training method), training operation and implementation.
- **Activity 2-7: Conduct capacity assessment of IBTC.**
- Progress: 80%, Behind: 0.0 months
- Facilitators were mobilized/appointed and the online training materials were developed through workshops with facilitators in October - November 2020.
- The Training for 3rd group (online for knowledge) was conducted and evaluation was done by participants.
- Capacity of IBTC (the Training) has been developed through workshops and the actual Training based on lessons learnt and evaluation, then will be assessed as the end of the Project.
- IBTC should recruit the post of training manager, currently acting.

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Activity 2-8: Review and enhance IT environment for online system adaptation in accordance with the activities of Output 3.

- Progress: 75%, Behind: 1.0 months
- The Project team has utilized DWS's web-conference platform for general use.
- IBTC will be equipped with own platform for training purposes, but own cloud server for data sharing among facilitators and learners has not been yet ready.
- IBTC will communicate with DWS's Chief Information Officer to ensure procurement of cloud server or alternative and website.
- **Activity 2-9: Develop sustainability plans for the National NRW Training.**
- Progress: 60%, Behind: 0.0 months
- Task Team has discussed the sustainability plan from strategic/holistic viewpoints considering annual programme of the NRW Training.
- Although TOR of steering committee was drafted, 1st steering committee should be held actually before the Project completion.

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Output 3: The National NRW Training is conducted with training improvement cycle.

- **Activity 3-1: Design the National NRW Training based on the results of Output-1.**
 - Completed.
- **Activity 3-2: Secure the participating municipalities and the site(s) for workplace of the National NRW Training.**
 - Progress: **95%**, Behind: **1.0** months
 - The Project team mobilized 5 municipalities in the 3rd Training group (Amathole DM, Ekurhuleni Metro, Emfuleni LM, Saldanha Bay LM and Sol Plaatje LM), and 3 of them (Amathole DM, Ekurhuleni Metro, Saldanha Bay LM) participated in online training only in November 2020.
 - **Communication, appointment, letter issuance and mobilization** with participating municipalities should be scheduled properly and conducted smoothly in collaboration between DWS/WUE and SALGA.

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- **Activity 3-3: Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the National NRW Training from DWS/IBTC and stakeholders.**

- Completed.
- The Project team needs to ensure **their active/sustainable participation** in the Training at IBTC, workplaces and online training.
- The Project team needs to expand **a pool of facilitators and mentors from stakeholders.**

- **Activity 3-4: Develop training yard for the National NRW Training at IBTC.**

- Completed.

- **Activity 3-5: Procure equipment, instruments/tools and materials for the National NRW Training.**

- Completed.
- Additional procurement will be discussed if necessary.

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Output 3: The National NRW Training is conducted with training improvement cycle.

- **Activity 3-1: Design the National NRW Training based on the results of Output-1.**
 - Completed.
- **Activity 3-2: Secure the participating municipalities and the site(s) for workplace of the National NRW Training.**
 - Progress: **95%**, Behind: **1.0** months
 - The Project team mobilized 5 municipalities in the 3rd Training group (Amathole DM, Ekurhuleni Metro, Emfuleni LM, Saldanha Bay LM and Sol Plaatje LM), and 3 of them (Amathole DM, Ekurhuleni Metro, Saldanha Bay LM) participated in online training only in November 2020.
 - **Communication, appointment, letter issuance and mobilization** with participating municipalities should be scheduled properly and conducted smoothly in collaboration between DWS/WUE and SALGA.

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- **Activity 3-6: Develop teaching/learning materials for the National NRW Training with incorporating good practices from baseline survey into the materials if any.**

- Completed.

- **Activity 3-7: Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the National NRW Training.**

- Completed

- The Project team conducted online workshops with facilitator twice on 20th-21st October and 12th November 2020.

- **Activity 3-8: Prepare for conducting the National NRW Training**

- Progress: **85%**, Behind: **0.0** months

- The Project team prepared for the 3rd group Training and will prepare for the post Project.

- **Task coordination and task schedule control** are keys to prepare the training smoothly.

- **Activity 3-9: Conduct the National NRW Training by facilitators with support from JICA Experts.**

- Progress: **90%**, Behind: **0.0** month

- The Project team conducted the 3rd group Training (online) from November 2020.

- **12 learners from 3 participating municipalities** (Amathole DM, Ekurhuleni Metro and Saldanha Bay LM) and DWS/WUE regional champions attended.

- **Practices and workplace training won't be conducted in February and March 2021 due to COVID-19 pandemic.**

- **Task coordination and task schedule control** are keys to conduct the training smoothly.

- **Activity 3-10: Monitor the National NRW Training and feed the results back under training improvement cycle.**

- Progress: **90%**, Behind: **0.0** month

- Debriefing meeting was held after the 3rd group Training (online).

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1. Background and Introduction

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3. Progress and Current Achievement

- **Activity 3-11: Verify effects of the National NRW Training in sampled municipalities.**
 - Progress: **70%**, Behind: **3.0** month
 - **3rd group Training won't be completed (the expected training outputs will be limited) due to COVID-19 pandemic.**
- **Activity 3-12: Assess the feasibility and sustainability of online system adaptation into the National NRW Training.**
 - Progress: **90%**, Behind: **1.0** month
 - The Project Team has assessed them by using online regular meetings and workshops.
- **Activity 3-13: Review, revise or upgrade the programme/curriculum, and develop new form and ways of the National NRW Training with online system adaptation.**
 - Progress: **90%**, Behind: **1.0** month
 - The Project Team has reviewed, revised and upgraded them.

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1. Background and Introduction

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- **Activity 3-14: Review, revise or upgrade learning/teaching materials and tools for online system adaptation.**
 - Progress: **90%**, Behind: **1.0** month
 - The Project Team has reviewed, revised and upgraded them.
- **Activity 3-15: Procure additional services, equipment, instruments/tools and materials for online system adaptation.**
 - Progress: **75%**, Behind: **1.0** month
 - IBTC has procured own web-conference platform.
 - Connectivity support to facilitators and learners should be considered.
 - JICA team has assisted the Training (online) as well as SALGA-JWWA joint seminars (webinar).

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1. Background and Introduction

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1. Background and Introduction

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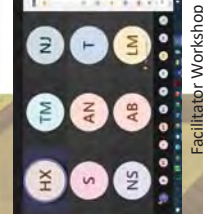
3. Progress and Current Achievement

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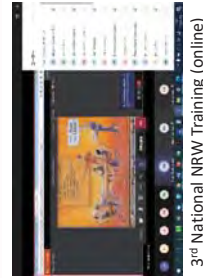
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Facilitator Workshop



3rd National NRW Training (online)



3rd National NRW Training (online)



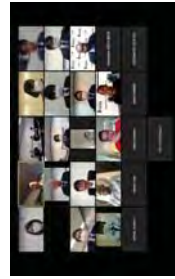
3rd National NRW Training (online)



SALGA-JWWA Intro. Meeting



3rd National NRW Training (online)



SALGA-JWWA Intro. Meeting



SALGA-JWWA Joint Seminar

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1. Background and Introduction

2. Project Outline

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Achievement of Output-1: Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

Indicators	Achievement
1-1. Analyzed/organized information of skills development of municipalities is submitted to DWS	1-1. Baseline Survey report and training curriculum were prepared.
1-2. Analyzed/organized information of NRW and needs of municipalities is submitted to DWS.	1-2. Baseline Survey report and training curriculum were prepared.
1-3. Benchmarked matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.)	1-3. Benchmark reports were prepared by officials in the 1st and 2nd trainings in Japan (submitted to the DWS management or presented in the 2nd facilitator meeting)
1-4. Information sharing occasions are provided.	1-4. Information sharing of the training has been provided in output seminar of the Training, SALGA W&S group and SALGA-JWWA joint seminars.

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Achievement of Output-2: IBTC's National NRW Training capacity is improved.

Indicators	Achievement
2-1. Appropriate organizational structure for the National NRW Training is established at IBTC.	2-1. Though organizational structure for the National NRW Training has been developed in collaboration with facilitators.
2-2. No. of revision of Standard Operation Procedures (SOP) of the National NRW Training is increased.	2-2. SOPs have been developed respectively and reviewed currently for revision and packaging.
2-3. No. of revision of the National NRW Training Business Plan is increased.	2-3. The Business Plan has been reviewed and revised.
2-4. Sustainability plans including steering committee or equivalent for the National NRW Training are finalized.	2-4. Sustainability plan has been discussed and developed.

Achievement of Output-3: The National NRW Training is conducted with training improvement cycle.

Indicators	Achievement
3-1. No. of Facilitator Technical Meeting is increased. (both physical and online basis)	3-1. Physically twice in 2019, and online twice in 2020.
3-2. No. of the National NRW Training is increased. (both physical and online basis)	3-2. Physically the 1st and 2nd groups in 2019 and 2020, and online the 3rd group in 2020.
3-3. Learners' satisfaction scales are kept high or increased.	3-3. The trainings were evaluated at high rate.
3-4. Feedback/utilization of skills, knowledge and outcomes into water services of participating municipalities is increased.	3-4. Skills trained were utilized practically into workplace during training and reflected into pilot results presentations.

Achievement of Project Purpose: NRW management skills are developed for participating municipalities through the National NRW Training by IBTC.

Indicators	Achievement
1. No. of the National NRW Training is increased (three times or more).	1. Trainings were conducted three times.
2. No. of pilot DMAs for problem solution is increased (11 or more).	2. 7 participating municipalities of 1st and 2nd groups established pilot DMAs as workplaces, but 3rd group didn't do it due to COVID-19 pandemic.
3. No. of facilitators is increased (adequate resources to conduct the Training: 16 or more).	3. More than 16 facilitators from municipalities and DWS have engaged.
4. No. of learners is increased (44 or more from 11 participating municipalities and others).	4. More than 50 learners from 10 municipalities and DWS regions participated.
5. No. of debrief reports as outcomes are prepared (11 or more).	5. 7 participating municipalities of 1st and 2nd groups prepared debriefing presentations.
6. Learners' satisfaction scales are kept high or increased.	6. The trainings were evaluated at high rate.
7. Steering committee kick-off meeting is held.	7. S.C. meeting has been not yet held.
8. Business plan, SOP, teaching/learning materials, committee TOR are finalized as Version-1.	8. Business plan, SOP, teaching/learning materials, committee TOR will be finalized.

Summary

1. **Difficulty in conducting practices and workplace training of the 3rd group** in February - March 2021 due to COVID-19 pandemic.
2. **Difficulty in extending project duration again** in principle because of milestones being hard to be scheduled.
3. **Some outstanding activities** such as: SOP update/improvement, business plan review/revision, sustainability plan enhancement, stakeholder involvement.
4. **The National NRW Training has been not yet developed as "a sustainable system"**.
5. The actual progress should be accelerated intensively under the leadership of Project Director, Manager and Task Leaders.

Example of the Progress (Sustainability Plan / Strategy)

WATER & SANITATION NATIONAL OFFICE OF SOUTH AFRICA		8 SALGA SUSTAINABILITY PLAN TRANSFORMING SERVICE DELIVERY		Legend: Organization ¹⁾ Lead Supporter		
PILLAR 1: ADMINISTRATIVE ²⁾	No. Strategic Action ³⁾	Outcomes ⁴⁾	Legend ⁵⁾	Funding ⁶⁾	Timelines ⁷⁾	
PILLAR 1: ADMINISTRATIVE ²⁾	PRE-PROJECT CLOSURE					
	1. ³⁾	Setting up of Governance structures/ Governance committees ⁴⁾	DWS and SALGA ⁵⁾	DWS and SALGA ⁶⁾	Feb 2021 ⁷⁾	
	2. ³⁾	Task allocations as per the JOR ⁴⁾	DWS and SALGA ⁵⁾	DWS and SALGA ⁶⁾	Feb 2021 ⁷⁾	
	3. ³⁾	Monitoring and measuring instruments and systems are in place ⁴⁾	DWS and SALGA ⁵⁾	DWS and SALGA ⁶⁾	March 2021 ⁷⁾	
	4. ³⁾	Explore funding instruments for post-partnership ⁴⁾	DWS and SALGA ⁵⁾	DWS and SALGA ⁶⁾	March 2021 ⁷⁾	
5. ³⁾	Engagement with Municipalities on the roll out plan ⁴⁾	SALGA and DWS ⁵⁾	SALGA and DWS ⁶⁾	June 2021 ⁷⁾		
PILLAR 2: TRAINING AND DEVELOPMENT ²⁾	POST-PROJECT CLOSURE					
	Outcomes⁴⁾					
	1. ³⁾	Host online/Physical Training ⁴⁾	DWS and SALGA ⁵⁾	DWS and SALGA ⁶⁾	May 2021 ⁷⁾	
	2. ³⁾	Conduct online/Physical training for identified municipalities with a report ⁴⁾	Task Team Members Municipalities and SALGA ⁵⁾	DWS and SALGA ⁶⁾	Nov 2021 ⁷⁾	
	4. ³⁾	Increase the footprint of the training ⁴⁾	SALGA ⁵⁾	SALGA ⁶⁾	April 2021 ⁷⁾	
	5. ³⁾	Conduct two Master classes on non-revenue water and or seminars with partners ⁴⁾	SALGA ⁵⁾	SALGA ⁶⁾	June 2021 ⁷⁾	
6. ³⁾	Increase number of facilitators per Province ⁴⁾	EVSETA ⁵⁾	EVSETA ⁶⁾	July – March 2021 ⁷⁾		
Pillar 3: Monitoring and Evaluation	PRE AND POST PROJECT MONITORING AND EVALUATION					
	Outcomes⁴⁾					
	1. ³⁾	Project close out report ⁴⁾	DWS and SALGA ⁵⁾	DWS ⁶⁾	March 2021 ⁷⁾	
	2. ³⁾	Undertake formal Evaluation of the project ⁴⁾	Partners ⁵⁾	Partners ⁶⁾	June 2021 ⁷⁾	
3. ³⁾	Develop Project implementation dash board ⁴⁾	DWS and SALGA ⁵⁾	DWS and SALGA ⁶⁾	June 2021 ⁷⁾		
4. ³⁾	Benchmarking indicator on non-revenue water ⁴⁾	SALGA and DWS ⁵⁾	SALGA and DWS ⁶⁾	June 2021 ⁷⁾		

The Project team kindly requests all members to note the progress, recommendation to proceed.

Thank you very much.

THE END

To Chief Representative of JICA South Africa Office

PROJECT MONITORING SHEETS (DRAFT)

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

Version of the Sheet: Ver. 6 (Term covered: April, 2020 - January, 2021)

Name: Akinori Miyoshi

Title: Chief Advisor

Submission Date: 12 February 2021

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I. Summary

1 Progress

1-1 Progress of Inputs

[The South African Side]

Project Personnel

All project members including Project Management Committee (PMC) Chairperson, Project Director, Project Manager, PMC Leaders, PMC Coordinator and members and associates have been involved in the Project (refer to Table 1).

Table 1: List of Project Members

Role in Project Implementation	Title and Position
Project Management Committee (PMC) Chairperson	Chief Director: Engineering Services, IBOM, DWS Mr. Aloious Chaminuka
Project Director	Director: Technical Engineering Services, IBOM, DWS
PMC Leader	Mr. Vincent Monene
Co-Project Director	Director: Water Sustainability and Innovations SALGA
PMC Advisor / Leader	Ms. William Moraka
Project Manager (Operational)	Centre Manager, IBTC, DWS
PMC Leader	Ms. Rosa Mfomadi Rahube
Co-Project Manager (Technical)	Director, Water Use Efficiency, P&I, DWS
PMC Leader	Mr. Hadebe Xolani
Member	Director: ODA, IWS, DWS
PMC Secretary / Leader	Mr. Albert Mmbidi
Member	Director: Operational Support, PMU, DWS
PMC Leader	Ms. Kentse Mathiba
Member	Director: Planning, Monitoring and Evaluation, DWS-KZN
	Mr. Michael Singh
Member	Training Manager, IBTC, DWS
	Ms. Kgoputso Sekgoleane *Resigned December 2020
Member	Quality Assurer, IBTC, DWS
	Ms. Makola Lerato
Member	IBTC, DWS
	Ms. Verusha Govender
Member	Water Use Efficiency, P&I, DWS
	Mr. Thabo Masike
Member	Water Use Efficiency, P&I, DWS
	Mr. Padi Andries
Member	Operational Support, PMU, DWS
	Mr. Maphutha Tsibiso
Member	Construction, IBOM, DWS
PMC Coordinator	Mr. Armand Basson
Member	Construction, IBOM, DWS
	Mr. Riaan Stassen

Role in Project Implementation	Title and Position
Members	Facilitators of the National NRW Training
Secretary	ODA, IWS, DWS Ms. Mtsweni Zanu

Land, Building and Facilities

Office spaces and necessary facilities at the Infrastructure Branch Training Centre (IBTC) and Directorate: Water Use Efficiency of the Department of Water and Sanitation (DWS) have been provided to the Japanese Experts. WiFi and network is not available due to DWS's security restriction, but this has not affected much the Project operation.

However these costs were not incurred during this monitoring period because Japanese Experts were not in South Africa due to COVID-19 pandemic.

Local Costs

All administrative and logistics costs including communication (online), accommodation, travelling/transport and catering for South African members and officials in mobilization and the National NRW Training implementation at IBTC and workplaces have been provided. However these costs except communication (online) cost were not incurred during this period because physical activities were restricted in South Africa due to COVID-19 pandemic.

[The Japanese Side]

JICA Experts

JICA Expert Team consisting of a Chief Advisor and members for seven areas of expertise were assigned to work in South Africa as below.

Table 2: List of JICA Experts

Position in the Project	Name
Chief Advisor / NRW Management	Mr. Akinori MIYOSHI
Deputy Chief Advisor / NRW Management	Mr. Taketoshi FUJUYAMA*1
Skills Programme Planning / Organization Coordination	Mr. Kenichiro SUGIYA
Water Leakage Detection	Mr. Hiroki NIIMURA
Water Distribution Control / Commercial Loss	Mr. Hiroyuki MORITA
Training Yard Design and Supervision	Mr. Masuji IDE*1
Procurement / Administrative Coordination	Mr. Toshinobu KASUYA*1
Training Management / Human Resource Development	Mr. Nobutaka MARUYAMA

Remarks *1: No assignment in this monitoring period.

Facilities

The training yard for practicals of the National NRW Training at IBTC has been utilized.

Equipment

The training equipment of the National NRW Training has been utilized.


1-2 Progress of Activities

Activities for Output-1: [PDM₂] Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

[PDM₃] Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

Table 3: Progress of Activities for Output-1

No	Activity	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅		Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
1-1	Conduct baseline survey on skills development and NRW in municipalities.	- Completed		- Completed	
1-2	Compile and analyze skills development and NRW in municipalities.	- Completed		- Completed	
1-3	Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.	- Completed		- Completed	
1-4	Benchmark water supply services and its skills development in Japan.	- Completed		- Completed	- SALGA has explored partnership with Japan Water Works Association (JWWA) with support from DWS and JICA since November 2020.
1-5	Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	- Progress: 65%, Behind PO ₅ : 0.0 months The Project team utilized opportunities such as the NRW Training output seminar and SALGA water and sanitation group meeting.	- Same as the previous monitoring, the Project Team should enhance collaboration with other Directorates and stakeholders such as COGTA, MISA and LGSETA, etc.	- Progress: 80%, Behind PO ₆ : 0.0 months - SALGA introduced the Training in the WRC/SALGA's Water Technology and Innovation Forum on 28th September 2020.	- The Project team needs to utilize opportunities of events effectively by enhancing collaboration with other Directorates and stakeholders such as COGTA, LGSETA, MISA etc. - SALGA and JWWA had the 1st joint seminar (webinar) on municipality's water supply of

No	Activity	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅		Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
					both countries on 28th-29th January 2021 and will have two more joint seminars in February and March 2021, so the Project team will introduce the Training to stakeholders in this opportunity.

Activities for Output-2: [PDM₂] IBTC's NRW Training capacity is improved.

[PDM₃] IBTC's National NRW Training capacity is improved.

Table 4: Progress of Activities for Output-2

No	Activity	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅		Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
2-1	Prepare the National NRW Training Business Plan.	- Completed		- Completed	
2-2	Prepare and take procedures for funding the National NRW Training.	- Completed. - DWS's budget FY2019/20 for the National NRW Training was allocated and utilized for the 1 st and 2 nd Groups (5 million Rand). - DWS's budget FY2020/21 for the National NRW Training was requested and listed (5 million Rand). - DWS has suspended pushing	- Allocation amount of DWS's budget FY2020/21 for the National NRW Training will be confirmed in April 2020. - DWS should budget for the National NRW Training on not ad-hoc but regular basis for sustainability. - To ensure funding and enhance programme status for sustainability, DWS is	- Completed. - DWS's budget for FY2020/21 was allocated (5 million Rand), but has been not spent as planned due to no physical components at IBTC/yard and workplaces.	- The Project Team will secure the DWS's budget for FY2021/22. - DWS's budget should be not ad-hoc but regular basis. - DWS has taken the procedures to get the NRW Training accredited (e.c. part or specialized qualification of WRP) to upgrade the status for possible funding.

PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅		Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
		LGSETA for an award due to this exceptional case for funding non-accredited training programme.	working on registering IBTC as an accredited training services provider of WRP qualification to open up the possibility of integration and harmonization with the National NRW Training and its practicality. - DWS registered IBTC as an accredited assessment centre of Water Reticulation Practitioner (WRP) qualification.		- Budget for implementation of NRW management in participating municipalities should be properly considered with support from stakeholders such as water boards, MISA and funding agencies.
2-3	Prepare Terms of Reference for the National NRW Training.	- Completed	- DWS/IBTC needs to ensure or enhance training implementation workforce at both IBTC and workplaces.	- Completed	- Same as previous monitoring, DWS/IBTC needs to ensure or enhance training implementation workforce at IBTC, workplaces and online.
2-4	Prepare Standard Operation Procedures (SOP) of the National NRW Training.	- Completed		- Completed	
2-5	Revise the SOP of the National NRW Training through the activities of Output-3.	- Progress: 40%, Behind PO ₅ : 0.0 month - Based on actual experiences in preparation and implementation of the National NRW Training, the Project Team reviewed items to be covered by standard operating procedures (SOPs) and manuals. - The Project Team has reviewed items and finalized SOP packaging.	- SOPs and manuals should be practical and user friendly, and also improved/revised by reflecting knowledge and lessons learnt obtained through the activities of Output-3.	- Progress: 75%, Behind PO ₆ : 0.0 month	- SOPs and manuals should be improved/revised by reflecting knowledge and lessons learnt gained through the activities of Output-3. - Online training and its preparation should be covered. - All task teams concerned should contribute and assist the SOP task team.

PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅		Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
2-6	Revise the National NRW Training Business Plan through the activities of Output-3.	- Progress: 25%, Behind PO ₅ : 0.0 month	- The Business Plan should be reviewed and revised if facilitators' limited participation is not solved (refer to Atcity 3-3), and in accordance with TOR of Steering Committee as a sustainability plan.	- Progress: 35%, Behind PO ₆ : 3.0 month	- The Business Plan should be reviewed/revised to deal with difficulties, non-functionality and incoherence in business model (including training composition, online training method), training operation and implementation.
2-7	Conduct capacity assessment of IBTC.	- Progress: 70%, Behind PO ₅ : 0.0 months - Capacity of IBTC (the National NRW Training) has been developed in the actual National NRW Training for the 1 st and 2 nd groups based on lessons learnt, self-evaluation and evaluation by participants.	-	- Progress: 80%, Behind PO ₆ : 0.0 months - Facilitators were mobilized/appointed and the online training materials were developed through workshops with facilitators in October - November 2020. - The Training for 3rd group (online for knowledge) was conducted and evaluation was done by participants.	- Capacity of IBTC (the Training) has been developed through workshops and the actual Training based on lessons learnt and evaluation, then will be assessed as of the end of the Project. - IBTC should recruit the post of training manager, currently acting.
2-8	Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.			- Progress: 75%, Behind PO ₆ : 1.0 months - The Project team has utilized DWS's web-conference platform for general use.	- IBTC will be equipped with own platform for training purposes, but own cloud server for data sharing among facilitators and learners has not been yet ready. IBTC will communicate with DWS's Chief Information Officer to ensure procurement of cloud server or alternative and website
2-9	Develop sustainability plans for the National NRW Training.			- Progress: 60%, Behind PO ₆ : 0.0 months - Task Team has discussed the sustainability plan from strategic/holistic viewpoints considering annual	- Although TOR of steering committee was drafted, 1st steering committee should be held actually before the Project completion.

PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅		Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
				programme of the NRW Training.	

Activities for Output-3: [PDM₂] The NRW Training is conducted with training improvement cycle.

[PMD₃] The National NRW Training is conducted with training improvement cycle.


Table 5: Progress of Activities for Output-3

No	Activity	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅		Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
3-1	Design the National NRW Training based on the results of Output-1.	- Completed		- Completed	
3-2	Secure the participating municipalities and the site(s) for workplace of the National NRW Training.	- Progress: 85%, Behind PO ₅ : 0.0 months - The Project team mobilized 4 municipalities for the 2 nd group of the NRW National Training.	- Though the Project Team started to mobilize 4 participating municipalities for the 3 rd group of the Training, it has been suspended due to measures against COVID-19 in March 2020. - Proper selection of workplaces is a key to smooth implementation and bearing fruits. Though the Project Team prepared selection criteria of workplace and explained participating municipalities about it in mobilization, the Team concluded not enough from the results of the 1st and 2nd group training. - The Project should improve approaches to participating municipalities in mobilization.	- Progress: 95%, Behind PO ₆ : 1.0 months - The Project team mobilized 5 municipalities in the 3rd Training group (Amathole DM, Ekurhuleni Metro, Emfuleni LM, Saldanha Bay LM and Sol Plaatje LM), and 3 of them (Amathole DM, Ekurhuleni Metro, Saldanha Bay LM) participated in online training only in November 2020.	- Communication, appointment, letter issuance and mobilization with participating municipalities should be scheduled properly and conducted smoothly in collaboration between DWS/WUE and SALGA.



PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅		Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
3-3	Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the National NRW Training from DWS/IBTC and stakeholders.	- Completed	- Though DWS communicated with facilitators to allocate them for the National NRW Training implementation in IBTC and workplaces, the Project has observed not all of them participated and some failed to participate as planned. - Following 14 facilitators attended: DWS-HQs: 1 DWS-KZN: 1 EC - Buffalo City: 0 GP - Ekurhuleni: 1 GP - Johannesburg: 1 GP - Tshwane: 2 KZN - eThekweni: 1 KZN - Ugu: 0 MP - Mbombela: 1 WC - Cape Town: 6 - Additionally, DWS-IBTC: 1 for training yard and equipment - The Project should ensure early communication, steady coordination and logistics arrangement, and strong initiatives by DWS with support from SALGA.	- Completed	- The Project team needs to ensure their active/sustainable participation in the Training at IBTC, workplaces and online training. - The Project team needs to expand a pool of facilitators and mentors from stakeholders.
3-4	Develop training yard for the National NRW Training at IBTC.	- Completed - Training yard was handed over from JICA Expert Team to DWS on 17 th Oct. 2019.	- Defect warranty will be until 30 th June 2020.	- Completed	
3-5	Procure equipment, instruments/tools and materials for the National NRW Training.	- Completed - Equipment/instruments were handed over from JICA Expert Team to DWS on 17 th	- Minor tools and consumables have been and will be procured as necessary in each training group.	- Completed	- Additional procurement will be discussed if necessary.

PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅		Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
		Oct. 2019.	- Additional equipment/ instrument will be discussed prior to the 3 rd group training.		
3-6	Develop teaching/learning materials for the National NRW Training with incorporating good practices from baseline survey into the materials if any.	- Completed	- Teaching/learning materials should be upgraded/ improved based on lessons learned in the actual training.	- Completed	
3-7	Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the National NRW Training.	- Completed	- The Project Team should have additional facilitator meetings or equivalent to share lessons learnt among facilitators In the Project period.	- Completed - The Project team conducted online workshops with facilitator twice on 20 th - 21 st October and 12 th November 2020. 	
3-8	Prepare for conducting the National NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.).	- Progress: 75%, Behind PO ₅ : 0.0 months - The Project team completed the 1 st and 2 nd group training and has prepared for conducting the 3 rd group training.	- Participation of Civil Engineer or Technician and Billing/ Finance officials as learners from participating municipalities is a key to smooth implementation and bearing fruits. Though the Project Team prepared nomination guide of learners and explained participating municipalities about it in mobilization, the Team concluded not enough from the results of the 1 st and 2 nd	- Progress: 85%, Behind PO ₆ : 0.0 months - The Project team prepared for the 3 rd group Training and will prepare for the post Project.	- Task coordination and task schedule control are keys to prepare the training smoothly.

PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅		Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
			group trainings. - The Project should improve approaches to participating municipalities in mobilization.		
3-9	Conduct the National NRW Training by facilitators with support from JICA Experts.	- Progress: 70%, Behind PO ₅ : 0.0 month - The Project team completed the 1 st and 2 nd group training and started preparation for the 3 rd group training. - <u>The 1st group training from 7th Oct. to 29th Nov. 2019</u> : 15 learners from 3 municipalities (Mogale City, Mopani and uMgungundlovu) and 8 DWS/WUE regional champions. - <u>The 2nd group training from 27th Jan. to 6th Mar. 2020</u> : 17 learners from 4 municipalities (JB Marks, King Cetshwayo, Mbombela and Metsimaholo) and 3 officials of DWS/WUE and DWS/KZN.	- Though the 3 rd group training is scheduled from 11 th May to 19 th June 2020, it may be rescheduled due to measures against COVID-19 in March 2020.	- Progress: 90%, Behind PO ₆ : 0.0 month - The Project team conducted the 3 rd group Training (online) in Nov. 2020. - 12 learners from 3 participating municipalities (Amathole DM, Ekurhuleni Metro and Saldanha Bay LM) and DWS/WUE regional champions attended.  	- Practices and workplace training won't be conducted in February and March 2021 due to COVID-19 pandemic. - Task coordination and task schedule control are keys to conduct the training smoothly.
3-10	Monitor the National NRW Training and feed the results back under training improvement cycle.	- Progress: 70%, Behind PO ₅ : 0.0 month - The Project has monitored the Training by self-evaluation and evaluation by participants for improvement.	- The Project Team should ensure steady improvement based on results.	- Progress: 90%, Behind PO ₆ : 0.0 month - Debriefing meeting was held after the 3 rd group Training (online).	
3-11	Verify effects of the National	- Progress: 70%, Behind PO ₅ :	- The Project Team should	- Progress: 70%, Behind PO ₆ :	- 3 rd group training won't be

PM Form 3-1 Monitoring Sheet Summary

No	Activity	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅		Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆	
		Achievement	Issues, Challenges & Solution	Achievement	Issues, Challenges & Solution
	NRW Training in sampled municipalities.	0.0 month - As effects, all participating municipalities conducted survey, analysis including simplified water balance, planning and ideally measures to reduce NRW in the workplaces, and prepared suggestions and actions to be taken for way forward at the end of the training.	support municipalities in realization of suggestions and actions. - The Project Team should monitor impacts on municipalities after the training.	3.0 month	completed (the expected training outputs will be limited) due to COVID-19 pandemic.
3-12	Assess the feasibility and sustainability of online system adaptation into the National NRW Training.			- Progress: 90%, Behind PO ₆ : 1.0 month - The Project Team has assessed them by using online regular meetings and workshops.	
3-13	Review, revise or upgrade the programme/ curriculum, and develop new form and ways of the National NRW Training with online system adaptation.			- Progress: 90%, Behind PO ₆ : 1.0 month - The Project Team has reviewed, revised and upgraded them.	
3-14	Review, revise or upgrade learning/teaching materials and tools for online system adaptation.			- Progress: 90%, Behind PO ₆ : 1.0 month - The Project Team has reviewed, revised and upgraded them.	
3-15	Procure additional services, equipment, instruments/tools and materials for online system adaptation			- Progress: 75%, Behind PO ₆ : 1.0 month - IBTC has procured own web-conference platform. - JICA team has assisted the Training (online) as well as SALGA-JWWA joint seminars (webinar).	- Connectivity support to facilitators and learners should be considered.

PM Form 3-1 Monitoring Sheet Summary

1-3 Achievement of Outputs

Output-1: [PDM₂] Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

[PDM₃] Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

Table 6: Achievement of Output-1

No	Indicator	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆
1-1	Analyzed/organized information of skills development of municipalities is submitted to DWS.	- Baseline Survey report was prepared.	- Baseline Survey report and training curriculum were prepared.
1-2	Analyzed/organized information of NRW and needs of municipalities is submitted to DWS.	- Baseline Survey report was prepared.	- Baseline Survey report and training curriculum were prepared.
1-3	Benchmarked matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.)	- Benchmark reports were prepared by officials in the 1 st and 2 nd trainings in Japan (submitted to the DWS management or presented in the 2 nd facilitator meeting)	- Benchmark reports were prepared by officials in the 1st and 2nd trainings in Japan (submitted to the DWS management or presented in the 2nd facilitator meeting)
1-4	Information sharing occasions are provided.	- Occasions of presentation of the National NRW Training have been provided in output seminar of the Training and SALGA water and sanitation group. - Directorate: Communication has involved in IBTC branding (logo design) and public relations (DWS magazine and web site) of the National NRW Training	- Information sharing of the National NRW Training have been provided in workshops, water sector forum, output seminar of the Training, SALGA water & sanitation group, WRC-SALGA forum and SALGA-JWWA joint seminars. - Directorate: Communication has involved in IBTC branding (logo design) and public relations (DWS magazine and web site) of the National NRW Training

Verification of Achievement and Implementing Process and/or Remarks

The Project should ensure enhancement of public relations for sustainability of the National NRW Training together with SALGA and stakeholders for Indicator 1-4.

Output-2: [PDM₂] IBTC's NRW Training capacity is improved.**[PDM₃] IBTC's National NRW Training capacity is improved.****Table 7: Achievement of Output-2**

No	Indicator	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆
2-1	Appropriate organizational structure for the NRW Training is established at IBTC.	Though organizational structure for the National NRW Training has been developed in collaboration with facilitators, it should be reviewed if facilitators' limited participation is not solved.	- Though organizational structure for the National NRW Training has been developed in collaboration with facilitators.
2-2	No. of revision of Standard Operation Procedures (SOP) of the NRW Training is increased.	- SOPs have been developed respectively and reviewed currently for packaging.	- SOPs have been developed respectively and reviewed currently for revision and packaging.
2-3	No. of revision of the NRW Training Business Plan is increased.	- Business plan was prepared, but should be reviewed and revised if facilitators' limited participation is not solved, and in accordance with TOR of Steering Committee as a sustainability plan.	- The Business Plan has been reviewed and revised.
2-4	Sustainability plans including steering committee or equivalent for the National NRW Training are finalized.		- Sustainability plan has been discussed and developed.
Verification of Achievement and Implementing Process and/or Remarks			
Organization structure, SOPs and Business Plan has been developed and prepared practically only through actual implementation of the National NRW Training.			

Output-3: [PDM₂] The NRW Training is conducted with training improvement cycle.**[PDM₃] The National NRW Training is conducted with training improvement cycle.****Table 8: Achievement of Output-3**

No	Indicator	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆
3-1	No. of Facilitator Technical Meeting is increased. (both physical and online basis)	- Twice (3 rd -5 th July, 19 th -20 th September 2019)	- Twice: 3 rd -5 th July, 19 th -20 th September 2019 - Online twice: 20 th -21 st October and 12 th November 2020
3-2	No. of the National NRW Training is increased. (both physical and online basis)	- The National NRW Training for the 1 st and 2 nd groups were conducted.	- The National NRW Training for the 1 st and 2 nd groups were conducted physically in November 2019 and February-March 2020.

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No	Indicator	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆
	physical and online basis)		2020. - The National NRW Training for the 3 rd group were conducted online (knowledge/theory) in November 2020.
3-3	Learners' satisfaction scales are kept high or increased.	- The National NRW Training for the 1 st and 2 nd groups was evaluated by learners and it was rated high respectively.	- The National NRW Trainings of 1 st and 2 nd groups was evaluated by learners and it was rated high respectively. - The National NRW Training for the 3 rd group online was evaluated by learners and it was rated high.
3-4	Feedback/utilization of skills, knowledge and outcomes into water services of participating municipalities is increased.	- As a principle, skills trained were utilized practically into workplace during training.	- Skills trained were utilized practically into workplace during training and reflected into pilot results presentations.
Verification of Achievement and Implementing Process and/or Remarks			
The Project should monitor post-training impacts on municipalities for Indicator 3-4.			

1-4 Achievement of the Project Purpose**[PDM₂] NRW management skills are developed for participating municipalities through the NRW Training by IBTC.****[PDM₃] NRW management skills are developed for participating municipalities through the National NRW Training by IBTC.****Table 9: Achievement of the Project Purpose**

No	Indicator	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆
1	No. of the National NRW Training is increased (three times or more).	- The National NRW Training for the 1 st and 2 nd groups were conducted.	- The National NRW Training for the 1 st and 2 nd groups were conducted physically in November 2019 and February-March 2020. - The National NRW Training for the 3 rd group were conducted online (knowledge/theory) in November 2020.
2	No. of pilot DMAs for problem solution is increased (11 or more).	- All participating municipalities conducted survey, analysis including simplified water balance, planning and ideally measures to reduce NRW in the workplaces, and prepared suggestions and actions to be taken for way forward at the end of the training.	- 7 participating municipalities of 1 st and 2 nd groups established pilot DMAs as workplaces, but 3 rd group didn't do it due to COVID-19 pandemic.
3	No. of facilitators is increased (adequate resources to	- All participating municipalities conducted survey, analysis including simplified water balance, <u>planning</u> and ideally	- More than 16 facilitators from municipalities and DWS have engaged.

PM Form 3-1 Monitoring Sheet Summary

No	Indicator	Previous Monitoring (as at Mar.2020) * based on PDM ₂ &PO ₅	Current Monitoring (as at Jan.2021) * based on PDM ₃ &PO ₆
	conduct the Training: 16 or more).	measures to reduce NRW in the workplaces, and prepared suggestions and actions to be taken for way forward at the end of the training. (*Former indicator: No. of NRW reduction plan in participating municipalities is increased.)	
4	No. of learners is increased (44 or more from 11 participating municipalities and others).		- More than 50 learners from 10 municipalities and DWS regions participated.
5	No. of debrief reports as outcomes are prepared (11 or more).		- 7 participating municipalities of 1 st and 2 nd groups prepared debriefing presentations.
6	Learners' satisfaction scales are kept high or increased.		- The trainings were evaluated at high rate.
7	Steering committee kick-off meeting is held.		- Steering committee kick-off meeting has been not yet held.
8	Business plan, SOP, teaching/learning materials, committee TOR are finalized as Version-1.		- Business plan, SOP, teaching/learning materials, committee TOR will be finalized.

Verification of Achievement and Implementing Process

The Project has regarded lack of fundamental/basic information (technical and financial) and their discrepancy in participating municipalities which affected training implementation as problems and issues in municipal water services. These caused difficulties in training implementation and obtaining expected indicators.

1-5 Changes of Risks and Actions for Mitigation

COVID-19 has extensively affected the Project implementation in South Africa and Japan since March 2020. Figure 1 shows time-series response to COVID-19 in South Africa surrounding the Project.

• 1 st March: The first case later confirmed with COVID-19 in South Africa
• 15 th March: Statement by President: Measures to combat COVID-19 Epidemic (National State of Disaster)
• 17 th March: JICA HQs' instruction to all JICA Experts worldwide for temporary return
• 22 nd March: All JICA Experts returned to Japan.
• 23 rd March: Statement by President on Escalation of Measures to combat the COVID-19 Epidemic
• 26 th March: National Lockdown for 21 days
• 9 th April: Extension of Lockdown to the end of April
• 23 rd April: Statement by President on SA's Response to the COVID-19 Pandemic (Risk Adjusted Strategy)
• 1 st May: Relaxation of the Alert Level from 5 to 4 of Risk Adjusted Strategy
• 24 th May: Statement by President: Developments in Risk Adjusted Strategy
• 1 st June: Relaxation of the Alert Level from 4 to 3 of Risk Adjusted Strategy
• 17 th June: Address by President: SA's response to the COVID-19
• 25 th June: Restriction Ease of the current Alert Level 3 of Risk Adjusted Strategy
• 12 th July: Curfew (13 th July -). Extension of National State of Disaster to 15 th August
• 15 th August: Statement by President: Peak-out and Extension of National State of Disaster to 15 th Sep.
• 18 th August: Relaxation of the Alert Level from 3 to 2 of Risk Adjusted Strategy
• 14 th September: Statement by President: Extension of National State of Disaster to 15 th October
• 16 th September: Statement by President: SA's response to the COVID-19
• 21 st September: Relaxation of the Alert Level from 2 to 1 of Risk Adjusted Strategy
• 1 st October: Border Reopening and Resumption of International Commercial Flights
• 14 th October: Extension of the Alert Level 1 and National State of Disaster to 15 th November
• 14 th November: Extension of the Alert Level 1 and National State of Disaster to 15 th December
• 14 th December: Hotspots and additional restrictions
• 28 th December: The adjusted Alert Level 3 and National State of Disaster to 15 th January
• 11 th January: Extension of the adjusted Alert Level 3 and National State of Disaster to 15 th February
• Early February: A few JICA Experts returned to South Africa.

Figure 1: Time-series Response to COVID-19 in South Africa surrounding the Project

To deal with this situation, the Project has took following actions:

- a. In March 2020, the Project decided to suspend mobilization task for the 3rd group municipalities followed by logistics task.
- b. The Project decided to continue other administrative tasks such as SOP re-packaging, teaching/learning materials upgrade/improvement, publicity enhancement (including web site), sustainability plan including Steering Committee's TOR development, etc.
- c. The Project postponed the 6th JCC meeting, instead, enhances "electronically-based communication, such as emails and instant messenger application to avoid close contact" for the above tasks in a coming couple of weeks.
- d. However, all activities were suspended from April to June 2020 because of national lockdown in South Africa.
- e. Afterward, through decision making at the 6th JCC meeting on 17th July 2020, the Project was reactivated by confirming/approving the following:

Objectives of project operation

- To carry on and upgrade the Project with ingenuity and flexible mind-set.
- To keep aiming at achievement of the project purpose and three outputs by means of activities and inputs.

Extension of project duration

Through examining three scenarios and selecting the scenario which will conduct the 3rd group training and end in March 2021 during the financial year 2020/21, the project duration was extended for eight months from 12th August 2020 to 12th April 2021.

Resumption and acceleration of the suspended project activities

Additional activities for online system adaptation and sustainability enhancement

- 2-8: Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.
 - 2-9: Develop sustainability plans for the National NRW Training.
 - 3-12: Assess the feasibility and sustainability of online system adaptation into the National NRW Training.
 - 3-13: Review, revise or upgrade the programme/curriculum, and develop new form and ways of the National NRW Training with online system adaptation.
 - 3-14: Review, revise or upgrade learning/teaching materials and tools for online system adaptation.
 - 3-15: Procure additional services, equipment, instruments/tools and materials for online system adaptation.
- Remote Assistance by JICA Experts
- July 2020 to October 2020, but extended to January 2021

1-6 Other matters to be considered (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)

None.

2 Delay of Work Schedule and/or Problems

2-1 Difficulties in Project Implementation

(1) Details

The Project Team has faced difficulty in conducting practices and workplace training of the 3rd group in February - March 2021 due to COVID-19 pandemic, as well as difficulty in extending project duration again in principle because of milestones being hard to be scheduled.

(2) Action to be taken

The Project should keep the current project duration ending in March 2021, and postpone the 3rd group workplace training and subordinate activities after the project period due to COVID-19 pandemic.

(3) Roles of Responsible Persons/Organization

- JCC is requested to accept that the 3rd group workplace training and subordinate activities will be implemented after the project period

2-2 Outstanding Activities and Incomplete Sustainable System

(1) Details

The Project has some outstanding activities such as: SOP update/improvement, business plan review/revision, sustainability plan enhancement, stakeholder involvement.

According to current PO₆ revised in the previous 6th JCC meeting in July 2020, activities (restated into tasks in actual works) have been carried on. However, some of them have been not completed. (refer to Table 10).

Table 10: Outstanding Activities (Tasks)

Outstanding Activities	Current Timeline (PO ₆)	Actual Progress and Delayed
1-5 Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	By Mar. 2021	80%, 0.0 month
2-5 Revise the Standard Operating Procedures (SOP) of the National NRW Training through the activities of Output-3.	By Mar. 2021	75%, 0.0 month
2-6 Revise the National NRW Training Business Plan through the activities of Output-3.	By Mar. 2021	35%, 0.0 month
2-7 Conduct capacity assessment of BTC.	By Mar. 2021	80%, 0.0 month
2-8 Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.	By Dec. 2020	75%, 1.0 month

Outstanding Activities	Current Timeline (PO ₆)	Actual Progress and Delayed
2-9 Develop sustainability plans for the National NRW Training.	By Mar. 2021	60%, 0.0 month
3-2 Secure the site(s) for workplace of the National NRW Training. <i>*Note: This includes mobilization of participating municipalities.</i>	By Dec. 2020	95%, 1.0 month
3-8 Prepare for conducting the National NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.). <i>*Note: This includes allocation of facilitators.</i>	By Mar. 2021	85%, 0.0 month
3-9 Conduct the National NRW Training by facilitators with support from JICA Experts.	By Mar. 2021	90%, 0.0 month
3-10 Monitor the National NRW Training and feed the results back under training improvement cycle.	By Mar. 2021	90%, 0.0 month
3-11 Verify effects of the National NRW Training in sampled municipalities.	By Mar. 2021	70%, 3.0 month
3-12 Assess the feasibility and sustainability of online system adaptation into the National NRW Training.	By Dec. 2020	90%, 1.0 month
3-13 Review, revise or upgrade the programme/curriculum, and develop new form and ways of the National NRW Training with online system adaptation.	By Dec. 2020	90%, 1.0 month
3-14 Review, revise or upgrade learning/teaching materials and tools for online system adaptation.	By Dec. 2020	90%, 1.0 month
3-15 Procure additional services, equipment, instruments/tools and materials for online system adaptation.	By Dec. 2020	75%, 1.0 month

(2) Action to be taken

The Project should concentrate and ensure the completion of activities/tasks for "Training System Development" in the remaining period until March 2021, and the actual progress should be accelerated intensively under the leadership of Project Director, Manager and Task Leaders. The Project Team has already developed the prioritized task allocation and schedule, and members have been working on them:

- Training packaging, SOPs, Business plan, Sustainability Plan, Closing report, Handover, Online training preparation, IT & Website, WRP accreditation

(3) Roles of Responsible Persons/Organization

- PMC updates progress activities regularly.
- PMC Chairperson, PMC Leaders and Task Leaders ensure active engagement and adherence to tasks.
- PMC Coordinator ensures task coordination and schedule/progress control with support from PMC Chairperson, Task Leaders and JICA Experts.

- Task Leaders and members ensure adherence to roles, responsibilities and communication for performing tasks more than ever.

3 Revision of Project Design Matrix and Plan of Operations

3-1 Project Design Matrix (PDM)

During this monitoring period, the JCC approved PDM revision (from PDM₂ to PDM₃) in July 2020 when the Project was reactivated with adopting online system in the National NRW Training.

3-2 Plan of Operations (PO)

Same as the PDM, the JCC approved PO revision (from PDM₅ to PDM₆) in July 2020 when the Project was reactivated with adopting online system in the National NRW Training.

4 Preparation by the South African side toward completion of the Project

4-1 Steering Committee for the National NRW Training

(1) Details and causes

As part of sustainability plan, the National NRW Training needs a governance structure for sustainability after the Project period.

(2) Action to be taken

The Project Team establishes a steering committee to supervise/monitor the National NRW Training, discuss the future direction, modification, further development of the Training among DWS, SALGA and stakeholders after the Project.

(3) Roles of Responsible Persons/Organization

- PMC has created sustainability plan task team for establishment of the steering committee.
- The task team has prepared terms of reference (TOR) and it specifies member nomination from DWS, SALGA, metro municipalities, water boards, EWSETA, LGSETA, COGTA and MISA.
- The Project finalizes the TOR and establishes the steering committee by end of the Project.

4-2 IT and Website

(1) Details and causes

DWS website, which was supposed to include IBTC, had been down due to maintenance since February 2020 to January 2021. IBTC has adopted online web-meeting platform for the National NRW Training, however, enhancing the platform, IBTC's dedicated cloud server and website independent from DWS are

necessary for IBTC as a training service provider working together with stakeholders (external partners and learners).

(2) Action to be taken

IBTC should be independent fully or partially from DWS's intranet to operate/provide training services.

Engineering Services and IBTC have already communicated IT and communication sections to obtain approval from Chief Information Officer.

(3) Roles of Responsible Persons/Organization

- Engineering Services and IBTC explains current situation, challenges and requirements to sections in charge.
- Chief Information Officer approve the requirements.
- Engineering Services and IBTC procures necessary equipment and services for enhancing online system, IBTC's dedicated cloud server and website, etc.

4-3 Accreditation Preparation

(1) Details and causes

For sustainability, DWS has recognized the National NRW Training as a pilot differing from existing model/approach, to be aligned practically with occupational qualification "Water Reticulation Practitioner (WRP)", which is currently registered in the South African Qualifications Authority (SQA) under National Qualification Framework.

(2) Action to be taken

DWS has scrutinized resemblance between the National NRW Training and WRP qualification, prepares documentation and takes procedures for service provision accreditation (possibly as a part- or specialized qualification) to Quality Council for Trades and Occupations (QCTO). DWS has worked on registering IBTC as an accredited training services provider of WRP qualification to open up the possibility of integration and harmonization with the National NRW Training and its practicality.

Ahead of the above accreditation, DWS already registered IBTC as an accredited assessment centre of WRP qualification.

(3) Roles of Responsible Persons/Organization

- Accreditation Preparation Task Team and IBTC takes responsibility of this task.
- Accreditation Preparation Task Team and IBTC collect requirement for accreditation of the WRP qualification.

- Accreditation Preparation Task Team and IBTC prepares submission and applies for accreditation.
- DWS obtains an accreditation ideally by end of the Project, but it depends on the feedback and approval received from QCTO via SETAs.

II. Project Monitoring Sheet I & II (as attached)

Abbreviations

- CoGTA : Department of Cooperative Governance and Traditional Affairs
- DWS : Department of Water and Sanitation
- EWSETA : Energy and Water Sector Education and Training Authority
- IBOM : Infrastructure Build, Operate and Maintenance (a Branch of DWS, former NWRRI)
- IBTC : Infrastructure Branch Training Centre (under IBOM)
- IWS : International Water Support (a Branch of DWS)
- JCC : Joint Coordinating Committee
- JICA : Japan International Cooperation Agency
- LGSETA : Local Government Sector Education and Training Authority
- MISA : Municipal Infrastructure Support Agency
- NRW : Non-Revenue Water
- OS : Operational Support (a Directorate in DWS)
- PDM : Project Design Matrix
- PMC : Project Management Committee
- PO : Plan of Operations
- QCTO : Quality Council for Trades and Occupations
- RBIG : Regional Bulk Infrastructure Grant
- SALGA : South African Local Government Association
- SAQA : South African Qualifications Authority
- SETA : Sector Education and Training Authority
- WBS : Work Breakdown Structure
- WRC : Water Research Commission
- WRP : Water Reticulation Practitioner (an occupational qualification)
- WSA : Water Services Authority
- WSP : Water Services Provider
- WSIG : Water Services Infrastructure Grant
- WUE : Water Use Efficiency (a Directorate in DWS)

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

Project Period: August 2017 to March 2021 (44 months)

Implementing Organization: Department of Water and Sanitation (DWS) / IBTC, South African Local Government Association (SALGA)

Direct Beneficiaries: DWS, IBTC and its personnel, Facilitators selected

Indirect Beneficiaries: Municipalities

End Beneficiaries: Customers / Consumers of water supplied by Municipalities

Project Site: Gauteng Province and all other Provinces

Version 3

Dated 17-Jul-20

Overall Goal	Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
<p>1. Non-Revenue Water (NRW) management skills are utilized in participating municipalities under the established National NRW Training system.</p>	<p>1. No. of confirmed DMAs in participating municipalities is increased. 2. Any actions in NRW-related aspects are initiated in participating municipalities. 3. No. of the National NRW Trainings conducted with facilitators is increased as scheduled in annual programme (at least, three times a year). 4. No. of Business plan, SOP, teaching/ learning materials are revised periodically (at least, biennially). 5. Participating municipalities are monitored and followed up regularly. 6. Steering committee meeting is held regularly (at least, annually).</p>	<p>1. No. of the National NRW Training is increased (three times or more). 2. No. of pilot DMAs for problem solution is increased (11 or more). 3. No. of facilitators is increased (adequate resources to conduct the Training: 16 or more). 4. No. of learners is increased (44 or more from 11 participating municipalities and others). 5. No. of debrief reports as outcomes are prepared (11 or more). 6. Learners' satisfaction scales are kept high or increased. 7. Steering committee kick-off meeting is held. 8. Business plan, SOP, teaching/learning materials, committee TOR are finalized as Version-1.</p>	<p>1&2. Monitoring/follow-up results of participating municipalities 3&4. IBTC's training reports 5. Monitoring/follow-up results of participating municipalities 6. Minutes of meeting of steering committee</p>	<p>- Dramatic reduction of budget and public grants on skills development for Municipalities does not happen.</p>	<p>1. Trainings were conducted three times. 2. 7 participating municipalities of 1st and 2nd groups established pilot DMAs as workplaces, but 3rd group didn't do it due to COVID-19 pandemic. 3. More than 16 facilitators from municipalities and DWS have engaged. 4. More than 50 learners from 10 municipalities and DWS regions participated. 5. 7 participating municipalities of 1st and 2nd groups prepared debriefing presentations. 6. The trainings were evaluated at high rate. 7. S.C. meeting has been not yet held. 8. Business plan, SOP, teaching/learning materials, committee TOR will be finalized.</p>	
<p>Project Purpose NRW management skills are developed for participating municipalities through the National NRW Training by IBTC.</p>						
<p>Outputs 1. Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.</p>		<p>1-1. Analyzed/organized information of skills development of municipalities is submitted to DWS (list of no. of staff, attended training, mentor resources, training providers, manuals, workshops and yards, subsidies/grants, good practices, etc.) 1-2. Analyzed/organized information of NRW and needs of municipalities is submitted to DWS. 1-3. Benchmark matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.) 1-4. Information sharing occasions are provided.</p>	<p>1-1&2. Baseline survey report and training curriculum 1-3. Benchmark report 1-4. Seminar report and presentations</p>		<p>1-1&2. Baseline Survey report and training curriculum were prepared. 1-3. Benchmark reports were prepared by officials in the 1st and 2nd trainings in Japan (submitted to the DWS management or presented in the 2nd facilitator meeting) 1-4. Information sharing of the training has been provided in output seminar of the Training, SALGA W&S group and SALGA-JWWA joint seminars.</p>	
<p>2. IBTC's National NRW Training capacity is improved.</p>		<p>2-1. Appropriate organizational structure for the National NRW Training is established at IBTC. 2-2. No. of revision of Standard Operation Procedures (SOP) of the National NRW Training is increased. 2-3. No. of revision of the National NRW Training Business Plan is increased. 2-4. Sustainability plans including steering committee or equivalent for the National NRW Training are finalized.</p>	<p>2-1. Capacity assessment report and/or organogram of IBTC (including IT environment) 2-2. Standard Operation Procedures (SOP) of the National NRW Training 2-3. The National NRW Training Business Plan 2-4. Next year's annual programme, TOR of steering committee or equivalent, etc.</p>		<p>2-1. Though organizational structure for the National NRW Training has been developed in collaboration with facilitators. 2-2. SOPs have been developed respectively and reviewed currently for revision and packaging. 2-3. The Business Plan has been reviewed and revised. 2-4. Sustainability plan has been discussed and developed.</p>	
<p>3. The National NRW Training is conducted with training improvement cycle.</p>		<p>3-1. No. of Facilitator Technical Meeting is increased, (both physical and online basis) 3-2. No. of the National NRW Training is increased, (both physical and online basis) 3-3. Learners' satisfaction scales are kept high or increased. 3-4. Feedback/utilization of skills, knowledge and outcomes into water services of participating municipalities is increased.</p>	<p>3-1. IBTC's reports 3-2. IBTC's reports 3-3. Training evaluation questionnaire 3-4. Debriefing reports by learners and/or monitoring/follow-up results</p>		<p>3-1. Physically twice in 2019, and online twice in 2020. 3-2. Physically the 1st and 2nd groups in 2019 and 2020 and online the 3rd group in 2020. 3-3. The trainings were evaluated at high rate. 3-4. Skills trained were utilized practically into workplace during training and reflected into pilot results presentations.</p>	

Note: *Optionally-set Super Goal: NRW ratios decrease in participating municipalities utilizing the NRW management skills obtained from the National NRW Training. Objectively Verifiable Indicators: NRW ratios of participating municipalities are decreased. Means of Verification: No-Drop reports or reports from participating municipalities, and/or monitoring/follow-up report.*

NRW management skills includes skills and knowledge about NRW and recalculation basics as well as the created outcomes.

Activities for Output 1	Inputs	The Japanese Side	Important Assumption
<p>Activities for Output 1</p> <p>1-1. Conduct baseline survey on skills development and NRW in municipalities.</p> <p>1-2. Compile and analyze skills development and NRW in municipalities.</p> <p>1-3. Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.</p> <p>1-4. Benchmark water supply services and its skills development in Japan.</p> <p>1-5. Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.</p>	<p>The South African Side</p> <p>1. Project Personnel</p> <p>1) JCC Chairperson: Chief Director: Global Cooperation, IWS, DWS</p> <p>2) JCC Chairperson-Alternate (PMC Chairperson): Chief Director: Engineering Services, IBOM, DWS</p> <p>3) Project Director: Director: Technical Engineering Services, IBOM, DWS</p> <p>4) Co-Project Director: Head: Technology and Innovative Projects, SALGA</p> <p>5) Project Manager (Operational): Centre Manager: IBTC, DWS</p> <p>6) Co-Project Manager (Technical): Director: Water Use Efficiency, P&I, DWS</p> <p>7) Director: ODA, IWS, DWS</p> <p>8) Director: Operational Support, PMU, DWS</p> <p>Other members such as</p> <p>9) Training Manager, IBTC</p> <p>10) Quality Assurer, IBTC</p> <p>11) Officials from IBTC, WUE, Construction, Operational Support, ODA and Provincial offices</p> <p>12) Municipal Coordinator (Technical), SALGA</p> <p>13) Municipal Coordinator (HRD), SALGA</p> <p>14) Facilitators</p> <p>15) Secretary</p> <p>16) Other personnel mutually agreed upon as necessary</p> <p>2. Land, Building and Facilities</p> <p>1) Office space and facilities for JICA Experts, including water, electricity, internet connection and air conditioners if necessary</p> <p>2) Land for training yard</p> <p>3) Other facilities mutually agreed upon as necessary</p>	<p>The Japanese Side</p> <p>1. JICA Experts</p> <p>1) Chief Advisor / NRW Management</p> <p>2) Deputy Chief Advisor / NRW Management</p> <p>3) Training Planning / Organization Coordination</p> <p>4) Water Leakage Detection</p> <p>5) Water Distribution Control / Commercial Loss</p> <p>6) Training Yard Design and Supervision</p> <p>7) Procurement / Administrative Coordination</p> <p>8) Training Management / Human Resources Development</p> <p>9) Other Expert(s) if necessary</p> <p>2. Facilities</p> <p>1) Training yard</p> <p>2) Web site development and maintenance</p> <p>3) Other facilities mutually agreed upon as necessary (e.g. for online system adaptation)</p> <p>3. Equipment, instruments, tools and materials</p> <p>1) Bulk water flow meter</p> <p>2) Leak detection equipment/instruments</p> <p>3) Tools for training</p> <p>4) Materials such as pipe, fittings, valve, meter and etc.</p> <p>5) Other equipment, instruments, tools and materials mutually agreed upon as necessary (e.g. for online system adaptation)</p> <p>4. Training</p> <p>1) Training in Japan</p> <p>2) Training in the third country if necessary</p>	<p>Important Assumption</p> <p>Pre-Conditions</p> <p>- DWS and SALGA agree on their collaboration and cooperation for the Project</p> <p>- DWS allocates/ assigns personnel in charge of NRW Skills Programme at IBTC.</p> <p>Issues & Countermeasures</p> <p>Issues</p> <p>1. Difficulty in conducting practices and workplace training of the 3rd group in February - March 2021 due to COVID-19 pandemic.</p> <p>2. Difficulty in extending project duration again in principle because of milestones being hard to be scheduled.</p> <p>3. Some outstanding activities such as: SOP update/improvement, business plan review/revision, sustainability plan enhancement, stakeholder involvement.</p> <p>4. The National NRW Training has been not yet developed as "a sustainable system".</p> <p>5. The actual progress should be accelerated intensively under the leadership of Project Director, Manager and Task Leaders.</p> <p>Recommendation (Countermeasures)</p> <p>1. To keep the current project duration ending in March 2021.</p> <p>2. To postpone the 3rd group workplace training and subordinate activities after the project period due to COVID-19</p> <p>3. To concentrate and ensure the completion of activities/tasks for "Training System Development" in the remaining period until March 2021.</p> <p>4. Project Team has developed the prioritized task allocation and schedule, and members have been working on them.</p> <p>5. Their completion with deliverables will be reported in the final/closing JCC meeting.</p> <p>6. The final/closing JCC meeting and hand-over ceremony (online) are scheduled tentatively on Thursday 25th March 2021.</p>
<p>Activities for Output 2</p> <p>2-1. Prepare the National NRW Training Business Plan.</p> <p>2-2. Prepare and take procedures for funding the National NRW Training.</p> <p>2-3. Prepare Terms of Reference for the National NRW Training.</p> <p>2-4. Prepare Standard Operation Procedures (SOP) of the National NRW Training.</p> <p>2-5. Revise the SOP of the National NRW Training through the activities of Output-3.</p> <p>2-6. Revise the National NRW Training Business Plan through the activities of Output-3.</p> <p>2-7. Conduct capacity assessment of IBTC.</p> <p>2-8. Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.</p> <p>2-9. Develop sustainability plans for the National NRW Training.</p>	<p>3. Local Cost</p> <p>1) Allowance, accommodation, travelling cost and foods for project personnel, facilitators and trainees in South Africa (born by DWS).</p> <p>2) Administration and operational costs including cost for demurrage at local customs point and licensing of equipment/instruments if necessary</p> <p>3) Other costs mutually agreed upon as necessary</p>		
<p>Activities for Output 3</p> <p>3-1. Design the National NRW Training based on the results of Output-1.</p> <p>3-2. Secure the participating municipalities and site(s) for workplace of the National NRW Training.</p> <p>3-3. Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the National NRW Training from DWS/IBTC and stakeholders.</p> <p>3-4. Develop training yard for the National NRW Training at IBTC.</p> <p>3-5. Procure equipment, instruments/tools and materials for the National NRW Training.</p> <p>3-6. Develop teaching/learning materials for the National NRW Training with incorporating good practices from baseline survey into the materials if any.</p> <p>3-7. Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the National NRW Training.</p> <p>3-8. Prepare for conducting the National NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.).</p> <p>3-9. Conduct the National NRW Training by facilitators with support from JICA Experts.</p> <p>3-10. Monitor the National NRW Training and feed the results back under training improvement cycle.</p> <p>3-11. Verify effects of the National NRW Training in sampled municipalities.</p> <p>3-12. Assess the feasibility and sustainability of online system adaptation into the National NRW Training.</p> <p>3-13. Review, revise or upgrade the programme / curriculum, and develop new form and ways of the National NRW Training with online system adaptation.</p> <p>3-14. Review, revise or upgrade learning / teaching materials and tools for online system adaptation.</p> <p>3-15. Procure additional services, equipment, instruments / tools and materials for online system adaptation.</p>	<p>2. Land, Building and Facilities</p> <p>1) Office space and facilities for JICA Experts, including water, electricity, internet connection and air conditioners if necessary</p> <p>2) Land for training yard</p> <p>3) Other facilities mutually agreed upon as necessary</p>		

Note: Indicators were discussed and finalized based on the baseline survey and were agreed at Joint Coordinating Committee (JCC). As an all-inclusive term, "Facilitator" in the Project may act as facilitator, trainer, mentor, coach and supervisor.

Project Title: Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

Activity	Year	2019												2020												2021			
		Phase 1				Phase 2								Phase 2				8-months Extension											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
Output 1: Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.																													
1-1 Conduct baseline survey on skills development and NRW in municipalities.	Plan																												
	Actual																												
	Progress: 100%																												
1-2 Compile and analyze skills development and NRW in municipalities.	Plan																												
	Actual																												
	Progress: 100%																												
1-3 Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.	Plan																												
	Actual																												
	Progress: 100%																												
1-4 Benchmark water supply services and its skills development in Japan.	Plan																												
	Actual																												
	Progress: 100%																												
1-5 Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.	Plan																												
	Actual																												
	Progress: 80% Behind: 0.0 month																												
Output 2: IBTC's National NRW Training capacity is improved.																													
2-1 Prepare the National NRW Training Business Plan.	Plan																												
	Actual																												
	Progress: 100%																												
2-2 Prepare and take procedures for funding the National NRW Training.	Plan																												
	Actual																												
	Progress: 100%																												
2-3 Prepare Terms of Reference for the National NRW Training.	Plan																												
	Actual																												
	Progress: 100%																												
2-4 Prepare Standard Operation Procedures (SOP) of the National NRW Training.	Plan																												
	Actual																												
	Progress: 100%																												
2-5 Revise the SOP of the National NRW Training through the activities of Output-3.	Plan																												
	Actual																												
	Progress: 75% Behind: 0.0 month																												
2-6 Revise the National NRW Training Business Plan through the activities of Output-3.	Plan																												
	Actual																												
	Progress: 35% Behind: 3.0 month																												
2-7 Conduct capacity assessment of IBTC.	Plan																												
	Actual																												
	Progress: 80% Behind: 0.0 month																												
2-8 Review and enhance IT environment for online system adaptation in accordance with the activities of Output-3.	Plan																												
	Actual																												
	Progress: 75% Behind: 1.0 month																												
2-9 Develop sustainability plans for the National NRW Training.	Plan																												
	Actual																												
	Progress: 60% Behind: 0.0 month																												
Output 3: The National NRW Training is conducted with training improvement cycle.																													
3-1 Design the National NRW Training based on the results of Output-1.	Plan																												
	Actual																												
	Progress: 100%																												
3-2 Secure the participating municipalities and site(s) for workplace of the National NRW Training.	Plan																												
	Actual																												
	Progress: 95% Behind: 1.0 month																												
3-3 Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the National NRW Training from DWS/IBTC and stakeholders.	Plan																												
	Actual																												
	Progress: 100%																												
3-4 Develop training yard for the National NRW Training at IBTC.	Plan																												
	Actual																												
	Progress: 100%																												
3-5 Procure equipment, instruments/tools and materials for the National NRW Training.	Plan																												
	Actual																												
	Progress: 100%																												
3-6 Develop teaching/learning materials for the National NRW Training with incorporating good practices from baseline survey into the materials if any.	Plan																												
	Actual																												
	Progress: 100%																												
3-7 Prepare and conduct Facilitator Technical Meetings by both facilitators and JICA Experts for the National NRW Training.	Plan																												
	Actual																												
	Progress: 100%																												
3-8 Prepare for conducting the National NRW Training (schedule, budget plan, applying for releasing fund, recruiting participants and etc.).	Plan																												
	Actual																												
	Progress: 85% Behind: 0.0 month																												
3-9 Conduct the National NRW Training by facilitators with support from JICA Experts.	Plan																												
	Actual																												
	Progress: 90% Behind: 0.0 month																												
3-10 Monitor the National NRW Training and feed the results back under training improvement cycle.	Plan																												
	Actual																												
	Progress: 90% Behind: 0.0 month																												
3-11 Verify effects of the National NRW Training in sampled municipalities.	Plan																												
	Actual																												
	Progress: 70% Behind: 3.0 month																												
3-12 Assess the feasibility and sustainability of online system adaptation into the National NRW	Plan																												

JICA's Follow-up after the completion of the Project.



Japan International Cooperation Agency

12th Feb. 2021

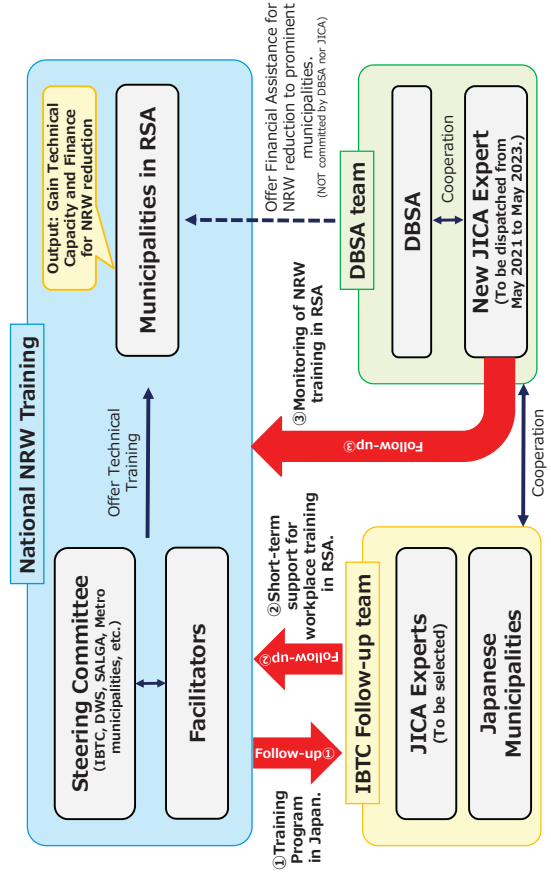
Key Messages from JICA

- ① The Project will be completed in this March, and we have to discuss what should be done before and **AFTER** the completion of the Project.
- ② JICA expect the National NRW Training Program will be **continued and further developed** by South African initiative even after the Project completion.
- ③ The completion of the Project does NOT mean the completion of JICA's cooperation with water sector in RSA. **JICA will continue to support the National NRW training** after the Project.

How JICA will support/follow-up the Project?

- ① JICA will offer Training Program in Japan for steering committee members, facilitators and/or municipalities.
- ② JICA will dispatch short-term JICA experts to RSA to follow-up the 3rd workplace training, which was not conducted due to COVID-19 outbreak.
- ③ JICA will dispatch long-term JICA expert to DBSA (Development Bank of Southern Africa) to monitor and further develop the National NRW training.

Blue Print: JICA's follow-up plan after the Project



① Training Program in Japan

For What?

- To train new facilitators.
- For committee members to gain further knowledge on training.

When?

- JICA will offer 2~3 training programs in total within 2~3 years. (depending on budget: number of participants, duration of the training, etc.)

Where?

- Training will be held in Japan, but it could be substituted by online training depending on COVID-19 situation.

Who?

- JICA will select JICA experts to arrange the training.

To whom?

- Steering Committee members, facilitators, municipalities (those who joined NRW training in RSA)

How?

- JICA experts team will arrange the training program.
- JICA expects Steering Committee to support JICA experts team.

This paper is prepared for discussion purpose only and NOT committed by JICA 5

② Short-term support for Workplace training

For What?

- To technically support 3rd workplace training in RSA, which was cancelled due to COVID-19 outbreak.

When?

- When next workplace training is held.
- Duration: Less than 2 weeks.

Where?

- In RSA

Who?

- JICA will select JICA experts.

To whom?

- Facilitators, municipalities (those who joined NRW training in RSA)

How?

- JICA will dispatch small number (ca. 2) of JICA experts to RSA.

This paper is prepared for discussion purpose only and NOT committed by JICA 6

③ Monitoring of NRW training in RSA

For What?

- To monitor the operation of the NRW training in RSA after the completion of the project.

When?

- From 2021 May to 2023 May.

Where?

- In RSA (IBTC)

Who?

- JICA has selected new JICA expert, who will be mainly working in DBSA's office.

To whom?

- Steering Committee Members

How?

- JICA expect Steering Committee members to let him (JICA expert) join and observe the steering committee meeting.

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Conclusion/Way Forward

- JICA is willing to support NRW training even after the completion of the Project.
- We need **very concrete annual schedule (sustainability plan)** of NRW training for further discussion on JICA's follow-up.
- JICA would like to **join the practical meeting** (task meeting for sustainability plan) for further discussion.
- Sustainability Plan (including JICA's follow-up plan) **must be agreed in the final JCC.**

**MINUTES OF MEETING ON
THE FINAL MEETING OF JOINT COORDINATING COMMITTEE**

25th March 2021

MINUTES OF MEETING
ON
THE FINAL MEETING OF JOINT COORDINATING COMMITTEE
FOR
PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER

HELD BY
ONLINE MEETING

25th March 2021

Attached Document

For closing the Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water (hereinafter referred to as "the Project") and discussion on way forward of the Project, the final meeting of Joint Coordinating Committee (hereinafter referred to as "JCC") was held online on 25th March 2021.

1. Remarks

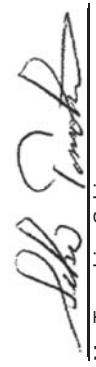
The Chairperson Mr. Aloious Chaminuka, Chief Director: Engineering Services, Infrastructure Build, Operate and Maintenance Branch, Department of Water and Sanitation (DWS), opened the meeting.

As an opening remark, Mr. William Moraka, Director: Technology and Innovative Projects, South Africa Local Government Association (SALGA) greeted everyone and expressed:

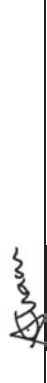
- We are grateful South Africa for the partnership with JICA. Through the particular structure, we managed to ensure that the Project meets milestones. We were quite excited about that.
- However, I am saddened by one thing that we are not seeing you again in this kind of setup, but I am sure we keep in touch among ourselves.
- Handover ceremony has really demonstrated the spirit of the partnership. It was the well-organized event.
- What emerged out of that, unveiling of the facilities, we need to make sure that 22nd March 2022 should be some form of measurement in terms of facility making impacts as intended. The steering committee that has recently been established needs to take up the particular challenge.
- There is a seamless process well unfold through the steering committee to look at the sustainability plan that Mr. Xolani will present later. We will make sure that the sustainability plan kicks in for us to be able to take this important project forward.
- We are being challenged to explore a way of how we can increase footprint of this particular training in other Provinces. We must try to spread investment as much as possible.
- We are also being challenged that our neighbouring countries must benefit from this particular training and facilities.



Mr. Akinori Miyoshi
Chief Advisor,
Japan International Cooperation
Agency (JICA) Expert Team



Mr. Tomohiro Seki
Chief Representative,
JICA South Africa Office



Mr. Aloious Chaminuka
Chief Director: Engineering Services
Department of Water and Sanitation
(DWS)
Republic of South Africa



Mr. William Moraka
Head: Technology and Innovative
Projects,
South African Local Government
Association (SALGA),
Republic of South Africa

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- Our sincere thanks to the JICA Expert Team, JICA Headquarters and South Africa with your supports particularly throughout the Project including seminars with Japan Water Works Association (JWWA) we had.
- The South African side are taking forward this work through the steering committee and the sustainability plan, and through the partnership that we are beginning to establish with JWWA. We look forward to ongoing support of JICA and other colleagues.

Before closing the meeting, Ms. Yoko Hattori, Director of Water Resources Team 2, Global Environment Department of Japan International Cooperation Agency (JICA) gave her appreciation to all JCC members and expressed:

- Today's JCC meeting is the last big event of our long-term technical cooperation project. In the meeting, we summarized our achievements in 3 years and 8 months of the project period.
- I would like to express my deep respect to our counterparts in South Africa and Japanese experts. You made great efforts to complete the Project in spite of the COVID-19 pandemic situation.
- I appreciate all your efforts to arrange the handover ceremony of training programme on 22nd March 2021 that I was able to watch through Youtube. It was a precious opportunity to welcome Excellency and guests: the Minister of Human Settlement, Water and Sanitation, the Minister of Cooperative Governance and Traditional Affairs, SALGA President, the Member of Executive Committee of City of Tshwane, and a lot of stakeholders.
- The Minister expressed strong expectation to the programme: water loss is a national challenge of South Africa, and this programme is a key to capacity development toward this challenge, this programme will satisfy the needs and expectation of challenges continuously.
- As presented today, to implement the training programme continuously, the sustainability plan was formulated and the interim steering committee meeting was held. It means you are almost ready for implementation. Now you will just take actions and keep implementation.
- The concept of the training programme is "For municipalities, By municipalities" of South Africa. I hope the training programme will be implemented in accordance with the sustainability plan for South Africa by South Africa. JICA is ready to support it.
- In the ceremony, the Minister Sisulu showed her expectation as the

 AF WM 2-00

- training programme will be useful for not only South Africa. It will be the centre of excellence of the Southern African Development Community and other countries. A lot of African countries have issues of NRW, so JICA also strongly believes that IBTC and the training programme have potential as the centre of excellence to contribute to capacity development of African countries as a whole.
- With this expectation in mind, first of all, let's conduct the training by the sustainability plan and head to the centre of excellence step by step.
 - Again, the Project will end this March but it is not the end of JICA's cooperation to water sector in South Africa.
 - We are looking forward to working with you such as follow-up of the training programme and new project with Development Bank of Southern Africa (DBSA). Our relationship will continue to development of water sector for whole African countries. Today's members are our partners.
 - Lastly but not least, let me show sincere appreciation for the project members and Japanese experts who lead to the Project success and all involved members.

As closing remarks, Mr. Aloious Chaminuka, gave his thanks to both JCC and project members for participating in the project, he also expressed the following:

- There have been indications of success of the project, initially for the completion of tasks but the real judgement will be by the results the programme produces. For one the programme has transformed how we view Non-Revenue Water.
- Our intention is to grow this programme. So far, we have covered only 10 municipalities and yet there are more than 220 municipalities that need to be trained as real targets for the programme.
- We have gained friendship for our countries above everything else, which must go beyond our lifetime. The Ambassador of Japan indicated our bilateral relationship is over 100 years old. This programme on NRW is evidence that this friendship is alive; actually, it is growing and getting better.
- The South African side has learned a lot. I learnt an important lesson, to be persistence and never to give up on our plan. We managed to implement the project and train a number of municipalities because of the persistence demonstrated by the team and our partners in a challenging

 AF WM 2-00

environment.

- I trust the JICA experts also learnt one or two things that could help them in their endeavour to provide overseas development assistance.
- I had an opportunity to go to Japan, I remember a presenter in Yokohama saying they choose persons who love their municipality when they recruit workers in. We also need people who love the municipalities here in the delivery services especially in NRW.
- Thank you very much to our colleagues and partners.

2. Presentations

Mr. Armand Basson, Project Management Committee (PMC) Coordinator, DWS made a presentation on project closing report as of March 2021 including Circumstances surround the Project, Project outline and Achievement (refer to [Appendix 3](#)).

Mr. Akinori Miyoshi, Chief Advisor of JICA Expert Team made a presentation on tasks to be followed up in the short-term period (refer to [Appendix 4](#)).

Mr. Xolani Hadebe, Director: Water Use Efficiency, DWS made an explanation on the sustainability plan (refer to [Appendix 5](#)).

Mr. Hideki Osawa, Programme Officer, Water Resources Team 2, Global Environment Department of JICA made a presentation on JICA's follow-up support for the post-Project (refer to [Appendix 6](#)).

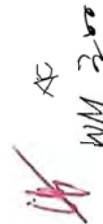
3. Main Points discussed

3-1. Achievement of Outputs

The JCC members confirmed and accepted the achievement of outputs.

Table 1: Achievement of Output-1

Indicators	Achievement
1-1. Analyzed/organized information of skills development of municipalities is submitted to DWS	1-1. Baseline Survey report and training curriculum were prepared.
1-2. Analyzed/organized information of NRW and needs of municipalities is	1-2. Baseline Survey report and training curriculum were prepared.

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submitted to DWS.

1-3. Benchmark matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.)

1-4. Information sharing occasions are provided.

1-3. Benchmark reports were prepared by officials in the 1st and 2nd trainings in Japan (submitted to the DWS management or presented in the 2nd facilitator meeting)

1-4. Information sharing of the training has been provided in forums, output seminar of the Training, SALGA W&S group and SALGA-JWWA joint seminars.

Table 2: Achievement of Output-2

Indicators	Achievement
2-1. Appropriate organizational structure for the National NRW Training is established at IBTC.	2-1. Organizational structure for the National NRW Training was established in collaboration with facilitators.
2-2. No. of revision of Standard Operation Procedures (SOP) of the National NRW Training is increased.	2-2. SOPs were developed and reviewed.
2-3. No. of revision of the National NRW Training Business Plan is increased.	2-3. The Business Plan was developed and reviewed.
2-4. Sustainability plans including steering committee or equivalent for the National NRW Training are finalized.	2-4. Sustainability plan was developed and interim steering committee was held.

Table 3: Achievement of Output-3

Indicators	Achievement
3-1. No. of Facilitator Technical Meeting is increased. (both physical and online basis)	3-1. Physically twice in 2019, and online twice in 2020.
3-2. No. of the National NRW Training is increased. (both physical and online basis)	3-2. Physically the 1st and 2nd groups in 2019 and 2020, and online the 3rd group in 2020.
3-3. Learners' satisfaction scales are kept high or increased.	3-3. The trainings were evaluated at high rate.
3-4. Feedback/utilization of knowledge and outcomes into water services of participating municipalities is increased.	3-4. Skills trained were utilized practically into workplace during training and reflected into pilot results presentations.

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3-2. Achievement of Project Purpose

The JCC members confirmed and accepted the achievement of project purpose.

Table 4: Achievement of Project Purpose

Indicators	Achievement
1. No. of the National NRW Training is increased (three times or more).	1. Trainings were conducted three times.
2. No. of pilot DMAs for problem solution is increased (11 or more).	2. 7 participating municipalities of 1st and 2nd groups established pilot DMAs as workplaces, but 3rd group didn't do it due to COVID-19 pandemic.
3. No. of facilitators is increased (adequate resources to conduct the Training: 16 or more).	3. More than 16 facilitators from municipalities and DWS have engaged.
4. No. of learners is increased (44 or more from 11 participating municipalities and others).	4. More than 50 learners from 10 municipalities and DWS regions participated.
5. No. of debrief reports as outcomes are prepared (11 or more).	5. 7 participating municipalities of 1st and 2nd groups prepared debriefing presentations.
6. Learners' satisfaction scales are kept high or increased.	6. The trainings were evaluated at high rate.
7. Steering committee kick-off meeting is held.	7. The interim steering committee meeting was held.
8. Business plan, SOP, teaching/learning materials, committee TOR are finalized as Version-1.	8. Business plan, SOP, teaching/learning materials, committee TOR were finalized.

3-3. Tasks to be followed up in the short-term period

The JCC members confirmed and accepted tasks to be followed up in the short-term period (April to May 2021) as below:

- To maintain task teams or alternative for the National NRW Training.
- To prepare the completion report (drafted by the JICA Team and checked by task members remotely and jointly).
- To implement the Sustainability Plan, particularly steering committee establishment, preparation of the inaugural meeting in May and role

- clarification/allocation of secretariats and other relevant members.
- To prepare the 3rd group workplace training (Amathole, Ekurhuleni and Saldanha Bay).
- To nominate the participating municipalities for the financial year 2021/22 (3 times).
- To increase/enhance facilitators (new nomination, facilitator/assessor/moderator course).
- To nominate trainees from both existing and new facilitators for training-in-Japan programme to be committed by JICA.
- To upgrade/enhance IT/ICT of IBTC.
- To update the status of accreditation of the National NRW Training.

3-4. Sustainability plan

Sustainability task team, experts and JICA officials developed the sustainability strategic (master) plan to implement and strengthen the National NRW Training for the next three years. The plan consists of three pillars (1: Administrative, 2: Training & Development and 3: Monitoring & Evaluation) and JICA's follow-up supports.

Mr Xolani Hadebe reported the interim steering committee meeting held on 23rd March 2021 and will convene the inaugural (general) steering committee meeting in May 2021 as scheduled under the sustainable strategic (master) plan.

Mr William Moraka added that we have not attained alignment of those activities to find expression in the sustainability plan, but we have done a part of it clearly but, as well as have not worked out exactly the cost of each of those activities.

He also added that there was buy-in from two metros (Mangaung and Tshwane), the Local Government Sector Education and Training Authority (LGSETA) and Umgeni Water. They wish to form part of the steering committee. Also I have made a commitment to engage other stakeholders, six metros in particular and already done it in the city managers forum. There is, in principle, an agreement that they will fully participate, and what we have to do from our side is just to request them to nominate the colleagues representing those organizations in the committee. Once it is concluded, the process to follow will be that DWS formalizes the committee through

submission to the Director General or the Minister to have the inaugural meeting in May 2021.

The JCC members confirmed and accepted the sustainability plan and the report.

3-5. JICA's follow-up support for the post-Project

JICA committed to follow up the Project through the following supports:

- JICA will offer Training Program in Japan for steering committee members, facilitators and/or municipalities.
- JICA will dispatch short-term JICA experts to South Africa to follow up the 3rd workpiece training on site, which was not conducted due to COVID-19 outbreak.
- JICA will dispatch a long-term JICA expert (Mr Mayusumi) to DBSA. One of his duties is to monitor the National NRW Training.

Although tentative schedule of JICA's follow-up plan is elaborated in the sustainability plan, it should be flexibly reviewed based on COVID-19 situation.

JICA emphasized their expectations as below:

- JICA expects the National NRW Training programme will be continued and further developed by South African initiative even after the Project completion.
- JICA strongly expects the steering committee to be officially authorized very soon, and to communicate with JICA (particularly Mr. Morimoto and Mr. Mayusumi) closely to further elaborate JICA's follow-up support.
- The completion of the Project does NOT mean the completion of JICA's cooperation with water sector in South Africa. JICA will continue to support the National NRW training after the Project.

The JCC members confirmed and accepted the JICA's follow-up support for the post-Project.

3-6. The Minister Sisulu's remarks in Handover Ceremony

About the Minister Sisulu's speech about the War-on-Leaks programme and participation of unemployed young people,

Mr Vincent Monene said our Ministers and SALGA President may put the

National NRW Training programme at the centre of capacity development in municipalities. Expanding participation of the beneficiaries as one of the dynamics raised, we have always focused on municipal staff who are working in reticulation infrastructures of the municipality, but they also want to bring learners involved in War-on-Leaks programme. We need to relook at what were said at the political platform and to keep primary purpose of the National NRW Training programme in our mind.

Mr Aloious Chaminuka said we have been running the National NRW Training programme which includes managing leaks. It is important for us to strategize how we deal with the challenge.

Mr William Moraka said we know politically that we have been given matching orders. We have to look at a way of how we take that directive forward without compromising the integrity of objectives of the National NRW Training programme. Essentially it causes us to think of how to reconfigure some of the training to cater for particularly the War-on-Leaks programme.

4. Acceptance of Presentations

Based on the presentations and the results of discussion, the JCC members accepted all presentations on project closing report, tasks to be followed up in the short-term period, sustainability plan and JICA's follow-up support.

END

Appendix

Appendix 1: Programme/Agenda

Appendix 2: Attendance Register

Appendix 3: Presentation: Project Closing Report

Appendix 4: Presentation: Tasks to be followed up in the short-term period

Appendix 5: Presentation: Sustainability strategic (master) plan

Appendix 6: Presentation: JICA's follow-up support for the post-Project



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Department of Water and Sanitation
REPUBLIC OF SOUTH AFRICA



SALGA
Inspiring service delivery



Japan International Cooperation Agency

Department of Water and Sanitation (DWS)
Infrastructure Branch Training Centre (IBTC)
assisted by
Japan International Cooperation Agency (JICA)

**PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER**

PROGRAMME/AGENDA FOR THE FINAL JCC MEETING

Co-Chaired by Mr. Aloious Chaminuka and Mr. Tomohiro Seki
Venue: Online Meeting

Date: 12:00, Thursday, 25th March 2021 (SAST)

- 12:00 - 12:10 1. Introduction of Participants
- 12:10 - 12:15 2. Remarks by SALGA: Mr. William Moraka (Head: Technology and Innovative Projects)
- 12:15 - 12:35 3. Project Closing Report as of end-March 2021:
 - Coordinator: Mr. Armand Basson
 - Assisted by Task Leaders: Mr. Monene (Director: Engineering Services), Ms. Rosa (IBTC Centre Manager), Mr. William (Head, SALGA), Mr. Xolani (Director: WUE) and Mr. Mmbidi (Director: ODA)
- 12:35 - 12:45 4. Tasks to be followed up in the short-term period: Mr. Akinori Miyoshi (JICA Expert Team)
- 12:45 - 13:05 5. Sustainability Plan and JICA's Follow-up Support for the Post-Project
 - Mr. William (Head, SALGA), Mr. Xolani (Director: WUE) and Mr. Mmbidi (Director: ODA)
 - JICA Headquarters: Mr. Hideki Osawa (Programme Officer)
- 13:05 - 13:20 6. Discussion, acceptance and wrap-up
- 13:20 - 13:25 7. Remarks by JICA Headquarters: Ms. Yoko Hattori (Director of Water Resources Team 2)
- 13:25 - 13:30 8. Closing Remarks by DWS: Mr. Aloious Chaminuka (Chief Director: Engineering Services)



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REPUBLIC OF SOUTH AFRICA



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**PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER
FINAL JCC MEETING (ONLINE)**

Co-Chaired by Mr. Aloious Chaminuka and Mr. Tomohiro Seki
Venue: Online Meeting

Date: 12:00, Thursday, 25th March 2021 (SAST)

ATTENDANCE REGISTER

No	Name	Role in Project	Title and Position
South African Side			
1	Aloious Chaminuka	Project Director, PMC Chairperson	Chief Director: Engineering Services, IBOM, DWS
2	William Moraka	Co-Project Director, PMC Advisor/Leader	Head: Technology and Innovative Projects, SALGA
3	Vincent Monene	Members, PMC Leader	Director: Engineering Services
4	Rosa M. Rahube	Project Manager (Operational), PMC Leader	Centre Manager, IBTC, DWS
5	Hadebe Xolani	Co-Project Manager	Director: Water Use Efficiency, P&I, DWS
6	Albert Mmbidi	Member PMC Secretariat/Leader	Director: ODA, IWS, DWS
7	Verusha Govender	Member	IBTC, DWS
8	Armand Basson	Member / PMC Coordinator	Construction, IBOM, DWS
Japanese Side			
9	Tomohiro Seki	JICA South Africa Office	Chief Representative
10	Yoko Hattori	JICA Headquarters	Director of Water Resources Team 2
11	Hiroshi Kubota	JICA Headquarters	Senior Advisor
12	Hideki Osawa	JICA Headquarters	Programme Officer
13	Taisuke Morimoto	JICA South Africa Office	Representative
14	Takhiro Otsuka	JICA Headquarters	Staff
15	Lerato Sibisi	JICA South Africa Office	National staff
16	Akinori Miyoshi	JICA Expert	Chief Advisor/ NRW Management
17	Nobutaka Maruyama	JICA Expert	Training Management / HRD
18	Kenichiro Sugiya	JICA Expert	Skills Programme Planning / Organization Coordination
19	Hiroki Niimura	JICA Expert	Water Leakage Detection
20	Hiroyuki Morita	JICA Expert	Water Distribution Control / Commercial Loss

Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

PROJECT CLOSING REPORT (SUMMARY)

As of End-March 2021

25th March 2021

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1

Presentation Outline

1. Circumstances surrounding the Project
2. Project Outline
3. Achievement

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1. Circumstances surrounding the Project

- 1st March: **The first case** later confirmed with COVID-19 in South Africa
- 15th March: Statement by President: Measures to combat COVID-19 Epidemic (National State of Disaster)
- 17th March: JICA HQs' instruction to all JICA Experts worldwide for temporary return
- 22nd March: All **JICA Experts returned** to Japan.
- 23rd March: Statement by President on Escalation of Measures to combat the COVID-19 Epidemic
- 26th March: **National Lockdown** for 21 days
- 9th April: Extension of Lockdown to the end of April
- 23th April: Statement by President on SA's Response to the COVID-19 Pandemic (**Risk Adjusted Strategy**)
- 1st May: **Relaxation of the Alert Level from 5 to 4** of Risk Adjusted Strategy
- 24th May: Statement by President: Developments in Risk Adjusted Strategy
- 1st June: **Relaxation of the Alert Level from 4 to 3** of Risk Adjusted Strategy
- 17th June: Address by President: SA's response to the COVID-19
- 25th June: **Restriction Ease of the current Alert Level 3** of Risk Adjusted Strategy
- 12th July: Curfew (13th July -). Extension of National State of Disaster to 15th August

2. Project Outline

3. Progress and Current Achievement

1. Circumstances surrounding the Project

- 15th August: Statement by President: Peak-out and Extension of National State of Disaster to 15th Sep.
- 18th August: **Relaxation of the Alert Level from 3 to 2** of Risk Adjusted Strategy
- 14th September: Statement by President: Extension of National State of Disaster to 15th October
- 16th September: Statement by President: SA's response to the COVID-19
- 21st September: **Relaxation of the Alert Level from 2 to 1** of Risk Adjusted Strategy
- 1st October: Boarder Reopening and Resumption of International Commercial Flights
- 14th October: **Extension of the Alert Level 1** and National State of Disaster to 15th November
- 14th November: **Extension of the Alert Level 1** and National State of Disaster to 15th December
- 14th December: Hotspots and additional restrictions
- 28th December: The **adjusted Alert Level 3** and National State of Disaster to 15th January
- 11th January: **Extension of the adjusted Alert Level 3** and National State of Disaster to 15th February
- Early February: A few **JICA Experts returned** to South Africa.
- 12th February: Statement by President: SA's response to the COVID-19
- 28th February: **Relaxation of the Alert Level from 3 to 1** of Risk Adjusted Strategy

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1. Background and Introduction

2. Project Outline

3. Progress and Current Achievement

● **Project Period:**

Phase-1: August 2017 to April 2019 (21 months)

Phase-2: May 2019 to March 2021 (23 months)

● **Implementing Organization:**

Department of Water and Sanitation (DWS)

South African Local Government Association (SALGA)

● **Beneficiaries:**

Participating Municipalities/staff, DWS/IBTC and their personnel and Facilitators

● **End Beneficiaries:**

Customers / Consumers of water supplied by Municipalities

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1. Background and Introduction

2. Project Outline

3. Progress and Current Achievement

Project Design

2017.8

Outputs

1. Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.
2. IBTC's National NRW Training capacity is improved.
3. The National NRW Training is conducted with training improvement cycle.

Project

Project Purpose

NRW management skills are developed for participating municipalities through the National NRW Training.

2021.3

Overall Goal

Non-Revenue Water (NRW) management skills are utilized in participating municipalities under the established National NRW Training system.

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1. Background and Introduction

2. Project Outline

3. Progress and Current Achievement

● **Project Period:**

Phase-1: August 2017 to April 2019 (21 months)

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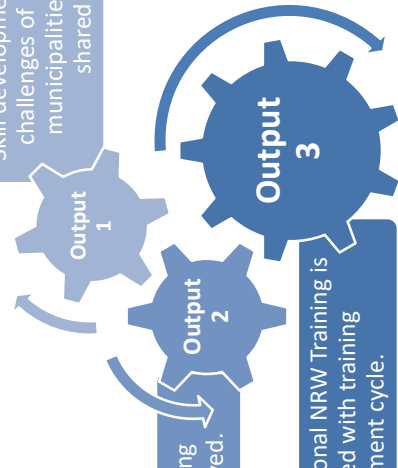
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1. Background and Introduction

2. Project Outline

3. Progress and Current Achievement

IBTC's NRW Training capacity is improved.



The National NRW Training is conducted with training improvement cycle.

Project Purpose:

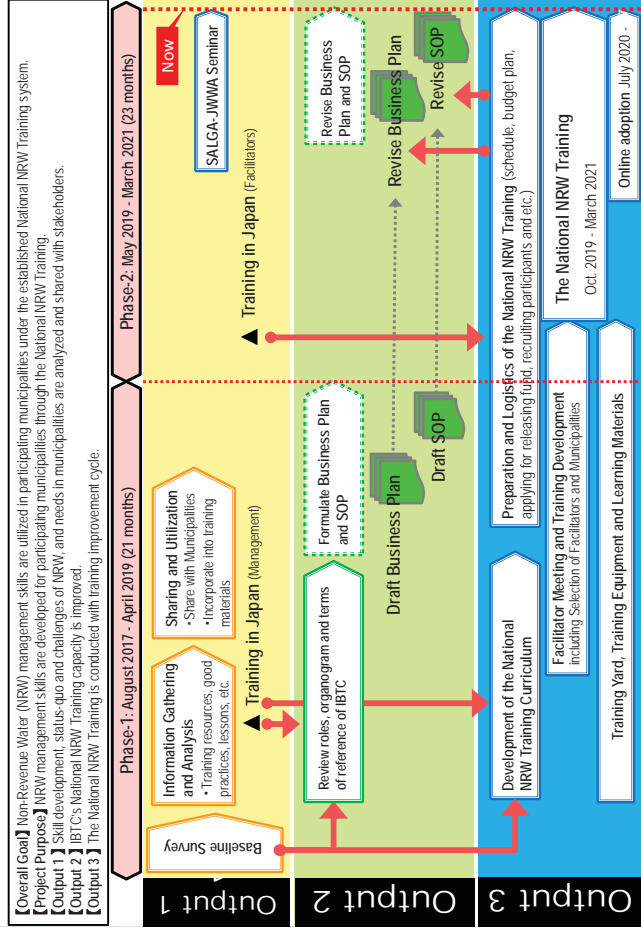
NRW management skills are developed for participating municipalities through the National NRW Training by IBTC.

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Project Outline (Timeframe)



Output 1: Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

- **Activity 1-1: Conduct baseline survey on skills development and NRW in municipalities.**
 - Completed.
- **Activity 1-2: Compile and analyze skills development and NRW in municipalities.**
 - Completed.
- **Activity 1-3: Review needs of skills development on NRW, existing qualifications, roles and responsibility of DWS/IBTC.**
 - Completed.

• **Activity 1-4: Benchmark water supply services and its skills development in Japan.**

- Completed.
- SALGA has explored partnership with Japan Water Works Association (JWWWA) for more mutual learning with support from DWS and JICA since Nov. 2020.
- **Activity 1-5: Hold a seminar and share on the results of the baseline survey and benchmark with stakeholders.**
 - Completed.
 - SALGA and JWWWA had the 2nd and 3rd joint seminars (webinar) on municipality's water supply of both countries on 25th-26th February 2021 and 18th-19th March 2021 and total participants reached more than 1,000 in three seminars.
 - Handing over ceremony with stakeholders physically at IBTC and online was convened on 22nd March 2021, with attendance of the DWS Minister, the Ambassador of Japan, the DWS Deputy Minister, the SALGA President, the CoGTA Minister, Tshwane MMC, JICA SA Chief Representative.
 - The ceremony was livestreamed and broadcasted through medias.

Output 2: IBTC's National NRW Training capacity is improved.

- **Activity 2-1: Prepare the National NRW Training Business Plan.**
 - Completed.
- **Activity 2-2: Prepare and take procedures for funding the National NRW Training.**
 - Completed.
 - Engineering Services & IBTC will be able to secure the budget for FY2021/22.
 - DWS's budget should be not ad-hoc but regular basis.
 - DWS has taken the procedures to get the NRW Training accredited (e.c. part- or specialized qualification of WRP) to upgrade the status for possible funding.
 - Budget for implementation of NRW management in participating municipalities should be properly considered with support from stakeholders.

• **Activity 2-3: Prepare Terms of Reference for the National NRW Training.**

- Completed.
- DWS/IBTC needs to ensure or enhance training implementation workforce at IBTC, workplaces and online.
- **Activity 2-4: Prepare Standard Operation Procedures (SOP) of the National NRW Training.**
 - Completed.
- **Activity 2-5: Revise the SOP of the National NRW Training through the activities of Output-3.**
 - Completed.
 - SOPs and manuals were improved/ revised by reflecting knowledge and lessons learnt through the activities of Output-3.

1. Background and Introduction

2. Project Outline

3. Achievement

- **Activity 2-6: Revise the National NRW Training Business Plan through the activities of Output-3.**
- Completed.
- The Business Plan was reviewed/ revised in line with the current situation and the sustainability plan.
- **Activity 2-7: Conduct capacity assessment of IBTC.**
- Completed.
- IBTC should recruit the post of training manager, currently acting.



1. Background and Introduction

2. Project Outline

3. Achievement

- **Activity 2-8: Review and enhance IT environment for online system adaptation in accordance with the activities of Output 3.**
- Completed.
- The Project team has utilized DWS's web-conference platform (Microsoft Teams) for general use and 3rd group training (online) during the Project.
- Engineering Services and IBTC commenced communication with Directorates: Communication and IT about cloud server for data sharing with stakeholders, as well as about website to be procured/enhanced in financial year 2021/22.
- DWS website, which had been down since February 2020, was restored in February 2021. IBTC will **improve the existing contents** based on the previous discussions in the Project.
- **Activity 2-9: Develop sustainability plans for the National NRW Training.**
- Completed.
- Task Team developed the sustainability plan from strategic/holistic viewpoints.
- TOR of steering committee was drafted, the interim steering committee meeting was held on 23rd March 2021.



1. Background and Introduction

2. Project Outline

3. Achievement

- Output 3: The National NRW Training is conducted with training improvement cycle.**
- **Activity 3-1: Design the National NRW Training based on the results of Output-1.**
- Completed.
 - **Activity 3-2: Secure the participating municipalities and the site(s) for workplace of the National NRW Training.**
- Completed.
 - Task team should follow up 3 municipalities in the 3rd group (Amathole DM, Ekurhuleni Metro, Saldanha Bay LM) for workplace training after the Project.
 - Task team should nominate participating municipalities in 3 groups for financial year 2021/22., which will be presented and finalized in the Steering Committee.



1. Background and Introduction

2. Project Outline



3. Achievement

- **Activity 3-3: Secure facilitators (experienced/skilled personnel on water reticulation or equivalent) for the National NRW Training from DWS/IBTC and stakeholders.**
- Completed.
- The Project team needs to increase facilitators and mentors from stakeholders.
- **Activity 3-4: Develop training yard for the National NRW Training at IBTC.**
- Completed.
- **Activity 3-5: Procure equipment, instruments/tools and materials for the National NRW Training.**
- Completed.
- **Activity 3-6: Develop teaching/learning materials for the National NRW Training with incorporating good practices from baseline survey into the materials if any.**
- Completed.

1. Background and Introduction

2. Project Outline

3. Achievement

- **Activity 3-7: Prepare and conduct Facilitator Technical Meetings** by both facilitators and JICA Experts for the National NRW Training. 
 - Completed.
- **Activity 3-8: Prepare for conducting the National NRW Training** 
 - Completed.
 - Task team should follow up 3 municipalities in the 3rd group (Amathole DM, Ekurhuleni Metro, Saldanha Bay LM) for workplace training after the Project.
 - Task team should nominate participating municipalities in 3 groups for financial year 2021/22., which will be presented and finalized in the Steering Committee.

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1. Background and Introduction

2. Project Outline

3. Achievement

- **Activity 3-9: Conduct the National NRW Training by facilitators with support from JICA Experts.** 
 - Completed.
 - Practices and workplace training for 3 municipalities in the 3rd group (Amathole DM, Ekurhuleni Metro, Saldanha Bay LM) have been not conducted due to COVID-19 pandemic.
 - Task team should follow up 3 municipalities in the 3rd group (Amathole DM, Ekurhuleni Metro, Saldanha Bay LM) for workplace training after the Project.
 - **Activity 3-10: Monitor the National NRW Training and feed the results back under training improvement cycle.** 
 - Completed.
 - **Activity 3-11: Verify effects of the National NRW Training in sampled municipalities.** 
 - Completed.
 - Training for the 3rd group has not been completed (the expected training outputs were be limited) due to COVID-19 pandemic.

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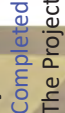
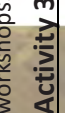

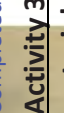
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1. Background and Introduction

2. Project Outline

3. Achievement

- **Activity 3-12: Assess the feasibility and sustainability of online system adaptation into the National NRW Training.** 
 - Completed.
 - The Project Team has assessed them by using online regular meetings and workshops.
- **Activity 3-13: Review, revise or upgrade the programme/curriculum, and develop new form and ways of the National NRW Training with online system adaptation.** 
 - Completed.
- **Activity 3-14: Review, revise or upgrade learning/teaching materials and tools for online system adaptation.** 
 - Completed.
- **Activity 3-15: Procure additional services, equipment, instruments/tools and materials for online system adaptation.** 
 - Completed.

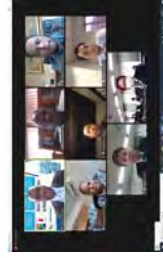
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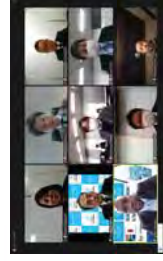
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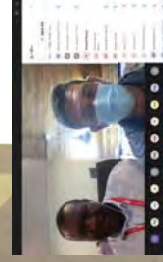
SALGA-JWWA Joint Seminar



SALGA-JWWA Joint Seminar



SALGA-JWWA Joint Seminar



Interim Steering Committee (online)



Handover Ceremony



Handover Ceremony



Handover Ceremony



Handover Ceremony



Handover Ceremony

1. Background and Introduction

2. Project Outline

3. Achievement

Achievement of Output-1: Skill development, status-quo and challenges of NRW, and needs in municipalities are analyzed and shared with stakeholders.

Indicators	Achievement
1-1. Analyzed/organized information of skills development of municipalities is submitted to DWS	1-1. Baseline Survey report and training curriculum were prepared.
1-2. Analyzed/organized information of NRW and needs of municipalities is submitted to DWS.	1-2. Baseline Survey report and training curriculum were prepared.
1-3. Benchmarked matrix of Japan and South Africa on water services is submitted to DWS (comparative feature strength/weakness, methodology, etc.)	1-3. Benchmark reports were prepared by officials in the 1st and 2nd trainings in Japan (submitted to the DWS management or presented in the 2nd facilitator meeting)
1-4. Information sharing occasions are provided.	1-4. Information sharing of the training has been provided in forums, output seminar of the Training, SALGA W&S group and SALGA-JWWA joint seminars.

1. Background and Introduction

2. Project Outline

3. Achievement

Achievement of Output-2: IBTC's National NRW Training capacity is improved.

Indicators	Achievement
2-1. Appropriate organizational structure for the National NRW Training is established at IBTC.	2-1. Organizational structure for the National NRW Training was established in collaboration with facilitators.
2-2. No. of revision of Standard Operation Procedures (SOP) of the National NRW Training is increased.	2-2. SOPs were developed and reviewed.
2-3. No. of revision of the National NRW Training Business Plan is increased.	2-3. The Business Plan was developed and reviewed.
2-4. Sustainability plans including steering committee or equivalent for the National NRW Training are finalized.	2-4. Sustainability plan was developed and interim steering committee was held.

1. Background and Introduction

2. Project Outline

3. Achievement

Achievement of Output-3: The National NRW Training is conducted with training improvement cycle.

Indicators	Achievement
3-1. No. of Facilitator Technical Meeting is increased. (both physical and online basis)	3-1. Physically twice in 2019, and online twice in 2020.
3-2. No. of the National NRW Training is increased. (both physical and online basis)	3-2. Physically the 1st and 2nd groups in 2019 and 2020, and online the 3rd group in 2020.
3-3. Learners' satisfaction scales are kept high or increased.	3-3. The trainings were evaluated at high rate.
3-4. Feedback/utilization of skills, knowledge and outcomes into water services of participating municipalities is increased.	3-4. Skills trained were utilized practically into workplace during training and reflected into pilot results presentations.

1. Background and Introduction

2. Project Outline

3. Achievement

Achievement of Project Purpose: NRW management skills are developed for participating municipalities through the National NRW Training by IBTC.

Indicators	Achievement
1. No. of the National NRW Training is increased (three times or more).	1. Trainings were conducted three times.
2. No. of pilot DMAs for problem solution is increased (11 or more).	2. 7 participating municipalities of 1st and 2nd groups established pilot DMAs as workplaces, but 3rd group didn't do it due to COVID-19 pandemic.
3. No. of facilitators is increased (adequate resources to conduct the Training: 16 or more).	3. More than 16 facilitators from municipalities and DWS have engaged.
4. No. of learners is increased (44 or more from 11 participating municipalities and others).	4. More than 50 learners from 10 municipalities and DWS regions participated.
5. No. of debrief reports as outcomes are prepared (11 or more).	5. 7 participating municipalities of 1st and 2nd groups prepared debriefing presentations.
6. Learners' satisfaction scales are kept high or increased.	6. The trainings were evaluated at high rate.
7. Steering committee kick-off meeting is held.	7. The interim steering committee meeting was held.
8. Business plan, SOP, teaching/learning materials, committee TOR are finalized as Version-1.	8. Business plan, SOP, teaching/learning materials, committee TOR were finalized.



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Water and Sanitation
REPUBLIC OF SOUTH AFRICA



Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

TASKS TO BE FOLLOWED UP IN THE SHORT-TERM PERIOD As of End-March 2021

25th March 2021

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1. To maintain **task teams** or alternative for the National NRW Training.
2. To prepare the **completion report** (drafted by the JICA Team and checked by task members remotely and jointly)
3. To implement **the Sustainability Plan**, particularly **steering committee establishment**, preparation of **the inaugural meeting in May** and **role clarification/allocation** of secretariats and other relevant members
4. To prepare **the 3rd group workplace training** (Amathole, Ekurhuleni and Saldanha Bay)
5. To nominate **the participating municipalities** for the financial year **2021/22** (3 times)
6. To increase/enhance **facilitators** (new nomination, facilitator/assessor/moderator course)
7. To nominate **trainees** from both existing and new facilitators for **training-in-Japan programme** to be committed by JICA
8. To upgrade/enhance **IT/ICT** of IBTC
9. To update **the status of accreditation** of the National NRW Training

We keep connecting.

**SUSTAINABILITY STRATEGIC (MASTER) PLAN
OF THE NATIONAL NRW TRAINING FOR 3 FINANCIAL YEARS**



Update 23/03/2021

Pillars	No.	Strategic Action	Purpose and/or Outcome	Legend	Funding	FY20/21			FY21/22			FY22/23			FY23/24		
						FY-4Q	FY-1Q	FY-2Q	FY-3Q	FY-4Q	FY-1Q	FY-2Q	FY-3Q	FY-4Q	FY-1Q	FY-2Q	FY-3Q
PILLAR-1 ADMINISTRATIVE	1-1	Governance structure (steering committee)	Functional governance structure (1st tier: SteerCom, 2nd tier: implementation forum)	DWS & SALGA Partners	DWS & SALGA	*	*	*	*	*	*	*	*	*	*	*	*
	1-2	Steering committee task allocations as per the TOR	Allocation of roles and responsibilities	DWS & SALGA Partners	-	*	*	*	*	*	*	*	*	*	*	*	*
	1-3	Funding instruments for post-project roll out (Business plan)	Funding proposal and/or partnership	DWS & SALGA Partners	DWS, SETAs	*	*	*	*	*	*	*	*	*	*	*	*
	1-4	Engagement with Municipalities on the roll out plan	Buy in of Municipalities	SALGA & DWS Partners	SALGA & DWS	*	*	*	*	*	*	*	*	*	*	*	*
	1-5	Engagement of local/international development (funding) partners	Neighboring countries, generating income, training SA community members who are interested in NRW	SALGA & DWS Partners	SALGA & DWS	*	*	*	*	*	*	*	*	*	*	*	*
PILLAR-2 TRAINING & DEVELOPMENT	2-1	Physical/online training	Physical/online training convened for identified municipalities with a report	DWS & SALGA Task members	DWS & SALGA partners	*	*	*	*	*	*	*	*	*	*	*	*
	2-2	Workplace training	Workplace training conducted with a report	Munis & MISA DWS & SALGA	SALGA & SALGA partners	*	*	*	*	*	*	*	*	*	*	*	*
	2-3	Master class on NRW (Knowledge sharing platform/programme)	Accredited master class convened (with CPD points)	SALGA Partners (IMESA, etc)	SALGA & SALGA partners	*	*	*	*	*	*	*	*	*	*	*	*
	2-4	Increasing the footprint of the National NRW Training	Training conducted in 5 major Provinces: GP, WC, KZN, EC and FS (anchors for network) with RW/UV	SALGA Partners	SALGA & SALGA partners	*	*	*	*	*	*	*	*	*	*	*	*
	2-5	Increasing the number of facilitators per Province	Number of accredited facilitators	JICA	EWSEITA	*	*	*	*	*	*	*	*	*	*	*	*
	2-6	Accreditation of the National NRW Training and related programmes	Water Retention Practitioner, Water Retention Management (additional if any)	DWS/IBTC Partners	DWS/IBTC	*	*	*	*	*	*	*	*	*	*	*	*
PILLAR-3 MONITORING & EVALUATION	3-1	Undertaking formal evaluation of the projects	Impact analysis (from 2nd year), lesson learnt	Partners	Partners	*	*	*	*	*	*	*	*	*	*	*	*
	3-2	Monitoring & measuring instruments and systems in place	National NRW Dashboard (for high-level decision makers) and No-Drop * Also to be shown in website	DWS & SALGA Partners	DWS	*	*	*	*	*	*	*	*	*	*	*	*
	3-3	Benchmarking indicators on NRW	Annual report on municipal benchmarking	SALGA & Munics DWS	SALGA & Munics	*	*	*	*	*	*	*	*	*	*	*	*
JICA FOLLOW-UP SUPPORTS	J-1	Training programme in Japan	For training new facilitators, as well as for committee members to gain further knowledge on	JICA Follow-up Team DWS & SALGA	JICA	*	*	*	*	*	*	*	*	*	*	*	*
	J-2	Short-term support for workplace training in South Africa	To technically support 3rd workplace training in SA	JICA Follow-up Team DWS & SALGA	JICA	*	*	*	*	*	*	*	*	*	*	*	*
	J-3	Monitoring (and evaluation) of the Training in South Africa	To monitor (and evaluate) the operation of the National NRW training in SA.	JICA Expert to DBSA	JICA	*	*	*	*	*	*	*	*	*	*	*	*
OTHERS RELEVANT	O-1	National NRW Programme (proppsed)	Contribution to institutional interventions: Training & capacity building	SALGA-MISA-DBSA DWS	NT & Other sources	*	*	*	*	*	*	*	*	*	*	*	*

2021: Olympic Games (August) in Tokyo, Local Government Election (Aug to Nov) in SA
2022: *if any

2023: National Government Election in SA
2024: *if any

JICA's Follow-up Support for the Post-Project

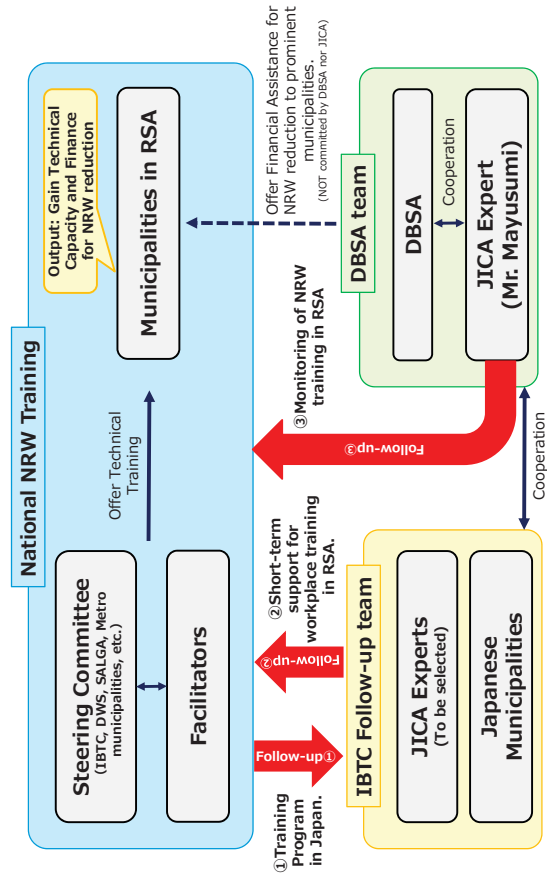


Japan International Cooperation Agency
Water Resources Team 2
25th Mar. 2021

How JICA will support/follow-up the Project?

- ① JICA will offer Training Program in Japan for steering committee members, facilitators and/or municipalities.
- ② JICA will dispatch short-term JICA experts to RSA to follow-up the 3rd workplace training, which was not conducted due to COVID-19 outbreak.
- ③ JICA will dispatch long-term JICA expert (Mr. Mayusumi) to DBSA (Development Bank of Southern Africa) to monitor the National NRW training.

Blue Print: JICA's follow-up after the Project



Tentative Schedule for Follow Up Support

Month	Year	Strategic Action	Personnel and/or Institution	Month	Year	Month	Year
1	2021	Training program in Japan	JICA	1	2021	1	2021
2	2021	Short-term support for workplace training in RSA	JICA	2	2021	2	2021
3	2021	Monitoring of NRW training in RSA	JICA	3	2021	3	2021
4	2021	Offer Financial Assistance for NRW reduction to prominent municipalities (NOT committed by DBSA nor JICA)	JICA	4	2021	4	2021
5	2021	Offer Technical Training	JICA	5	2021	5	2021
6	2021	Output: Gain Technical Capacity and Finance for NRW reduction	JICA	6	2021	6	2021

- ① Online Training for Facilitators
- ② Supplementary on-site support
- ③ Physical Training in Japan.

- Although tentative schedule of JICA's follow-up plan is elaborated in the sustainability plan, **it should be flexibly reviewed based on COVID-19 situation.**
- **Steering Committee and JICA need to closely communicate** to further elaborate follow-up support.

Conclusion

① JICA expect the National NRW Training Program will be continued and further developed by South African initiative even after the Project completion.

② JICA strongly expect the steering committee to be officially authorized very soon, and communicate with JICA closely to further elaborate JICA's follow-up.

③ The completion of the Project does NOT mean the completion of JICA's cooperation with water sector in RSA. JICA will continue to support the National NRW training after the Project

Appendix 2:

Baseline Survey Report

Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water

BASELINE SURVEY REPORT



March 2018

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Acronyms

B/L	Baseline
CEP	Community of Expert Practice
COGTA	Department of Co-operative Governance and Traditional Affairs
DQP	Development Quality Partner
DWS	Department of Water and Sanitation
EWSETA	Energy and Water Services Sector Education and Training Authority
IBTC	Infrastructure Branch Training Centre
JICA	Japan International Cooperation Agency
LGSETA	Local Government Sector Education and Training Authority
NQF	National Qualifications Framework
NSDS	National Skills Development Strategy
NSF	National Skills Fund
NRW	Non-Revenue Water
O&M	Operation and Maintenance
OQSF	Occupational Qualifications Sub-Framework
PDM	Project Design Matrix
QCTO	Quality Council for Trades and Occupations
SALGA	South African Local Government Association
SETA	Sector Education and Training Authority
SSP	Sector Skills Plan
TA	Technical Assistance
TVET	Technical Vocational Education and Training
TOT	Training of Trainers
WCWDM	Water Conservation and Water Demand Management
WDM	Water Demand Management
WSA	Water Supply Authority
WSP	Workplace Skills Plan

Chapter 1: Outline of the Survey

1.1 Purpose

To report on the Baseline (B/L) survey conducted and the analysis thereof as part of the deliverable on output 1 of the project scope.

1.2 Background and Discussions

1.2.1 There was cooperation between Department of Water and Sanitation (DWS) between the periods of year 2013 to 2016. After such successful implementation a new technical cooperation was conceptualized by DWS and South African Local Government Association (SALGA). DWS partnered with SALGA to request technical support to strengthen the training Capacity of the Infrastructure Branch Training Centre (IBTC) for the benefit of the water sector. Japanese International Cooperation Agency (JICA) approved the Technical Assistance (TA) project with an endorsement from National Treasury. An agreement was signed between the water sector and JICA on 21 April 2017.

1.2.2 The Prior to the development of the project, JICA commissioned a study from 1-31 October 2016. The study was conducted in all provinces targeting selected municipalities and water boards. The purpose of the study was to identify training gaps and to determine the best suitable training intervention in dealing with water challenges facing the country Non-Revenue water was identified as a gap that require intervention. A Project on Non -Revenue water training was thus designed for implementation.

1.2.3 The Technical cooperation project will be implemented over a three-year period. JICA will support the DWS and SALGA based on the result of the B/L survey in developing an appropriate training programme on Non- Revenue Water (NRW). JICA will provide support in the form of:

- Deployment of JICA Technical Experts
- Construction and equipping of the Training Facility (Training Yard)
- Training of Trainers (TOT)
- Support for Benchmarking (In Japan and a Third Country where necessary). The objective of the technical support programme is to strengthen the IBTC's training capacity in the area of NRW.

1.2.4 Output one of the deliverables of the project is to conduct a B/L survey to all the targeted participants (sampled Municipalities and Water boards) to gather information regarding training resources, capacity building and skills development, practices, lessons to be learnt. According to the project plan the survey was supposed to start 1 September to December 2017, however due to the delay of preparation, it started in the end of September 2017 to February 2018.

1.2.5 A questionnaire was designed by the DWS, SALGA and JICA expert team to be used to collect data. Part of the visit included a short presentation for introduction purpose.

1.2.6 44 Municipalities and 7 Water Boards were sampled, both to be visited and to complete the questionnaire. All the 44 Municipalities were visited however only 24 submitted the questionnaire while 4 Water Boards were visited and only 2 submitted the questionnaire. Therefore out of total 51 participants in the survey, 26 responded and analysed which makes **51%** of the responses analysed.

1.2.7 All the questions of the survey were analysed, and the analysis will be able to give some pictures and the information need to make informed conclusion as per Output 1 "Training information on water supply sector is accumulated at IBTC and shared with SALGA and

Municipalities” of Project Design Matrix (PDM) milestone. Further to that the Municipalities were categorically analysed, and Classification of Municipalities is as below:

Table 1-1: Classification of Municipalities

Metro	A	- Largest cities or metros - Metropolitan municipalities
LM	B1	- Secondary cities; those with next largest budgets - Local municipalities with a large town or city as its urban core
	B2	- Municipalities with a large town as core - Local municipality with a medium town or towns as its urban core
	B3	- Relatively small population, significant proportion of urban population, but with no large town as core - Local municipality with a small town or towns as its urban core
	B4	- Municipalities which are mainly rural with, at most, 1 or 2 small towns - Local municipality with no urban core
DM	C1	- DM: District municipalities that are not WSAs
	C2	- DM: District municipalities that are WSAs

(Source: DWS)

1.3 Period of the Survey

The Survey was conducted during the period below;

28 September 2017 – March 2018

1.4 Targets of the Survey

Targets of the Survey consists of the two organisations below;

- 1) 44 municipalities which feature the Water Supply Authorities (WSAs)
- 2) 7 water boards

1.5 Methods of the Survey

Methods of the Survey consists of the two approaches below;

- 1) Visit Survey (for 44 municipalities and 4 water boards) including questionnaire
- 2) Literature Survey

1.6 Attribute Data and Credibility of the Answers

Attribute Data (Collection ratio and other information on answers from municipalities)

As explained in the clause 1.2.6, out of total 51 participants in the survey, 26 responded and analysed which makes **51%** of the responses analysed. In case of municipalities, 24 responses out of 44 targeted municipalities are not enough to evaluate the current status of all the municipalities in the country with consideration of the total number of municipalities with WSAs which is 152. Thus the results of the survey may not reflect the exact opinions or conditions of all the municipalities. However, some of collected data and information are explained the challenges and actual status each municipality is facing in detail and can be referred to the future programmes in the project and also to other municipalities with same problems.

The summary of the categories analysed are as follows:

Category A: Metros

Four (4) out of 8 responded which makes **50%** average of Metros' responses. Actually they are under staffed since they are serving a large population. They have attended some training related to water reticulation and process which was offered by private training providers. Their budget is centralised, which is difficult to allocate specifically for the Water Section, except for 1 metro (Tshwane) since they have a separate academy, so they also have separate training budget.

In general there is willingness to send nominees for both of the TOT and other training. They are experiencing physical/real losses. The Metros are generally far better than any other category and at bit more advantage stage in dealing water use efficiency management and related issues.

Category B1

Ten (10) out of 17 responded which makes **59%** response rate. This is a fairly reasonable response rate to make conclusion on this category. They are also under staffed to a population that they are servicing. Average Human Resources Risk rating is above 40 %, which places the B1 Municipalities under medium risk category, taking note that the analysis is based on total number of technical posts. Some level of Water Demand Management (WDM) training attended, though not sufficiently addressed and private training providers were mostly used. The budget is being centrally controlled which on average makes it difficult to know the exact training budget allocation although some expenditure is being regularly incurred.

There is willingness to send nominees both at the TOT and trainee level. Experiencing Real losses, Cost Recovery, Meter Audits, water balance, Leak detection and repairs, pressure Management, pipe replacement problems came top as common challenges though some differs. This is the category with huge challenges around human resources development.

Category B2

Two (2) out of 5 responded which makes **40%** response rate. The poor response rate at this category makes it difficult to draw a representative conclusion of this category B2; however similar challenges have been observed. There were some levels, National Qualification Framework (NQF) Level 2 to 4, of training attended which are also provided by external providers.

Category B3

Four (4) out of 6 responded which makes **67%** response rate. This category is extremely under staffed to be servicing the population of such magnitude. Average Human Resources Risk rating is <30 %, which places the B3 under high risk category, taking note that the analysis is based on total number of technical posts. There is willingness to send nominees both at the TOT and trainee level.

Category C2

Four (4) out of 8 responded which makes 50% response rate. Average Human Resources Risk rating is >100 %, which places the B3 under low HR risk category. However, the rating is based on total number of technical posts, which includes not only in the WSA but all the departments and divisions (quality, quantity, waste disposal etc.).

Chapter 2: Results of the Survey

2.1 Results of the Survey

PART 1: HUMAN RESOURCES DEVELOPMENT IN WATER SECTION / DEPARTMENT

1.1 Current Situation of Water Section/Department/Unit

Question 1.1.1 Organisational Structure related to water Section / Department

- (1) Number of staff in the water supply section / department:
- (2) Organizational Structure of the water section / department:

Class A: In terms of number of staff in water related sector, eThekweni stands out from other municipalities with 2,410 staffs, whereas, the number of employees at other three municipalities, Buffalo city, Johannesburg and Tshwane, is between 296 to 589.

Class B1-3 to C2: The number of staff at Class B1-3 municipalities varies ranging from 15 (Victor Khanye) to 367 (Sol Plaatje) and it depends on the situation each municipality is facing. As for Class C municipalities, the number of staff ranges from 502 (OR Tambo) to 839 (Amathole) which is much larger than that of B1-3 municipalities. The numbers are supposed to include technicians and labours that belong not only to the water related section but to the entire infrastructure department.

Water Boards: 275 (Bloem Water) and 200 (Magalies Water).

According to organograms submitted from the municipalities, structures of water related section/departments come in a variety of shapes. They are, in general, organisationally located under social/public services, infrastructure or utilities sections, and composed of administration and engineering division.

For the detailed information on organisational structure of municipalities, refer to the CHAPTER 4 "APPENDICES".

Question 1.1.2. Technical Level of the Water Section / Department

- (1) Number of personnel in the water section / department
- (2) Number of the qualified personnel in the water section / department
- (3) Does your WSA have a dedicated unit dealing with WCWDM or NRW reduction or leakage detection?

Class A: Number of personnel in Water Supply Authority (WSA) ranges from 37 (Buffalo City) to 544 (Johannesburg). In case of Johannesburg, out of 544, 344 are general workers whereas only 14 technicians out of 37 are included in the WSA of Buffalo City. However, according to the employee list submitted from Buffalo City, qualified personnel (=Personnel who officially qualified as plumbers, process controller and other technical positions) in the water section/department is about 300. Tshwane also has about 400 qualified personnel (Process control: 49, Water quality: 16, Water reticulation: 69, others such as finance, social and planning: 274). Thus, in case of Metro Municipalities, around 300 to 400 personnel are supposed to be engaged in water supply related sections.

Class B1-3 to C2: Comparing with the current situation of Metro Municipalities, there are fewer personnel in the WSA in Class B and C municipalities, ranging from 4 (Umsobomvu) to 544 (Ugu). However, Ugu includes 54 drivers and 269 general workers which might not engage in WSA exclusively. Results also show that most of municipalities secure the qualified personnel in conceivable categories such as process control, water reticulation, water quality and plumber. Notably Amathole possesses 839 qualified personnel (Process control: 172, Water quality: 71, Water reticulation: 564 and other: 32) and OR Tambo also boasts of 448 qualified personnel (Process control: 180, Water quality: 7 and Water reticulation: 261).

Water Boards: Bloem Water has 24 staffs and 89 qualified personnel (Process control: 55, Water quality: 6, Safety-Health-Environmental and Quality: 4, Admin & Finance: 8, Wellness: 1, Maintenance Specialists: 2 and Artisans 13).

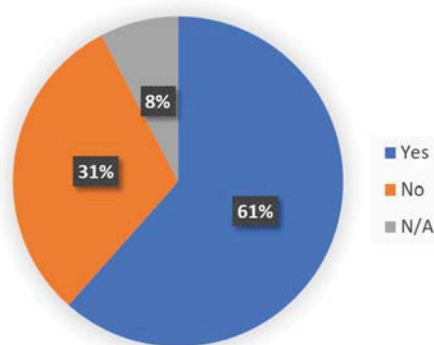
Lastly, on the whole, there are a few municipalities that have a dedicated unit dealing with Water Conservation and Water Demand Management (WCWDM) or NRW reduction or leakage detection. In some municipalities, the work is covered under operations and maintenance unit or the future plans on the WCWDM and NRW is in progress.

1.2 Human Resources Development in Water Section/Department

Question 1.2.1. Basic Information about the training programme related to Water Section / Department

- (1) Do you have a “training unit or the person in charge of training” in the water section / department?
- (2) Do you have a “training programme” for personnel of water section / department?
- (3) Do you have a “human resources development system” in the water section / department?
- (4) How do you keep/enhance motivation of staffs in the water section / department?

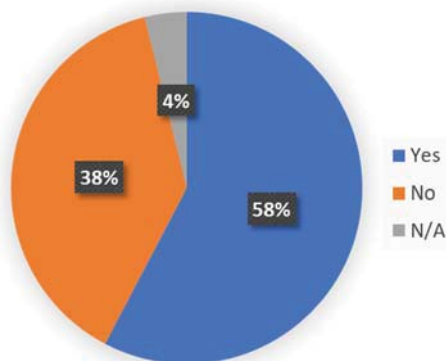
All the Class A municipalities have a training unit or the person in charge of training in the WSA. On the other hand, there are a few Class B to C municipalities that possess the unit or the person in charge inside the WSA, and the human resource departments in most of Class B to C municipalities are responsible for training instead.



(Source: Project Team)

Figure 2-1: (1) Do you have a “training unit or the person in charge of training” in the water section / department?

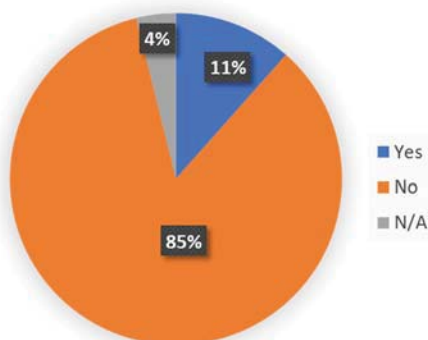
Also all the Class A municipalities have a training programme respectively, whereas only half of respondents from Class B to C municipalities say ‘No (=do not have a training unit or person in charge of training)’. Due to the lack of budget for training, it is difficult for municipalities in Class B to C to plan for training programme. Although some municipalities in Class B to C have the programme, realisation of the programme heavily depends on the subsidy or financial support from outside organisations such as Local Government Sector Education and Training Authority (LGSETA) and DWS.



(Source: Project Team)

Figure 2-2: (2) Do you have “training programme” for personnel of water section / department?

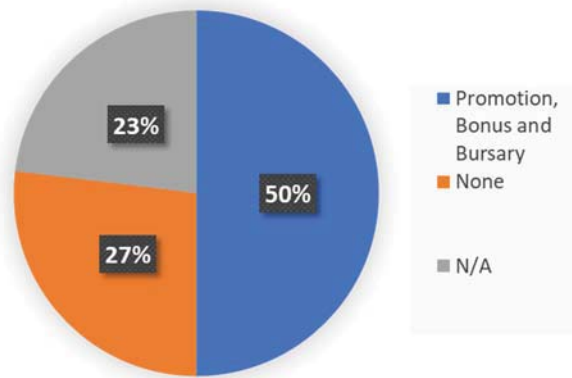
Regarding the human resource development system in the WSA, there are a few municipalities that have the internal system of human resource development. As mentioned above, especially in Class B to C municipalities, human resource development department takes charge of the whole field of training. In addition, some municipalities also replied that human resource development is based on the individual training needs, and it means human resource development is a little difficult to systematise.



(Source: Project Team)

Figure 2-3: (3) Do you have a “human resources development system” in the water section / department?

Finally, a third of respondents (excluding the responses of N/A) mentioned that there is no such incentives to motivate staffs in the WSA. On the one hand, incentives the rest of two third municipalities take are; promotion, wage rise, performance bonus and bursary.



(Source: Project Team)

Figure 2-4: (4) How do you keep/enhance motivation of staffs in the water section / department?

Question 1.2.2. Outline of Training Course related to Water Section / Department in the last 3 years

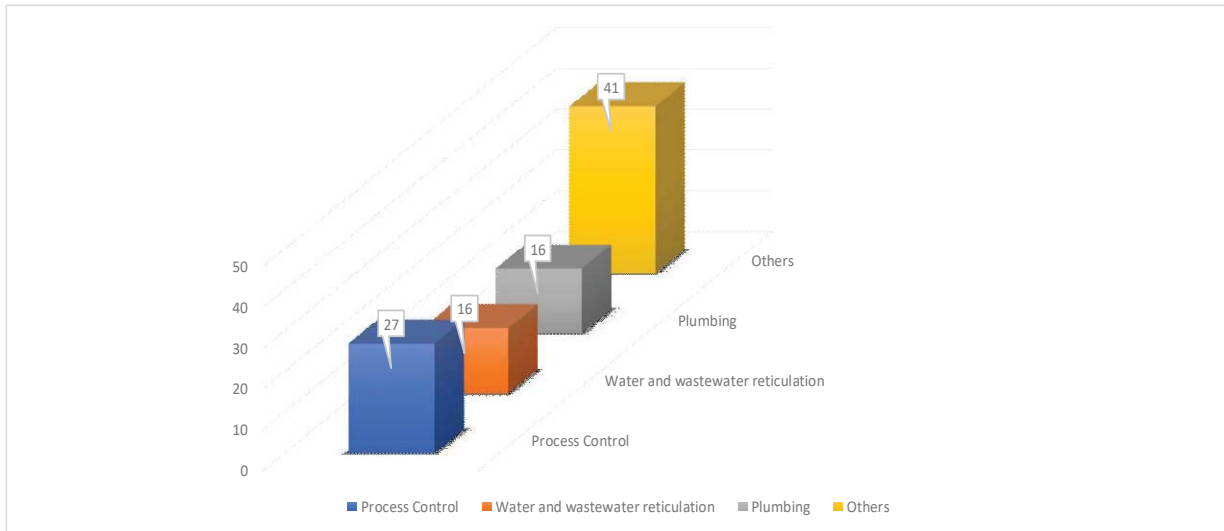
- (1) Name of the training course related to water
- (2) Name of Training Provider
- (3) Target of the Course
- (4) Accredited Course or Not?
- (5) If yes, please state the level of qualification
- (6) Number of Participants enrolled
- (7) Number of Participants completed
- (8) Fund Source of the Course

Table 2-1 and Figure 2-5 show the areas of training courses in which all the municipalities and water boards took part in the last 3 years by municipality class.

Table 2-1: Areas of Training Courses Municipalities participated in the last 3 years

Class	Areas or Course Municipalities participated
Class A	<ol style="list-style-type: none"> 1. Plumbing (8) 2. Process control (5) 3. Water and wastewater reticulation (4) 4. Others (11) <p>Remarks;</p> <ul style="list-style-type: none"> ● “Welding” is supposed to be plumbing of steel pipes, thus it shall be added up to the “Plumbing” ● Others: Laboratory system, Crane controller, Hazardous chemical handling and Water service hand, etc.
Class B1	<ol style="list-style-type: none"> 1. Water and wastewater reticulation (7) 2. Plumbing (6) 3. Process control (6) 4. Others (24) <p>Remarks;</p> <ul style="list-style-type: none"> ● “PRV training” shall be included in “Water and wastewater reticulation”. ● Others: Vending training, Meter operating and reading, Laboratory system, Internal audit, Atomic absorption, PRL, Chlorine handling and transportation, First aid and Sample training, etc.
Class B2	<ol style="list-style-type: none"> 1. Process control (3) 2. Plumbing (1) 3. Others (1) <p>Remark;</p> <ul style="list-style-type: none"> ● Others: Safe handling of chlorine
Class B3	<ol style="list-style-type: none"> 1. Process control (6) 2. Plumbing (2) <p>Remarks;</p> <ul style="list-style-type: none"> ● “Water and wastewater treatment operation” shall be regarded as “Process Control”. ● “Pipe fitting” shall be regarded as “Plumbing” ● “Water and wastewater treatment process” shall be regarded as “Process control”.
Class C2	<ol style="list-style-type: none"> 1. Water and wastewater reticulation (3) 2. Plumbing (3) 3. Process control (2) 4. Others (5) <p>Remarks;</p> <ul style="list-style-type: none"> ● “Mechanical training on Bernard valves and pressure reducing valves” shall be included in “Water and wastewater reticulation”. ● Others: Medium voltage switching, Telemetry training, Implementation tool set, GCC2015 3rd edition and Trade test
Water Board	<ol style="list-style-type: none"> 1. Process control (5) 2. Water and wastewater reticulation (2) <p>Remarks;</p> <ul style="list-style-type: none"> ● “Pump station course” shall be regarded as “Water and wastewater reticulation” ● “Water treatment purification” shall be regarded as “Process Control”.

(Source: Project Team)



(Source: Project Team)

Figure 2-5: Areas of Training Courses Municipalities participated in the last 3 years

As shown in the table above, the main areas of the training course are centralised the 3 representative branches of the learning as follows;

- 1) Process control (22, in total)
- 2) Plumbing (20)
- 3) Water and wastewater reticulation (14)

In general, since municipalities do not own their water treatment facilities, they tend to choose training of “Plumbing” and “Water and wastewater reticulation”, whereas water boards often attend the training course of “Process control” because of their function.

Then, summary of training providers shall be referred to the table 2-2 below;

Table 2-2: List of Training Providers

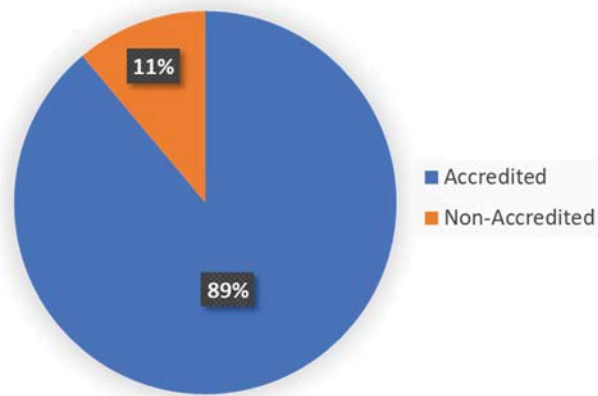
#	Name	Province	Course	Municipality Participated
1	East Cape Training Centre	EC	Plumbing	Amathole
2	Border Training Centre	EC	Plumbing	Amathole
3	Nkayelo Training and Conferencing LTD.	GP	Wastewater Treatment process and technology training	Baffalo
4	Mahube Training and Development	LP	Water and Wastewater Process controller learnership, Water Reticulation	Baffalo, Matjhabeng, Lephallale, Govan Mbeki, Mbombela, Victor Khanye
5	CSV water Consulting Engineers (Pty) Ltd	GP	SANS 214/004, Sans241:- implementation tool set	Baffalo, Ugu
6	The South African National Accreditation System	GP	Laboratory system	Baffalo
7	Olifantsfontein Artisan Academy	GP	Plumbing Pre Trade Test	Baffalo
8	Links Consulting (Pty) Ltd	GP	Best Practice in validation methods for Microbiology Laboratory	Baffalo
9	Services Sector Education and Training Authority	GP	Pump operating and maintenance	Baffalo
10	Lentle Performance Improvement Development and Consulting	GP	National Certificate: Water and Waste water process control	Metsimaholo
11	LEPS Training and Consultants	NW	FET: Plumbing	Metsimaholo
12	The Water Academy	WC	Water and Waste water process control, Water reticulation,	Metsimaholo, eThekwini, Ugu
13	ImproChem	GP	Safe Handling of chlorine	Moqhaka
14	Tshwane Leadership and Management Academy (in-house)	GP	Basic Welding, Truck Mounted Crane, Overhead Crane Pendant Controller, Hazard identification and risk management, Plumbing Level 1, Tractor loader back hoe. Truck Mounted Crane, Hazardous chemical handling	Tsuwane
15	Sandra	?	Plumbing	sThekwini
16	Artisan Training Institute Ltd.	GP	Fitting training N1-N2 N3 Trade test,	Ugu
17	K2014095413SA (Pty)Ltd	?	Medium Voltage switching	Ugu
18	JOAT Group	KZN	Telemetry training	Ugu
19	Construction Resource Development Centre	KZN	Trade test	Ugu
20	WRP Engineers	GP	PRV Training	Govan Mbeki
21	White River Technical College	MP	Engineering N1 & N2 Water and Wastewater Treatment,	Victor Khanye
22	Ekurhuleni Artisans and Skills College	GP	Plumbing, Pipe fitting	Victor Khanye
23	NOSA	GP	Revision of ID 15034 Work in confined spaces on construction sites, Revision of ID 260139 Undertake an emergency rescue operation in confined space, First Aid	Sol Plaatje, JB Marks
24	Dinaledi Enterprise	?	Water &Waste- Water Process control	Matlosana
25	Tshepang Lentswe	GP	Chlorine Handling & Transportation	Matlosana
26	University of Pretoria	GP	Water Quality & Effluent treatment Control Management	Matlosana
27	Elective Training Institute Enterprise CC	NW	OHS	Matlosana
28	Mbuso Management Solution	GP	Pipe laying	Matlosana
29	Bonang Training and Development	GP	Plumbing	Matlosana
30	LNT Trading	?	Plumbing	Matlosana
31	Municipal Infrastructure Support Agent	GP	Ventersdorp Water Plant	JB Marks
32	NCP Chlorchem	KZN	Safe Handling of Chlorine	JB Marks
33	DWS	GP	SANS 241/2015 training, Pump Station Course	JB Marks, Bloem Water
34	Khulanonke	GP	Water and waste water process control level 02 and 03	Bloem Water

(Source: Project Team)

Naturally municipalities tend to choose training providers because they are unable to implement skills and capacity building on their own due to limited training resources and capacity.

Most of the participants of the training are artisan or technician level who work at sites such as plumber, process controller, serviceman and electrician. However, only 4 Class B1 municipalities, Mbombela, Mogale city, Matlosana and Kouga, send the combination of junior and senior staffs, in other words, artisan and management or administration level to each training course.

In addition, 89% of the total training courses (72 out of 80 training courses, excluding N/A) are accredited. 11% shared non-accredited training courses however; their themes are quite specific (eg. Pollution and chemical analysis) and some training courses are indeed conducted by manufacturers for their after-sale services.



(Source: Project Team)

Figure 2-6: Accredited Course or Not?

Although satisfactory number of responses is not received, answers for (5) to (8) of question 1.2.2 are summarised as follows;

Table 2-3: Summary of the results of training related questions by municipality class

Class	Level of Qualification	# of Participants Enrolled	# of Participants Completed	Fund Source of the Course
Class A	NQF 2 to 5	1 to 100	1 to 100	LGSETA and Municipality
Class B1	NQF 2 to 6	1 to 41	1 to 41	LGSETA, EWSETA, Municipality and NSF
Class B2	NQF 2 to 4	2 to 32	2 to 32	N/A
Class B3	NQF 1 to 4	2 to 18	2 to 18	LGSETA, DWS, Department of Co-operative Governance and Traditional Affairs (COGTA) and Municipality
Class C2	NQF 3 to 4	50 to 97	50 to 97	LGSETA
Water Board	NQF 1 to 3	11 to 50	11 to 50	EWSETA and DWS

(Source: Project Team)

As shown in the table above, major level of qualification is between NQF 1 to 5 which means the target of training courses seems to be junior and mid-level staffs. It is also notable that Class A municipalities tend to bear the costs for training by themselves as they can afford to do that. For instance, according to the reply, eThekweni (A) has never been received the subsidy or other financial support for their training from outside organisations such as the LGSETA and Energy and Water Services Sector Education Training Authority (EWSETA) but paid their own expenses on all the training in the past 3 years. Meanwhile, Class B to C municipalities tend to heavily rely on the funding from outside organisations such as the LGSETA.

Question 1.2.3. Training Budget related to Water Section / Department in the past 3 years

- (1) Total Budget for Training Programme (Courses) related to Water Supply
- (2) Actual Expenditure for Training Programme (Courses) related to Water Supply

Overall, since training budget for training programmes or courses related water supply is allocated in human resource related sections, and most of respondents are assumed to belong to the WSA and are not able to clarify the budget. Therefore, only a few

municipalities submitted their budget and actual expenditure for training course. Here are examples;

Table 2-4: Total Budget and Actual Expenditure for Training Programmes (Courses)

Class	Municipality	Total Budget for Training Programme	Actual Expenditure for Training Programme
Class A	eThekweni	(2016-2017) R 4 666 277.00 (2015-2016) R 5 051 580.00 (2014-2015) R 5 204 600.00	(2016-2017) R 2 936 900.00 (2015-2016) R 4 874 781.00 (2014-2015) R 3 204 741.00
Class B1	Matlosana	(2016) R 1 000 000 (2015) R 500 000 (2014) R 500 000	(2016) R 702 000 (2015) R 472 500 (2014) R 370 000
Class B2	Metsimaholo	(2016) R 1 423 000 (2015) R 1 367 350 (2014) R 1 131 600	N/A
Class B3	Victor Khanye	(2016) R 150 000 (2015) R 100 000 (2014) R 90 000	(2016) R 175 000 (2015) R 102 000 (2014) R 89 000
Class C2	Amathole	(2014) R 167 296.00	(2014) R 167 245.00

(Source: Project Team)

Question 1.2.4. Facilitator/Assessor/Moderator related to Water Section / Department

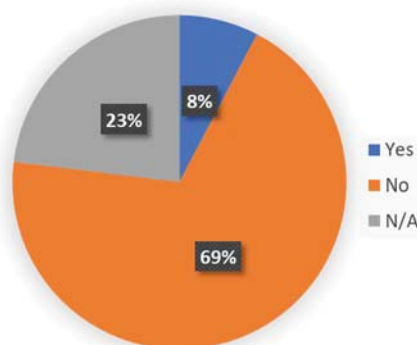
- (1) Do you have facilitator/assessor/moderator related to water supply in the water supply section / department?

(If yes, please answer the question below)

1. Number of Facilitator and his/her Specialty Area
2. Number of qualified Assessors and his/her Specialty Area
3. Number of qualified Moderators and his/her Specialty Area
4. Days or hours facilitator/assessor/moderator engaged in the Training Course in a year

- (2) List the Name of outsourced enterprises and the respective specialties

Since almost all the municipalities hire the outsourced firms for training on their employees, only two municipalities, Polokwane (B1) and Moqhaka (B2), among all the respondents have facilitator, assessor or moderator related water supply in the WSA or inside the organisation.



(Source: Project Team)

Figure 2-7: (1) Do you have facilitator/assessor/moderator related to water supply in the water supply section / department?

For instance, the facilitator, assessor or moderator in the WSA of Polokwane (*the answer did not mention the number of qualified person and their speciality area) has the expertise and knowledge on water reticulation, plumbing and superintendent. On the other hand, the WSA of Moqhaka has facilitators of water treatment and water reticulation, and assessors of process control, water reticulation, plumbing, water quality and supervision. (*The answer did not mention in the number of qualified person in the WSA) Both the facilitators and assessors engage 40 hours in a year for the training course.

Major outsourced enterprises for the training courses in each municipality are; The Water Academy, University of Pretoria, Bonang Training and Development, Mahube Training and Development, Dinaledi Enterprise and Korone Consulting Engineers, and also major specialities of the enterprises are; water and wastewater reticulation, process control, water quality, mechanical and electrical Instrumentation, plumbing work, fitter and turners, welding and Design.

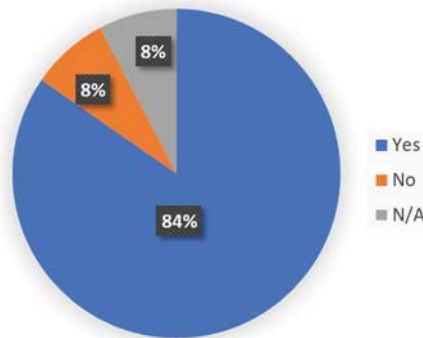
It is notable that Sekhukhune (C2) outsourced some public organisations such as water board (Lepelle Northern Water) and another municipality (Dr JS Moroka Municipality) for the training of bulk purification and distribution. This means that there could be a possibility that the rest of municipalities will be able to build a good relationship with water boards and other municipalities in terms of technical assistance.

Question 1.2.5. DWS-IBTC has been identified as a central point for provision and coordination of NRW training

- (1) Can your WSA provide suitable nominee(s) for Training of Trainer (Facilitator/Assessor/Moderator) on NRW training to be held at IBTC?
- (2) Can your WSA send suitable trainee(s) on NRW training to be held at IBTC.
- (3) If your answer(s) is yes for the above, can your WSA send him/her to the Training of Trainer and training for a certain period (e.g. one/two/three weeks)?
- (4) What areas do your WSA want to address through NRW training?

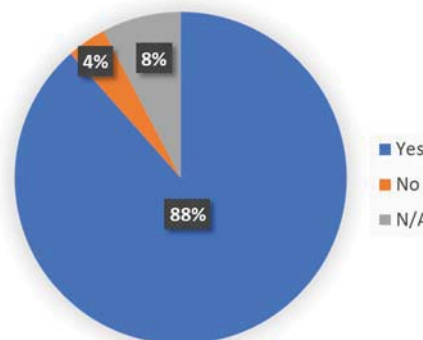
In general, all the respondents, except a few municipalities and water boards, can provide suitable nominees for both of Training of Trainers (TOT) and trainees on NRW training to be held at the IBTC. This is understandable taking into consideration the lack of sufficient personnel. However, most of local municipalities take thought for expenses to participate the training as the funding from the LGSETA, the main fund source for human resource development of municipalities, normally allocates only for tuition fee of the training, and it cannot cover transportation and accommodation expenditures.

According to the results of interview surveys, some of the municipalities complain inconvenience of the LGSETA fund for training and call upon the LGSETA to include at least transportation and accommodation costs in the budget.



(Source: Project Team)

Figure 2-8: (1) Can your WSA provide suitable nominee(s) for Training of Trainer (Facilitator/Assessor/Moderator) on NRW training to be held at IBTC?



(Source: Project Team)

Figure 2-9: (2) Can your WSA send suitable trainee(s) to be held at IBTC?

Not many respondents commented on the desired period of training courses, it is, however, expected that most of municipalities and water boards assume the training period between 1 to 3 weeks. For instance, 4 responses are as follows; Mbombela (B1) – 1 week, Moqhaka (B2) – 3 weeks, Lephalale – 3 weeks and Bloem Water – less than 1 week.

The areas or course contents in the NRW training for the WSA to mitigate the current situation is summarised in the table 2-5;

Table 2-5: Summary of the areas or course contents the WSA requests for NRW training

Class	Areas or Course Contents Required (listed in no particular order)
Class A	<ol style="list-style-type: none"> 1. Water and wastewater reticulation 2. Pressure management 3. Leak detection 4. Water consumer awareness 5. Improvement of quality of repairs 6. Implementation on new technology 7. Improve quality of repairs 8. Internal staff capacity building
Class B1	<ol style="list-style-type: none"> 1. Water losses 2. Cost recovery 3. Meter audits 4. Water balance 5. Water conservation 6. Water demand management 7. Plumbing 8. Infrastructure operation and maintenance 9. Asset management 10. Dealing with illegal connections 11. Leak detection 12. Pressure management 13. Zone management 14. Community education/awareness 15. Water leaks at household 16. Water purification losses 17. Logging 18. Project management 19. Collaborative water planning 20. Urban water design 21. GIS and water resources mapping
Class B2	<ol style="list-style-type: none"> 1. Leakages 2. Billing 3. Meter reading 4. Pressure (control management?) 5. Artisans (Fitter) 6. Process controllers 7. Design 8. Water quality
Class B3	<ol style="list-style-type: none"> 1. Revenue enhancement 2. Leak detection and solving 3. Water balance 4. Meter reading and meter repairs
Class C2	<ol style="list-style-type: none"> 1. Illegal connections 2. Water balance 3. Meter replacements and retrofitting of internal plumbing 4. Leakage detection, 5. Pressure management 6. Zoning/Sectorisation 7. Water loss control 8. Social: Water use efficiency, education and awareness 9. Revenue enhancement plan and strategy
Water Board	<ol style="list-style-type: none"> 1. Infrastructure maintenance 2. Leak detection 3. Quantification

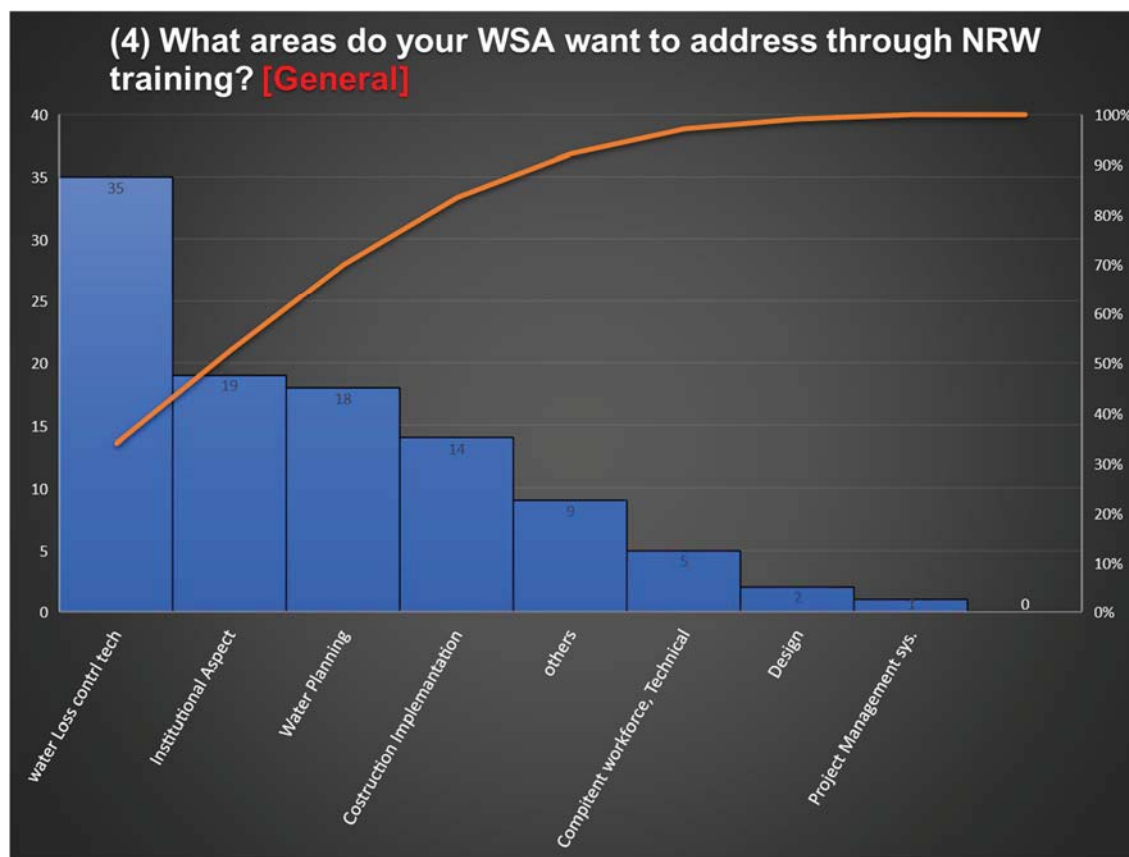
(Source: Project Team)

Every municipality have their specific training needs which are based on the current capacity on components contributing to the NRW, however, most of the respondents feel the necessity to complement the skills and knowledge in the areas of water loss control technique such as;

Water reticulation (network), Leak detection, Process control, Pressure management, Water balance, Zone management, Meter audits and plumbing.

In addition to the above technical areas, Class B1 to 3 municipalities indicate the importance of social development such as public education and awareness for the prevention of human negligence such as illegal connection, theft, vandalism and non-payment of water charge.

Table 2-5 can be summarised in the figure 2-10.



(Source: Project Team)

Figure 2-10: Summary of the areas or course contents the WSA requests for NRW training (General)

Figure 2-11 in the next page also compiled the same data into the specific 7 categories; Institutional aspect, Construction implementation, Water loss control technique, Competent workforce and technical, Project management, Design and Water planning. Although requirements for the training vary in many aspects including both of hard and soft components, it is, at the very beginning, advisable to prioritise the areas of understanding the present conditions, strategic plans and project plans since the justification for the respective project is always required.

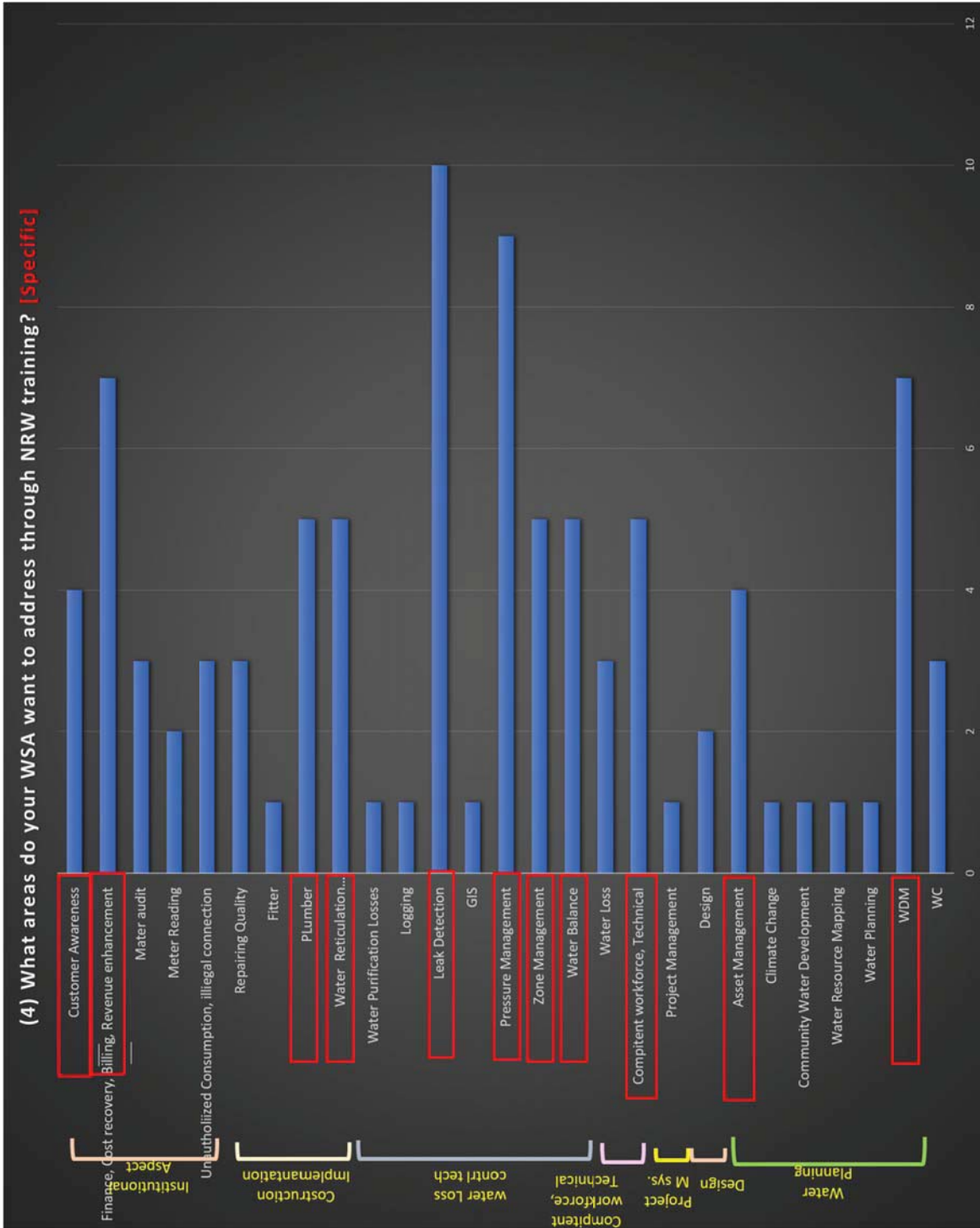


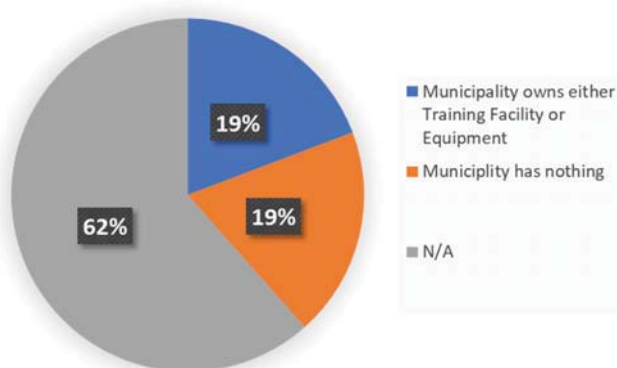
Figure 2-11: Summary of the areas or course contents the WSA requests for NRW training (Specific) (Source: Project Team)

Question 1.2.6. Training Facility and Equipment related Water Section / Department

- (1) Name
- (2) Capacity
- (3) Year of Installation or Procurement
- (4) Accredited or not
- (5) Training Purpose
- (6) Utilization Situation (e.g. frequently utilized, sometimes, or not at all)

2 Class A municipalities Tshwane (*Tshwane did not answer this question, however the existence of internal training centre “Tshwane Leadership and Management Academy” is confirmed later) and eThekweni owns both training facility and equipment related to water supply. Buffalo city is in possession of the equipment, whereas Johannesburg has only the training centre with no equipment. Among the above 3 training centres, only Tshwane’s training centre is accredited.

As for the Class B to C municipalities and water boards do not possess neither training facilities nor equipment since the training for their employees are heavily relied upon the outsourcings. Only Sol Plaatje (B1) has a small room to be used for the internal training, and Mbombela (B1) and Ugu (C2) possess a leak detection equipment.



(Source: Project Team)

Figure 2-12: Training facilities or Equipment related Water Section / Department

Question 1.2.7. Training Needs related to Water Section / Department

- (1) What kinds of training are needed for your water section / department? Or, which specialty area(s) does your water section / department want to strengthen?
- (2) Why did you select the above area(s)?
- (3) Requests and/or suggestions regarding training of municipal personnel related to water supply, if any
- (4) Was the training course(s) your water supply section / department prepared or participated in good? Or bad?

Training needed for the WSAs is summarised in the Table 2-6;

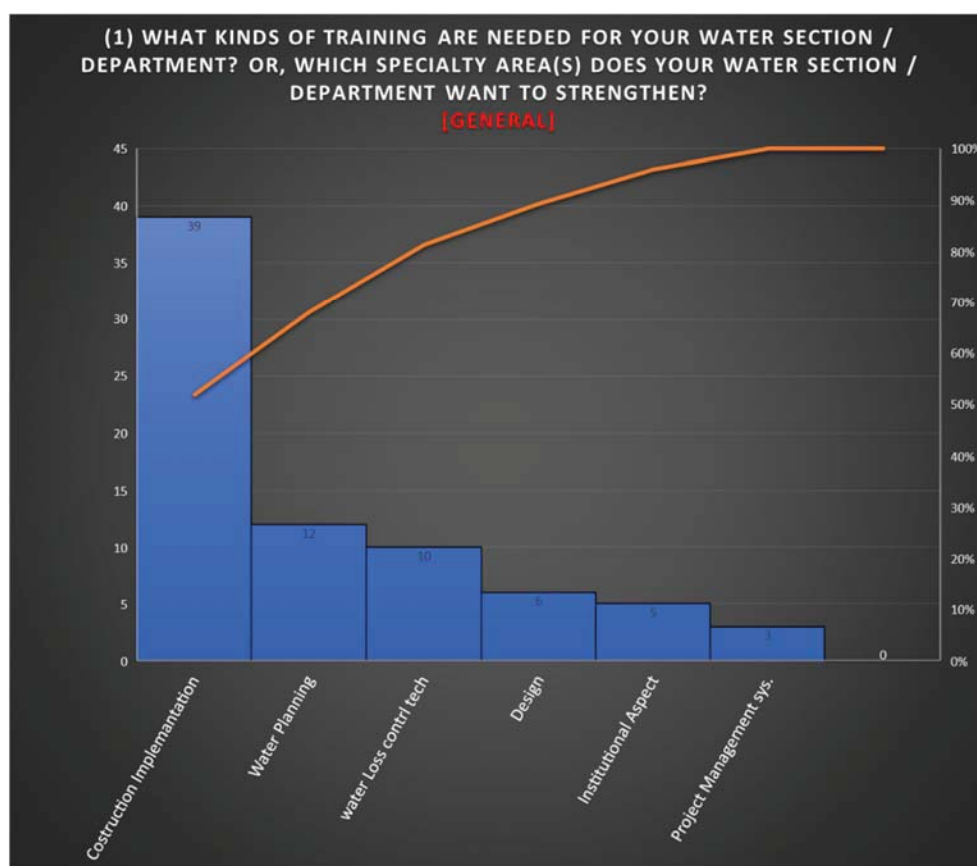
Table 2-6: Summary of the training needed for the WSAs

Class	Training Needed (listed in no particular order)
Class A	<ol style="list-style-type: none"> 1. Water and wastewater reticulation 2. Process control 3. Plumbing 4. Water quality 5. Supervision 6. Maintenance training 7. Fitting and Turning 8. Electrical 9. OHS compliance training 10. HDEP installation and fusion welding
Class B1	<ol style="list-style-type: none"> 1. Plumbing 2. Leak detection 3. Pressure management 4. Zonal Management, 5. Water and waste reticulation 6. Operation and Maintenance 7. Water quality 8. Logging 9. Design and Planning 10. WCWDM 11. GIS and Water resources mapping 12. Community water development 13. Wastewater treatment process 14. Basic Health and Safety principles in and around the Workplace. 15. Undertake an emergency rescue operation in confined space 16. TLB Operator 17. Operation for trucks
Class B2	<ol style="list-style-type: none"> 1. Process control 2. Water reticulation 3. Plumbing 4. Supervision 5. Water balancing 6. Design 7. Water quality
Class B3	<ol style="list-style-type: none"> 1. Process control 2. Water Reticulation 3. Plumbing 4. Water Quality 5. Design 6. Supervision 7. Product awareness 8. Installation process 9. Monitoring systems
Class C2	<ol style="list-style-type: none"> 1. Leak detection 2. Plumbing 3. Process control 4. Water quality 5. Design 6. Supervision 7. Operation and maintenance 8. Project management 9. Education and awareness

Class	Training Needed (listed in no particular order)
	10. Social facilitation 11. By law enforcement 12. WCWDM 13. Asset management 14. Project management 15. Revenue enhancement management
Water Board	1. Process optimization 2. Infrastructure maintenance 3. Water meter management

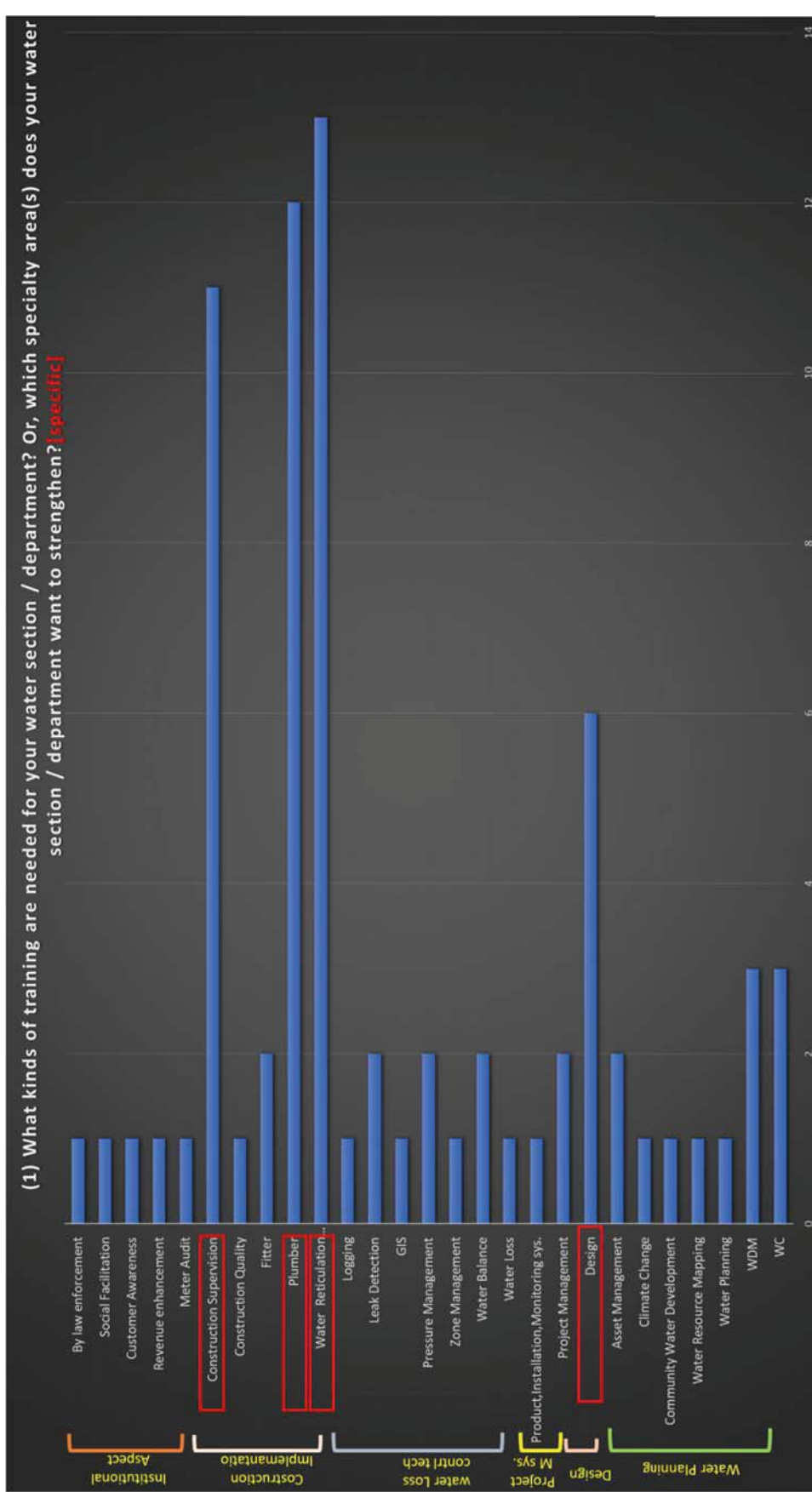
(Source: Project Team)

As shown in the above table, overall there is no appreciable difference among the responses from the municipalities. However, to stretch a point, while Class A municipalities need training for general activities of water supply such as water wastewater reticulation and process control, Class B to C municipalities are more NRW-oriented as many of the municipalities point out the necessity of leak detection, plumbing and maintenance training. Table 2-6 can also be summarised in the Figure 2-13 and 14.



(Source: Project Team)

Figure 2-13: Summary of the training needed for the WSAs (General)



(Source: Project Team)

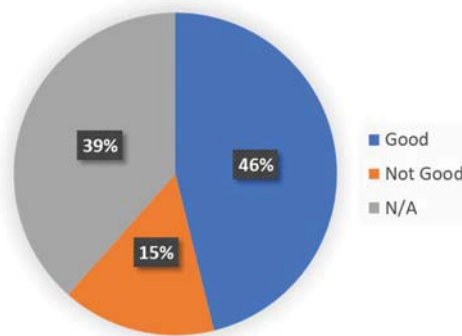
Figure 2-14: Summary of the training needed for the WSAs (Specific)

From the different perspective, the two figures show that construction engineering and its supervisory technique are indicated as the most needed training for the WSAs. In this case, it is assumed that many municipalities enumerate their needs in order to compensate the lack of technical skill and knowledge to be used in the daily routine. It is understandable and indispensable in short-term basis, however, municipalities also need to make a decision for the future training needs in a middle and long-term viewpoint.

Moreover, the reason why Class A municipalities indicate the areas is to increase qualified personnel since substantial experienced staffs retired from the municipalities and they need to make up for the vacancy. On the one hand, the current status of the Class B to C municipalities is more serious than that of Class A municipalities. In case of Class B to C municipalities, there is an urgent need to combat the NRW and water losses, and it is, thus, imperative for the municipalities to cultivate skilled personnel, in particular, plumbers and other technicians. Finally the answer from Ugu (C2) is worthy of mention as they asked all the employees in the WSA to submit their training needs on a periodic basis.

On the whole, any requests or suggestions concerning the training for municipal personnel in the WSA are almost same as the answers of (1) and (2) of the question 1.2.7. Especially JB Marks (B1) and OR Tambo (C2) propose that the training should be divided into some phases and some groups as the two municipalities are not able to send all their personnel at once for long time. Magalies Water also insisted that the training should be as practical as possible.

In regard to the evaluation of the past training in which all the municipalities participated, only 16 responses out of 26 are received, then 4 responses out of the 16, eThekweni (A), Sol Plataatje (B1), George (B1) and Kouga (B3) express their dissatisfaction on the past training. The rest of 12 responses show that the municipalities are satisfied with the training and the participants gain the expected knowledge and skills from the training.



(Source: Project Team)

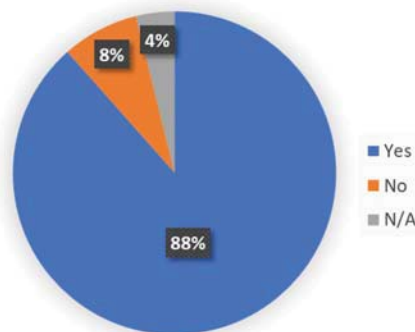
Figure 2-15: Was the training course(s) your water supply section / department prepared or participated in good? Or bad?

PART 2: TECHNICAL NON-REVENUE WATER IN MUNICIPALITY

Question 2.1 Water Balance Data and Analysis

- (1) Does your WSA analyse water balance periodically?
- (2) Through water balance analysis, what is a main component of NRW?

Almost all the municipalities, except 1 municipality in B1 Class, check and analyse water balance in a monthly basis.



(Source: Project Team)

Figure 2-16: (1) Does your WSA analyse water balance periodically?

Judging from the water balance analysis in each municipality, the main component of NRW in each classification is as follows;

Class A: Water losses due to leakage, Consumers that are not on the billing database, Unbilled unmetered stands, Meter inaccuracy, Illegal connection and Background system losses.

Class B1: Distribution and commercial losses, Water demand management and Unbilled for the rural areas.

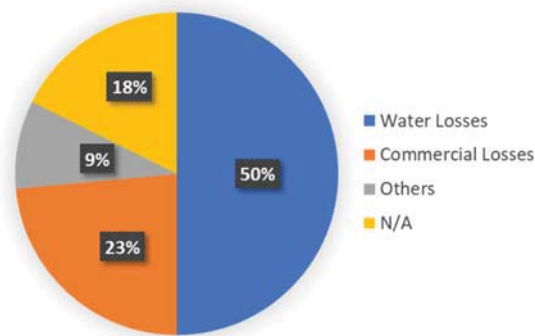
Class B2: Ageing infrastructure

Class B3: Ageing infrastructure, Supply of Water to farms and informal settlements, Illegal connection, Lack of water meters and Water losses

Class C2: Illegal connection, Leakage and unauthorised water usage

Water Boards: Leakage and Ageing infrastructure

As shown above, while Class A municipalities and Water Boards mainly indicate physical loss or technical loss such as leakage and meter inaccuracy, Class B to C municipalities comparatively have difficulties in human factors such as illegal connection, theft and unauthorised usage. This means that the awareness activities or public educations in local communities are required to heighten people's consciousness or awareness towards water supply.



(Source: Project Team)

Figure 2-17: (2) Through water balance analysis, what is a main component of NRW?
 (Remarks; All the physical losses such as leakages in trunk main and distribution network are categorised in “Water losses” and the losses caused by human factors such as non-payment and misleading of metres are also classified in “Commercial losses”.)

Question 2.1.1 Water Sources

- (1) Bulk Supply from Water Board(s)
- (2) Surface Water (Water Treatment Plants, etc.)
- (3) Ground Water (Boreholes, Protected Wells, etc.)
- (4) Others (Please specify the water sources)

As noted above, most of municipalities receive treated water from water boards nearby. The amount of water each municipality receives is, thus, depends on served population and capacity of water supply facilities in each municipality. Answers from municipalities are summarised as follows (unit: million m³/annum, annual actual production, for detailed information, refer to the CHAPTER 4 “APPENDICES”);

1) Bulk Supply Water from Water Board(s)

Class A: 42 084 282 (Buffalo City) to 558 916 194 (Johannesburg)
 Class B to C: 29 200 (Mbombela) to 32 311 779 (Mogale City)

2) Surface Water (Water Treatment Plants, etc.)

Class A: 55 843 (Tshwane) to 38 463 276 (Buffalo City)
 Class B to C: 29 200 (Mbombela) to 12 784 186 (Steve Tshwane)
 Water Board: 93 805 (Magalies Water)

3) Ground Water (Boreholes, Protected Wells, etc.)

Class A: 603 460 (KI) (Tshwane)
 Class B to C: 86 471 (Steve Tshwane) to 425 200 (Polokwane)

As shown above, bulk water supply from Water Boards can be recognised as a major water source for municipalities followed by surface water, whereas ground water shared small portion of water source.

Question 2.1.2. Existing Water Supply Facilities and Equipment

- (1) List of existing water supply facilities
- (2) Situation of Operation and Maintenance (O&M) of the water supply facilities
 1. Water treatment plant and process control
 2. Water quality
 3. Trunk main
 4. Distribution main
 5. Network
 6. Service pipe/connection
 7. Water meter
 8. WCWDM / NRW / Leakage detection
 9. Human resource for O&M
 10. Others (Please specify)

Some municipalities are supplied treated water from water boards, so that such municipalities do not have water treatment plants, and thus municipalities are responsible for distribution network only. On the one hand, some water boards operate distribution network for municipalities who can not afford to manage water supply facilities due to the lack of technical skill and finance. In contrast, some local municipalities operate water treatment facilities due mainly to the out-of-the-way location where water boards have difficulties managing the facilities by themselves.

In general, existing water supply facilities municipalities own consist of the followings; reservoir, pumping station, distribution network.

Situation of Operation and Maintenance (O&M) of the water supply facilities in all the municipalities and water boards is summarised as follows;

1. **Water treatment plant and process control**

Although only a few municipalities own water treatment plant, some of them point out the shortage of skilled technicians such as process controllers, proper maintenance for facilities and insufficient fund for maintenance.

2. **Water quality**

Same as 1. Although most of municipalities are not in charge of maintaining the water quality, some of them indicate that pipe burst, ageing infrastructure and contaminated raw water affect the water quality. 2 municipalities in Class C2 reveal that they do not have their own lab which affects the early warning on water failure.

3. **Trunk main**

4. **Distribution main**

5. **Network**

6. **Service pipe/connection**

These 4 facilities have common issues as follows; (1) Ageing infrastructure, (2) Inadequate capacity for O&M teams, (3) Inadequate O&M budget, (4) Leakage, (5) Pipe Burst and (6) Vandalism. These issues can be recognised as one of the main causes of NRW.

7. **Water meter**

Almost all the respondents point out problems on water meter they are now facing. Major problems are; (1) Inaccuracy, (2) Ageing meters, (3) Illegal connection (=bypassing water meter), (4) Vandalism, (5) Poor meter management and maintenance (including improper calibration), (6) Vandalism and theft and (7) Wrong reading. However, even some Class A municipalities remark that there are unmetered properties where flat rate is applicable.

8. WCWDM / NRW / Leakage detection

Most of Class B to C municipalities indicate that there is no leakage detection nor NRW prevention as they usually hire the outsourced firms when leakage related accidents occur. Class A municipalities and water boards point out in common the ageing infrastructure and budget shortage for upgrading and newly construction of infrastructure which impact on WCWDM strategy.

9. Human resource for O&M

Almost all the respondents mentioned that the shortage of qualified staffs for O&M of facilities in the respective organisation, and personal training is also required to achieve the necessary level for proper maintenance of facilities.

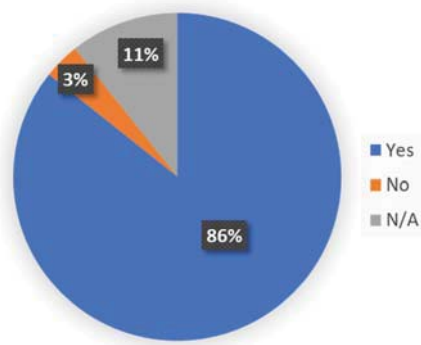
10. Others (Please specify)

Although most of the municipalities did not response to this question, 3 B1 municipalities and 1 C2 municipality argue that vehicles for daily maintenance are required.

Question 2.1.3 Facility and Equipment related to WCWDM and NRW Reduction

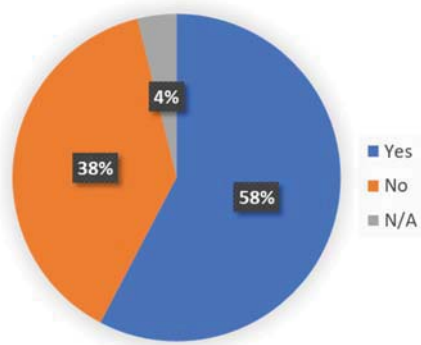
- (1) Does your WSA have flow meter(s) to measure system input volume?
- (2) Does your WSA have District-Metered Area (DMA) or flow meter(s) for DMA(s)?
- (3) Does your WSA measure water pressure in pipeline network?
- (4) Does your WSA have inventory or asset register of pipeline with information of pipe installation year and materials, etc.?
- (5) What kind of pipe materials and sizes exist in your WSA?
- (6) Does your WSA have organized/accumulated information on pipe type, materials and routes/areas which water leakage frequently occurs?
- (7) Does your WSA identify the reason why water leakage occurs?
- (8) Does your WSA have facility and/or equipment for NRW reduction, such as leakage detection equipment?
- (9) Are your WSA capable of making full use of equipment for NRW reduction, such as leakage detection equipment?
- (10) Does your WSA have a plan to procure facility and/or equipment for NRW reduction?

In regard to the flow meter, almost all the municipalities own magnetic flow meters to measure system input volume. Ultrasonic flow meters are also used in some municipalities. However only 9 municipalities out of 20 Class B to C municipalities have District-Metered Area (DMA)s or flow meters for DMAs, whereas all the Class A municipalities possess them. That means a half of middle and small sized municipalities are not able to measure in-flow and out-flow of water in the designated areas.



(Source: Project Team)

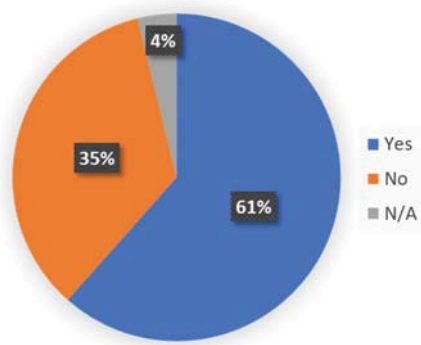
Figure 2-18: (1) Does your WSA have flow meter(s) to measure system input volume?



(Source: Project Team)

Figure 2-19: (2) Does your WSA have District-Metered Area (DMA) or flow meter(s) for DMA(s)?

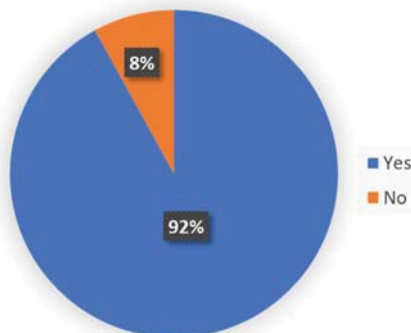
Same as above, only 9 municipalities out of 29 Class B to C municipalities measure water pressure in pipeline network by means of pressure gauge or other measuring instruments, whereas all the Class A municipalities monitored water pressure properly. It is, thus, clear from the results that a half of middle and small sized municipalities have difficulties to check leakages through measuring water pressure in pipeline network.



(Source: Project Team)

Figure 2-20: (3) Does your WSA measure water pressure in pipeline network?

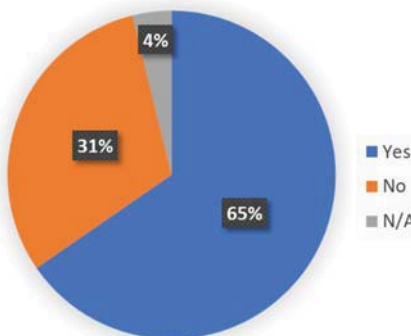
Regarding the inventory or asset register of pipeline with information of pipe installation, material and so on, almost all the municipalities, except a B1 and a B2 municipalities, have the inventory. However, in some B to C municipalities do not regularly update the inventory information, so that it is difficult for them to identify exact points and reasons of leakages.



(Source: Project Team)

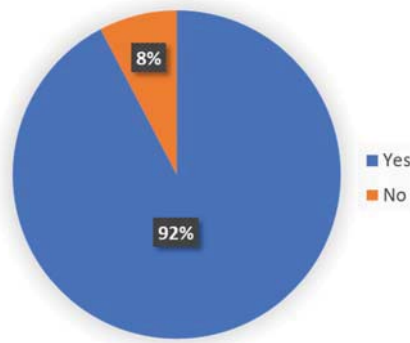
Figure 2-21: (4) Does your WSA have inventory or asset register of pipeline with information of pipe installation year and materials, etc.?

Pipe materials varies in the respective municipality, however in general, the following materials of pipes are used frequently; Steel, uPVC, Asbestos Cement (AC), High Density Polyethylene (HDPE) pipes, and pipe size ranges from 15mm to 1,400mm diameter. 65% of respondents have checked pipe type, materials and routes/areas which water leakage frequently occurs in regular basis. Notably AC pipes are still used in most of municipalities and are one of main causes of pipe bursts and leakages. In fact the municipalities pointed out the main reason why water leakage occurs is ageing old pipes such as AC, Steel and uPVC pipes. Human factors such as theft, illegal connection and vandalism are also indicated as one of main causes of water wastage.



(Source: Project Team)

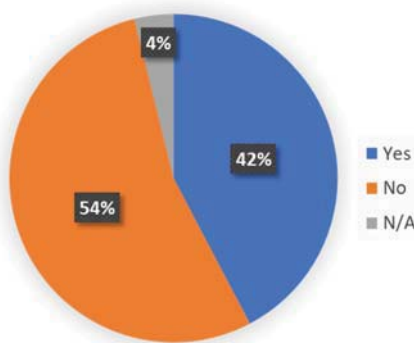
Figure 2-22: (6) Does your WSA have organized/accumulated information on pipe type, materials and routes/areas which water leakage frequently occurs?



(Source: Project Team)

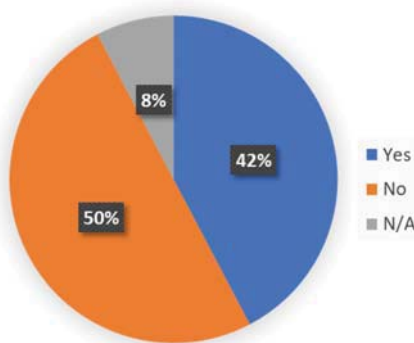
Figure 2-23: (7) Does your WSA identify the reason why water leakage occurs?

14 out of 26 respondents shows that 14 municipalities including 1 Metro municipality do not have facility and/or equipment for NRW reduction, such as leakage detection equipment. This means that the 14 municipalities hire the outsourced firms to detect the leakage location. However, some of 12 municipalities who have facility and/equipment also indicated that further training will be required to enable staffs with the efficient and effect skills to manipulate the equipment.



(Source: Project Team)

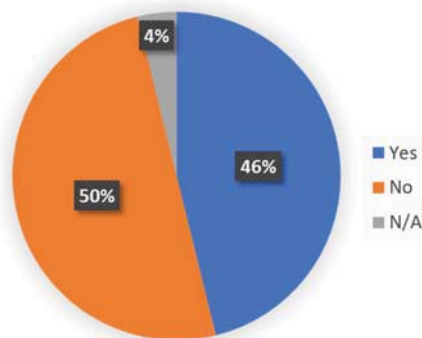
Figure 2-24: (8) Does your WSA have facility and/or equipment for NRW reduction, such as leakage detection equipment?



(Source: Project Team)

Figure 2-25: (9) Are your WSA capable of making full use of equipment for NRW reduction, such as leakage detection equipment?

In addition to that, 13 out of 26 respondents replied that they do not have a plan to procure facility and/or equipment for NRW reduction, and they intend to rely on the outsourced firms for the leakage detection.



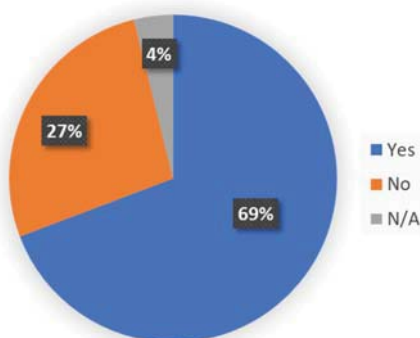
(Source: Project Team)

Figure 2-26: (10) Does your WSA have a plan to procure facility and/or equipment for NRW reduction?

Question 2.2 Policy/Strategy/Plan/Project on Water Conservation, Water Demand Management (WCWDM) and NRW Reduction

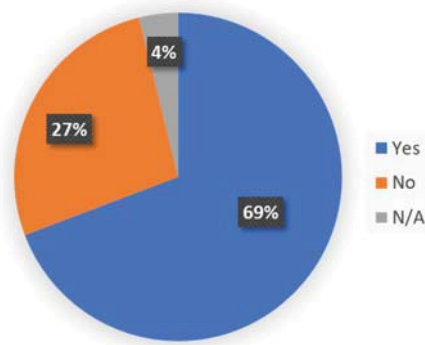
- (1) Does your WSA have policy / strategy / plan of WCWDM or NRW reduction or leakage detection?
- (2) Does your WSA have project (past, ongoing, future) of WCWDM or NRW reduction or leakage detection?

All the municipalities, except 7 municipalities and water boards, have a policy, strategy or plan of WCWDM or NRW reduction or leakage detection, and most of the municipalities with the policy, strategy or plan also have the actual project of WCWDM and NRW. In addition, 3 out of 7 municipalities without the policy, strategy or plan at the moment are now in process of drawing the plan or the plan has already been included master plans of the entire municipality.



(Source: Project Team)

Figure 2-27: (1) Does your WSA have policy / strategy / plan of WCWDM or NRW reduction or leakage detection?



(Source: Project Team)

Figure 2-28: (2) Does your WSA have project (past, ongoing, future) of WCWDM or NRW reduction or leakage detection?

The contents of the actual plan are as follows; replacement of water meters, trunk mains, distribution main, valves and fire hydrants, pressure management, maintenance of pressure reducing valves and other plan in order to develop WCWDM and NRW reduction.

In general, several water-related national strategies such as National Water Resources Strategy II have already been in progress across the country, and thus each municipality seems to recognise the importance of WCWDM and NRW reduction, and in fact take action to improve the current water supply situation.

PART3: FINANCIALS RELATED TO WATER SUPPLY AND NON-REVENUE WATER IN MUNICIPALITY

Question 3.1. Financial Status in Water Supply Section/Department

- (1) Financial statement of the water supply section / department
- (2) Cost of water purchased
- (3) Water billed
- (4) Water tariff structure
- (5) Potential Water savings in Rands

Only a few municipalities submitted the financial statement of the water supply sections and/or departments. There seems to be no financial information specialises in WSA and it could be included in the financial statement of the entire municipality.

Cost of water purchased varies in each municipality. There is a strong contrast between Class A municipalities and others. For instance, Class A Tshwane paid R 1,977 Million mainly to Rand Water and Magalies Water in 2016/17 whereas Class C2 OR Tambo purchased only R 44 Million of water in the same period.

Accurate data of water billed could not be fully received, and thus analysis on the information shall be omitted in this report. However the following is some examples in each class of municipality and water board in 2016/17;

Class A Buffalo City: R 478 Million
Class B1 Polokwane: R 91 Million
Class B2 Metsimaholo: R 113 Million
Class C2 OR Tambo: R 11 Million
WB Bloem Water: R 661 Million

Although enough information on water tariff structure in municipalities were not collected in the survey, the tariff structure of Matlosana municipality consists of basic charges and measured rate. Measured rate is, furthermore, classified in the following categories; 1. Domestic, 2. Domestic Indigent, 3. Agriculture, 4. Small Holdings, 5. Business, 6. Industry, 7. Government, 8. Schools, 9. Nursery schools, 10. Churches, 11. Flats, 12. Hospitals, 13. Institutional & correctional Services and 14. Plots. Other municipalities have similar tariff structures.

Same as above, information on “Potential Water Savings” could not be fully received and it does not make sense to analyse two or three responses. However, according to Bloem Water, 7 Million for every 1% is saved.

2.2 Literature Survey

It should be noted that all Municipalities are supposed to complete their Workplace Skills Plans (WSP) every year to be sent to LGSETA.

2.2.1 Training/Skills Development Funding System: National Skills Fund (NSF)

The National Skills Fund (NSF) is a fund located within the Department of Labour. The Fund was established in terms of the Skills Development Act, 1998. The Skills Development Act (section 28) stipulates the following objectives for the NSF: "Funds in the NSF may be used only to fund:

- Projects identified in the National Skills Development Strategy (NSDS) as national priorities.
- Other projects related to the achievement of the purposes of the Skills Development Act as the Director-General may determine.

The main source of income for the NSF comes from 20% of the skills levies collected in terms of the Skills Development Levies Act. This Act determines that skills levies will be distributed as follows:

- National Skills Fund = 20%
- Sector Education and Training Authorities = 80%

This funding is used to address government **top government** skills priority, any company, national, provincial department including the municipality can apply for such funding for their skills development also but there are not guaranteed that they will be granted the funds and further to that the funding can only be used to for programmes that address youth skills development in particular who are unemployed and PIVOT training programmes.

Therefore it is risky for a municipality to depend on this type of funding as their means to fund their training. Furthermore the funding does not cater for isolated skills programme which is not a part of a particular qualification registered at a National Qualification framework.

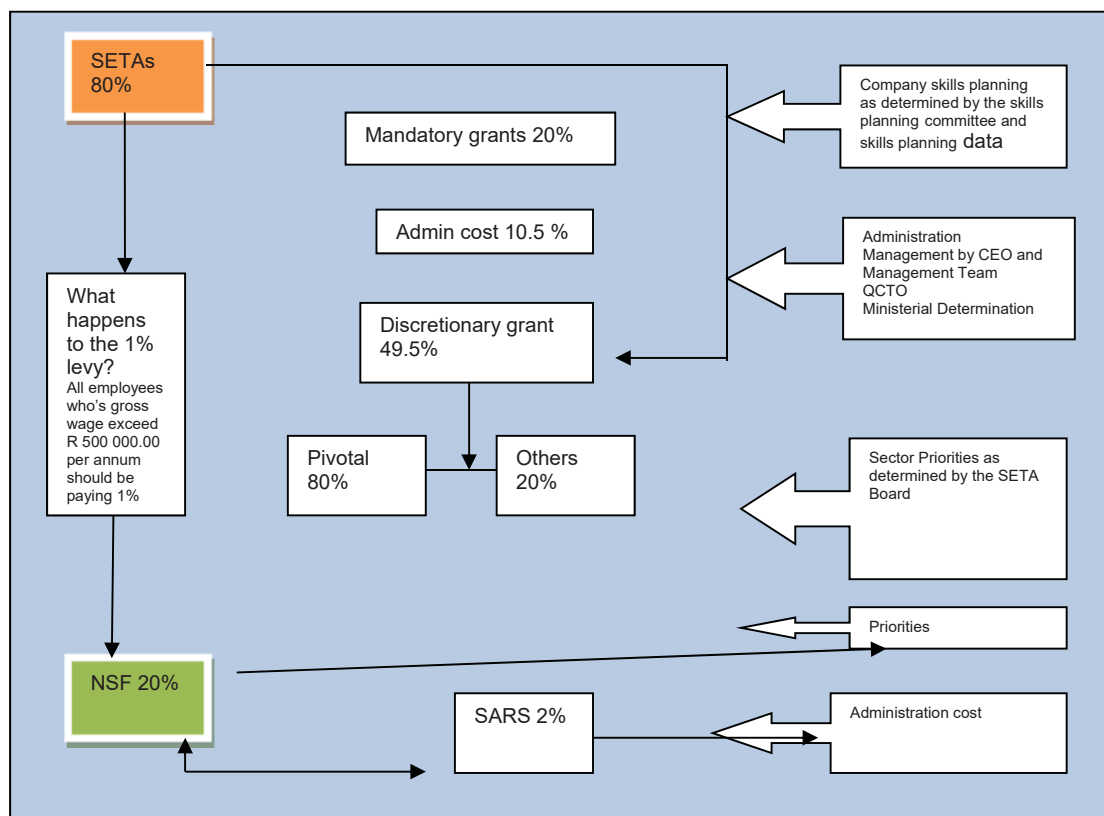


Figure 2-28: Training funding system

2.2.2 SETA grant regulation

Each and every national, provincial and local government is expected to complete and submit WSP and PIVOTAL Plan, implement it so that they get their **mandatory grant** from their respective SETA (meaning the SETA that they are submitting their WSP and ATR (Annual Training report)). However, each SETA should develop their Sector Skills Plan (SSP) to address the critical and scarce skills for their relevant sector.

The Regulations require 80% of discretionary funds to be spent on PIVOTAL programmes that address scarce and critical skills. This is not a particularly radical change, as SETAs are currently spending around 80% of funds on such programmes. The intention is to encourage SETAs to be much more specific in how they allocate these funds, and to be able to account for spending on agreed priorities within the sector and nationally, including being able to report on impact.

There are also discretionary grants that can be claimed. Discretionary grants are just that – discretionary. The purpose of the discretionary grants is for the SETA to use them to implement their SSP and to contribute to national targets. These are not grants that employers are entitled to, but a grant the SETA deploys to achieve its objectives in relation to the development of the sector.

The municipalities are obliged to budget 1% of their wage gross for the purpose of training, but further to that SALGA require them to further spent additional 1% to make it 2% of the total training, but this is not happening in most municipalities because of the debts that they have with other entities such as ESKOM on electricity and water from Department of water

and Sanitation. Therefore they become too depend on the mandatory grants which far too little to make any significant impact on skills development at large.

2.2.3 Qualification and accreditation system

The Quality Council for Trades and Occupations (QCTO) is a Quality Council established in 2010 in terms of the Skills Development Act Nr. 97 of 1998. Its role is to oversee the design, implementation, assessment and certification of occupational qualifications, including trades, on the Occupational Qualifications Sub-Framework (OQSF). Evaluation systems.

The QCTO is also responsible for the accreditation of Skills Development Providers (SDPs). For any occupational qualification to be developed an application need to be made to QCTO for consideration. But even before the application the sector need to make a research by looking at existing relevant qualifications to check the following:

- If the proposed qualification is not somehow addressed already or
- If there an existing qualification need to be re-align to cater for new job tasks or
- If a specialised qualification is needed or part qualification
- If a complete new qualification need to be developed

The qualification proposed should be a need at a sector level **NOT** at an individual company or departmental level. It should also have readily available Community of Expert Practice (CEP) members, which include the people who have been doing the job; Universities; Labour. QCTO will locate the relevant Development Quality Partner (DQP) to assist with the development should they accept the qualification e.g. in the water sector is EWSETA, Energy Seta, and LGSETA. The qualification development period and the costs will vary because there are certain factors that need to be taken into consideration:

- ✓ Complexity of the qualification
- ✓ The availability, consistency and cooperation of CEP members
- ✓ Availability of the relevant QDP
- ✓ Availability of funds

Chapter 3: Conclusion

The response rate for all categories combined makes **51%**. A conclusion can be made out of this analysis to inform or input to the next output of the project. In this B/L survey, it is clear that the demand for NRW and other related training programme is in high demand. However, most of middle and small-scaled municipalities such as B1, B2, B3 and C2 can not afford to send their employees to any training due to the lack of budget for the training and human resources. In regard to the training programme municipalities need to tackle the NRW issues, survey results of question 1.2.5 (4) “What areas do your WSA want to address through NRW training?” points out that the water loss control technique, such as leak detection, pressure management, zone management and water balance, is thought to be prioritised by municipalities. In addition, the results of question 1.2.7 (1) “What kind of training are needed for your water section / department? Or which specialty area(s) does your water section / department want to strengthen?” also shows that construction engineering and its supervisory technique are indicated as the most needed training for the WSAs. These requirements from municipalities shall be referred to the contents of training programmes which will be held in the IBTC and the design of training yard which will be established in the IBTC also.

Finally, the information gathered and analysed should be shared with all the participants including the once that did not response or not sampled.

Chapter 4: Appendices

- 4.1 Questionnaire Form**
- 4.2 Summary of Answers from Municipalities and Water Boards**
- 4.3 List of Water Services Authorities and Water Boards to be Visited/Interviewed**
- 4.4 Documents/Resources Acquisition (from Municipalities)**

4.1 Questionnaire Form

General Information

	Answers
Name of the Municipality	
Type of the Municipality (Metro, LM, DM)	
Municipal Category	
Province	
Total Number of staff in the Municipality	
Number of staff in water section/ department/Unit	
Contact person in water supply section / department	(Name) (E-mail) (Tel)

PART1: HUMAN RESOURCES DEVELOPMENT IN WATER SECTION/DEPARTMENT

1.1. Current Situation of Water Section/Department/Unit

1.1.1 Organisational Structure related to water section/department (Please provide the information below)

	Answers
(1) Number of staff in the water supply section / department:	
(2) Organizational Structure of the water section / department:	(Please provide the organizational chart)

1.1.2. Technical Level of the Water Section/Department (Please provide the information below)

	Answers
(1) Number of personnel in the water section / department:	(Please specify for each category as follows) Management: Engineer: Technician: Administration: Other (e.g. Finance, Planning, Social):
(2) Number of the qualified personnel in the water section / department	(Please specify for each category as follows) Process control: Water quality: Water reticulation: Other (e.g. Finance, Planning, Social):
(3) Does your WSA have a dedicated unit dealing with WCWDM or NRW reduction or leakage detection?	(Yes or No. If yes, please provide the detail information such as number of staff, task and activities and etc. Even if no, please describe situation if its preparation is ongoing.)

1.2. Human Resources Development in Water Section/Department

1.2.1. Basic Information about the training programme related to Water Section/Department (Please provide the information below)

	Answers
(1) Do you have a "training unit or the person in charge of training" in the water section / department?	(If yes, please provide the detailed information)
(2) Do you have a "training programme" for personnel of water section / department?	(Yes or No)
(3) Do you have a "human resources development system" in the water section / department?	(Please explain how human resources are developed)
(4) How do you keep/enhance motivation of staffs in the water section / department?	(Please explain how motivation of staffs is kept/enhanced, eg. awarding system, personnel evaluation, promotion and etc.)

1.2.2. Outline of Training Course related to Water Section/department

(Please list all the training course with information in the past 3 years)

Year	Name of the training course related to water	Purpose of the course (Please specify objectives and outcomes)	Name of Training Provider (Own Facilitator or outsourced one?)	Target of the course (eg. Senior or junior staff, admin. Staff, engineers, technicians, etc)	Accredited Course or not? (Yes/No)	If Yes (accredited), please state the level of qualification (eg. NQF-X)	Number of Facilitator	Number of Participants enrolled	Number of Participants completed	Requirement of Completion of the Course (eg. At least 80% marks of the final test)	Fund Source of the Course (eg. Municipality, SETA Grant, National Skill Fund, etc.)
2016											
2015											
2014											

Remark: Please add lines if you need.

1.2.3. Training Budget related to Water Section/Department (Please provide the information below in the past 3 years)

Year	Total Budget for Training Programme (Courses) related to Water Supply	Actual Expenditure for Training Programme (Courses) related to Water Supply
2016		
2015		
2014		

1.2.4. Facilitator/Assessor/Moderator related to Water Section/department (Please provide the information below)

	Answers
(1) Do you have facilitator/assessor/moderator related to water supply in the water supply section / department? (If Yes, please answer the question below)	
1. Number of Facilitator and his/her Specialty Area (eg. Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, etc.)	
2. Number of qualified Assessors and his/her Specialty Area (eg. Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, etc.)	
3. Number of qualified Moderators and his/her Specialty Area (eg. Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, etc.)	
4. Days or hours facilitator/assessor/moderator engaged in the Training Course in a year	
(2) List the Name of outsourced enterprises and the respective specialties (eg. Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, etc.), if any	

1.2.5. DWS-IBTC has been identified as a central point for provision and coordination of NRW training.

	Answers
(1) Can your WSA provide suitable nominee(s) for Training of Trainer (Facilitator/Assessor/Moderator) on NRW training to be held at IBTC?	(Yes or No. If Yes, please provide the list of nominees. If No, please describe the reason.)
(2) Can your WSA send suitable trainee(s) on NRW training to be held at IBTC.	(Yes or No. If Yes, please provide the list of trainees. If No, please describe the reason.)
(3) If your answer(s) is Yes for the above, can your WSA send him/her to the Training of Trainer and training for a certain period (e.g. one/two/three weeks)?	(Yes or No. If No, please describe the reason.)
(4) What areas do your WSA want to address through NRW training?	(Please specify details.)

1.2.6. Training Facility and Equipment related Water Section/department (Please provide the information on facilities and equipment your WSA possessed one by one)

	Facility	Equipment
(1) Name		
(2) Capacity		
(3) Year of Installation or Procurement		
(4) Accredited or not		
(5) Training Purpose (e.g. Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, etc.)		
(6) Utilization Situation (e.g. frequently utilized, sometimes, or not at all)		

1.2.7. Training Needs related to Water Section/department (Please provide your WSA’s experience below).

	Answers
(1) What kinds of training are needed for your water section / department? Or, which specialty area(s) does your water section / department want to strengthen?	(Please specify the training needs, (eg. Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, etc.)
(2) Why did you select the above area(s)?	(Please describe the reason(s) in detail.)
(3) Requests and/or suggestions regarding training of municipal personnel related to water supply, if any	
(4) Was the training course(s) your water supply section / department prepared or participated in good? Or bad?	(If any, please describe why it was good/bad training course(s) as a lesson learned. And if good, please describe how it contributed to your water supply section / department as a positive impact.)

PART 2: TECHNICAL: NON-REVENUE WATER IN MUNICIPALITY

2.1 Water Balance Data and Analysis

(Use the IWA Water balance spreadsheet attached to confirm the information submitted and close the gaps where information is lacking)

	Answers
(1) Does your WSA analyse water balance periodically?	(Yes or No. If No, please describe the reason)
(2) Through water balance analysis, what is a main component of NRW?	(Please describe the details.)

2.1.1 Water Sources

	No.	Annual Design Capacity (million m ³ /annum)	Annual Actual Production (million m ³ /annum)
Bulk Supply from Water Board(s)			
Surface Water (Water Treatment Plants, etc.)			
Ground Water (Boreholes, Protected Wells, etc.)			
Others: (Please specify the water sources)			

2.1.2. Existing Water Supply Facilities and Equipment (Please provide the information below)

	Answers
(1) List of existing water supply facilities	(Please provide the capacity of water treatment facilities, reservoirs, and details of pipeline such as trunk main, distribution main and network)
(2) Situation of Operation and Maintenance (O&M) of the water supply facilities	<p>(Please explain the problems/challenges in O&M for each category as follows)</p> <ol style="list-style-type: none"> 1. Water treatment plant and process control 2. Water quality 3. Trunk main 4. Distribution main 5. Network 6. Service pipe/connection 7. Water meter 8. WCWDM / NRW / Leakage detection 9. Human resource for O&M 10. Others (Please specify)

2.1.3 Facility and Equipment related to WCWDM and NRW Reduction

	Answers
(1) Does your WSA have flow meter(s) to measure system input volume?	(Yes or No. If Yes, please provide detail information including type of flow meter(s). If No, how does your WSA measure system input volume?)
(2) Does your WSA have District-Metered Area (DMA) or flow meter(s) for DMA(s)?	(Yes or No. If yes, please provide the detail information including type of flow meter(s).)
(3) Does your WSA measure water pressure in pipeline network?	(Yes or No. If yes, please provide the detail information.)
(4) Does your WSA have inventory or asset register of pipeline with information of pipe installation year and materials, etc.?	(Yes or No. If yes, please provide the detail information.)
(5) What kind of pipe materials and sizes exist in your WSA?	(Please provide the detail information per material and size.)
(6) Does your WSA have organized/accumulated information on pipe type, materials and routes/areas which water leakage frequently occurs?	(Yes or No. If yes, please provide the detail information. Even if no, please describe situation if its preparation is ongoing.)
(7) Does your WSA identify the reason why water leakage occurs?	(Yes or No. If Yes, please describe the details.)
(8) Does your WSA have facility and/or equipment for NRW reduction, such as leakage detection equipment?	(Yes or No. If Yes, please provide the detail information such as name, manufacturers, model and number.)
(9) Are your WSA capable of making full use of equipment for NRW reduction, such as leakage detection equipment?	(Yes or No. If yes, please specify which equipment your WSA make full use of.)
(10) Does your WSA have a plan to procure facility and/or equipment for NRW reduction?	(Yes or No. If Yes, please provide the detail information.)

2.2 Policy/Strategy/Plan/Project on Water Conservation, Water Demand Management (WCWDM) and NRW Reduction

	Answers
(1) Does your WSA have policy / strategy / plan of WCWDM or NRW reduction or leakage detection?	(Yes or No. If yes, please provide the detail information and attached evidence. Even if no, please describe situation if its preparation is ongoing.)
(2) Does your WSA have project (past, ongoing, future) of WCWDM or NRW reduction or leakage detection?	(Yes or No. If yes, please provide the detail information. Was/is it outsourced? Was it successful? What are lessons learned and recommendations?)

PART3: FINANCIALS RELATED TO WATER SUPPLY AND NON-REVENUE WATER IN MUNICIPALITY

3.1. Financial Status in Water Supply Section/Department (Please provide the information below)

	Answers
(1) Financial statement of the water supply section / department:	(Please provide the financial statement such as balance sheet and profit & loss statement in the past 3 years)
(2) Cost of water purchased	
(3) Water billed	
(4) Water tariff structure:	(Please provide the water tariff structure)
(5) Potential Water savings in Rands	

A 02 - 47

Our Survey Team may come to your WSA for site visiting and discussion. It would be highly appreciated if you cooperate with the Team.

This is the end of Questionnaire.
Thank you very much for your cooperation.

4.2 Summary of Answers from Municipalities and Water Boards

1.1.1 Organisational Structure related to water section/department

Class #	#	Prov.	Name	(1) Number of staff in the water supply section / department:	(2) Organizational Structure of the water section / department:
A	2	EC	Buffalo City	296	Refer to APPENDIX.
	10	GP	Johannesburg	544	Refer to APPENDIX.
	11	GP	Tshwane	589	N/A
	16	KZN	eThekweni	2,410	Refer to APPENDIX.
	7	FS	Matieland	85	Refer to APPENDIX.
	14	GP	Mogale City	190	Refer to APPENDIX.
	25	LP	Potlakoane	248	Refer to APPENDIX.
	26	MP	Govan Mbeki	56	Refer to APPENDIX.
	27	MP	Mbombela	176	Refer to APPENDIX.
	28	MP	Steve Tshwane	N/A	Refer to APPENDIX.
B1	30	NC	Sol Plaatje	367	Refer to APPENDIX.
	33	NW	Maitosana	126	Refer to APPENDIX.
	35	NW	JB Marks	68	Refer to APPENDIX.
	38	WC	George	N/A	Refer to APPENDIX.
	8	FS	Metshaholo	52	N/A
	9	FS	Mophaka	112	Refer to APPENDIX.
	3	EC	Kouga	18	N/A
	24	LP	Lephalale	48	Refer to APPENDIX.
	29	MP	Victor Khanye	15	Refer to APPENDIX.
	31	NC	Umsobomvu	20	N/A
C2	1	EC	Anathole	839	Refer to APPENDIX.
	5	EC	OR Tambo	502	N/A
	19	KZN	Ugu	606	N/A
	23	LP	Sekhukhune	640	Refer to APPENDIX.
	W2	FS	Bloem Water	275	Refer to APPENDIX.
WB	W4	NW	Magalies Water	200	N/A

1.1.2. Technical Level of the Water Section/Department

Class #	Prov.	Name	(1) Number of personnel in the water supply section / department:	(2) Number of the qualified personnel in the water section / department	(3) Does your WSA have a dedicated unit dealing with WCWDM or NRW reduction or leakage detection?	
A	2	EC	Buffalo City	Management: 2 managers: P.M. Water Supply and P.M. Water Services Authority Engineer: 4 District Engineers: Inland, Coastal, Midlands and Shr Engineer Planning Technician: 14 Superintendent: 12 Administration: 5	Refer to APPENDIX.	Yes this is under Senior Engineer Planning, 3 Senior Technicians 6 Technicians, 3 Water Inspectors, 1 System Administrator and 2 Water Serviceman
	10	GP	Johannesburg	Customer Agent: 14 Driver: 2 Foreman: 28 General Worker: 344 Operations Managers: 9 Operators: 73	N/A	N/A
	11	GP	Tshwane	Management: 29 Engineer & Engineering Technician: 41 Technician & Scientist Technician: 10 Administration: 74 Other (e.g. Finance, Planning, Social): 27	Process control: 49 Water quality: 16 Water reclamation: 69 Other (e.g. Finance, Planning, Social): 274	N/A
	16	KZN	eThekweni	Management: 29, Engineer: 33, Technician: 107, Administration: 60, Other (e.g. Finance, Planning, Social): 36	Refer to APPENDIX.	Yes
	7	FS	Matieland	Management: 3, Engineer: 0, Technician: 1, Administration: 3	Process control: 0, Water quality: 1, Water reclamation: 3	The number of staff and activities of the Water Demand Section are as follows: 18 Staff members, Activities: Water loss management Revenue Protection
	14	GP	Mogale City	Refer to APPENDIX.	Refer to APPENDIX.	Yes. We have fieldworkers who read meters and log. 3 Zonal Technician who deal with zonal meters.
	25	LP	Potlakoane	Management: 3, Engineer/ Technologist: 1, Technician: 6, Administration: 6 Management: 2 (Deputy director and manager both vacant), Technician: 3, Administration: 2, Water quality: 1, Artisan: 3, Assistant Artisan: 1, Driver: 1 and General Worker: 43	Process control: 6, Water quality: 1 Water quality: 1, Water reclamation: 3, Supervisors: 1, Artisans: 3 and Assistant Artisan: 1	No NO. The preparation is ongoing pending the approval of WDM structure approval as indicated in the organogram. The O&M employees are the one conducting WDM activities.
	26	MP	Govan Mbeki	Management: 3, Engineer: 3, Senior Engineering Technician: 2, Administration: 4, Other (Superintendents for plants and networks): 7	Process control: 16, Water quality: 4, Water reclamation: 4 plumbers	Yes, one.
	27	MP	Mbombela	N/A Management: Mr Michael Lelaka Engineer: Mr April Ntuli Technician: Mr VD Sambo	N/A Water quality: 2x Assistant Directors, 2x Technicians Water reclamation: 1 x Technician, 2x Senior Technicians	No, the WCWDM unit is in the process of being established, currently the function falls under Assistant Director Rural Water Services, Mr. Sweilhe Mbatsha and he is assisted by a Senior Technician, Mr. VD Sambo.
	B1	28	MP	Steve Tshwane	Refer to APPENDIX.	Refer to APPENDIX.
30		NC	Sol Plaatje	Management: 1, Engineer: 0, Technician: 1, Senior Technical Assistant 1, Technical Assistant 1, Administration: 2, Superintendent 1, Foreman 3, Artisans 2, Special Workman 14, Machine Operator 18, Handy man 17, Compressor Operator 1 and General Workers 64	Process control: 0 (We do not have Process Controllers as we are WSA and water treatment is done by Midvaal Water Company), Water quality: 0, Water reclamation: 124 and Planning: 2	No
35		NW	JB Marks	Management: 1 - Mr. B M Zungu	Process control: 9, Water quality: 3, Water reclamation: 26	No (Falls under function of plumbers)
38		WC	George	N/A	Take note that we buy treated water from Rand Water	NO. The preparation is ongoing pending the approval of WDM structure approval as indicated in the organogram. The O&M employees are the one conducting WDM activities.

Class #	Prov.	Name	(1) Number of personnel in the water section / department:	(2) Number of the qualified personnel in the water section / department:	(3) Does your WSA have a dedicated unit dealing with WCWDM or NRW reduction or leakage detection?
B2	FS	Melimaholo	Management: 3 Engineer: None Technician: 2 (Technologist) Administration: 6 Other: Finance - Meter readers: 30, Billing: 9 and Debt collection: 6 Planning - Project Management: 3 and Town planners: 3.	Process controllers: 3 & 2 (NQFL 2 & 4) respectively Water quality: 2 (Bachelor's Degree in Microbiology & Biotechnology; Diploma in Water Care) Water reticulation: 5 (Baccalaureus Technologies in Civil Engineering) Other: Finance - Meter readers: Grade 12 Billing: 3 BCOM Accounting, Financial Management Debt collection: 3 BCOM Financial Management Planning - Town planners: 3	Yes, currently maintenance teams for water section are used to address this matter.
	FS	Mqohaka	Management: 1 Engineer: 1 Technician: 5 Administration: 1 Management: 2 Engineer: 1 Technician: 1 Administration: 1 Other (e.g. Finance, Planning, Social): 1 Refer to APPENDIX.	Process control: 11 Water quality: 1 Water reticulation: 2 Other (e.g. Finance, Planning, Social): 12	No
B3	EC	Kouga	Management: 1 Engineer: 0 Technician: 9 Administration: 1 Other (e.g. Finance, Planning, Social): 1 Refer to APPENDIX.	Process control: 8 Water quality: 0 Water reticulation: 40 Other (e.g. Finance, Planning, Social): 1 Refer to APPENDIX.	No, WSA manager resigned.
	LP	Lephalale	Management: 1 Engineer: 0 Technician: 9 Administration: 1 Other (e.g. Finance, Planning, Social): 1 Refer to APPENDIX.	Process control: 7 Water quality: 2 Water reticulation: 4	No, currently there is no plan in place but in order to win the war over the leakages the unit must be formed.
A32 - 49	MP	Victor Khanye	Management: 1 Engineer: 0 Technician: 9 Administration: 1 Other (e.g. Finance, Planning, Social): 1, Drivers: 3, Labourers: 30	Process control: 7 Water quality: 2 Water reticulation: 4	No
	NC	Unsobomvu	Engineer: 1 Technician: 2 Administration: 1 Refer to APPENDIX.	Process control: 1 Water quality: 1 Water reticulation: 1	No
WB	EC	Amathole	Management: 13 Engineer: 01 Technician: 10 Administration: 15 Other (e.g. Finance, Planning, Social): 30	Process control: 172 Water quality: 71 Water reticulation: 564 Other (e.g. Finance, Planning, Social): 32	Refer to APPENDIX.
	EC	OR Tambo	Management: 10, Engineer: 2, Technician: 14, Plumbers: 43, Operator Class: 42, Filter and Turner: 7, Meter reader: 16, Shift workers: 11, Superintendent: 6, Scheduler and Sampler: 8, Special workman: 8, Charge hand and Handyman: 13, Sub Accountant PMU: 3, Drivers 54 Community Liaison officer: 3, ISD: 1, Foreman: 12, Artisan assistants: 21, Electricians: 8, General workers: 269, Laboratory Assistants & Microbiologist: 3, Water & Sanitation Treatment Process Officer: 1, Pump station supervisors and Pump attendants: 9, Project Officers: 5 and TLB Operator: 2	Process control: 180 Water quality: 7 Water reticulation: 261	Yes. The unit is currently having 1x Assistant Manager, 1x WCWDM Technician and 10x by-law enforcement officers. The unit is currently lacking technical capacity and is only doing by-law enforcement and bulk water meter reading. However the municipality is in a process of appointing a professional service provider who will develop a WCWDM strategy and a business plan which will serve as a blue print on what, how, when to implement various activities relating to WCWDM. The advertised and closed and is currently under evaluation.
WB	KZN	Ugu	Management: 10, Engineer: 2, Technician: 14, Plumbers: 43, Operator Class: 42, Filter and Turner: 7, Meter reader: 16, Shift workers: 11, Superintendent: 6, Scheduler and Sampler: 8, Special workman: 8, Charge hand and Handyman: 13, Sub Accountant PMU: 3, Drivers 54 Community Liaison officer: 3, ISD: 1, Foreman: 12, Artisan assistants: 21, Electricians: 8, General workers: 269, Laboratory Assistants & Microbiologist: 3, Water & Sanitation Treatment Process Officer: 1, Pump station supervisors and Pump attendants: 9, Project Officers: 5 and TLB Operator: 2	Process control: 11	Yes, There is a Manager: Water Resource Management and 3 Systems Technicians.
	LP	Sekhukhune	Management: 2 Engineer: 3 Technician: 9 Administration: 8	Process control: 84 Water quality: 6 Water reticulation: 250	No. The work is covered under Operation and Maintenance and Planning Unit.
WB	FS	Bloem Water	Management: 3 Engineer: 0 Technician: 9 Administration: 12 Other (e.g. Finance, Planning, Social): Refer 2 below	Process control: 55 Water quality: 6 Water reticulation: 0 Other (e.g. Finance, Planning, Social): SHEQ 4; Admin & Finance 8; Wellness 1; Maintenance Specialists 2, Artisans 13 (Mechanical, electrical and civil)	No. Not a dedicated unit. NRW is included in all Operations and Maintenance teams' job scope.
	NW	Magalies Water	N/A		

1.2.1.1. Basic Information about the training programme related to Water Section/Department

Class	#	Prov.	Name	(1) Do you have a "training unit or the person in charge of training" in the water section / department?	(2) Do you have a "training programme" for personnel of water section / department?	(3) Do you have a "human resources development system" in the water section / department?	(4) How do you keep/enhance motivation of staffs in the water section / department?
A	2	EC	Buffalo City	Mr N Mbombi - Program Manager - 043-7221011	Water and wastewater Treatment Learner ship Water and Wastewater Reticulation Learner ship Plumbing - Pre Trade Test	No	There is no motivation of staff in place.
	10	GP	Johannesburg	YES, Training & Development Manager: Tommy Salem	Yes	Yes	All training is outsourced to SDF's we also have an Education Subsidy System in Place. Training is provided in the form of Skills Programmes, Learner ships, and Apprenticeships and on the Job Training.
	11	GP	Tshwane	There is a department (Tshwane Leadership and Management Academy) which is responsible for all training interventions and training budget in the City of Tshwane.		Yes	Personnel are trained based on their individual training needs.
	16	KZN	eThekweni	Yes, Ethekewini Municipal Academy: Mr	Yes, Water related leaderships and	Yes	We gather Training Needs Analysis through

Class	#	Prov.	Name	(1) Do you have a "training unit or the person in charge of training" in the water section / department? Sandile Madonda	(2) Do you have a "training programme" for personnel of water section / department? plumbing.	(3) Do you have a "human resources development system" in the water section / department? Workplace skills plan, Individual development plans, performance management and Talent Management.	(4) How do you keep/enhance motivation of staffs in the water section / department?	
B1	7	FS	Majabeng	Skills development Branch liaising with Line Management and oversees training.	Training of Plumbers to be undertaken by LGSETA and Office of the Premier.	No	Employees receive long service bonus every 5 years. Employees are going on training courses. Promotion policy to be adopted by Council.	
	14	GP	Mogale City	No. Cooperated Service has a development section	No	Yes	We don't have any motivators in the department.	
	25	LP	Polokwane	There is no training unit but there is person dedicated for training for the section. Mr William Moshole was nominated to be the person in charge of training.	No	No	Nothing is done.	
	26	MP	Govan Mbeki	No	No	For the whole municipality.	Through training programs on approved training needs for work skills plan, functions and acknowledgement.	
	27	MP	Mbombela	Yes, Florence Banda, Skills manager	No	No	Not yet	
	28	MP	Steve Tshwane	No. all training intervention are facilitated by the Human Resource Management Department.	No	Human resources development initiatives are facilitated by the Skills development facilitator, courses are arranged by them and the personnel in the section are invited to attend.	The Municipality is in the process of rolling out performance management system to the lower levels. At present, performance management is only up to middle management level. A skill retention policy is in place.	
	30	NC	Sol Plaatje	Yes	Yes, however this has a lot to do with the accessing of funds.	Yes, we have a training unit: Organisational Development. Michelle van Zyl, she liaises very closely with the Water Section regarding training. The budget for training is very restricted however this year 2017/18 the municipality has just been awarded the Discretionary Grant for 2017/18, this means that very urgent and prioritized training will happen in the near future. - ID 58591 National Certificate: Water and Wastewater Treatment Process Operations (NQF2) for 7 learners - ID 60190 National Certificate: Water and Wastewater Treatment Process Control (NQF3) for 10 learners - ID 61709 National Certificate: Water and Wastewater Treatment Process Control Supervision (NQF4) for 6 learners - PRL of ID 60190 National Certificate: Water and Wastewater Treatment Process Control (NQF-3) for 5 learners - ID 259639 and 120330 Explain Basic Health and Safety principles in and around the Workplace Conduct Continued Risk Assessment in a workplace for 65 learners - ID 15034 Work in confined spaces on construction sites for 20 learners - ID 260139 Undertake an emergency rescue operation in confined space for 20 learners	There's no motivation system currently. However, there is an initiative to encourage staff. A sponsorship has been requested in this regard.	
	33	NW	Maitosana	Yes, we have a representative in Central training Committee representing Water Section.	Yes, we usually send a list of training needs to the Central Training Committee.	N/A	N/A	Through training as part of development and skills acquisition, offering bursaries for those who want to pursue their careers.
B2	35	NW	JB Marks	N/A	N/A	For the whole municipality.	Through training programs on approved training needs for work skills plan, functions and acknowledgement.	
	38	WC	George	No. It is done at HRD.	Yes. See attached list 5 Water Control Supervision.	No	Promotion	
	8	FS	Metsimaholo	Yes, Mrs. SS Sediane (Skills development officer).	No	No	Team Building sessions, regular briefing sessions, acting opportunities which also capacitates the staff. Wellness walk.	
	9	FS	Moghaka	Yes, the municipality provided in-house ad-hoc training, this training was funded through LGSETA.	Yes, the chemical suppliers also provide training to the Water section official on the handling of Chlorine Gas/Liquid, connection and dosing. Training was also provided by the service provider to the process controllers	No	Through training programs on approved training needs for work skills plan, functions and acknowledgement.	
	3	EC	Kouga	We have a dedicated Skills Development Department that coordinates all training intervention on a macro scale at Kouga Municipality.	Yes, it is prioritized in our Workplace Skills Plan 2017/18 and our Discretionary Grant Programme of LGSETA.	No. This is a standard practice at local municipalities. We have a Training Committee of Human Resources Development Committee where all Directors are being presented. This is a consultative committee that ensure training is being implemented in all Departments.	We have a Performance Management System (PMS) in place for Senior Management. We did not cascade it down to all levels in all occupational levels at this moment. We are busy putting systems in place to cascade PMS to all occupational levels as an institutional incentive system.	
	24	LP	Lephalale	No	No	The Municipality's training is centralized in HR – Skills development office.	Promotion to vacated positions.	
	29	MP	Victor Khanye	Yes, Skills Development Facilitator, Ms. BG Mnguni, responsible for the training needs of the municipality.	Yes	Yes, personnel skills are developed regularly as they are taken on course to enhance their skills and knowledge.	Qualifying, dedicated and hardworking employees are promoted when there is a vacant post within the section.	
	31	NC	Umsobomvu	Yes?No	No	No	Through a performance incentive. At year end the performing team is sent for a weekend, all expenses paid for by the WSA.	
C2	1	EC	Amathole	No	No	No	No programme in place.	
	5	EC	OR Tambo	No. However the municipality a HRD section	Yes	No	The municipality awards the performing employees on	

Class	#	Prov.	Name	(1) Do you have a "training unit or the person in charge of training" in the water section / department?	(2) Do you have a "training programme" for personnel of water section / department?	(3) Do you have a "human resources development system" in the water section / department?	(4) How do you keep/motivation of staffs in the water section / department?
WB	19	KZN	Ugu	Yes, under corporate service and deals with all training needs of the entire municipality.	Yes	Yes, All employees fill in their skills needs forms annually.	an annual basis with annual performance awards.
	23	LP	Sekhukhune	No	Yes	No	Employees are evaluated and those who meet or go beyond the expected standard are awarded.
	W2	FS	Bloem Water	Yes, training unit managed by Me C Mogorosi.	Yes, training unit managed by Me C Mogorosi.	Refer 2 above. Development by means of training and in-service training.	Performance Management system including incentives; appoint internal staff in higher positions provided that they meet the requirements, training, market related salaries and benefits.
	W4	NW	Magalies Water	We have the training and development department for all the training programmes.	Only for the learnership programme exclusive, or not internal.	All employees are developed through the IDPS in relation to their performance agreement.	Performance bonus and bursary scheme

1.2.2. Outline of Training Course related to Water Section/department

Class #	Prov.	Name	(1) Name of the training course related to water	(2) Name of Training Provider	(3) Target of the Course	(4) Accredited Course or Not?	(5) If Yes, please state the level of qualification	(6) # of Participants enrolled	(7) # of Participants completed	(8) Fund Source of the Course	
A	GP	Johannesburg	(2016) Wastewater Treatment process and technology training	Nkanyelo training and conferencing	Principal water pollution	No	N/A	2	2	Municipality	
			(2015) Water Process controller learner ship	Mahube Training & Development (MTD)	Operators	Yes	NOF 4	6	6	LGSETA	
			Water Process Controller learner ship	Mahube Training & Development (MTD)	operators	Yes	NOF 2	3	3	LGSETA	
			SANS 214/004 Laboratory system	CSV Water consultation engineer	Manager/ Principal Chemist	No	N/A	3	3	LGSETA	
			(2014) Plumbing Pre Trade Test	SANA'S Knowledge Transfer	Chemical Technician	No	N/A	3	3	Municipality	
			Plumbing Pre Trade Test	Border Training Centre	Water serviceman	N/A	N/A	N/A	6	6	LGSETA
			Best Practice in validation methods for Microbiology Laboratory	Oifanistonlein	Water serviceman	N/A	N/A	N/A	1	1	LGSETA
			Pump operating and maintenance	Links Consulting	Practical Microbiologist	N/A	N/A	N/A	1	1	Municipality
			Water and wastewater treatment process controller	Promeeste and Environmental service seta cc	Pump maintenance / Millwright	N/A	N/A	N/A	2	2	Municipality
			*They submitted only future training plan.	Mahube Training & Development (MTD)	Operators	N/A	N/A	N/A	2	2	LGSETA
A	GP	Johannesburg	(2016) Basic Welding	TLMA	Artisan	N/A	N/A	1	N/A	N/A	
			Truck Mounted Crane	N/A	Tractor Drivers/ Special Works man	N/A	N/A	4	N/A	N/A	
			Overhead Crane Pendant Controller	N/A	Process Controller / Artisan Electrician	N/A	N/A	3	N/A	N/A	
			Hazard identification and risk management	N/A	Management / Supervisor	N/A	N/A	1	N/A	N/A	
			(2015) Plumbing Level 1	TLMA	Artisan Assistant / General Worker	N/A	N/A	2	N/A	N/A	
			Basic Welding	TLMA	Artisan Assisiann/ Foreman	N/A	N/A	3	N/A	N/A	
			Tractor loader back hoe	N/A	Tractor Drivers	N/A	N/A	10	N/A	N/A	
			Truck Mounted Crane	N/A	Tractor Drivers/ Special Works man	N/A	N/A	6	N/A	N/A	
			Hazardous chemical handling	N/A	Laboratory Assistants	N/A	N/A	21	N/A	N/A	
			(2014) Plumbing Level 1	TLMA	Artisan Assistant / General Worker	N/A	N/A	16	N/A	N/A	
16	KZN	eThekwi	Water reticulation	Water academy	Junior Staff	Yes	NOF 2,3,4 & 5	Level 2= 14 Level 3= 7	On Progress	Municipality	
			Water and wastewater process controllers	Water academy	Junior Staff	Yes	NOF 2,3,4 & 5	Trade Test	Level 3= 16	On Progress	Municipality
			Plumbing	Sandra	Junior Staff	Yes	NOF 2,3,4 & 5	Trade Test	20	On Progress	Municipality
			Water and wastewater reticulation	Water academy	Junior Staff	Yes	NOF 2,3,4 & 5	NOF 2,3,4 & 5	100	On Progress	Municipality
			(2015-2014) Water Service Hand controllers	Water academy	Junior Staff	Yes	NOF 2,3,4 & 5	NOF 2,3,4 & 5	50	Completed	Municipality
			Water and wastewater treatment process controllers	Water academy	Junior Staff	Yes	NOF 2,3,4 & 5	NOF 2,3,4 & 5	50	Completed	Municipality
			Water and wastewater treatment process controllers supervisor course	Water academy	Junior Staff	Yes	NOF 2,3,4 & 5	N/A	10	Completed	Municipality
			Plumbing	Sandra	Junior Staff	N/A	N/A	N/A	50	Trade Test	Municipality
			(2016) Water and wastewater process controllers training	Mahube Training & Development (MTD)	Technicians	Yes	EWSETA	12 for both NOF level 3 and 4	12	12	LGSETA
			(2015) Water and wastewater process controllers training	Mahube Training & Development (MTD)	Technicians	Yes	EWSETA	12 for both NOF level 3 and 4	12	12	LGSETA
B1	7	FS	Majabeng	Water and wastewater process controllers	Water and wastewater process controllers	Yes	N/A	12 for both NOF level 3 and 4	12	12	LGSETA
				Water and wastewater process controllers training	Water and wastewater process controllers training	Yes	N/A	12 for both NOF level 3 and 4	12	12	LGSETA
14	GP	Mogale City	Vending Training	Facilitator – Mr. S. Moodley (Outsourced)	Senior	Yes	N/A	18	18	Municipality	
			Meter Operating & Reading	Facilitator – Mr. S. Moodley (Outsourced)	Senior and junior	Yes	N/A	41	41	Municipality	

Class #	Prov.	Name	(1) Name of the training course related to water	(2) Name of Training Provider	(3) Target of the Course	(4) Accredited Course or Not?	(5) If Yes, please state the level of qualification	(6) # of Participants enrolled	(7) # of Participants completed	(8) Fund Source of the Course		
24	LP	Lephalele	Water and Wastewater Treatment Operations (Unemployed)	Mahube Training & Development (MTD)	General workers	Yes	NQF 3	5	5	LGSETA		
			N/A									
29	MP	Victor Khamye	Engineering N1 & N2 Water and Wastewater Treatment	White River College	Process Controllers	Yes	NQF 1 & 2	2	2	COGTA		
			Pipe fitting	Ekurhuleni Artisans and Skills College	Junior Staff (Labourers)	Yes	Plumbing (Non-credit)	4	4	Municipality		
			Plumbing	Ekurhuleni Artisans and Skills College	Junior Staff (Labourers)	Yes	Plumbing (Non-credit)	4	4	Municipality		
			(2015)	Mahube Training & Development (MTD)	Junior Staff (Labourers)	Yes	NQF 4	3	3	DWS		
31	NC	Umsobomvu	Water and wastewater treatment process	Mahube Training & Development (MTD)	Junior Staff (Labourers)	Yes	NQF 4	6	6	DWS		
			Water and wastewater treatment process	Mahube Training & Development (MTD)	Junior Staff (Labourers)	Yes	NQF 4					
C2	EC	Amathole	N/A									
			Plumbing	East Cape Training Centre	Junior Staff	Yes	NQF 3	97	97	LGSETA		
			Plumbing	Border Training Centre	Junior Staff	Yes	NQF 4	50	50	LGSETA		
			N/A									
			Fitting training N1-N2 N3 Trade test	Artisan Training Institute K2014095413SA (Pty)Ltd	Fitters	Yes	N/A	N/A	N/A	N/A	N/A	
			Medium Voltage switching	Joat	Electricians	Yes	N/A	N/A	N/A	N/A	N/A	
			Telemetry training	N/A	Instrumentation Technicians	Yes	N/A	N/A	N/A	N/A	N/A	
			Mechanical training on Bernard valves and pressure reducing valves	Water Academy	Engineers	Yes	N/A	N/A	N/A	N/A	N/A	
			Water and wastewater reticulation process operations	Water Academy	Process controllers	Yes	N/A	N/A	N/A	N/A	N/A	
			Water and wastewater treatment process operations NQF-4/5	Water Academy	Process controllers	Yes	N/A	N/A	N/A	N/A	N/A	
A 02 - 53	KZN	Ugu	Sans241- implementation tool set	CSV Water Consulting Engineers	Senior Staff	Yes	N/A	N/A	N/A	N/A		
			GCC2015 3rd Edition	N/A	Senior Staff	Yes	N/A	N/A	N/A	N/A	N/A	
			Trade Test	CRDC	Artisan, Assistants and Plumbers	Yes	N/A	N/A	N/A	N/A	N/A	
			(2016)	N/A								
			Wastewater treatment course	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Project Management	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Operation and Maintenance	SMEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			CPMID-	Wis Business School	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			(2016)									
			Water and waste water process control level 02 and	Khulamonke	Process Controllers	Yes	NQF level 01 and 02	13	13	EWSETA		
WB	FS	Bloem Water	Water and waste water process control level 03	Khulamonke	Electricians	Yes	NQF level 01 and 02	11	11	EWSETA		
			Pump Station Course	DWS	Junior staff in water treatment	No	N/A	15	15	DWS		
			(2014)									
			Pump Station Course	DWS	Artisans	No	N/A	30	30	DWS		
			(2016)									
			Water treatment purification	Various	Junior Staff	Yes	NQF 1, 2 & 3	15	15	SETA fund		
			(2015)									
			Water treatment purification	Various	Community	Yes	NQF 1, 2 & 3	20	20	SETA fund		
			(2014)									
			Water treatment purification	Various	Community	Yes	NQF 1, 2 & 3	50	50	SETA fund		

1.2.3. Training Budget related to Water Section/Department

Class	#	Prov.	Name	(1) Total Budget for Training Programme (Course) related to Water Supply	(2) Actual Expenditure for Training Programme (Course) related to Water Supply
A	2	EC	Buffalo City	N/A	(2016) R 19 684.00 (2015) R 85 848.00 (2014) R 63 940.00 N/A
	10	GP	Johannesburg	N/A	
	11	GP	Tshwane	Budget centralised at Tshwane Leadership and Management Academy for the entire city.	
	16	KZN	eThekweni	Budget centralised at Tshwane Leadership and Management Academy for the entire city. (2016-2017) R 4 666 277.00 (2015-2016) R 5 051 580.00 (2014-2015) R 5 204 600.00	Budget centralised at Tshwane Leadership and Management Academy for the entire city. (2015-2016) R 4 874 781.00 (2014-2015) R 3 204 741.00
B1	7	FS	Majabang	No budgeted for separately	Training was funded by LGSETA through discretionary grants. (2017) R 975 002.00 (2016) R 80 429.00 (2015) R 16 326.00 N/A
	14	GP	Mogale City	N/A	
	25	LP	Potokwane	N/A	
	26	MP	Govan Mbeki	Budget is centralised for all work skills plan. N/A	

Class	#	Prov.	Name	(1) Total Budget for Training Programme (Course) related to Water Supply			(2) Actual Expenditure for Training Programme (Course) related to Water Supply		
				(2016) R	(2015) R	(2014) R	(2016) R	(2015) R	(2014) R
	27	MP	Mbombela	(2016) R 500 000	(2015) R 0	(2014) R 0	N/A	0	0
	28	MP	Steve Tshwane	N/A	N/A	N/A	N/A	0	0
	30	NC	Sol Plaatje	(2016) R 1 000 000	(2015) R 0	(2014) R 0	(2016) R 0	(2015) R 0	(2014) R 0
	33	NW	Matlosana	(2016) R 1 000 000	(2015) R 500 000	(2014) R 500 000	(2016) R 702 000	(2015) R 472 500	(2014) R 370 000
	35	NW	JB Marks	Total budget for council not specified.			N/A		
	38	WC	George	N/A			N/A		
B2	8	FS	Metsimaholo	(2016) R 1 423 000	(2015) R 1 367 350	(2014) R 1 131 600	N/A	N/A	N/A
	9	FS	Mophaka	N/A			N/A		
	3	EC	Kouga	N/A			N/A		
	24	LP	Lephalale	N/A			N/A		
B3	29	MP	Victor Khanye	(2016) R 150 000	(2015) R 100 000	(2014) R 90 000	(2016) R 175 000	(2015) R 102 000	(2014) R 89 000
	31	NC	Umsobomvu	(2014) R 167 296.00			(2014) R 167 245.00		
	1	EC	Amathole	N/A			N/A		
	5	EC	OR Tambo	N/A			N/A		
C2	19	KZN	Ugu	N/A			N/A		
	23	LP	Sekhukhune	Refer to APPENDIX.			N/A		
	W2	FS	Bloem Water	N/A			N/A		
WB	W4	NW	Magalies Water	N/A			N/A		

1.2.4. Facilitator/Assessor/Moderator related to Water Section/department

Class	#	Prov.	Name	If yes, please answer the question below				(2) List the Name of outsourced enterprises and the respective specialties (eg. Process Control, Water Retiulation, Plumbing, Water Quality, Design, Supervision, etc.), if any		
				(1) Do you have facilitator/assessor/moderator related to water supply in the water supply section / department?	1. Number of Facilitator and his/her Specialty Area (eg. Process Control, Water Retiulation, Plumbing, Water Quality, Design, Supervision, etc.)	2. Number of qualified Assessors and his/her Specialty Area (eg. Process Control, Water Retiulation, Plumbing, Water Quality, Design, Supervision, etc.)	3. Number of qualified Moderators and his/her Specialty Area (eg. Process Control, Water Retiulation, Plumbing, Water Quality, Design, Supervision, etc.)		4. Days or hours facilitator/assessor/moderator engaged in the Training Course in a year	
A	2	EC	Buffalo City	N/A	N/A	N/A	N/A	N/A	N/A	JW Procure training through the normal procurement process and in line with MFMA. Every learning intervention is either contract through a tender process or utilising the RFQ process.
	10	GP	Johannesburg	N/A	N/A	N/A	N/A	N/A	N/A	Water academy - Water retiulation, Process control and wastewater retiulation
	11	GP	Tshwane	No	N/A	N/A	N/A	N/A	N/A	- Professional Engineering Services for Capital Water Projects
	16	KZN	eThekweni	No	No	No	No	None	None	- Regular outsourcing of Contractors to assist with Water leakages
	7	FS	Matlabeng	No	N/A	N/A	N/A	N/A	N/A	- Leak Detection Services
B1	14	GP	Mogale City	No	Water Quality = 3	Water Quality = 3	Water Quality = 0	N/A	N/A	N/A
	25	LP	Polokwane	Yes	Water Retiulation, Plumbing and Superintendent	Water Retiulation, Plumbing and Superintendent	Water Retiulation, Plumbing and Superintendent	N/A	N/A	N/A
	26	MP	Govan Mbeki	No	N/A	N/A	N/A	N/A	N/A	N/A
	27	MP	Mbombela	No	N/A	N/A	N/A	N/A	N/A	Mechanical and electrical instrumentation, Some plumbing work, Fitter and turners, Welding and Design
	28	MP	Steve Tshwane	No	N/A	N/A	N/A	N/A	N/A	University of Pretoria- Water Treatment Process (short course) and Water Quality Management (short course)
	30	NC	Sol Plaatje	Not formally, but there is great potential.	N/A	N/A	N/A	N/A	N/A	N/A
	33	NW	Matlosana	No	No	No	No	N/A	N/A	Yes, Dinaledi, Mahube, Bonang and University of Pretoria (Chemical Engineering)

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Class #	Prov.	Name	If Yes, please answer the question below				4. Days or hours facilitator/assessor/moderator engaged in the Training Course in a year (e.g., if any)	(2) List the Name of outsourced enterprises and the respective specialties (eg. Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, etc.), if any
			(1) Do you have facilitator/assessor/moderator related to water supply in the water supply section / department?	1. Number of Facilitator and his/her Specialty Area (eg. Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, etc.)	2. Number of qualified Assessors and his/her Specialty Area (eg. Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, etc.)	3. Number of qualified Moderators and his/her Specialty Area (eg. Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, etc.)		
B2	NW	JB Marks	No	No	No	None	Korone Consulting Engineers, Process contractors and Management of Water Treatment Networks	
	WC	George Metsimaholo	Qualified as mentor with treasury for ISDG programme (Marius Maritz)	5 but not registered.	5 but not registered.	5 but not registered.	None, done in house.	
B3	FS	Mqohaka	No	N/A	N/A	N/A	N/A	
	FS	Mqohaka	Yes	Water treatment and water reticulation.	Process Control, water reticulation, plumbing, water quality and supervision.	Facilitator = 40hrs, Assessor = 40hrs	None	
	EC	Kouga	Not yet.	N/A	N/A	N/A	Manube Training Solutions	
	LP	Lephalale	No	N/A	N/A	N/A	N/A	
	MP	Victor Khanye	No	N/A	N/A	N/A	N/A	
	NC	Umsobomvu	No	N/A	N/A	N/A	N/A	
C2	1	EC	Amathole	No	None	0	None	
	5	EC	OR Tambo	N/A	N/A	N/A	N/A	
	19	KZN	Ugu	N/A	N/A	N/A	N/A	
WB	W2	Bloem Water	No. External Service providers engaged during training.	N/A	N/A	N/A	Lepelle Northern Water: Bulk purification distribution. Dr JS Moroka Municipality: Bulk purification distribution.	
	W4	Magalies Water	No	N/A	N/A	N/A	N/A	

1.2.5. DWS-IBTC has been identified as a central point for provision and coordination of NRW training.

Class #	Prov.	Name	(1) Can your WSA provide suitable nominee(s) for Training of Trainer (Facilitator/Assessor/Moderator) on NRW training to be held at IBTC?		(2) Can your WSA send suitable trainee(s) on NRW training to be held at IBTC?		(3) If your answer(s) is Yes for the above, can your WSA send him/her to the Training of Trainer and training for a certain period (e.g. one/two/three weeks)?		(4) What areas do your WSA want to address through NRW training?
			Yes only on discounted rates or provided that the training is free.	Yes	Yes 6 technicians can attend	Yes	Yes, however an approval internally is required and therefore a time to prepare is needed. Manager-WSA and a Senior Technician-Water Demand can attend	Pressure management, Leak Detection and Water Consumer Awareness	
A	2	EC	Buffalo City	Yes	Yes	JW Water conducts a Training Needs Analysis on an annual basis. For this reason no standard list can be provided because training is conducted in terms of the current FY needs and availability of budget.	N/A	N/A	Water Reticulation and Bulk Waste Water Process Control courses as well as other technical related competency as outlined in the Training Plan to achieve a competent workforce.
	10	GP	Johannesburg	Yes	Yes	Sanitation has just transferred training section to the academy. This intervention will have to be discussed and decided at a senior level.	N/A	N/A	Water Reticulation and Bulk Waste Water Process Control courses as well as other technical related competency as outlined in the Training Plan to achieve a competent workforce.
	11	GP	Tshwane	No. Etshkweni Municipal Academy is centralizing all training activities. Water and Sanitation has just transferred training section to the academy. This intervention will have to be discussed and decided at a senior level.	Yes	Yes - Frieda McBetty (Acting Manager Water Demand)	Yes	No. As per reasons stated on number 1 above.	Improve quality of repairs, internal staff capacity building, implementation of new technology, Pressure Management skills
	16	KZN	eThekweni	Yes	Yes	Sanitation has just transferred training section to the academy. This intervention will have to be discussed and decided at a senior level.	Yes	Yes	Water losses
B1	7	FS	Matjabeng	Yes - Frieda McBetty (Acting Manager Water Demand)	Yes	Yes - Frieda McBetty (Acting Manager Water Demand)	Yes	Yes	Full understanding on what are the component on NRW and that finances also play a huge role on the NRW
	14	GP	Mogale City	N/A	Yes	Yes	Cikizwa Mandili, Cameron Mamesta, Frans Delek, Daniel Mosomane and Org Viljoen	Logging, leak detection, pressure management, Zonal Management, water management, Asset management, Project Management, Collaborative Water Planning, Urban water design, GIS and Water resources mapping, Community water development, Climate change and water Resources.	
	25	LP	Potokwane	Yes, Mr W Moshole, Mr C Mahlangu and Mr G Khumalo	Yes	Yes, Mr T Makwela, Mrs MB Ramusetheli, Ms D Shai and Ms H Legodi	Yes	Yes	Water losses, Cost recovery, Meter audits, Water balance, Water conservation and Water demand
	26	MP	Govan Mbeki	Yes. Sabelo Makhanya, Zweibanzi Edward Masuku, Hape Joyce Setenane, December	Yes. Sabelo Makhanya, Zweibanzi Edward Masuku, Hape Joyce Setenane, December	Yes. Sabelo Makhanya, Zweibanzi Edward Masuku, Hape Joyce Setenane, December	Yes	Yes	1. Plumbing 2. Water demand management

Class	#	Prov.	Name	(1) Can your WSA provide suitable nominee(s) for Training of Trainer (Facilitator/Assessor/Moderator) on NRW training to be held at IBTC?	(2) Can your WSA send suitable trainee(s) on NRW training to be held at IBTC?	(3) If your answer(s) is Yes for the above, can your WSA send him/her to the Training of Trainer and training for a certain period (e.g. one/two/three weeks)?	(4) What areas do your WSA want to address through NRW training?
B2	27	MP	Mbombela	Velem Radebe, Msongelwa Isaac Makhanye, Samuel Monkie Mahlangu, Elijah January Mphahlele, Mphikwa Joseph Mphahlele, Mphikwa Joseph Mahlangu, Fiki Stanley Mthebula, Kholekile Daniel Mthimunyaseac Makhanya, December Radebe and Elijah Mahlangu	Isaac Makhanye, Samuel Monkie Mahlangu, Elijah January Mphahlele, Mphikwa Joseph Mphahlele, Fiki Stanley Mthebula and Kholekile Daniel Mthimunyaseac		3. Infrastructure Operation and maintenance 4. Asset management
	28	MP	Steve Tshwane	B Selokane, K Moabelo, L Sibuyi, L Ngcobo, A Jaffa, E Shabalala, T Venter and PJ Ngwenyama	Yes	One week at a time	Water balancing, Dealing with Unauthorized connections, Leak detection, Pressure management and Zoning or sectorisation
	30	NC	Sol Plaatje	Yes, Mr Swelihle Mbatha.	Yes, Mr Victor Sambo.	Yes	Enable officials to gain more knowledge so that the knowledge can be applied in reduce water losses within the municipality.
	33	NW	Maitosana	Yes: Motale Selesho, Sabelo Mkhize and Saul Maseng Yes 1. Itumeleng Letahle – Eng. Technician 2. Hanse Mohapi- Superintendent 3. Neville Swarts- Foreman 4. Tshupo Modipa- Assistant Technician	Yes: Attached list (consider some of War on Leaks learners - selected few) Yes 1. Zakes Legodi- Senior Plumber responsible for Bulk maintenance and Water Quality 2. Sarel Mouton - Senior Plumber responsible for Bulk maintenance and Water Quality 3. Dannie Louw – Senior Plumber responsible for Bulk maintenance and Water Quality 4. Antony Ruthman- Senior Plumber responsible for Bulk maintenance and Water Quality 5. Domicic Lisenyane – responsible for network maintenance 6. Richard Machakela responsible for network maintenance responsible for network maintenance 7. Edward Moile - responsible for network maintenance 8. John Gale - responsible for network maintenance 9. Meshack Klaas - responsible for network maintenance 10. Abraham Phia - responsible for network maintenance 11. Joseph Keogatlile - responsible for network maintenance 12. Giep Smit- responsible for network maintenance 13. Joseph Molebatsi- responsible for network maintenance 14. David Mokabane - Foreman- responsible for Bulk, Water Quality(chlorination) and network maintenance 15. Louise Botha – Foreman- responsible for Bulk (chlorination) and network maintenance 16. Robert Motseole – Telemetry Technician responsible for Bulk/ Zonal meters 17. Khido Keikabile – Admin - deals with all water legislative regulations Yes, S Sappha, J Z Konosi, H Tshabadiira, M Maphalathi, J F Koraan and A Gaeding	Yes, with groups. The NRW, to prevent water loss.	
B3	35	NW	JB Marks	Yes, M Van Der Walt and R Van Der Merwe	Yes, S Sappha, J Z Konosi, H Tshabadiira, M Maphalathi, J F Koraan and A Gaeding	Yes	Water quality, Operators and Plumbing
	38	WC	George	1. Henry Jansen 2. Geoffrey Bredenkamp 3. Marius Swart 4. Alton Michaels 5. Johan Scheepers	1. Henry Jansen 2. Geoffrey Bredenkamp 3. Marius Swart 4. Alton Michaels 5. Johan Scheepers	Yes	1. Plumbing (Pressure Relieve Valves) 2. Water demand management 3. Infrastructure Operation and maintenance 4. Asset management
	8	FS	Metsimaholo	1. Mmaseipati Ramovha 2. Nthabiseng Mofokeng 3. Sibusiso Mabuzza	1. Mmaseipati Ramovha 2. Nthabiseng Mofokeng 3. Sibusiso Mabuzza	Yes	- Leakages - Billing - Meter reading - Pressure - Artisans (Fitter), - Process controllers, - Design, - Water Quality
B3	9	FS	Moqhaka	Yes, Leslie Ramathibela and Benjamin Xaba	Yes, Leslie Ramathibela and Benjamin Xaba	Yes, for three weeks.	- Leak Detection systems: Identify, record and implement corrective actions. - Increase water quality for human consumption
	3	EC	Kouga	Yes. Propose the following: 1. Eddie Oosthuizen 2. Phil Titus 3. Sidney Galeba 4. D. Titus 5. P. Felix 6. M. Nelson	Yes	Yes	

Class	#	Prov.	Name	(1) Can your WSA provide suitable nominee(s) for Training of Trainer (Facilitator/Assessor/Moderator) on NRW training to be held at IBTC?		(2) Can your WSA send suitable trainee(s) on NRW training to be held at IBTC?	(3) If your answer(s) is Yes for the above, can your WSA send him/her to the Training of Trainer and training for a certain period (e.g. one/two/three weeks)?	(4) What areas do your WSA want to address through NRW training?
				S Nkoe, LP Marakalala, MS Seleka and ME Kgobwa. They are senior staff within the division and have relevant qualifications.	Yes, Mmekwa SR, Vlakazi EM and Sepenyane MB.			
C2	24	LP	Lephalale	Yes, Mmekwa SR, Vlakazi EM and Sepenyane MB.	Yes, Mmekwa SR, Vlakazi EM, Dihlhamini JM, Sili NL, Sepenyane MB, Bembe DT, Masango MW, all process controllers (8) and all Labourers (30), see attached organogram.	Yes, Three weeks.	Cost recovery, WCWDM, Leak detection and network sectorisation.	
	29	MP	Victor Khanye	Yes, Mmekwa SR, Vlakazi EM and Sepenyane MB.	Yes, Mmekwa SR, Vlakazi EM, Dihlhamini JM, Sili NL, Sepenyane MB, Bembe DT, Masango MW, all process controllers (8) and all Labourers (30), see attached organogram.	Yes	Revenue enhancement, Leak detection & solving and Water balancing.	
	31	NC	Umsobomvu	Yes	Yes	Yes	Meter reading and repairs.	
	1	EC	Amathole	YES, Gervais Sery, Thembekile Mdiya, Sindiswa Mvuni, Sibusiso Twani and Salathiso Nombanga.	Yes, Nominees as above.	Yes	Pressure Management, Leak Detection, Illegal Connections, meter replacements and retrofitting of internal plumbing.	
	5	EC	OR Tambo	L Mashiya (WSA Manager), M Mabandla (Assistant Manager WCWDM), C Tiyo (Assistant Manager Free Basic Services), M Mbokwana (Planning Coordinator), S Maqoko (WSP Manager) and S Wana: M Macingwana, M Mbiliase, S Mkhondo.	M Maqavana (WCWDM Technician)	N/A	Technical: Active leakage control, Pressure management, Leak detection, Zoning/Sectorisation and Apparent water loss control. Social: Water Use efficiency, Education and Awareness.	
WB	19	KZN	Ugu	Yes, Manager: Water Resource Management, and Systems Technicians	Yes, Manager: Water Resource Management, and Systems Technicians	Yes	Pressure Management and Development of Water Balance	
	23	LP	Sekhukhune	Yes, R.V Mlangeni, KD Rankwe, T Ledwaba and K Ramadje	Yes, Non-Revenue Water, Reticulation network and Civil Design.	Yes	Sekhukhune District Municipality as a WSA is a grant base municipality, which impose a risk to the future, plans hence the municipality plan to be a stable entity. Revenue enhancement plan and strategies will ensure possible options to ensure proper collection of the revenue.	
	W2	FS	Bloem Water	No	Yes, 24 Maintenance technicians, 34 senior process controllers and/or 3 plant supls.	Preferably not more than one week at a time (operational requirements).	Effective infrastructure maintenance (pipelines) in order to reduce the cost and actual % of NRW, improved efficiencies. Leak detection best practices/technology.	
A	W4	NW	Magalies Water	No, water services does not have a training department.	No	No	1) Quantification 2) Infrastructure refurbishment, replacement as well as maintenance	

1.2.6. Training Facility and Equipment related Water Section/department

Class	#	Prov.	Name	(1) Facility		(2) Equipment	
				(1) Name (2) Capacity (3) Year of Installation or Procurement (4) Accredited or not (5) Training Purpose (e.g. Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, etc.)	(6) Utilization Situation (e.g. frequently utilized, sometimes, or not at all)	(1) Name (2) Capacity (3) Year of Installation or Procurement (4) Accredited or not (5) Training Purpose (e.g. Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, etc.)	(6) Utilization Situation (e.g. frequently utilized, sometimes, or not at all)
A	2	EC	Buffalo City	N/A		JD7 BULLET PACKAGE SEWERIN AQUATEST T10 CORRELUX P2 PRO LOG SET-N3 TNC - 60 SINGLE COMMANDER 3 SET COMP LOG N-3 GSM-BOX 3 SET LOG REPEATERS - 3 SET 15 PIPE TRACER LOCATER VLOC PRO2 SYSTEM SD 5-WATT SET TRANSMITTER CLAMP VLOC PRO TX 125mm	
	10	GP	Johannesburg	1. Fennell Training Centre 2. 100 learners at any given time 3. 2008 4. Not accredited 5. As per Training Needs identified for the specific FY 6. Facility is Utilized on a daily basis		Current Training Centre only has few class room available (5 class room accommodating 20 learners). Additional Classrooms are available at the Depots. Practical Training mainly takes place on workites with the day to day working equipment. There is no equipment available to be used as Training Aids.	
	11	GP	Tshwane	N/A - Halifax Road, New Germany 1. Hazelmere Training Room in Pinetown at the Training Centre 2. 25 people to be accommodated in a class 3. Plus or minus 10 years 4. Not accredited 5. Hazelmere is used for learner ships on Water Supply programmes 6. It is frequently used.		N/A	
	16	KZN	eThekweni			Fully equipped training room at Hazel mere	Fully equipped training center
	7	FS	Matlabeng			N/A	N/A
B1	14	GP	Mogale City			N/A	N/A

Class	#	Prov.	Name	(1) What kinds of training are needed for your water section / department? Or, which speciality area(s) does your water section / department want to strengthen?	(2) Why did you select the above area(s)?	(3) Requests and/or suggestions regarding training of municipal personnel related to water supply, if any	(4) Was the training course(s) your water supply section / department prepared or participated in good? Or bad?
B2	30	NC	Sol Platjfe	<ul style="list-style-type: none"> Supervision; Water conservation & water demand management <p>Pipe Fitters (Industrial plumbing), ID 58591 National Certificate: Water and Wastewater Treatment Process Operation (NQF 2) for 7 learners, ID 60190 National Certificate: Water and Wastewater Treatment Process Operation (NQF 3) for 10 learners, ID 61709 National Certificate: Water and Wastewater Treatment Process Operation (NQF 4) for 6 learners, RPL of ID 60190 National Certificate: Water and Wastewater Treatment Process Operation (NQF 3) for 5 learners, ID 259639 and 120330 Explain Basic Health and Safety principles in and around the Workplace. Conduct Continued Risk Assessment in workplace for 65 learners, ID 8016 Maintain Occupational Health, Safety and General Housekeeping for 40 learners, ID 15034 Work in confined spaces on construction site for 20 learners, ID 260139 Undertake an emergency rescue operation in confined space for 20 learners, Supervision</p>	<p>and efficient operations.</p> <ul style="list-style-type: none"> Enable the Municipality to reduce water losses. <p>This is long outstanding needs for effective service delivery. It is also training required by law for the size of the plant and for health and safety purposes.</p>	<ul style="list-style-type: none"> University of Pretoria- Water Quality Management - short course Water conservation & water demand management short course <p>This is done annually in cooperation with the Water Section and Supervisors. Individualized information is collected annually in November.</p>	In the training received in 2016 - the facilitator of the provider was rude and kept telling the learners that they would fail. This matter only came out when the number of successful candidates was revealed. This organisation was contacted and the matter was reported to the management.
	33	NW	Mattosana	<ol style="list-style-type: none"> Water Quality Water Reticulation Design Non-Revenue Water and Water loss 	<ol style="list-style-type: none"> Water Quality –In order to improve our water quality Water Reticulation – to better our service point of reticulation to our communities Design- To be able to design and planning of Water Networks (allycat programming) Non –Revenue Water and Water loss- to be able to prevent water loss and Calculate Water balance 	We therefore request the above training to be offered to our Municipality –Water Section.	Good , it has improve the knowledge of our staff and prepare them for promotions as they have a better knowledge and skills required in Water Sector and when we have senior posts we chose from within due to the knowledge acquired during training sessions they went through. Also improve our WSP and contribute to our Service delivery.
	35	NW	JB Marks	Process Control, Water Reticulation, Plumbing and Water Quality	To strengthen council's ability to function at a higher level.	Specified training courses must be presented more than once a year, as council's cannot send all their personnel at once for training.	Process controllers-Good, it helped personnel to understand the process and functioning of water systems.
	38	WC	George	Water reticulation, water quality, plumbing and supervision.	Municipality source its own water from its water supply systems.	Need to complete National Diploma Civil Engineering.	None all are good.
B3	8	FS	Metsimaholo	<ul style="list-style-type: none"> Process Control Water reticulation Plumbing Supervision Water balancing 	<ul style="list-style-type: none"> According to Water Services Act 108 of 1997 is required that Plant Supervisor, Process Controllers, Maintenance team civil, electrical and mechanical operating the plant be qualified as stipulated by the act and per key performance indicators in the Blue and Green Drop Assessment. Currently process controllers are under qualified. Current there is repetition of work on the repairs of network/reticulation. To know more on balancing of water because billing is not done correctly. 	<ul style="list-style-type: none"> Skill development and capacity building is key in mitigating and averting any risks related to water supply. Preventative management is key to avert high maintenance costs. Community awareness on water Controlling of PRV's Reticulation systems Importance of water balance How to maintain good working relations How to maintain good water quality 	<ul style="list-style-type: none"> Training was good as participants gained more knowledge on the subject and showed keemness to apply it at work to improve operational processes. Yes, it helps the process controllers to run the plants/WTTW. The plumbers training was good, but they still leak implementation part of it.
	9	FS	Mochaka	Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision	These are key functional areas of operation that will enable the water services to achieve optimum efficiency.	Team Leader/Supervisor accountability training.	The training courses that the water supply section participated in are very relevant and in line with the requirements of the Department of Water Services.
	3	EC	Kouga	Product awareness, Installation Process and Monitoring systems	New products on the market, S.O.P required for installations and System and equipment required for leak detection	Detailed process plan to target and prioritise training in this field. Conduct an assessment of existing staff to RPL them in order to send them for Trade Test Certification.	Insufficient training currently. Training initiated by LGSETA was done at NQF Level 2. The expectation was to take them to NQF Level 3- 5 as well.
	24	LP	Lephalale	Refer to APPENDIX.	They are critical to ensure proper management of O&M activities.	Yes, we do request training on WCWDM measures.	N/A
	29	MP	Victor Khanye	<ol style="list-style-type: none"> Water Reticulation Water quality Supervision. 	<ol style="list-style-type: none"> Water Reticulation: the municipality does not have personnel responsible only for reticulation, the training will assist the municipality in terms of improved service delivery and accountability. Water Quality: there are only 2 personnel responsible for water quality which is not enough as tasks such as collecting samples, reports meetings, consumer complaints, etc. must be 	Water care	Good, the personnel gained the theoretical experience as they only had the practical work exposure.

Class	#	Prov.	Name	(1) What kinds of training are needed for your water section / department? Or, which speciality area(s) does your water section / department want to strengthen?	(2) Why did you select the above area(s)?	(3) Requests and/or suggestions regarding training of municipal personnel related to water supply, if any	(4) Was the training course(s) your water supply section / department prepared or participated in good? Or bad?
C2	31	NC	Umsobomvu	All of the above examples.	attended to on a regular basis. 3) Supervision: Supervisory skills are lacking on most of the key personnel Water team varies from none to semiskilled, therefore all most all the training required depending on the level of education for each individual. WCDM: NRW & Water Losses currently Above 40% Waste Water Quality: Less than 40% compliant. Plumbing: Ageing infrastructure & Leaks inside properties Asset Management: To equip staff in implementing the newly developed asset management strategy.	Advance training is Process Operation: N3-N4	Good
	1	EC	Amathole	Asset Management, WCDM, Water Quality, Design and Process Control.		Leak Detection, Pressure Management and Asset Management.	N/A
	5	EC	OR Tambo	Process Control, Water Reticulation, Plumbing, Water Quality, Design, Supervision, By Law Enforcement, Education and Awareness and Social Facilitation.	Because the municipality is Water Services Authority and currently it has a limited capacity to fulfil its mandate in terms of Water Services Act.	That the training be conducted in blocks for different groups in order to avoid destructing service delivery.	It was good. However not much improvement on the water supply section due to lack of tools of trade and effective leadership. Furthermore, lack of monitoring and evaluation.
	19	KZN	Ugu	Leak detection, Plumbing, Water and waste water treatment, Pressure Management, Supervision, Development of water balance, ISO 17025:2005 Laboratory Accreditation, Good Laboratory Techniques, Adroit training, Calibrating of instruments training, Sludge Treatment & disposal and Project Management	The employees have submitted their training needs and these were at the forefront.	Leak detection, Plumbing, Water and waste water treatment, Pressure Management, Supervision, Development of water balance, ISO 17025:2005 Laboratory Accreditation, Good Laboratory Techniques, Adroit training, Calibrating of instruments training, Sludge Treatment & disposal and Project Management	Good, There was improvement in the performance of staff that attended the training.
	23	LP	Sekhukhune	Water reticulation, process control and revenue enhancement management.	To strengthen the plans to ensure proper revenue enhancement.	Non-Revenue Water, Reticulation network and Civil Design.	Good, the municipality will improve.
A	W2	FS	Bloem Water	N/A	1) Identify best method of treatment at affordable cost 2) Optimal maintenance of infrastructure 3) Accurate collection of consumption data to inform improvements in decision making	Training to be as practical as possible.	N/A
	W4	NW	Magalies Water	1) Process optimization 2) Infrastructure maintenance 3) Water meter management			

2.1 Water Balance Data and Analysis

Class	#	Prov.	Name	(1) Does your WSA analyse water balance periodically? Yes every quarter planning to prepare accurate IWA balance every month.	(2) Through water balance analysis, what is a main component of NRW? Background System Losses and general water losses. • Consumers that are not on the billing database (e.g. Formal stands, Not Deemed stands) • Unbilled unmetered stands – formal stands where the individual water consumption is not metered (large areas) • Deemed customers (flat rate customers) • Not Prepaid stands in prepaid areas • Illegal connections (both conventional and prepaid areas) • Meter inaccuracies (ageing meters) Water losses due leaks and illegal connection. (non-revenue water) The Real Loss component, which is made up of mainly leaks and bursts within the distribution network. Distribution and commercial losses. Water losses Unbilling for the rural areas as they received free basic water and there is no cost recovery at the moment Distribution losses. Revenue enhancement for the City of Mbombela. The water balance is not yet done using the IWA water balance model. There is no distinction between the types of water losses. I don't understand the question. N/A Water demand management Distribution losses. N/A The aged water infrastructure. Billing System, Old meters, erven with no meters, hidden meters, pipe breaks and
A	2	EC	Buffalo City	Yes	
	10	GP	Johannesburg	Yes	
	11	GP	Tshwane	Yes	
	16	KZN	eThekweni	Yes	
	7	FS	Mafabeng	Yes, the Municipality analyse water annually.	
	14	GP	Mogale City	Yes, it is required.	
	25	LP	Polokwane	Yes	
	26	MP	Govan Mbeki	Yes	
	27	MP	Mbombela	Yes, for finance audit purposes.	
	28	MP	Steve Tshwane	Yes, analysis is done monthly, bulk water readings are taken daily.	
	30	NC	Sol Plaatje	Yes	
	33	NW	Mafosana	No	
	35	NW	JB Marks	Yes	
	38	WC	George	Yes	
B2	8	FS	Metsimaholo	N/A	
	9	FS	Moghaka	Yes	
B3	3	EC	Kouga	Yes	

							theft.	
							Supply of Water to farms and informal settlements, illegal connections.	
							Meters: lack of access to meters which end up being not read.	
							Accountability: water loss, cannot be accounted for.	
							Water sold in kilolitres.	
							Illegal water connection in rural villages.	
							Leakages	
							System input volume	
							Illegal connection through the bulk water pipeline and Unauthorised water usage.	
							The main component of Bloem Water NRW is the burst pipes on the main bulk pipelines across all regions, especially the more than 40 years old 1200mm diameter pipeline from Weibedacht Dam to Bloemfontein.	
							Apparent losses and Leaks	

2.1.1 Water Sources

Class	#	Prov.	Name	(1) Bulk Supply from Water Board(s)	(2) Surface Water (Water Treatment Plants, etc.)	(3) Ground Water (Boreholes, Protected Wells, etc.)	(4) Others: (Please specify the water sources)
A	2	EC	Buffalo City	Annual Actual Production (million m3/annum): 14/15 - 42 084 282	No: 2 Annual Design Capacity (million m3/annum): 132 Annual Actual Production (million m3/annum): 15/16 - 41 927 941, 16/17 - 38 463 276	No: 4	Annual Design Capacity (million m3/annum): Kidds Beach - 432ml Majali-224ml capacity Hanover - 300
	10	GP	Johannesburg	Annual Actual Production (million m3/annum): 558 916 194	N/A	N/A	N/A
	11	GP	Tshwane	Annual Design Capacity (million m3/annum): DWS Leeukraal Dam 47 450 000m3, DWS Roodeplaat Dam 32 850 000 m3, DWS BHS Dam 50 000 m3 Annual Actual Production (million m3/annum): Rand Water 251 389 246 kl, Magalies Water 4 386 778 kl, DWS Temba 18 028 000 kl, DWS Roodeplaat 15 284 000 kl, DWS BHS 134 847 kl	Annual Design Capacity (million m3/annum): Rietvlei WTP - 40 000 kl/d, Roodeplaat WTP - 60 000 kl/d, Temba WTP - 58 000 kl/d, Bronkhorstspuit WTP - 54 000 kl/d Annual Actual Production (million m3/annum): Rietvlei WTP - 36 000 kl/d, Roodeplaat WTP - 35 000 kl/d, Temba WTP - 54 000 kl/d, Bronkhorstspuit WTP - 27 965 kl/d	N/A	N/A
	16	KZN	eThekweni	Refer to APPENDIX	Refer to APPENDIX	Refer to APPENDIX	N/A
	7	FS	Matjhabeng	1) Balfontein WTP Capacity: 360 Ml/D, Annual Average Production Capacity in 55% 2) Virginia WTP Capacity: 120 Ml/D, Annual Average Production Capacity in 13%	N/A	N/A	N/A
	14	GP	Mogale City	Annual Design Capacity (million m3/annum): 32 311 779 Annual Actual Production (million m3/annum): 32 311 779	N/A	N/A	N/A
	25	LP	Polokwane	Annual Actual Production (million m3/annum): 24 284 993	Annual Actual Production (million m3/annum): 4 927 500	Annual Actual Production (million m3/annum): 425 200	N/A
	26	MP	Govan Mbeki	N/A	N/A	N/A	We buy water from Rand Water.
	27	MP	Mbombela	Annual Design Capacity (million m3/annum): 24 090 Annual Actual Production (million m3/annum): 29 200	Annual Design Capacity (million m3/annum): 31 025 Annual Actual Production (million m3/annum): 29 000	N/A	N/A
	28	MP	Steve Tshwane	Annual Actual Production (million m3/annum): 2 428 560	Annual Actual Production (million m3/annum): 12 784 186	Annual Actual Production (million m3/annum): 86 471	N/A
B1	30	NC	Sol Plaatje	N/A	No: 2 Annual Design Capacity (million m3/annum): 58 765 Annual Actual Production (million m3/annum): 30660	N/A	N/A
	33	NW	Matlosana	Telemetry System not working.	N/A	N/A	N/A
	35	NW	JB Marks	Annual Design Capacity (million m3/annum): 0 Annual Actual Production (million m3/annum): 0	Annual Design Capacity (million m3/annum): 73.6 Ml/day Annual Actual Production (million m3/annum): 0	Annual Design Capacity (million m3/annum): 0 Annual Actual Production (million m3/annum): 0	Annual Design Capacity (million m3/annum): 0 Annual Actual Production (million m3/annum): 0
	38	WC	George	N/A	Annual Design Capacity (million m3/annum): 18.4 Annual Actual Production (million m3/annum): 13.1	Annual Design Capacity (million m3/annum): 0 Annual Actual Production (million m3/annum): N/A	Annual Design Capacity (million m3/annum): 9 (Ml/d) Annual Actual Production (million m3/annum): 28
	8	FS	Metsimaholo	No: 1 Annual Design Capacity (million m3/annum): 43 Ml/day Annual Actual Production (million m3/annum): N/A	Annual Design Capacity (million m3/annum): 9.9 Ml/day + 2.6Ml/day Annual Actual Production (million m3/annum): 4,830m3/day + 2,500m3/day	N/A	N/A

	9	FS	Moqhaka	N/A	Annual Design Capacity (million m3/annum): 69 400 Annual Actual Production (million m3/annum): 53 400	Annual Design Capacity (million m3/annum): 1.5 Annual Actual Production (million m3/annum): 1.5	
B3	3	EC	Kouga	- Obtain raw water from Gamtoos Irrigation Board. Annual Design Capacity (million m3/annum): Patensie Allocation = 478 000m3, Hankey Allocation = 450 000m3 Annual Actual Production (million m3/annum): Patensie Allocation = 273 265m3, Hankey Allocation = 745 088m3	N/A	N/A	N/A
	24	LP	Lephalale	N/A	Refer to APPENDIX.	N/A	N/A
	29	MP	Victor Khanye	No: 1 Annual Design Capacity (million m3/annum): N/A Annual Actual Production (million m3/annum): N/A	No: 1 Annual Design Capacity (million m3/annum): 15 Ml/d Annual Actual Production (million m3/annum): 2,520	No: 18 Annual Design Capacity (million m3/annum): N/A Annual Actual Production (million m3/annum): N/A	N/A
	31	NC	Umsobomvu	None	No: 2 Annual Design Capacity (million m3/annum): 1) 3.022 200, 2) 0.039 106 Annual Actual Production (million m3/annum): 1) 2.102 400, 2) 0.147 168	No: 2 Annual Design Capacity (million m3/annum): 1) 0.694, 2) 0.710 Annual Actual Production (million m3/annum): 1) 0.694, 2) 0.710	N/A
C2	1	EC	Amathole	No: 8 Annual Actual Production (million m3/annum): 8	No: 30 Annual Actual Production (million m3/annum): 17	No: 300 Annual Actual Production (million m3/annum): 2	N/A
	5	EC	OR Tambo	0	Annual Design Capacity (million m3/annum): 26 Annual Actual Production (million m3/annum): 25	Not measured.	0
	19	KZN	Ugu	N/A			
	23	LP	Sekhukhune	Annual Design Capacity (million m3/annum): 11 050 ML Annual Actual Production (million m3/annum): 14 700 ML	Annual Design Capacity (million m3/annum): 10 050 ML Annual Actual Production (million m3/annum): 12.5 ML	Annual Design Capacity (million m3/annum): 1 ML Annual Actual Production (million m3/annum): 2.2 ML	N/A
A 02 - 62	W2	FS	Bloem Water	N/A	6 X Water treatment works: Annual Design Capacity: • Weibedacht WTW – 52.2 (145ML/day) • Rustfontein WTW – 31 (100ML/day) • Groothoek WTW – 5 (18ML/day) • Bethulie WTW – 2 (12ML/day) • Gariep WTW – 0.8 (2.4ML/day) • Philippolis WTW – 0.35 (1.2ML/day) Annual Actual Production: • Weibedacht WTW – 50 • Rustfontein WTW – 32 • Groothoek WTW – Not operational • Bethulie WTW – 1.9 • Gariep WTW – 0.65 • Philippolis WTW – 0.31	There are +-70 boreholes across the three Regions of Bloem Water with different yields mostly used for back up to surface water.	N/A
	W4	NW	Magalies Water	N/A	Annual Design Capacity (million m3/annum): 114 610 Annual Actual Production (million m3/annum): 93 805	N/A	N/A
WB							

2.1.2. Existing Water Supply Facilities and Equipment (Please provide the information below)

(1) List of existing water supply facilities (Please provide the capacity of water treatment facilities, reservoirs, and details of pipeline such as trunk main, distribution main and network)

(2) Situation of Operation and Maintenance (O&M) of the water supply facilities (Please explain the problems/challenges in O&M for each category as follows)

Class	EC	Prov	Name	1. Water capacity, treatment plant and process control	2. Water Quality	3. Trunk Main	4. Distribution main	5. Network	6. Service pipe/Connection	7. Water Meter	8. WCWDM/ NRW /Leakage detection	9. Human Resource for O&M	10 Others
A	2	GP	Buffalo City	Close to full capacity, require upgrades	None	Ageing Infrastructure	Ageing	Ageing	None	Unmetered properties / flat rate	Accurate meter reading and billing	Funding of all required posts	N/A
	10	GP	Johannesburg	• 85 Water reservoirs with a combined capacity of 1933.54ML. • 33 Water towers with a combined capacity of 50.75ML. • Trunk main, distribution mains and Network all with a combined length of 12kln.	N/A	(1) Old infrastructure (2) Inadequate capacity for O&M teams. (3) Inadequate experienced capacity for O&M teams. (4) Inadequate O&M budget.	(1) Old infrastructure (2) Inadequate capacity for O&M teams. (3) Inadequate experienced capacity for O&M teams. (4) Inadequate O&M budget.	(1) Old infrastructure (2) Inadequate capacity for O&M teams. (3) Inadequate experienced capacity for meter reading teams. (4) Old meters on the ground.	(1) Old infrastructure (2) Inadequate capacity for O&M teams. (3) Inadequate experienced capacity for O&M teams. (4) Inadequate O&M budget.	(1) Unmetered individual water consumption in forma stands. (2) Inadequate capacity for meter reading teams. (3) Old meters on the ground.	• Budget shortage for renewal, upgrade and new Capital infrastructure.	• Inadequate capacity for O&M teams.	N/A
A	11	GP	Tshwane	Temba 1. Reservoir no. 4 10 Mi, 2. Reservoir no. 3 5.5 Mi, 3. Reservoir no. 2 4.5 Mi, 4. Reservoir no. 1 2.75 Mi, 5. Babelagi Reservoir 5 Mi, 6. Hammanskraai, reservoir West 10 Mi, 7. Renstowen Reservoir 5 M, 8. New Eesterus reservoir, 9. Sekampaneng Reservoir 15 Pipes 50 mm to 800mm Roodeplaat (60 ML/day) Montana Reservoir (28 MI), Pipeline – 16 km 800mm diameter	1. Power failures 2. Breakdown 3. Reactive maintenance due to staff shortage 4. Aging infrastructure 5. No security 6. Vandallism	Failures due to catchment pollution	1. Leaks 2. Pipe Burst 3. Vandallism	1. Leaks 2. Pipe Burst 3. Vandallism	N/A	N/A	N/A	N/A	N/A
	16	KZN	eThekwin	Refer to APPENDIX	N/A	N/A	Leaking pipes due to old infrastructure.	Leaking pipes due to old infrastructure and tampering due to illegal connections onto the network.	Leaking meters due to vandallism.	Leaks at connections due to tampering.	Leaking meters due to vandallism.	Safety issues to work in high risk areas as well as high volumes of illegal connections.	Shortage of qualified staff
B1	7	FS	Matjhabeng	N/A	Risks: E. Coli, Free Chlorine, Aluminium and Iron and Turbidity	N/A	N/A	Old Infrastructure, Vandallism, Under resourced	Need to replace AC and steel pipes/ Under resources	Illegal connections, Outdated meters and Theft of brass meters	None	Understaffed	N/A

(2) Situation of Operation and Maintenance (O&M) of the water supply facilities (Please explain the problems/challenges in O&M for each category as follows)												
Class	Prov	Name	1. Water treatment plant and process control	2. Water Quality	3. Trunk Main	4. Distribution main	5. Network	6. Service pipe/Connection	7. Water Meter	8. WCWDM/ NRW /Leakage detection	9. Human Resource for O&M	10 Others
14	GP	Mogale City	(of a bypass) - Capacity: 0.245ML, Operational Levels: 60-70% Refer to APPENDIX	N/A	N/A	Dilapidated water pipes because of age. Limited funds.	Dilapidated water pipes because of age. Limited funds.	N/A	Dilapidated water pipes because of age. Limited funds.	N/A	N/A	N/A
25	LP	Polokwane	Refer to APPENDIX	<ul style="list-style-type: none"> Drinking water quality meeting the required standards as per SANS 241 WWTW effluent is not meeting the required standards. 	<ul style="list-style-type: none"> Aging infrastructure Insufficient capacity is some Type of materials used no longer conducive (eg. Asbestos Cement (AC) pipes. 	<ul style="list-style-type: none"> Aging infrastructure Insufficient capacity is some Type of materials used no longer conducive (eg. Asbestos Cement (AC) pipes. 	<ul style="list-style-type: none"> Aging infrastructure Insufficient capacity is some Type of materials used no longer conducive (eg. Asbestos Cement (AC) pipes. 	<ul style="list-style-type: none"> Aging infrastructure Insufficient capacity is some Type of materials used no longer conducive (eg. Asbestos Cement (AC) pipes. 	<ul style="list-style-type: none"> Old meter stacking, developing dirty dial, in-accurate readings. 	<ul style="list-style-type: none"> No WCWDM strategy No water conservation campaigns No equipment for leak detection Lack of cost recovery at rural areas 	<ul style="list-style-type: none"> No enough personnel for O & M MushalGeot+2 Insufficient skills to O & M personnel 	None
26	MP	Govan Mbeki	We buy treated water from Rand water. 106 ML Reservoirs. The bulk and reticulation network is composed of Steel, Asbestos Cement, HDPE and uPVC Pipe. Ranging from 600mm – 50mm pipe.	Pipe burst affect quality.	Pipe burst due to aging infrastructure.	Aging of infrastructure is contributing towards losses due to leakages and pipe burst.	Aging of infrastructure is contributing towards losses due to leakages and pipe burst.	Saddle cracks and leaks.	Aged meters malfunctioning.	Currently conducting visual inspection and need devices.	Lots of vacant positions.	Less vehicles and equipment's for infrastructure.
27	MP	Mbombela	N/A	Plant optimization not done.	Preventative maintenance not done.	Preventative maintenance not done.	Preventative maintenance not done.	Preventative maintenance not done.	Calibration of bulk meters not done periodically.	Not done, just reactive on call outs for burst pipes.	Shortage of personnel Training.	N/A
28	MP	Steve Tshwane	<ul style="list-style-type: none"> Vaalbank Water Treatment Works – 54 Ml/d conventional water treatment plant, storage capacity throughout the network is 31 Ml. Krugerdam Water Treatment Works- 6 Ml/d conventional water treatment plant, storage capacity is part of the Vaalbank WTW water supply system. Presidentrus Water Treatment Works – 0.3 Ml/d conventional water treatment plant, storage capacity throughout the network is 5 Ml. Hendrina Water Supply System- 3 Ml/d portable water received from the Optimum Coal Water Reclamation Plant. Boskrans Wastewater Treatment Works – 30 Ml/d activated sludge plant currently 	<ul style="list-style-type: none"> Plant not designed for nutrients removal and also operating beyond capacity (Boskrans WWTW) resulting in poor effluent quality. Vaalbank Water Treatment Works- poor raw water quality, high sulphate content due to mining activities, limited ability by the Works to remove 	<ul style="list-style-type: none"> Operation and maintenance is done as and when a need arises. 	<ul style="list-style-type: none"> The water network is maintain as and when there is a need, pipe bursts are attended to as and when they occur. 	<ul style="list-style-type: none"> Connections are attended to when there are leaks or during replacement of water meters. 	<ul style="list-style-type: none"> Water meters are replaced as and when the section is requested, there is a water replacement programme which looks at ageing meters older than 10 years. in accuracies in billing. 	<ul style="list-style-type: none"> There is no leakage detection in the municipality. 	<ul style="list-style-type: none"> Limited human resource capital for maintenance. 	N/A	

(2) Situation of Operation and Maintenance (O&M) of the water supply facilities (Please explain the problems/challenges in O&M for each category as follows)													
Class	#	Prov	Name	1. Water treatment plant and process control	2. Water Quality	3. Trunk Main	4. Distribution main	5. Network	6. Service pipe/Connection	7. Water Meter	8. WCWDM/ NRW /Leakage detection	9. Human Resource for O&M	10 Others
				(1) List of existing water supply facilities (Please provide the capacity of water treatment plants, reservoirs, and details of pipeline such as trunk main, distribution main and network)									
				upgraded to 45 Ml/d biological Nutrient Removal Plant. envisaged completion date is 2020.	sulphates.								
				Poor electro-mechanical maintenance, no wash water and leakage reclamation facilities. Poor on-site storage.	Dead ends not flushed leading to regrowth and sediments.	Old and ageing infrastructure, not corrosion protection, not cathodic protection.	Old infrastructure, no planned maintenance (pipe replacement program).	Old and poor material, no routine maintenance (pipe replacement program).	Vandalism, illegal connection, poor material used.	Poor meter management audits, no replacement program, poor readings, etc.)	No equipment available.	Lack of skills (competences) and staff shortage (numbers)	N/A
30	NC		Sol Plaaite	N/A									
				1. Alabama Reservoir - 26ml, 2. Alabama Reservoir -17ml, 3. Alabama Reservoir - 4ml, 4. Alabama Tower-2ml, 5. Alabama Tower 2- 0.1ml, 6. Jouberton Reservoir -17ml, 7. Jouberton Tower- 2ml, 8. Jouberton Tower 2- 0.5ml, 9. Oudorp Reservoir- 9ml, 10. Oudorp Reservoir 2- 4ml, 11. Dooringkruin Reservoir- 27ml, 12. Dooringkruin Tower- 192kl, 13. Muranti Reservoir - 62ml, 14. Dawkinsville Reservoir - 24ml, 15. Dawkinsville Reservoir 2 -24ml, 16. Dawkinsville Reservoir 3- 9ml, 17. Hartbees Reservoir1- 5ml, 18. Hartbees Reservoir2- 3.5ml, 19. Tigane Reservoir -17ml, 20. Pressure Tank -3ml, 21. Lorraine Reservoir - 12ml, 22. Kanana Reservoir -17ml, 23. Kanana Reservoir - 18ml, 24. Kanana Tower1 - 1ml, 25. Kanana Tower2-2ml, 26. Orkney Reservoir1- 4ml, 27. Orkney Reservoir2- 4ml, 28. Orkney Reservoir3- 4ml, 29. Orkney Reservoir4- 9ml, 30. Brooke Tower -0.5 ml, 31. Bothaville Tower- 2ml, 32. Mines Road Reservoir -17ml, 33. Mooi Street Reservoir - 4ml, 34. Mooi Street	Attached SLA between WSP and WSA.	Attached SLA between WSP and WSA.	Attached SLA between WSP and WSA.	Attached SLA between WSP and WSA.	No Water maintenance plan in place, we fix and repair on as and when required/requested by the community or any water connection application.	We replace water meter every 10 years of its life cycle, we fix and repair on as and when required/ requested by the community when is leaking or any problem that may occur.	No NRW / Leakage detection plan or strategy - hence we request the training thereof. WCWDM- the draft document is available, waiting for approval.	As per our current structure we don't have enough personnel for maintenance and operation.	N/A
33	NW		Matlosana	Not responsible for water treatment.	Attached SLA between WSP and WSA.	Attached SLA between WSP and WSA.	Attached SLA between WSP and WSA.	No Water maintenance plan in place, we fix and repair on as and when required/ requested by the community.	No Water maintenance plan in place, we fix and repair on as and when required/requested by the community or any water connection application.	We replace water meter every 10 years of its life cycle, we fix and repair on as and when required/ requested by the community when is leaking or any problem that may occur.	No NRW / Leakage detection plan or strategy - hence we request the training thereof. WCWDM- the draft document is available, waiting for approval.	As per our current structure we don't have enough personnel for maintenance and operation.	N/A

(2) Situation of Operation and Maintenance (O&M) of the water supply facilities (Please explain the problems/challenges in O&M for each category as follows)													
Class	Prov	Name	1. Water treatment plant and process control	2. Water Quality	3. Trunk Main	4. Distribution main	5. Network	6. Service pipe/Connection	7. Water Meter	8. WCWDM/ NRW /Leakage detection	9. Human Resource for O&M	10. Others	
A02 - 66	NW	JB Marks	Tower – 1m1, 35. Jan Van Riebeck Tower- 2ml, 36. Khuma Reservoir1-17ml, 37. Khuma Reservoir3-17ml and 38. Khuma Tower-2ml	Shortage of qualified personnel. Filling of vacant posts.	Shortage of financial backing to implement upgrading/replacement of trunk mains.	Shortage of financial backing to implement upgrading/replacement of distribution mains.	Shortage of financial backing to implement upgrading/replacement of network.	Shortage of resources.	Shortage of resources.	Outsourced by council.	Shortage of personnel.	Vehicle/Equipment shortage.	
			73.6 Ml/day Water treatment Works Length of Water Mains: 960km Amount of Storage Reservoirs: 16 Capacity: 98.4 MI See attached information annexure 1; 5 WTP 43 Reservoirs 3 WATER TOWERS 30 Pump station 3 Booster Pump Stations 986 Kms's pressure pipeline network. Range 792 less than 200 mm and the rest is above 200 mm to 1000 MM	High carry over cause high turbidity, iron and manganese (filter back washing and desludging)	Aging of infrastructure is contributing towards losses due to pipe burst.	Aging of infrastructure is contributing towards losses due to pipe burst.	Leaks but not major.	Reactive water losses management. Efficient turnaround time to fix pipe burst or leak to minimize losses.	Moderate meter challenges because Municipality got Meter Management System and fund depended. Ten years or 5000 Kl is due for replacement.	Currently we have no devices for monitoring. We are doing a reactive mechanism/visual assessment.	Less vehicles and equipment's for infrastructure.		
B2	FS	Metsimahob	1) Deneysville WTW : Design Capacity 9.9 ML/day, Reservoirs :9 ML; 5ML; 2ML&3ML 2) Oranjeville WTW : Design Capacity 2.6 ML/day, Reservoirs: 4ML & 0.9 ML	No compliance of aesthetic and operational and plant operators skills.	No compliance due to aging infrastructure (Pipes eroding).	Affect water quality lead to non-compliance on Aesthetic.	Currently struggling with material and equipment.	- Calibration of meters - Replacement of meters in time	Currently we have no devices for monitoring. We are doing a reactive mechanism/visual assessment.	Currently we have no devices for monitoring. We are doing a reactive mechanism/visual assessment.	Currently we have no devices for monitoring. We are doing a reactive mechanism/visual assessment.	Current organizational structure is old and is about 40% posts are vacant.	N/A
			(WTW) Kroonstad WTW = 60 Mg/L, Viljoenskroon WTW= 6.9 Mg/L and Steynsrus WTW = 2.5 Mg/L (Reservoirs) Kroonhuwe/Maackeng Town = 62.4 MI, Viljoenskroon/Rammulo tsi Town =9.75 MI and Matiwangtiwang + Steynsrus = 2 ML	Algae / Reservoirs that are not cleaned on a regular basis.	Aging infrastructure	Aging infrastructure	N/A	N/A	- Old Asbestos Cement Pipes, resulting in frequent pipe burst, service interruption and Water losses - Aging Infrastructure	- Vandalism - Leaking of meters - Illegal water connection/by-passing of meters by the community - Instances of two households sharing one meter	No program in place but currently busy with a WCWDM project to install Telemetry in order to monitor electronically and thereby reduce water losses as a result of overflowing reservoirs.	Shortage of skilled staff, e.g: - Millwright - Instrumentation Technicians - Laboratory Technicians - Artisan: Fitter	N/A
B3	EC	Kouga	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Refer to APPENDIX	Bad for boreholes sources.	N/A	Ageing infrastructure	Leakage	Malfunctioning/Wrong readings	Not done.	Lack of staff.	N/A	N/A	
B3	LP	Lephalale	Delmas Water Treatment Plant: 15 Ml/d, Boteng Reservoir 4 Ml/d, Delmas Reservoir 10Ml/d, Eloff water tower 4Ml/d, Sundra water tower 4Ml/d, Distribution pipe 250mm and	None, water complies 100% with SANS 241:2015	Burst pipes and no sufficient materials.	Burst pipes and leakages	Burst pipes and leakages	Insufficient materials	Not in place.	Not in place.	Maintenance Team	Outsource service provider	
			Victor Khanye	None, water complies 100% with SANS 241:2015	Burst pipes and no sufficient materials.	Burst pipes and leakages	Burst pipes and leakages	Insufficient materials	Not in place.	Not in place.	Maintenance Team	Outsource service provider	

(2) Situation of Operation and Maintenance (O&M) of the water supply facilities (Please explain the problems/challenges in O&M for each category as follows)																								
Class	#	Prov	Name	(1) List of existing water supply facilities (Please provide the capacity of water treatment facilities, reservoirs, and details of pipeline such as trunk main, distribution main and network)		2. Water Quality		3. Trunk Main		4. Distribution main		5. Network		6. Service pipe/Connection		7. Water Meter		8. WCWDM/ NRW /Leakage detection		9. Human Resource for O&M		10 Others		
				1. Water treatment plant and process control	plants	• Operation and maintenance schedule not adhered to	• Security system is bad, experience a lot of theft	Noupoort's chemical water composition is full of calcium carbonate. This poses a problem of calcification of pipelines.	Old trunk mains in town centers such as Noupoort and Colesberg.	Same as above.	Same as above.	Saddles in the old areas rusted and connections leaking.	replaced	• No meters at the reservoirs	Leakage detection conducted around 2009/10 financial year. Leakage index high in the town centers.	Maintenance handled internally except motor/pump alignment. The municipality does not have the equipment.	N/A	• Shortage of vehicles	• Poor maintenance of available vehicles by Service Providers					
	31	NC	Umsobomvu	Reticulation 110 and 63mm	WWTW: 12 Ml/day NWTW: 0.518 Kl/day Colesberg Reservoir: 8.7 Ml Noupoort Reservoir: 3.7 Ml Norvalspont Reservoir: Trunk main: 57 km Distribution main: 186.51 km Network: 62.558 km	Spare parts on the new revamp WTW not available in the country.		Same as above.	Same as above.															
	1	EC	Amathole	Refer to APPENDIX	N/A	N/A	N/A	Ageing infrastructure	Ageing infrastructure	Ageing infrastructure	Ageing infrastructure	Ageing infrastructure	Ageing infrastructure	Ageing infrastructure	Ageing infrastructure	Inaccuracy	No programme at all	No equipment to control leak detections.	Understaffed	Lack of technical capacity	N/A			
	5	EC	OR Tambo	N/A	Limited technical capacity of process controllers		Lack of accredited laboratory	Ageing Infrastructure	Ageing Infrastructure	Ageing Infrastructure	Ageing Infrastructure	Ageing Infrastructure	Ageing Infrastructure	Ageing Infrastructure	Ageing Infrastructure	Inaccuracy	No programme at all	No equipment to control leak detections.	Understaffed	Lack of technical capacity	N/A			
	19	KZN	Ugu	Boboyi – 54Ml/day Umtavuna – 20 Ml/day, Assisi – 0.36 Ml/day, Frankland – 0.2 Ml/day, Kw-Longwa – 3.6 Ml/day, Vulamshlo – 5Ml/day, Iiabatsingane – 6Ml/day, Umtwalume – 7.5Ml/day, Hlokozi – 0.36 Ml/day, Ndelu – 1.4Ml/day, KwaLembe – 0.75Ml/day, Umzinto – 10Ml/day, KwaNyuswa I – 0.35 Ml/day, KwaNyuswa II – 0.35 Ml/day, Harding – 2.6 Ml/day and Weza – 4.2 Ml/day	Some of the water treatment plants have exceeded the design and capacity.	The water quality meets the Blue Drop regulations and standards.	Theft and Power outages at the pump stations, Old and Non-Functional infrastructure causing break pressure mains, Pipeline route requires Site Clearing more often. Refurbishment of Pumps and Motors.	Leaking of pipes, pipe burst, unauthorized access to our sites/reservoirs.	Low and High pressure zones, pipe extensions due to demand.	Illegal connections, unlawful interference with the system and it increases water losses.	The replacement of old and non-functional meters, under-ground meters, faulty/damaged meters is currently underway, shortage of stock sometimes, Not enough Budget.	Shortage of resources/equipment to be used onsite to detect/trace invisible leaks and chemicals to be used to test/verify water leaks from pipelines or underground water.	Shortage of resources/equipment to be used onsite to detect/trace invisible leaks and chemicals to be used to test/verify water leaks from pipelines or underground water.	Safety Clothing, training of staff (Standard Operating Procedures, Reporting/Communication).	• Lack of Funds to implement projects to replace aging infrastructure, improve maintenance and water quality distribution within the district	• More support is required from the Water authorities to address the aging infrastructure. • Budget constraints								
	23	LP	Sekhukhune	N/A	- Shortage of funds - Re-prioritisation	Municipality don't have its own lab which affect the early warning on water failure.	N/A	- Illegal connection - No proper As-build in place	- Illegal connection - No proper As-build in place	- Illegal connection - No proper As-build in place	- Illegal connection - No proper As-build in place	- Illegal connection - No proper As-build in place	- Illegal connection - No proper As-build in place	- Illegal connection - No proper As-build in place	- Illegal connection - No proper As-build in place	Water meters are not functional and those who are functional are tempered with.	The municipality is in process of developing its own WCWDM strategy.	The organisational structure is currently being revised to separate WSA and WSP within municipality as previously we were doing both.	N/A					
WB	W	FS	Bloem Water	• Welbedacht WTW	• Not	• Global	N/A	• Meeting of Future	N/A	N/A	N/A	N/A	N/A	N/A	• No challenges.	• Old infrastructure	• Old infrastructure	• Qualified Process					• None.	

		(2) Situation of Operation and Maintenance (O&M) of the water supply facilities (Please explain the problems/challenges in O&M for each category as follows)												
Class	#	Prov	Name	1. Water treatment plant and process control	2. Water Quality	3. Trunk Main	4. Distribution main	5. Network	6. Service pipe/Connection	7. Water Meter	8. WCWDM/ NRW /Leakage detection	9. Human Resource for O&M	10 Others	
	2			adequate Raw Water in the source due to global warming which affects the water quality in the treatment plant and pushes purification and electrical costs.	Warming affects the Raw Water quality which impacts the purification processes and the final water.		demands coupled to Municipalities IDP.		infrastructure which impacts the ability to meet future demands.		which impacts the strategy of WCWDM.	controllers that are meeting the requirements of their respective Water Treatment Plants.		
				pumping into 3 main distribution Reservoirs namely De Hoek (22.7ML), Uitkijk (9.1 ML) and Brandkop (136ML) with a pipeline of 105.7km distance of 1170 mm diameter prestressed concrete (PCP). <ul style="list-style-type: none"> Rustfontein WTW pumping into 9 main distribution Reservoirs namely 4X Lesaka Reservoirs (52 ML), Tabali (10ML), 2X OK Reservoirs (1.5 ML), Motlata (5.6 ML) and Houtneck (0.6ML). Bethulle WTW pumping into 5 main distribution Reservoirs namely Bethulle (1.5ML), 2X Springfontein (3ML), Trompsburg (1ML) and new (3ML) at Trompsburg. Gariep WTW pumping into two reservoirs namely Gariep (0.75ML). Philippolis WTW pumping into two reservoirs namely Philippolis (1ML). Groothoek WTW (Not Operational-Drought) pumping into Blydskap Reservoir (9ML) 										
W	4	NW	Magalies Water	N/A	Deteriorating raw water quality	Aging	Aging	Aging	Aging	Accuracy	Accuracy and aging	Technical capacity	N/A	

2.1.3 Facility and Equipment related to WCWDM and NRW Reduction

Class #	Prov.	Name	(1) Does your WSA have flow meter(s) to measure system input volume?	(2) Does your WSA have District-Metered Area (DMA) or flow meter(s) for DMA(s)? (Water Treatment Plants, etc.)	(3) Does your WSA measure water pressure in pipeline network?	(4) Does your WSA have inventory of asset register of pipeline with information of pipe installation year and materials, etc.? (Please specify the water sources)	(5) What kind of pipe materials and sizes exist in your WSA?	(6) Does your WSA have organized/accumulated information on pipe type, materials and routes/areas which water leakage frequently occurs?	(7) Does your WSA identify the reason why water leakage occurs? (Water Treatment Plants, etc.)	(8) Does your WSA have facility and/or equipment for NRW reduction, such as leakage detection equipment? (Please specify the water sources)	(9) Are your WSA capable of making full use of equipment for NRW reduction, such as leakage detection equipment? (Please specify the water sources)	(10) Does your WSA have a plan to procure facility and/or equipment for NRW reduction?
2	EC	Buffalo City	Yes, we have magflows at the Weir pump station to our holding dam or Mzonyana. For KWT we purchase water from Amatola Water Board who have a meter just outside our treatment yards.	Yes, all inlets and outlets supply Reservoirs are metered with mag flows but experiencing vandalism in some sites. Yes, a total of 237 reservoir, tower and Water pump stations meters. Both Mechanical and Magnetic flow meters.	Yes, we have a detailed Asset register.	Asbestos cement varies from 50mm to 60 mm, 63 mm and PVC 75 to 250 mm majority	Yes, we have a WMIS system where we log all bursts and also about 2 years we updated IMQS software where the pipeline network is showed spatially. • Material differs from Steel, PVC, HDPE and Asbestos Cement. • Sizes rangers from 15mm – 1000mm.	Yes, this is to aging infrastructure and the insufficient budgets for maintenance. No preventative maintenance plans in place.	Yes, procured in 2015 staff still require training to use it efficiently	Yes, procured in 2015 staff still require training to use it effectively.	No plan.	
10	GP	Johannesburg	Yes, a total of 148 Magnetic flow meter and Mechanical Meters	Water pump stations meters. Both Mechanical and Magnetic flow meters.	Yes	Yes	• Material differs from Steel, PVC, HDPE and Asbestos Cement. • Sizes rangers from 15mm – 1000mm.	Yes, information is available on IMQS.	Yes, causes of leakages are recorded on SAP PM.	Yes, various manufacturers.	Yes, ground microphones, listening sticks, Pressure and flow loggers, etc.	Yes, pressure smart controllers.
11	GP	Tshwane	Yes	Yes	Yes, measured on the delivery pumping main.	Yes, review every year	Asbestos 300mm, Steel 100 mm ,150 mm,250 mm 300 mm 450 mm 600 mm , 700 mm , 800 mm and 1000mm	Yes	Yes aging infrastructure and vandalism, illegal connection and theft.	No	N/A	N/A
16	KZN	eThekweni	Yes, Magnetic flow meters, Ultra Sonic flow meter, Electronic flow meters		Yes, at fire hydrants only during zone verification and analyses of adhoc areas during pressure reduction initiatives. Pressure reducing valve chambers have pressure gauges.	Yes, As-built drawings are submitted and captured at end of projects and this data is captured on GIS.	AC, Steel, PVC, HDPE, polycop, ranges 15mm : 1400mm	Yes, Faultman program that is used to log faults logged with the call center, classes the leak into location, pipe type, material etc.	Yes, due to aging infrastructure.	Yes, manual listening sticks.	Yes, all types that are available, but mainly ground micro phones and electronic listening sticks. Training will be required to enable staff with the efficient and effect skills required to operate.	Yes
7	FS	Matjhabeng	No - Make use of the Water Service Provider (Sediberg Water)		No	Yes, the Municipality have an asset register of pipelines. There are 1 654 km water lines in Matjhabeng Pipeline type: 722 123 meter Asbestos Cement, 3 250 meter GRP, 886 meter HDPE, 127 119 meter Steel, 782 976 meter uPVC, 17 711 Unknown	Pipe material (see (4) above) Pipe diameters: 50 - 400 mm dia.	Yes. Monthly detailed leak detection report which include all information.	Yes. Mostly old infrastructure but also vandalism.	Yes. Outsourced project.	Yes. Outsourced project.	Yes. Outsourced project.
14	GP	Mogale City	Yes, Sensu and Kent flow meters.		Yes, at the PRV installation.	Yes, as per list above.	Steel, AC, uPVC, HDPE	Yes, job card database.	No	Yes, Correlater, Sound mic, Sound loggers and Listening sticks	No resources and training	No
25	LP	Polokwane	Yes, conventional meters.	No	Yes, this is done as and when the needs	Yes, asset register is compiled through the Municipal Asset Register unit.	• In some areas we still have Asbestos Cement (AC) pipes which we are	No, the Municipality is in the process developing the master plan and this will also cover the system	No	No	No	No

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Class #	Prov.	Name	(1) Does your WSA have flow meter(s) to measure system input volume?	(2) Does your WSA have District-Metered Area (DMA) or flow meter(s) for DMA(s)? (Water Treatment Plants, etc.)	(3) Does your WSA measure water pressure in pipeline network?	(4) Does your WSA have inventory or asset information of pipe installation year and materials, etc.? (Please specify the water sources)	(5) What kind of pipe materials and sizes exist in your WSA?	(6) Does your WSA have organized/accumulated information on pipe type, materials and routes/areas which water leakage frequently occurs?	(7) Does your WSA identify the reason why water leakage occurs? (Water Treatment Plants, etc.)	(8) Does your WSA have facility and/or equipment for NRW reduction, such as leakage detection equipment? (Please specify the water sources)	(9) Are your WSA capable of making full use of equipment for NRW reduction, such as leakage detection equipment? (Please specify the water sources)	(10) Does your WSA have a plan to procure facility and/or equipment for NRW reduction?	
26	MP	Govan Mbeki	Yes, total water purchased from Rand Water per month.	The area meters differ per area, ranging from Sensus and Kent, with size from 600mm to 100mm.	Yes, through the loggers.	Yes, it's outdated.	currently replacing with HDPE. • In most parts of the Municipality we use uPVC. • Pipe sizes ranges from 63mm to larger sizes depending on the type of water system.	modeling and will therefore assist in having proper AS built information and implementation of the SCADA system which will assist in proper monitoring of the system.	Yes, aging of infrastructure, illegal connections and material type.	No	Yes	No	
27	MP	Mbombela	Yes, magnetic flow meters and ultra-sonic meters.	No	No	Asset maintained by finance for GRAP standards and finance audit purposes.	20 mm to 650mm dia. of steel, upvc, HDPE, AC, and clay pipes.	Yes, steel pipes with high pressure (unauthorized connection activities).	Yes, Social issues, Political will to deal with lawlessness, By-law enforcement issues, No pressure management problems and Pro- longed turnaround time due to lack of resources.	1 leak detector, not used.	No	Yes. Pressure data loggers, Leak detectors and Telemetry /scada system to upgrade to convey water balance information.	
28	MP	Steve Tshwane	Yes, the WSA does have bulk flow meters at all the treatment facilities, system input volume is calculated from the readings taken.	No	Water pressure is not monitored frequently, it is monitored one in a while at different areas within the network.	Yes, the Asset register is available and is updated annually.	75mm-500mm 75mm-500mm PVC pipes and 50mm-160mm HDPE	Yes, the areas which are problematic are those areas which are still using Asbestos Cement pipes.	Yes, leakages occur as a result of ageing infrastructure.	No, leaks are normally reported to the WSA via the call centre.	If the devices are available they can be used to assist.	No	No
30	NC	Sol Plaatje	Yes, Ultrasonic Magnetic Flow meters on both 600mm and 900mm diameter bulk pipelines.	N/A	N/A	Yes, See asset register.	uPVC, Steel and Asbestos Cement Pipes varying sizes from 20mm to 965mm.	Angazi (I do Not know!)	Yes, ageing pipes, high pressure and loose connections (meets and normal joints)	No	No	No	No
33	NW	Matlousa	Yes, Mag flow meter/ Electronic meter.	No	Yes, PRV installed in pipe with pressure gauge.	No	uPVC, Ductile pipe, HDPE pipe, Galvanized pipe, Steel Pipe, Cement Pipe and Asbestos pipe Sizes – 15mm to 1000mm	Yes – we fill daily works order for all request	Yes, 1. Aging infrastructure with way leaves 2. noncompliance	Yes, 1. Bi-Water Company (hydrophone Kit)	Yes, 1. Bi-Water Company (hydrophone Kit)	Yes 1. Refurbishment of Control valves 2. Installation of bulk/ Zonal meters 3. Upgrading of Bulk Network	Yes
35	NW	JB Marks	Yes, Mag flow and ultrasonic meters.	Yes, Mag flow and ultrasonic meters.	Yes, Potchefstron does have high and low pressure zones that must be monitored.	Yes, Asset register.	20-800mm Pipes Type of pipes: GRP, Steel, HDPE, UPVc, MPVc, AC, OPVc AND Concrete.	Yes, it is booked through the customer care centre and evaluated by superintendent. (Final Electronic version must still be submitted by consultant of master plan for water)	Yes, due to aging infrastructure.	Yes, sound detection (Manufacturer: ABB).	Yes	Yes, WDM has been implemented.	
38	WC	George	Yes, into the plant and out of the plant and mag flows, mechanical and probe type	Two main zones and mechanical meters (Blanco, meters)	Yes, modelling of pressure	Yes, assets management finance department. Ask information annual from	GRP, Ductile Iron, Steel, Asbestos cement, uPVC and	Yes, pipe burst data base and used for pipe replacement plan and	Yes, aging of infrastructure, tree roots, very few illegal	Yes, acoustic sticks.	Yes, but capacity is a big problem. Remote control operation for the	Yes, installation smart meters.	

Class #	Prov.	Name	(1) Does your WSA have flow meter(s) to measure system input volume?	(2) Does your WSA have District-Metered Area (DMA) or flow meter(s) for DMA(s)? (Water Treatment Plants, etc.)	(3) Does your WSA measure water pressure in pipeline network? (Please specify the water sources)	(4) Does your WSA have inventory or asset register of pipeline with information of pipe installation year and materials, etc.? (Please specify the water sources)	(5) What kind of pipe materials and sizes exist in your WSA?	(6) Does your WSA have organized/accumulated information on pipe type, materials and routes/areas which water leakage frequently occurs?	(7) Does your WSA identify the reason why water leakage occurs? (Water Treatment Plants, etc.)	(8) Does your WSA have facility and/or equipment for NRW reduction, such as leakage detection equipment? (Please specify the water sources)	(9) Are your WSA capable of making full use of equipment for NRW reduction, such as leakage detection equipment? (Please specify the water sources)	(10) Does your WSA have a plan to procure facility and/or equipment for NRW reduction?		
B2	FS	Metsima holo	insert in line into the pipe.	Harlem and Unionsdale, Wilderness based on water supply systems).	through IMQ stais and operating pressure and updated quarterly basis. Measure through pressure gauge. Yes, but in few areas like Zamdela and Gortin.	IMQS. Yes	HDPE pipe ranging from 25 mm to 1000 mm.	prioritization. No, we are currently gathering the information.	connections and material type. Indicated in the Job Card. Monitor night flow and detect unusual draw off.	Yes, all equipment except for leakage detectors which the Municipality don't have.	treatment plant valves and can be closed off remotely.	Yes, currently everything depends on availability of funds.		
		Moqhaka	Yes	No	No	AC = 15mm - 600mm, HDPE = 40mm - 16mm - 250mm and Steel = 300mm - 700mm	Yes, Old Town area, Town-CBD, Suidrand, Gurnhill, Marabastad, Seisoville, Phomollong and Vlijoenskroons and Rammulotsi. Steynsrus.	Yes, the leakages are mainly due to aged Infrastructure, and the pipe materials (Old Asbestos Cement pipes) given our soil conditions (Predominantly Clay)	No	Yes, the municipality has started sourcing quotations in order to obtain this equipment.	No	Yes - procure outside and internal capital funding.		
		Kouga	N/A	No	Yes - partial	Various	Yes - partial	No, we don't have the record but currently busy with project to replace old pipes.	Yes, ageing Infrastructure (Old Asbestos pipe bursts)	Yes	No	Yes	No	
B3	LP	Lephthal e	Yes	No	No	Yes, see attached asset register.	uPVC pipes, sizes range from 75mm-350mm.	No, we don't have the record but currently busy with project to replace old pipes.	Yes, ageing Infrastructure (Old Asbestos pipe bursts)	No	No	No	No	
		Victor Khanye	Yes, the meter was installed by Rand Water but as the municipality are planning to install one so that as VKLM can take readings and make comparison.	No	No	Yes, the municipality has an asset register in place.	PVC 400, 315, 250, 200, 160, 110, 90, 75, 63 mm HDPE 20, 25, 32, 40, 50 mm Clamps and couplings as per each size are used	Yes, most pipe bursts are due to the old asbestos pipe and they are replaced with the PVC pipe.	Yes, old infrastructure, leaking cisterns, meters and taps.	Yes	No	Yes, if available	No	Not currently but going forward to reduce NRW the equipment should be procured.
C2	EC	Umsobo mvu	Yes	If this is what we term zonal meters, Yes.	No	Asset Register: Yes, but with only remaining life of the asset.	No	Refer to APPENDIX.	Yes	No	Yes, if available	No	No	
		Amathol e	Yes. Mechanical and mag flow meters.	Yes. Mechanical and mag flow meters.	No. No equipment to conduct pressure tests.	Refer to APPENDIX.	Refer to APPENDIX.	Refer to APPENDIX.	YES. Illegal water connections and ageing infrastructure dominate.	Yes	No	Currently no budget allocation for the purchase of equipment.	No	Currently no budget allocation for the purchase of equipment.
		OR Tambo	Yes. Magnetic flow meters.	No	No	No	600mm - 15mm. Steel pipes, Corrugated Iron, Asbestos and Plastic	No. The municipality relies on employees who have long service and an institutional memory.	Yes. Ageing infrastructure.	No	No	No	No	No
19	KZN	Ugu	Yes. All the water treatment works have bulk meters to measure the SIV.	Yes. As part of the NRW Reduction implementation plan DMAs were	Yes. The municipality has procured	Yes. The municipality has an asset register for immovable assets.	There are different size pipes throughout the district ranging from 20mm to 600mm	The municipality has done a utility mapping project and is in the process of developing a burst	Yes. The main reason is the aging infrastructure.	Yes	Yes. Correlator, listening sticks and ground microphone.	Yes. There is a plan to procure leakage detection equipment under		

Class #	Prov.	Name	(1) Does your WSA have flow meter(s) to measure system input volume? (Water Treatment Plants, etc.)	(2) Does your WSA have District-Metered Area (DMA) or flow meter(s) for DMA(s)? (Water Treatment Plants, etc.)	(3) Does your WSA have inventory or asset register of pipeline with information of pipe installation year and materials, etc.? (Please specify the water sources)	(4) Does your WSA have created and metered.	(5) What kind of pipe materials and sizes exist in your WSA?	(6) Does your WSA have organized/accumulated information on pipe type, materials and routes/areas which water leakage frequently occurs?	(7) Does your WSA identify the reason why water leakage occurs? (Water Treatment Plants, etc.)	(8) Does your WSA have facility and/or equipment for NRW reduction, such as leakage detection equipment? (Please specify the water sources)	(9) Are your WSA capable of making full use of equipment for NRW reduction, such as leakage detection equipment? (Please specify the water sources)	(10) Does your WSA have a plan and/or equipment for NRW reduction?
23	LP	Sekhukh une	Yes	Yes - The municipality is supplying water to various villages in different time which the DMA is the only method being used to manage the supply.	No	Yes. The municipality is in process of developing the asset register with O&M Plan.	The type of pipe used is both PVC and Steel pipe. The pipes vary from 20mm to 32mm for small pipes and 63mm to 450mm for big pipe.	No	Yes. Old asbestos pipes and pressure.	No	No	No
W2	FS	Bloem Water	Yes - Both Mechanical and Electronic Flow Meters are used across the three Regions.	Yes, We have Zonal Metering in the distribution lines in all Regions.	Yes, Bloem Water has Pressure monitoring devices across all the Regions.	Yes, the Organisation has asset register for both moveable and immovable asset.	<ul style="list-style-type: none"> Pipe material ranges from Steel, Pre-Stressed Concrete Pipe (PCP), Glass fibre Reinforced Plastics (GRP), High Density Polyethylene (HDPE) pipes and Un-Plasticized Polyvinyl Chloride (uPVC) pipes across all the three Regions. Sizes ranges from 200mm to 1200 mm diameter pipelines across all the regions. 	Yes, Part of the Maintenance strategy of the organisation entails that that condition assessment and monitoring be conducted yearly as part of the annual winter maintenance in Bloem Water.	Yes, the old infrastructure is our main reason why leakages occurs on our main lines, these pipelines have reached its operational lifespan, but the organisation is addressing them with the help from the Executive Authority.	NO, this part is outsourced as it is not part of daily operations and it requires specialist to conduct such test.	NO, this part is outsourced as it is not part of daily operations (Bulk Lines) and it requires specialist to conduct such test.	
W4	NW	Magalies Water	Yes - Zonal meters are installed to facilitate and improve water balancing.	Yes - Zonal meters are installed to facilitate and improve water balancing.	Yes - Pressure gauges installed at strategic points.	Yes - SAP system.	Pipe materials - Steel, uPVC, HDPE and AC. Sizes - ranged from 15mm to 1100mm	N/A	Yes - Pipe burst due to aging and equipment facilities.	N/A	No	No

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2.2 Policy/Strategy/Plan/Project on Water Conservation, Water Demand Management (WCWDM) and NRW Reduction

Class	#	Prov.	Name	(1) Does your WSA have policy / strategy / plan of WCWDM or NRW reduction or leakage detection?	(2) Does your WSA have project (past, ongoing, future) of WCWDM or NRW reduction or leakage detection?
A	2	EC	Buffalo City	Yes, have a strategy	Yes, we started water meter and water mains replacement program since 2014.
	10	GP	Johannesburg	Yes	<ul style="list-style-type: none"> Pressure Management through Smart Controller- reduce MNF, Successful in reducing water losses. Discretisation, reduce DMA pressures, successful in reducing water losses. Maintenance of existing PRV, retain correct PRV operational parameters, successful in reducing water losses. Pressure Management through the installation of new PRV, reduce network high pressures, successful in reducing water losses.
	11	GP	Tshwane	N/A	N/A
	16	KZN	eThekwhini	Yes, refer to WCWDM Master Plan Annexure 2	Yes, refer to WCWDM Master Plan Annexure 2
	7	FS	Majabang	Yes - No Drop documents	Yes - No Drop documents
	14	GP	Mogale City	Yes	Yes, Pre paid water meter replacement ongoing, Bulk water meter replacement Ongoing, and Telemetry, Trouble with network from institution
	25	LP	Polokwane	No, in the process of developing the WCWDM strategy.	No
B1	26	MP	Govan Mbeki	Refer to APPENDIX	Yes (ongoing), outsourced and its yielding results, WCWDM interventions minimizes the losses and maximize revenue. The WCWDM structure should be filled to conduct interventions internally.
	27	MP	Mbombela	Yes, WCWDM 5 year strategy.	Yes, outsourced and reduction of losses were evident
	28	MP	Steve Tshwane	The strategy is not developed yet, the WSA is currently doing non-revenue water reduction	Yes, replacement of AC pipes, old water meters, valves and fire hydrants is ongoing, a reduction

Class	#	Prov.	Name	(1) Does your WSA have policy / strategy / plan of WCWDM or NRW reduction or leakage detection?	(2) Does your WSA have project (past, ongoing, future) of WCWDM or NRW reduction or leakage detection?
B2	30	NC	Sol Plaatje	like replacing AC pipes and bulk flow meters and ageing valves in the system.	Yes
	33	NW	Mattosana	Yes, we have approved water restrictions policy and tariffs too.	No
	35	NW	JB Marks	Yes, draft document, awaiting for Council approval.	Yes, WDM plan (past as well as future).
	38	WC	George	Yes, attached.	Yes, pressure reduction project outsourced and still early stages.
	8	FS	Metsimaholo	Yes, 2012 report by Ilifa and 2017 WRP Consultants.	Yes, WRP Consultants report.
	9	FS	Moghaka	No	Yes, - WCWDM Project Funded by DWS (Installation of Telemetry System at reservoirs, installation of zonal meters and valves) - Installation of water meters for households that are currently sharing one meter (Project is funded by MIG) - ongoing replacement of AC pipe when burst (Municipal internal funding) Yes - funding acquired through DWA/ACIP
	3	EC	Kouga	Yes - plan approved by Council.	No
	24	LP	Lephalale	Yes. See attached strategy.	No
B3	29	MP	Victor Khanye	No, a business plan was submitted to DWS.	Yes: Past Project funded by DWS.
	31	NC	Umsobomvu	No	No. However the municipality has currently advertised a tender to appoint a professional provider to develop a WCWDM strategy and business plan.
	1	EC	Amathole	Yes. Pending council approval.	Yes. It was developed and it was successful. The lessons learnt were the importance of skills transfer to municipal officials.
C2	5	EC	OR Tambo	No. However the municipality has currently advertised a tender to appoint a professional service provider to develop a WCWDM strategy and business plan.	No, the municipality is in process as of now we are having a draft document.
	19	KZN	Ugu	Yes. 5-year nonrevenue water reduction strategy.	No, the municipality is in process as of now we are having a draft document.
	23	LP	Sekhukhune	No, the municipality is in process as of now we are having a draft document.	It forms part of the Maintenance Strategy and it is priorities as it is one of the key performance indicators and strategic objectives of the Organisation.
WB	W2	FS	Bloem Water	Yes, the Maintenance Policy and Standard Operating Procedures are in place.	No
	W4	NW	Magalies Water	No	No

3.1 Financial Status in Water Supply Section/Department

Class	#	Prov.	Name	(1) Financial statement of the water supply section / department	(2) Cost of water purchased	(3) Water billed	(4) Water tariff structure	(5) Potential Water savings in Rands
A 02- 73	2	EC	Buffalo City	N/A	2014_2015 R 169 954 034.00 2015_2016 R 185 236 527.00 2016_2017 R 198 240 134.00	2014_2015 R 532 342 069.00 2015_2016 R 446 682 259.00 2016_2017 R 478 206 658.00	N/A	N/A
	10	GP	Johannesburg	N/A	2016/17 Invoices Rand Water – R1 915 542 319.92, Magalies Water – R37 430 611.28, DWS – R22 016 358.62	N/A	N/A	N/A
	11	GP	Tshwane	N/A	Refer to APPENDIX.	Refer to APPENDIX.	Refer to APPENDIX.	Refer to APPENDIX.
	16	KZN	eThekweni	Refer to APPENDIX.	Refer to APPENDIX.	Refer to APPENDIX.	Refer to APPENDIX.	Refer to APPENDIX.
	7	FS	Matjhabeng	N/A	2016/2017 Total purchases (kl) = 51,570.356 Value of Water Purchases (Without interest) = R550,711,289.51	N/A	N/A	N/A
	14	GP	Mogale City	N/A	R 154 444 889.77 for 2016/2017 financial year.	R 91 384 392.55	Refer to APPENDIX.	None
	25	LP	Polokwane	Will be provided.	Refer to APPENDIX.	Refer to APPENDIX.	Refer to APPENDIX.	Refer to APPENDIX.
	26	MP	Govan Mbeki	Refer to APPENDIX.	N/A	N/A	N/A	N/A
	27	MP	Mbombela	Refer to APPENDIX.	TBA	TBA	Refer to APPENDIX.	Refer to APPENDIX.
	28	MP	Steve Tshwane	TBA	R 279 183 878.01(2016/2017)	R 352 477 868.52(2016/2017)	R/k????	Block: 1: 0-6kl indigents only; 2: 0-6kl Residential; 3: >6-20kl; 4: >20-40kl; 5: >40-60kl; 6: >60kl Business, schools, sports, churches have one tariffs per category.
B1	30	NC	Sol Plaatje	Refer to APPENDIX.	RCeleste		1. Basic Charges –all properties with or without improvements, which can be connected to the main supply in the opinion of the Council, whether water is consumption or not. 2. Domestic; 3.Domestic Indigent, 4.Agriculture, 5. Small Holdings, 6. Business, 7. Industry, 8. Government, 9. Schools, 10. Nursery schools, 11. Churches, 12. Flats, 13. Hospitals, Institutional & correctional Services and 14.Plots	N/A
	33	NW	Mattosana	No financial Statement for Water, is only for the entire Municipality.				
	35	NW	JB Marks	N/A				
	38	WC	George	N/A (**"See tables" or "Attached" are mentioned in the answer sheet, however they were not attached or submitted.)	R156 000 000.00/a	R112 800 000.00/a	N/A	None
B2	8	FS	Metsimaholo	Refer to APPENDIX.	The Municipality is a Water Services	10 328 976 Kilo litres	Refer to APPENDIX.	R7 459 044
	9	FS	Moghaka	Refer to APPENDIX.				

				Authority, and as a result we do not have the cost of water purchased as we produce our own water.		
B3	3	EC	Kouga	N/A		
	24	LP	Lephalale	Refer to APPENDIX.		
	29	MP	Victor Khanye	Refer to APPENDIX.	R 9 185,854.19 per month	Refer to APPENDIX.
	31	NC	Umsobomvu	Finance department will provide such information.	2016/17: R728 090.68	Refer to APPENDIX. per kilolitre 0 - 6kl per kilolitre 6kl - 20kl per kilolitre 20kl - 30kl per kilolitre 30kl +
C2	1	EC	Amathole	N/A	R 92 220 690	Refer to APPENDIX.
	5	EC	OR Tambo	N/A	R 44 Million	N/A
	19	KZN	Ugu	N/A		
	23	LP	Sekhukhune	N/A		
WB	W2	FS	Bloem Water	Refer to APPENDIX.	R21 million 2016/17	Refer to APPENDIX.
	W4	NW	Magalies Water	N/A	R661 million 2016/17	+/- R7 million for every 1% saved. Current water losses at 11% within the 13% norm.

4.3 List of Water Services Authorities and Water Boards to be visited/interviewed

Table 4-1: List of Water Services Authorities to be visited/interviewed

No	Prov.	Name	Municipality		Visit/ Interview	Questionnaire Collection
			Type	Class		
1	EC	Amathole	DM	C2	Done	Done
2	EC	Buffalo City	Metro	A	Done	Done
3	EC	Kouga	LM	B3	Done	Done
4	EC	Nelson Mandela Bay	Metro	A	Done	No
5	EC	OR Tambo	DM	C2	Done	Done
6	FS	Mangaung	Metro	A	Done	No
7	FS	Majabeng	LM	B1	Done	Done
8	FS	Metsimaholo	LM	B2	Done	Done
9	FS	Moghaka	LM	B2	Done	Done
10	GP	City of Johannesburg	Metro	A	Done	Done
11	GP	City of Tshwane	Metro	A	Done	Done
12	GP	Ekurhuleni	Metro	A	Done	No
13	GP	Emfuleni	LM	B1	Done	No
14	GP	Mogale City	LM	B1	Done	Done
15	KZN	Amajuba	DM	C2	Done (joint)	No
16	KZN	Ethekwini	Metro	A	Done	Done
17	KZN	Msunduzi	LM	B1	Done (joint)	No
18	KZN	Newcastle	LM	B1	Done (joint)	No
19	KZN	Ugu	DM	C2	Done	Done
20	KZN	Umgungundlovu	DM	C2	Done (joint)	No
21	KZN	uMhlatuze	LM	B1	Done (joint)	No
22	KZN	King Cetshwayo (formerly uThungulu)	DM	C2	Done (joint)	No
23	LP	Sekhukhune	DM	C2	Done	Done
24	LP	Lephalale	LM	B3	Done	Done
25	LP	Polokwane	LM	B1	Done	Done
26	MP	Govan Mbeki	LM	B1	Done	Done
27	MP	Mbombela	LM	B1	Done	Done
28	MP	Steve Tshwete	LM	B1	Done	Done
29	MP	Victor Khanye	LM	B3	Done	Done
30	NC	Sol Plaatje	LM	B1	Done	Done
31	NC	Umsobomvu	LM	B3	Done	Done

32	NW	Ngaka Modiri Molema	DM	C2	Done	No
33	NW	Matlosana	LM	B1	Done	Done
34	NW	Rustenburg	LM	B1	Done	No
35	NW	JB Marks (formaly Tlokwe and Ventersdorp)	LM	B1	Done	Done
36	WC	City of Cape Town	Metro	A	Done	No
37	WC	Drakenstein	LM	B1	Done (joint)	No
38	WC	George	LM	B1	Done	Done
39	WC	Knysna	LM	B2	Done	No
40	WC	Mossel Bay	LM	B2	Done	No
41	WC	Stellenbosch	LM	B1	Done (joint)	No
42	WC	Langeberg	LM	B3	Done (joint)	No
43	WC	Breede Valley	LM	B2	Done (joint)	No
44	WC	Witzenberg	LM	B3	Done (joint)	No

(Source: Project Team)

Table 4-2: List of Water Board to be visited/interviewed

No	Prov.	Name	Municipality		Visit/ Interview	Questionnaire Collection
			Type	Class		
1	EC	Amatola Water	-	-	Done	No
2	FS	Bloem Water	-	-	Done	Done
3	LP	Lepelle Northern Water	-	-	Done	No
4	NW	Magalies Water	-	-	Done	Done
5	KZN	Mhlathuze Water	-	-	No	No
6	WC	Overberg	-	-	No (suspend)	No
7	GP	Rand Water	-	-	No (suspend)	No

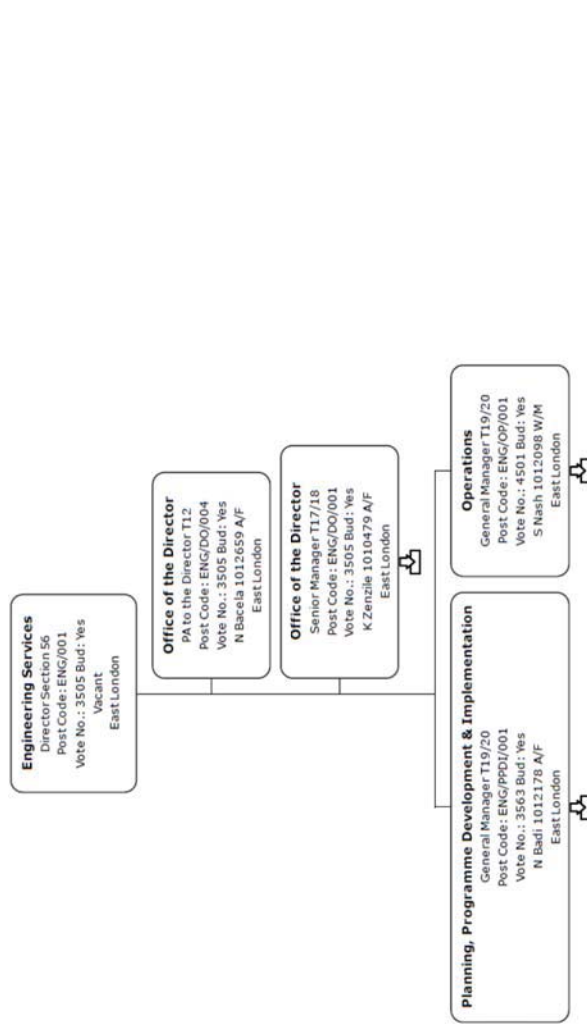
(Source: Project Team)

4.4 Documents/Resources Acquisition (from Municipalities and Water Boards)

4.4.1 Organogram

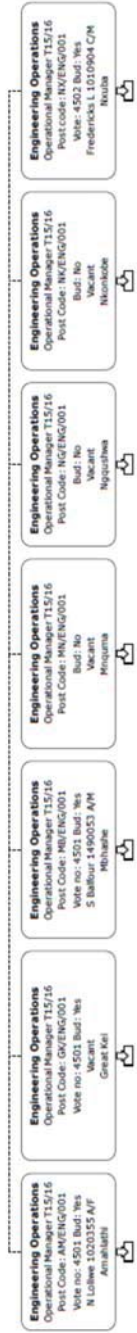
No. 1: Amathole District Municipality

1) Engineering Department



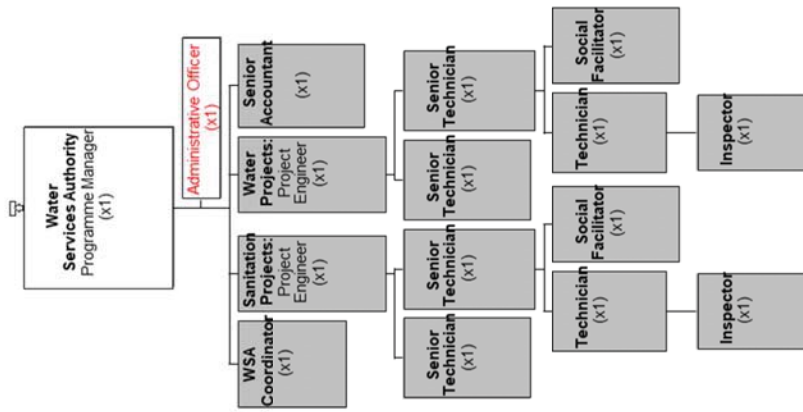
(Source: Amathole DM)

2) Satellite Offices



(Source: Amathole DM)

No. 2: Buffalo City Metro Municipality



(Source: Buffalo City MM)

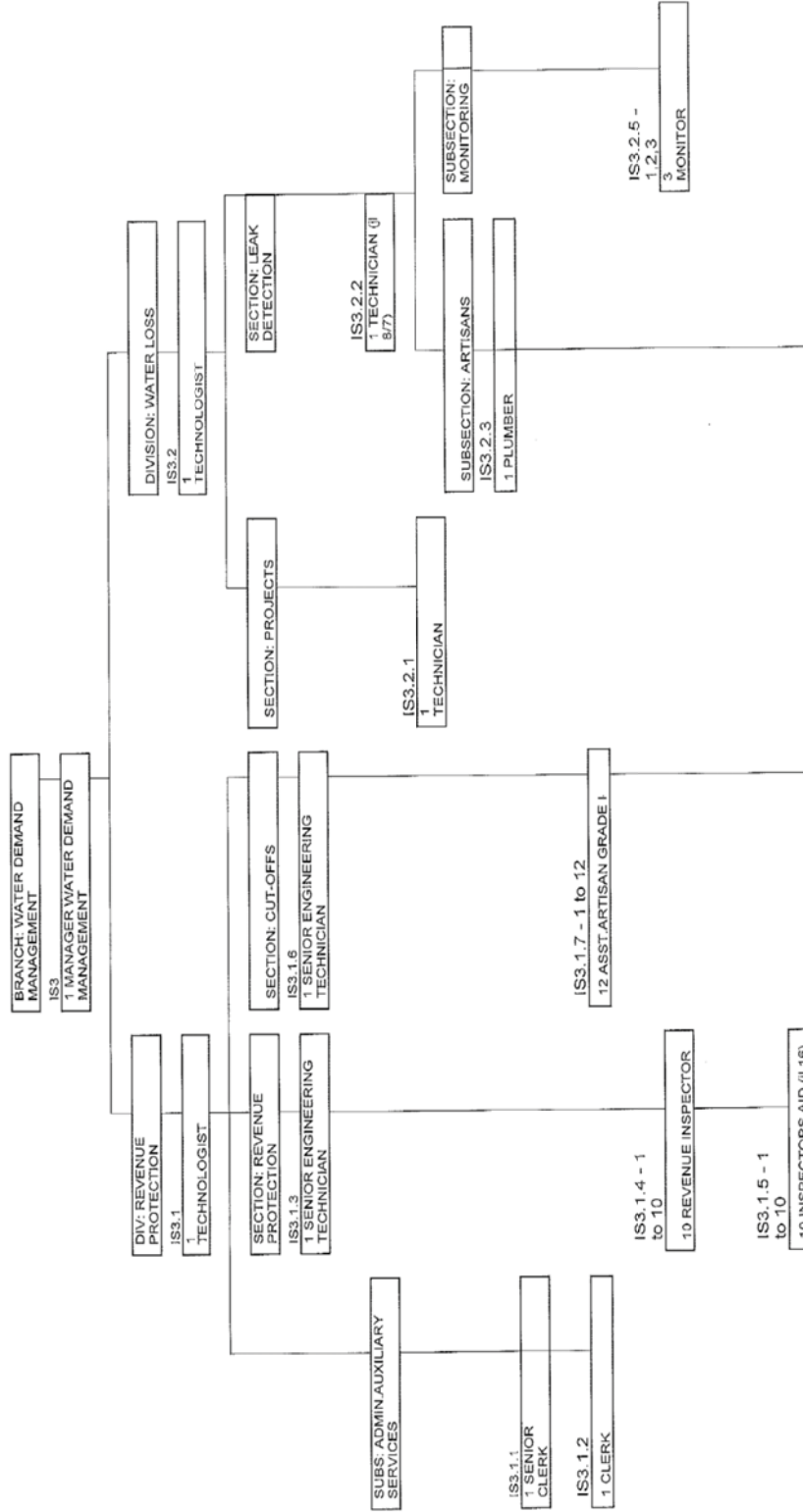
No. 3: Kouga Local Municipality

N/A

No. 5: OR Tambo District Municipality

N/A

No. 7: Matjabeng Local Municipality



(Source: Matjabeng LM)

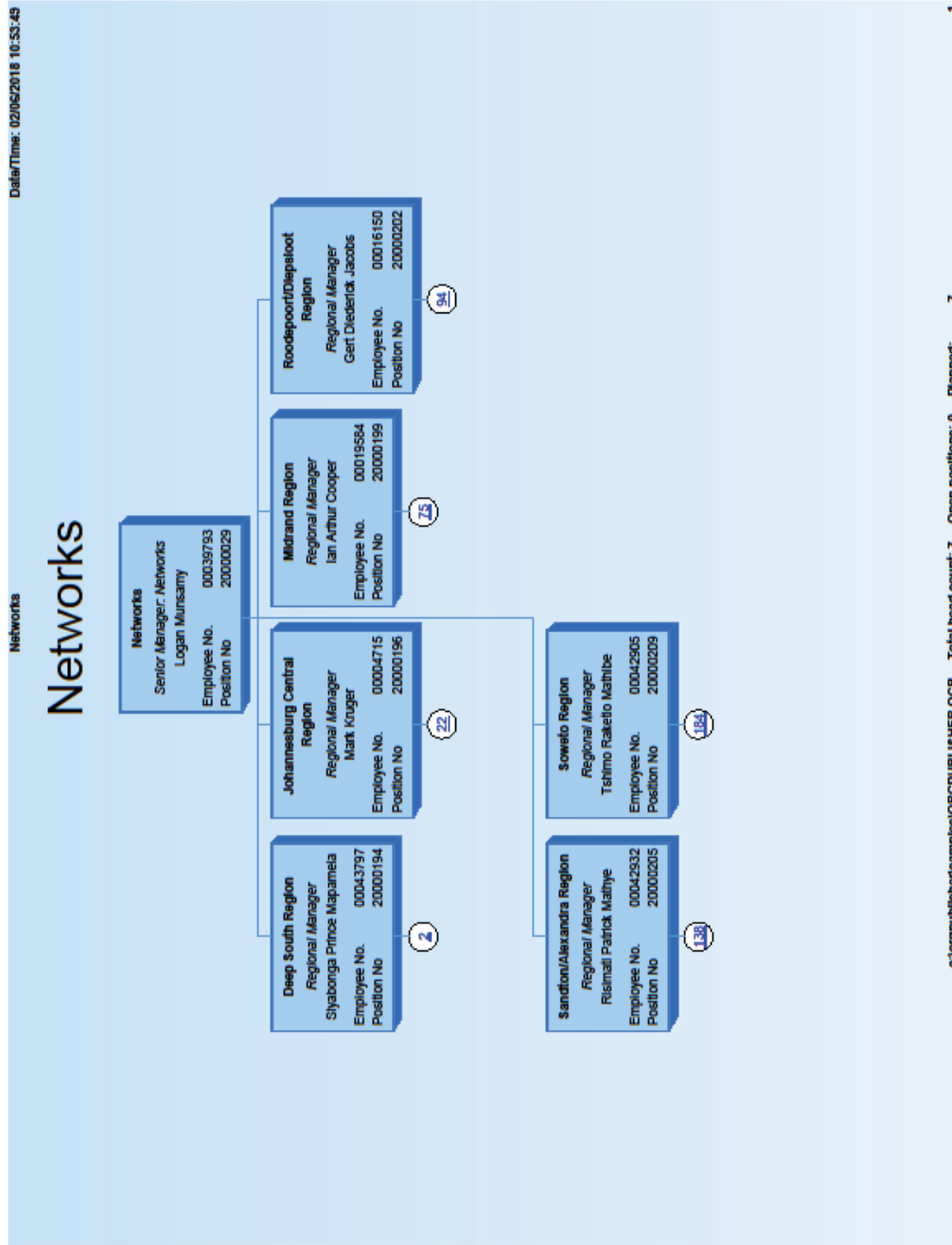
No. 8: Metsimaholo Local Municipality

N/A

No. 9: Moghaka Local Municipality

N/A

No. 10: City of Johannesburg Metro Municipality



(Source: City of Johannesburg MM)

No. 11: City of Tshwane Metro Municipality

N/A

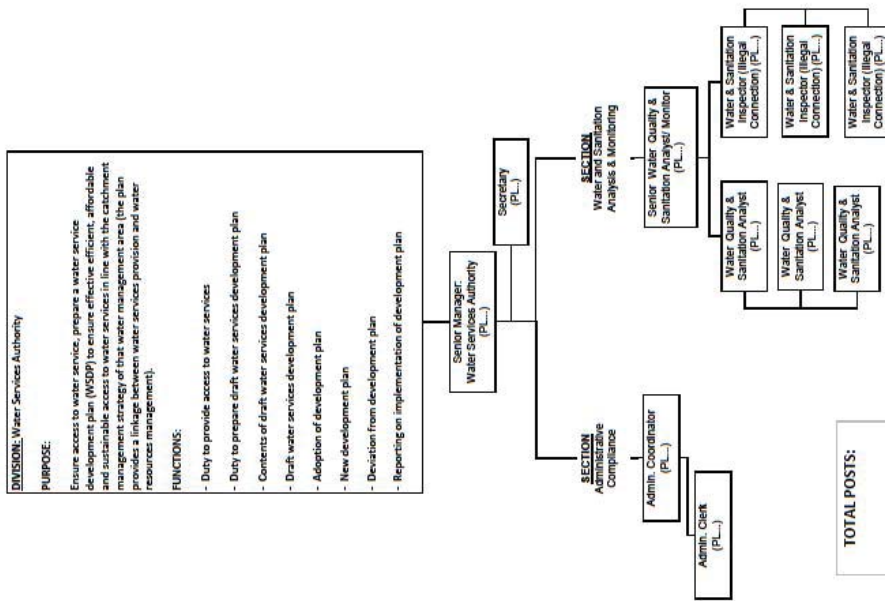
No. 14: Mogale City Local Municipality

N/A

No. 16: eThekweni Metro Municipality

N/A

No. 19: Ugu District Municipality



(Source: Ugu DM)

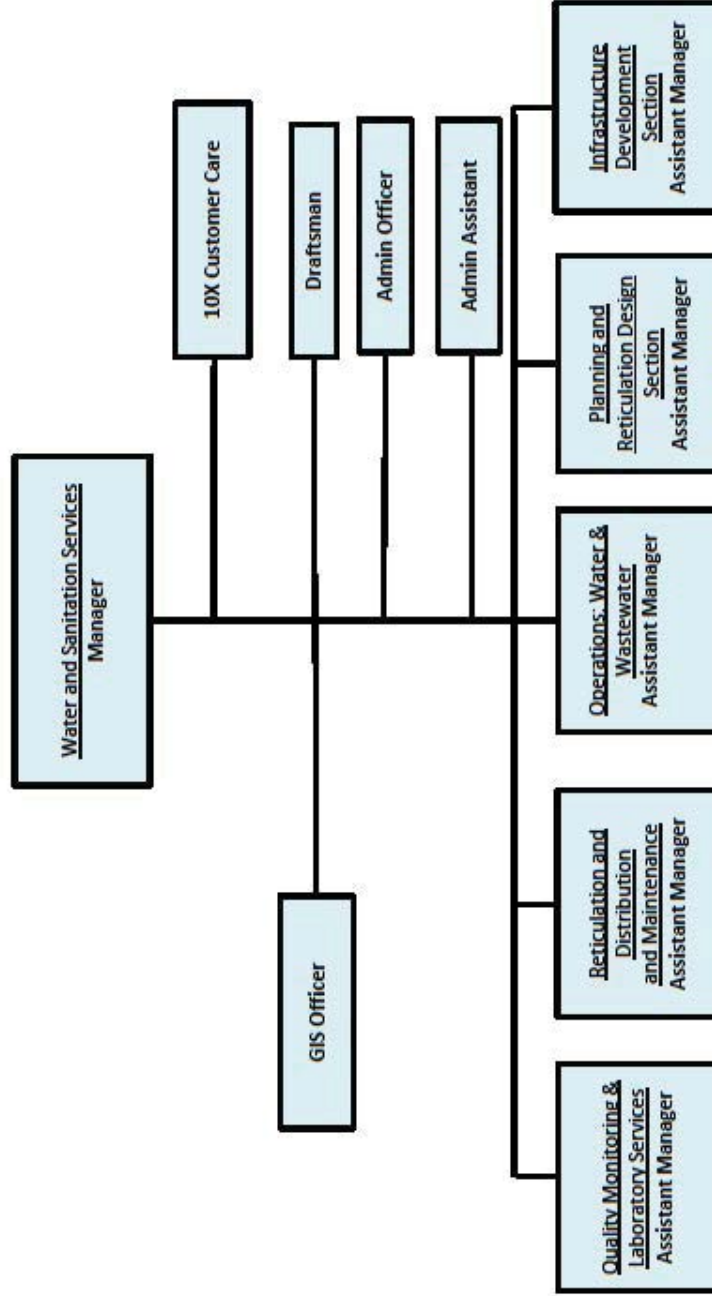
No. 23: Sekhukhune District Municipality

N/A

No. 24: Lephalale Local Municipality

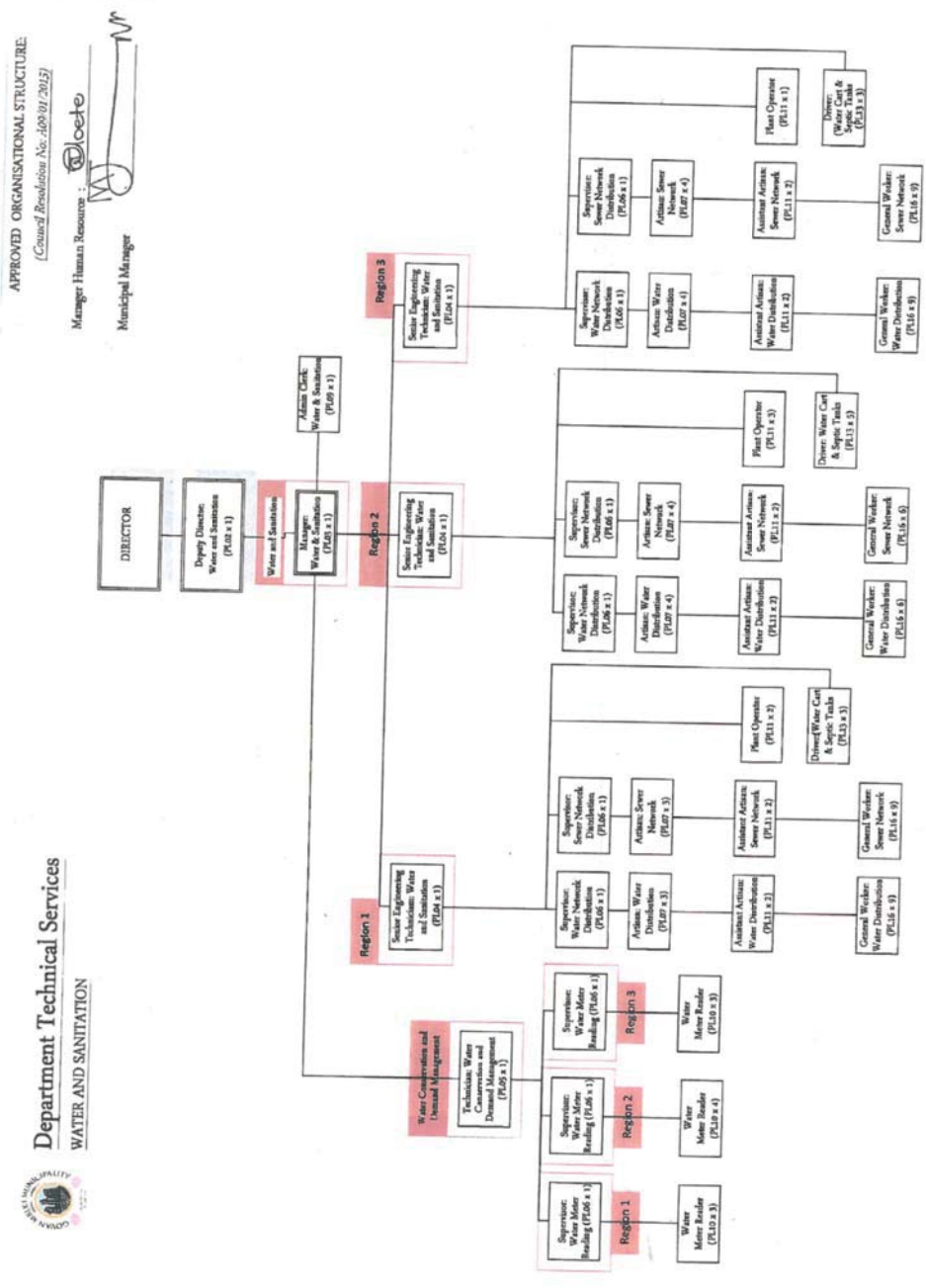
N/A

No. 25: Polokwane Local Municipality



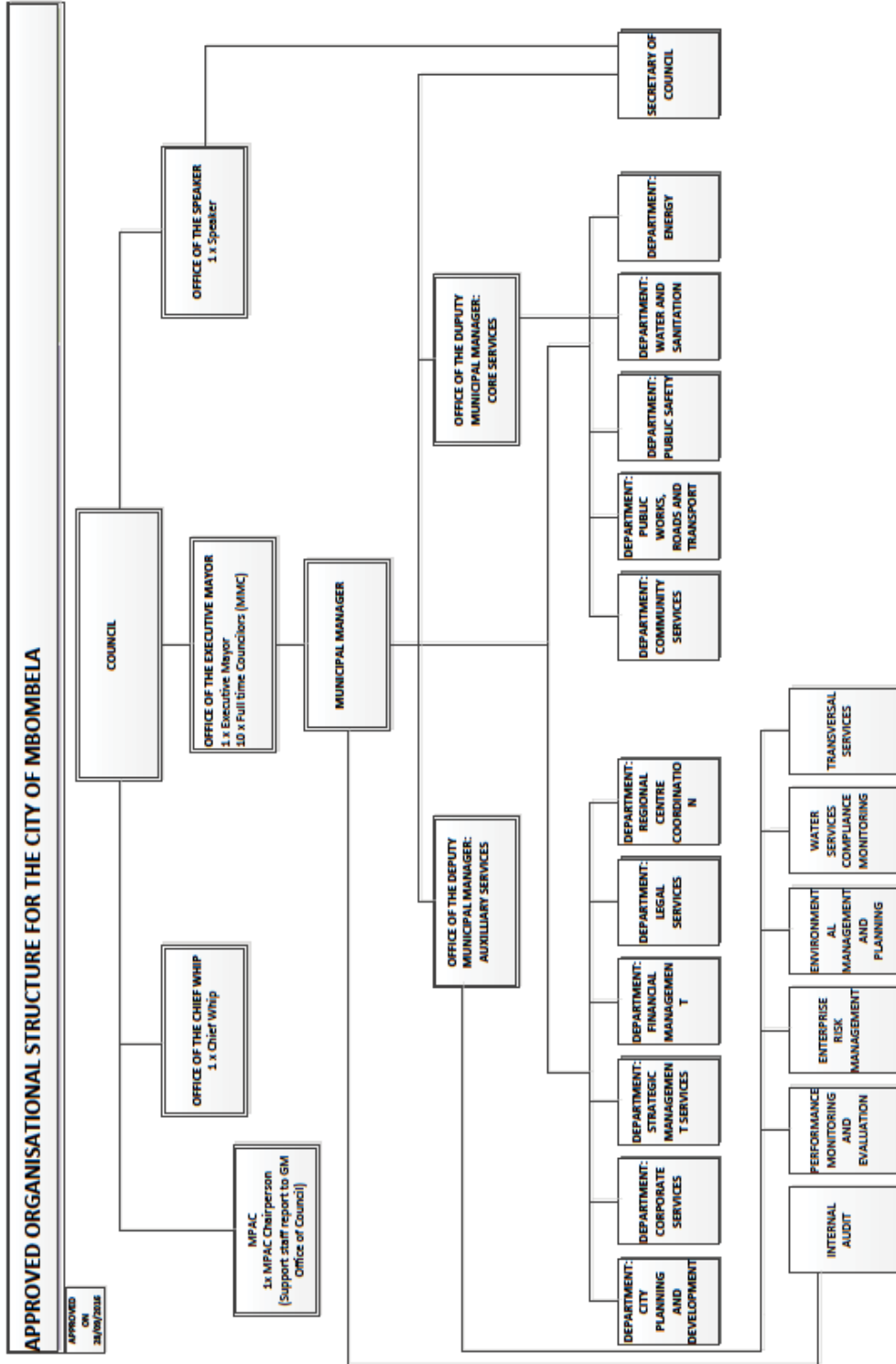
(Source: Polokwane LM)

No. 26: Govan Mbeki Local Municipality



(Source: Polokwane LM)

No. 27: Mbombela Local Municipality

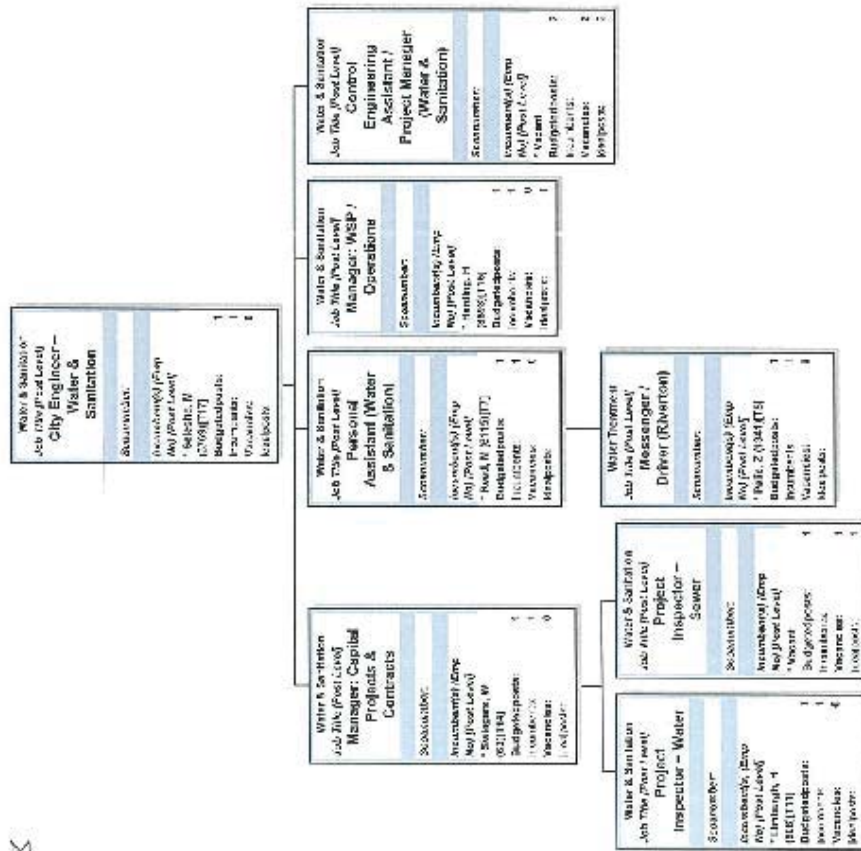


(Source: Mbombela LM)

No. 30: Sol Plaatje Local Municipality



Water & Sanitation



Task (revised and) September 7, 2017

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(Source: Sol Plaatje LM)

No. 35: JB Marks Local Municipality

N/A

No. 38: George Local Municipality

N/A

4.4.2 Water Reticulation System Drawing

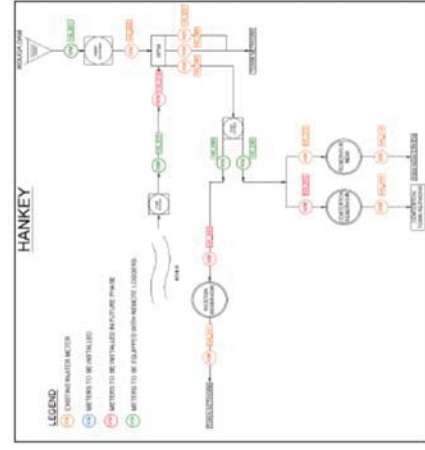
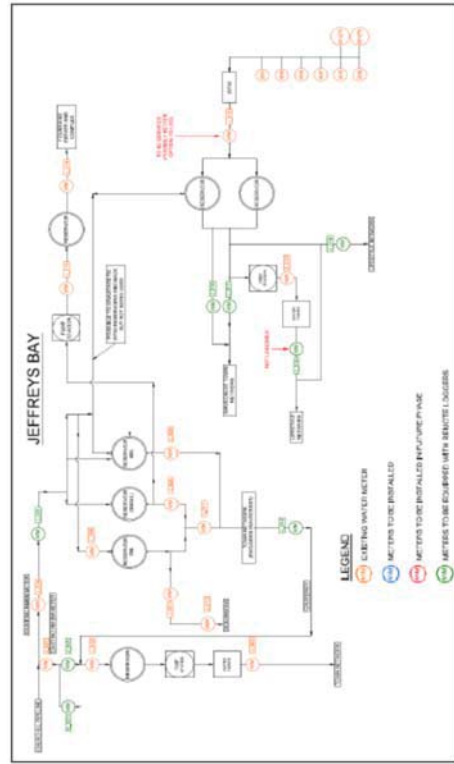
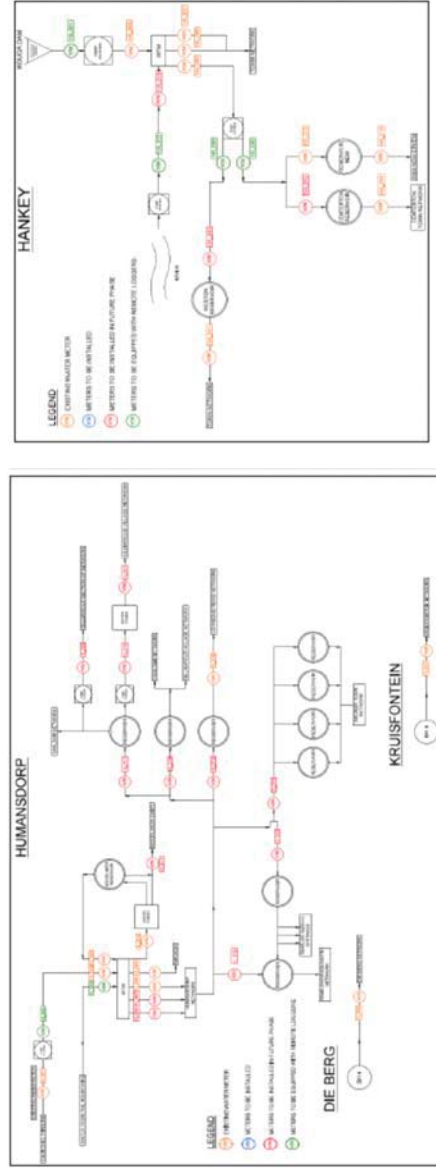
No. 1: Amathole District Municipality

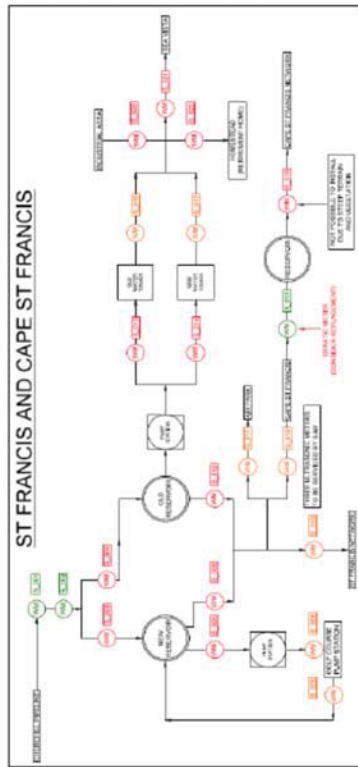
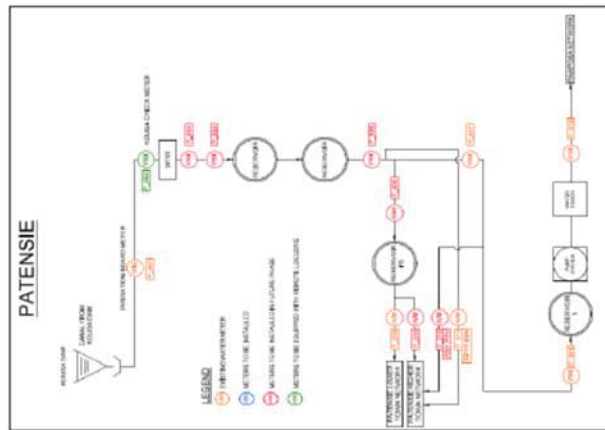
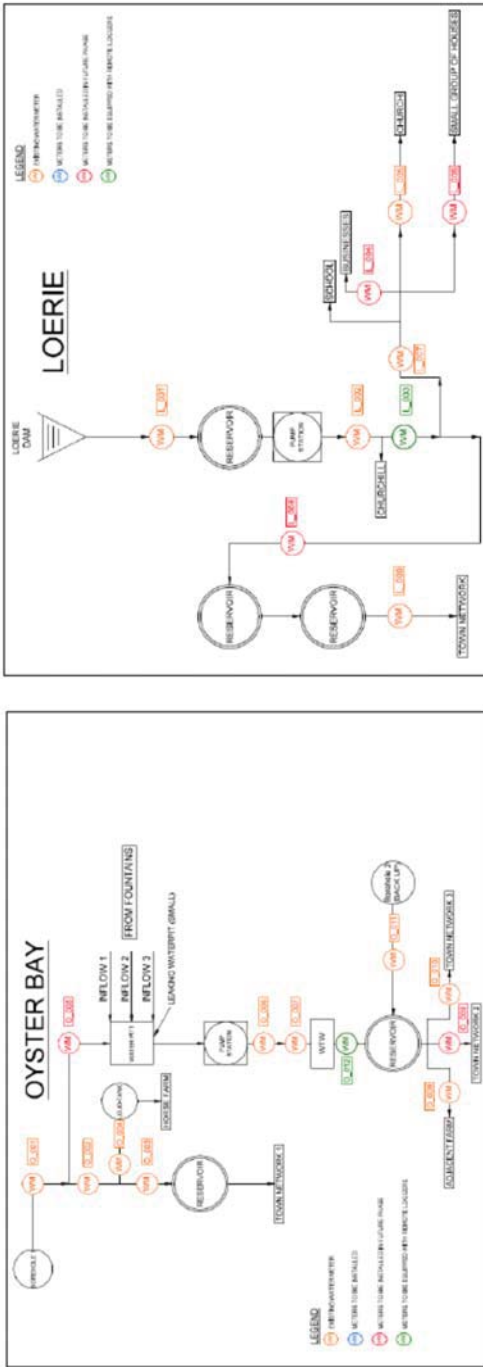
N/A

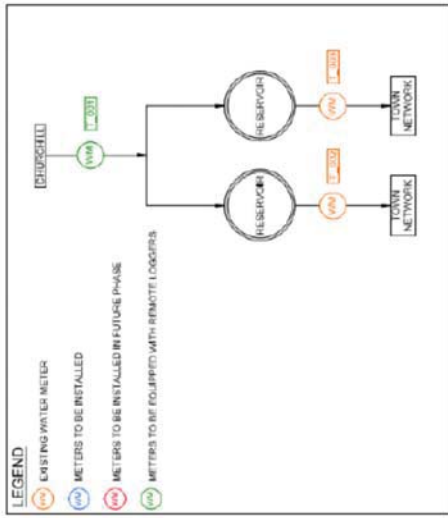
No. 2: Buffalo City Metro Municipality

N/A

No. 3: Kouga Local Municipality







(Source: Kouga LM)

No. 5: OR Tambo District Municipality

N/A

No. 7: Matjabeng Local Municipality

N/A

No. 8: Metsimaholo Local Municipality

N/A

No. 9: Moghaka Local Municipality

N/A

No. 10: City of Johannesburg Metro Municipality

N/A

No. 11: City of Tshwane Metro Municipality

N/A

No. 14: Mogale City Local Municipality

N/A

No. 16: eThekweni Metro Municipality

N/A

No. 19: Ugu District Municipality

N/A

No. 23: Sekhukhune District Municipality

N/A

No. 24: Lephalale Local Municipality

N/A
No. 25: Polokwane Local Municipality
N/A
No. 26: Govan Mbeki Local Municipality
N/A
No. 27: Mbombela Local Municipality
N/A
No. 28: Steve Tshwete Local Municipality
N/A
No. 29: Victor Khanye Local Municipality
N/A
No. 30: Sol Plaatje Local Municipality
N/A
No. 31: Umsobomvu Local Municipality
N/A
No. 33: Matlosana Local Municipality
N/A
No. 35: JB Marks Local Municipality
N/A
No. 38: George Local Municipality
N/A

Appendix 3:

Current Situation of NRW in South Africa,
Consideration and Suggestions

Current Situation of NRW in South Africa, Consideration and Suggestions

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Current Situation of NRW in South Africa, Considerations and Suggestions

1. Survey Analysis Method

(1) Visit Survey

The survey team have visited and had a meeting in 44 water utilities since September 2017 as a baseline survey out of 152 water utilities in SA (Metro Municipality, District Municipality, Local Municipality and Water Board). Project guidance and Questionnaire was used for the meeting and minutes of the meeting was made by the survey team. The Questionnaire was categorized for Human resource section and Technical section. The survey team have received 22 questionnaires out of 44 water utilities as an answer for the questionnaire. The answers were categorically reported and shared with affiliated party of the project.

(2) Site Survey

The survey team visited some site of municipality and took some photos during visit survey or the other opportunities.

(3) Meeting with Counterparts

The survey team had meetings with counterparts.

(4) Literature survey

The survey team read and summarize literatures in a vacant director room of Water Use Efficiency in DWS building at Tshwane.

(5) Daily Information gathering

The survey team asked some questions about water/water service for Public people (Taxi driver, Security person, Shop clerks)

(6) Information gathering at IWA WATER LOSS Conference

The survey team participated in IWA Water Loss Conference in Cape Town, at May 7th to 9th 2018. The survey team was invited by DWS.

2. Social background in South Africa

There are 2 specific social background to understand NRW in South Africa.

(1) Free Basic Water (FBW)

The government of South Africa must supply water for all citizens as one of a social welfare programs.(the Water Services Act 108 of 1997, and the Department of Water Affairs and Forestry (DWA) commenced the implementation of phase 1 of the National Free Basic Water strategy in February 2001). Basic level of water demand is 25L/person/day, 6kL/household/month for 8 persons/household. The Free Basic Water policy and

implementation including consumption volume and receiving criteria can be decided by municipalities. Some municipality supply FBW for all residents, some supply FBW for applicants only.

An issue of FBW is those who receiving FBW without any payment sometimes do not have no water meter to measure consumption volume which used more than the pre-determined volume. Even though, the area was metered, the consumption volume of each house cannot be measured. Therefore, the consumption volume is categorized as NRW because the volume will be an un-billed water. Usually, non-metered water supply reduces customer awareness for water usage, thus some uses water carelessly. In addition, billing system will not be simple because of the non-updated customer data.

(2) Organizational separation of financial section and Water section

All the water utility, except for Johannesburg Metro, has 2 sections as water section which covers water supply, maintenance, and financial section which covers meter reading and billing. The organization is not autotomized for own policy and plans. There is no system in which the water utility is able to independently operate a business based on its own plan. Meter installation and customer registration are done by the Water section, however meter reading and billing are done by financial section or an outsourcing company. Water section is not able to touch to meter reading work. The collated water tariff is centrally managed by the municipality. Since the budget allocation is done by the politicians, the minimum operating costs will be allocated if there are not well-prepared business plans from the water section.

3. Survey results and analysis

(1) Case 1: War on Leaks on Tsakane Township in Ekurhuleni Metro

A NRW pilot project was implemented in Tsakane township area (NRW ratio 64.6%) in Ekurhuleni City, one of a Metro Municipalities, from April 2016 to March 2017.

According to the report dated July 2017, they identified and confirmed DMAs, MNF, bulk meters and pipes, pump operation, metering, organization of WCWDM. They found and repaired leaks at the tanks and pipes, installed water meter, zonal valves, and renewed equipment for water supply in the DMA. They replaced main pipes of mid-block.

Following Table 1 shows installation of water meter to houses highly contributes to reducing NRW compared to leak detection or main pipe replacement. It covers 46.2% out of 64.6% of the NRW ratio.

Table 1: NRW Analysis for Tsakane DMA

NRW Analysis		
Descriptions	Value	Comments/Assumptions
System Input (kl/year)	18 691 940.00	Jun-15
NRW (kl/year)	12 074 993.24	64.6% of system input 18 691 940kl/year
Unbilled Authorised Consumption	373 838.80	2% of system input 18 691 940kl/year
Metering of all 39468 unmetered stands		
Annual Average Daily Demand/Dwelling (l/dwelling/day)	600	Table 9.13 of CSIR Red Book Volume II Chapter 9.
Number of Dwellings	39 468	number of unmetered stands
Total Domestic Demand (l/day)	23 680 800	Number of dwelling units x Demand/Dwelling
Total Domestic Demand (kl/year)	8 643 492	
% of system input	46.2	%
Commercial losses		
Industrial Area meter replacement		
Annual Average Daily Demand/gross floor area (l/100m ² /day)	400	Table 9.13 of CSIR Red Book Volume II Chapter 9.
Total Gross floor area(100ha x 75%)	750000 m ²	
Industrial Demand (kl/year)	1 095 000	
50% of demand unaccounted for (kl/year)	547 500	Due to non-functional meters and inaccuracies
% of system input	2.9	%
Geluksdal meter replacement		
Annual Average Daily Demand/Dwelling (l/dwelling/day)	800	Table 9.13 of CSIR Red Book Volume II Chapter 9.
Number of Dwellings with old and non-functional meters	1 500	
Total Domestic Demand (l/day)	1 200 000	Number of dwelling units x Demand/Dwelling
Total Domestic Demand (kl/year)	438 000	
20% demand unaccounted for (kl/year)	87 600	Due to non-functional meters and inaccuracies
% of system input	0.5	%
Midblock replacement		
Annual Average Daily Demand/Dwelling (l/dwelling/day)	600	Table 9.13 of CSIR Red Book Volume II Chapter 9.
Number of Dwellings with meters on back of the yards	2 500	
Total Domestic Demand (l/day)	1 500 000	Number of dwelling units x Demand/Dwelling
Total Domestic Demand (kl/year)	547 500	
20% demand unaccounted for (kl/year)	109 500	Due to non-reading of meters at back of the yards due to inaccessibility
% of system input	0.6	%
Leak fixing		
Leaks detected (kl/year) = 30kl/hr x 24hr x 365days	262 800	30kl/hr average rate of leaks detected on 456km
% of system input	1.4	%
Asbestos pipe replacement		
Upvc efficiency	26 280.00	10% of leaks were detected on asbestos pipes
% of system input	0.14	%
Zoning and Zone Management		
Installation of Zonal Meters/Pressure management (kl/yr)	262 800	It will eliminate leaks hence same contribution as leak repair
% of system input	1.4	%
Tot % NRW removed from the system after implementation	51.8	%
Hence NRW reduces from 64.6% to	12.8	%

Table 5: NRW Analysis for Tsakane DMA

(2) Case 2: Approach of Mbombela City

The survey team visited and had a meeting at Mbombela Local Municipality on November 2. The members were, Ms. Molatelo Rosa (IBTC Director), Ms. S.Mabaso (Water Use Efficiency), and Ms. Decia Matsumba (Program Manager, Municipal Infrastructure & Services, Mpumalanga, SALGA). Civil Engineering Service Leader and other 2 persons participated in the meeting from the LM.



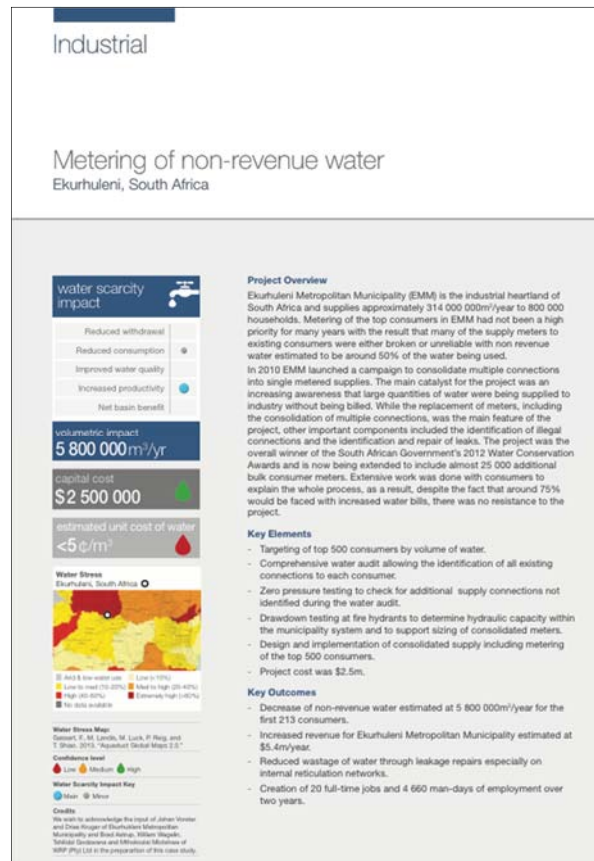
Followings are comments of the meeting of Mbombela LM.

- NRW drastically reduced to 24% (2017) from 44.3%(Source : No Drop 1st Order Assessment, 2014).They replaced and re-installed water meters and started metered billing.
- They are more conscious about social side of NRW reduction compared to technical side.
- NRW team conducts public awareness and pipe repair. They procured leak detection equipment about 10 years ago, however, they do not use them because of no idea how to use it.
- Visible leaks are reported by about 30 members of Water Agency (Meter readers) hired by LM.
- Asbestos cement pipes are still remaining about 15% or 20% of whole main pipes in LM, even though replacing every year in accordance with radical replacement plan.
- There are some zonal meters. NRW ratio is calculated based on the data of zonal meter. There are no smaller zones or areas (DMA) than zonal meters.

(3) Case 3: Approach of Ekurhuleni Metro

They implemented a meter accuracy confirmation project for the top 500 large consumption customers of the 800,000 households in Ekurhuleni Metro in 2010. A large number of malfunctioned meter and unreliable meter were found and replaced. At the same time, leaks and illegal connections are replaced. They found that 50% of water was consumed as NRW in the industrial area.

Continuously, they have tested accuracy of 25,000 customer meters and 75% of them have increased billing. The impact on water volume by these was 5,800,000 m³ / year (15,890 m³ / day). The cost of the project was 2.5 million USD (the unit price per cubic meter is 5 cents or less).



Source: <https://www.waterscarcitysolutions.org/metering-of-non-revenue-water/>
Figure 1: Report of Metering of NRW, Ekurhuleni, South Africa.

(4) A meeting at Modimolle LM for drought management

A meeting for drought management was held at Modimolle LM located on 120km northern side of Tshwane (Pretoria) on March 6, 2018. The survey team participated in the meeting and the members were Mr. Mackie (DWS), Morita, Ide, and Maruyama (JICA Experts). And 5 persons from DWS head office, DWS Limpopo, 6 persons from LM.




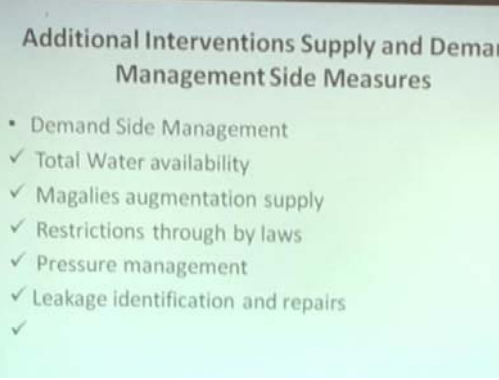
Before the meeting, Mr. Morita, Ide, and Maruyama visited Donkerpoort Dam and found the storage rate was 0% even though a report says 30%.

Mr. Masike of DWS chaired the meeting as a view points of Water Demand Management.

- New water source is necessary for Modimolle in 2018.
- Water Balance should be monitored accurately by LM.
- A challenge of Modimolle is water management and metering. A reported leak just leave it as it is for 7 days.
- Modimolle LM, they do not know the volume of water source, distributed volume, and consumption. It seems the measurement is not easy for current situation in Modimolle LM.
- DWS will continuously support Modimolle LM.

- A meeting member had a mutual understanding for necessity of Technical support, Public awareness, Political buy-in, Monitoring of boreholes, Increased water volume from Water Board, Cost estimation and Human resources.

Note: A member of the meeting, Mr. Tabana, of LM used be a member of training in Japan for 3 month. He was a key-person for this meeting.

																																				
<p>Modimolle City</p>	<p>Venue of the meeting</p>																																			
																																				
<p>Water source</p>	<p>A meeting room</p>																																			
 <table border="1"> <thead> <tr> <th>Source ID</th> <th>Demand (M3)</th> <th>Design Supply (M3)</th> <th>Current Supply (M3)</th> <th>Volume Supply (M3)</th> <th>Intervention</th> <th>Challenges</th> </tr> </thead> <tbody> <tr> <td>Dankerspoort Dam</td> <td>>10 000</td> <td>3300</td> <td>2800</td> <td>0</td> <td>Reduced the outflow to increase the period of source</td> <td>No enough rain in the catchment</td> </tr> <tr> <td>Magalies Water</td> <td></td> <td>5200</td> <td><4000</td> <td>4200</td> <td>Maintain the maximum outflow</td> <td>Account in areas</td> </tr> <tr> <td>Modimolle Boreholes</td> <td></td> <td>1980</td> <td>1560</td> <td>1560</td> <td>Maintain the maximum outflow</td> <td>Boreholes might dry up</td> </tr> <tr> <td>Welgevonden Dam (Frickie Greyser)</td> <td>9000</td> <td>2500</td> <td>1600</td> <td>0</td> <td>Reduced the outflow to increase the period of</td> <td>No enough rain in the catchment</td> </tr> </tbody> </table>	Source ID	Demand (M3)	Design Supply (M3)	Current Supply (M3)	Volume Supply (M3)	Intervention	Challenges	Dankerspoort Dam	>10 000	3300	2800	0	Reduced the outflow to increase the period of source	No enough rain in the catchment	Magalies Water		5200	<4000	4200	Maintain the maximum outflow	Account in areas	Modimolle Boreholes		1980	1560	1560	Maintain the maximum outflow	Boreholes might dry up	Welgevonden Dam (Frickie Greyser)	9000	2500	1600	0	Reduced the outflow to increase the period of	No enough rain in the catchment	 <ul style="list-style-type: none"> • Demand Side Management ✓ Total Water availability ✓ Magalies augmentation supply ✓ Restrictions through by laws ✓ Pressure management ✓ Leakage identification and repairs ✓
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(5) A meeting with Mr. Westman, NRW member of Tshwane Metro

At Central water depot on March 9, 2018(Fri) Mr. Trevor West man, Deputy Director: Non-Revenue Water, a trainee of training in Japan.

[About Water sector in Tshwane Metro]

- Population 33,000,000, 10% of personnel is allocated for necessary post. Metering is outsourced, the others are directly operated.
- Mr. Westman mentioned that the technical level is almost the same as Tokyo and Yokohama, however, staffing and funding is different. The staffing and funding are current challenges. New political party starts budget allocation for water sector. It will improve our water sector in Tshwane. Tshwane is the second best Municipality in South Africa next to Cape Town. The third one is eThekweni. He is responsible for understanding situation, planning measures, and order it to regional depot.
- Tshwane used to have leak detection team and the NRW ratio used to be lower in 10 years ago. NRW ratio is currently 29%, it used to be 21% in 6 years ago.
- Tshwane found that the more repairs, the higher the NRW ratio. 3,000 leaks were repaired and 500 of water meter is replaced in a Month in Tshwane.
- There are 7 regional offices, and 4 sections for metering, bulk facility, WDM and NRW to cover whole regional offices.
- Leakage is reported to call center and send staff to repair it. Tshwane has a policy to repair leaks within 48 hours. Especially we try to increase the time in dolomite area.
- Some specific projects are on-going such as pressure management.
- Current concern is replacement of managers of DWS due to 2 billion Rand budget scarcity. This causes policy change to focus on profitable project only.
- Elevation difference in Tshwane is about 170m from 1200m to 1370m. The highest is northern side, and it inclined to southern side to 3 levels. The pressure control is primitive.
- 80% of the total water distribution is from the southern Vaal Dam (Rand Water), and about 160 water distribution tanks receives the water. There are a large size of tanks for 3000 households and a small size of 100 households.
- (Reference) NRW in Denmark is 6%. The pressure is kept for 3 bar at the tank. The facility is 90 years old.
- Finance Section collects water tariff. Only Jo'burg Water collects water tariff by themselves.
- A lots of water tariff are collected by "Estimate bill" by Finance Section.
- All the budget is managed by municipality even though water sector struggles. This is a challenge for water sector in whole SA. Municipality would like to handle electricity and water tariff as one of a funding sources.

[The second visit dated March 12, 2018]

- The staff of Tshwane is divided into the bulk department and the others. The bulk team consists of

people with more skills and experience. Welders are still active for large diameter pipes (bulk main).

- The team works based on the Job card. The supervisor records the work site, content, time, members, mileage, and materials used on one Job card every day. The records are daily approved and input the time, labor cost, fuel cost, equipment cost, which spent on one site. This enables to analysis of the causes of costs, plans, strategies for more efficient maintenance work.
- Pipes up to about 30m in length are replaced directly by Tshwane, large pipes are designed by Tshwane and replaced by outsourced private contractors.
- Water meters need to be replaced in about 10 years, but there are financial restrictions. In fact, some of them have been used for 15 or 6 years.
- Out of a total 500,000 meters, 20% are large consumer meters, accounting for 90% of water use. This large meter is replaced regularly and inspected when the meter counts 20% of water usage compare to the past record.

[Mapping system]

- Mapping System (GIS Software) is connected to following information, Pipe material, Leak record, Soil quality, GPS coordination, Pipe replacement cost, Future demand, Land use/Occupation, Township area, Meter reading, Influence area of valve operation.
- Out of a total of 160 distribution reservoirs, 24 major reservoirs have recently been equipped with monitoring system that automatically measure water levels, pressures, inflows, and outflows.
- Water balance is created for each reservoir because each reservoir has a specific distribution area.
- The current GIS system has been used for about 10 years. I think Tshwane's GIS system is the best. Challenges are fund, staff, and leaving (retirement).

4. National Water Balance Survey

In South Africa, numerous water balance benchmark studies have been repeatedly conducted since 2009. The calculation method of water balance in this benchmark survey is as follows.

(1) System Input Volume (kl/annum) – [(2) Billed Metered Authorized Use (kl/annum) + (3) Unbilled Authorized Use (kl/annum)] = (4) Water Losses (kl/annum). All municipality has no data of (3) Unbilled Authorized Use.

(4)Water Losses (kl/annum) x (5) Assumed Commercial Losses (All municipality 20%) = Apparent losses (kl/annum), and the balance is Real Losses (kl/annum). (4) Water Losses (kl/annum) is NRW.

Therefore, (1) System Input Volume (kl/annum) and (2) Billed Metered Authorized Use (kl/annum) is only metered. The others are estimates.

Note1: FBW is Billed Authorized Use (kl/annum) in South Africa. However, it turns out that municipalities are confused about whether to use Metered or Unmetered usage.

Note 2: Commercial Losses 20% is applied to municipalities with almost no meters installed and it is considered that there is a large gap with actual water leakage.

Note 3: Furthermore, in South Africa there was a history of attempting independent operation (IWA definition is “billed”) in which non-revenue water was defined as "the amount of water that could not be collected". When calculated as the amount of water “billed” according to IWA, all water amounts are non-revenue water, except for FBW where there is no meter for each unit. The average meter installation rate in the whole country is 60%, and if the definition of IWA is followed, 40% simply becomes NRW, which is almost in agreement with the current situation of South African water supply.

(1) Survey on 2012 (THE STATE OF NON-REVENUE WATER IN SOUTH AFRICA)

This is a survey of the Water Balance from 2005 to 2010 which is benchmarked by municipality size category (implemented by the Water Research Commission: WRC). The report shows only organized by municipality size, however, we have re-organized the data by meter installation ratio. We have used data of 2010 or the latest. The procedure is as follows.

- Input all data to spreadsheet.
- Meter installation ratio = Installed meter/connection.
- Organize the Meter installation ratio with NRW ratio.

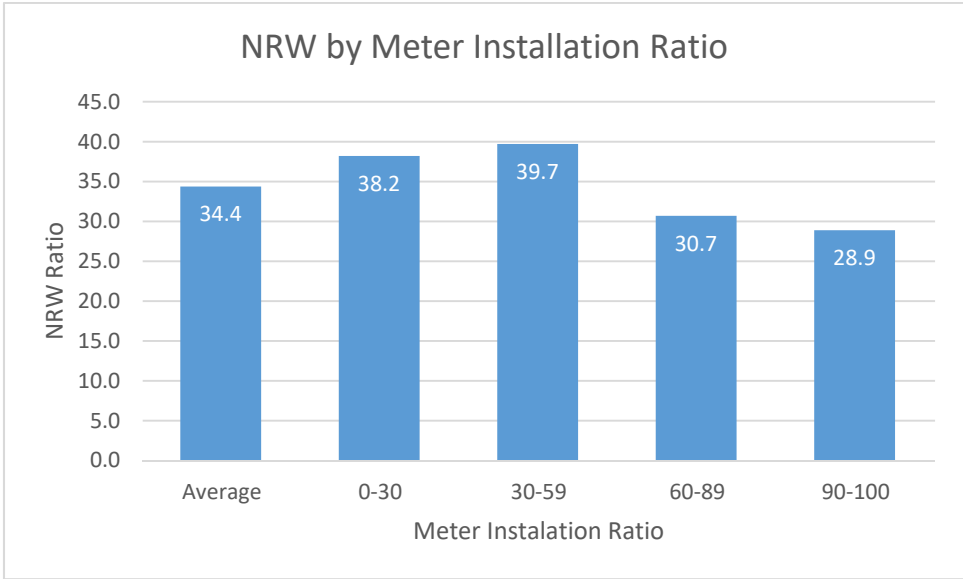


Figure 2: NRW by Meter Installation Ratio in 2012

Figure 2 shows municipality of meter installation ratio 90-100% is almost 10% lower NRW ratio than 0-30% municipality.

A lot of municipality in KZN province has no data, and NC province has a lot of copy & paste data.

Metered and Unmetered number does not equal to customer number.

(2) Survey on 2015 (No Drop Report)

A similar analysis has done with newer data.

- Input all data to spread sheet.(152 local municipalities + 1 DM)
- Meter installation ratio = Installed meter/connection.
- Organize the Meter installation ratio with NRW ratio.

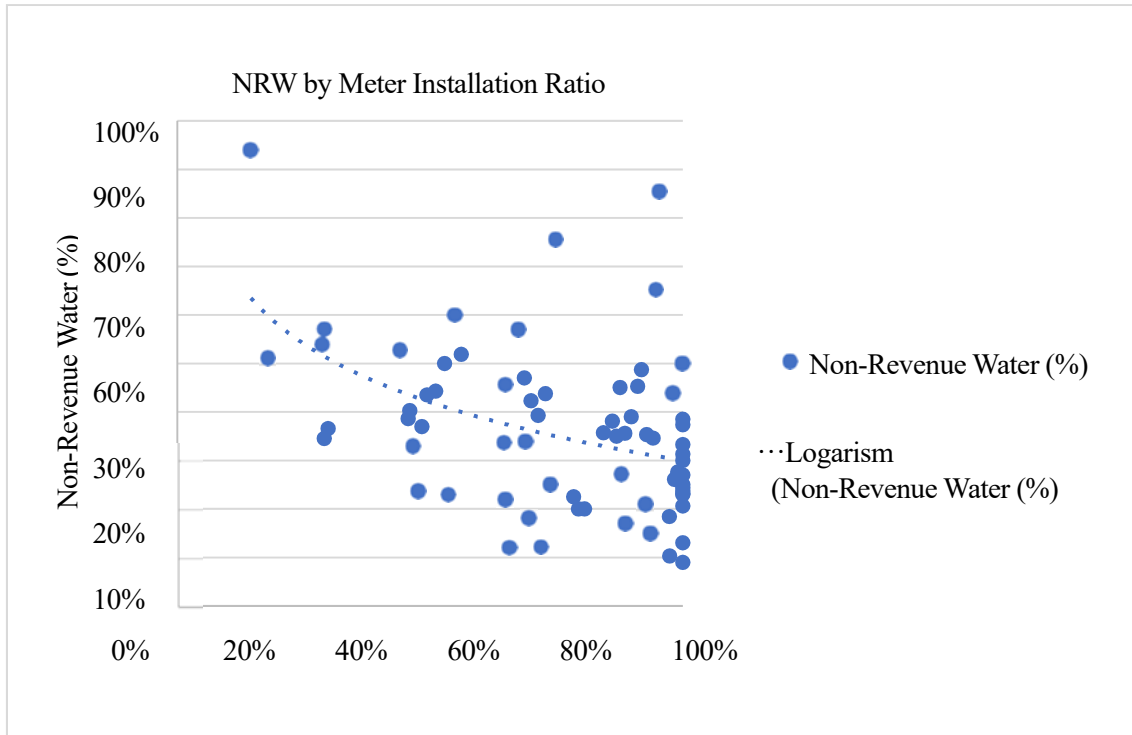


Figure 3: NRW by Meter Installation Ratio, No Drop Report 2015

Figure 3 shows NRW ratio of 100% meter installation ratio is about 10% lower than 60% meter installation ratio even though the coloration efficient is low. NRW is 30% when the meter installation ratio is 100%.

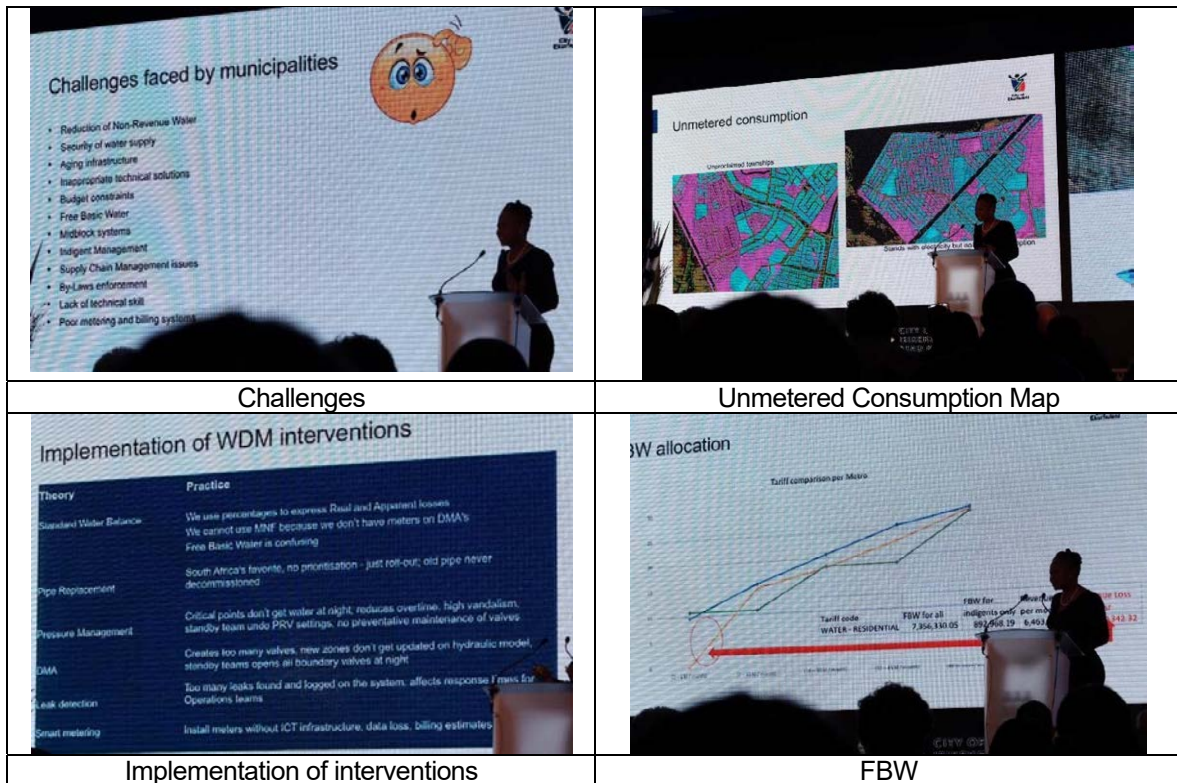
(3) Presentations in IWA Water Loss Conference

i) Keynote speech of Ms. Mbali Matiwane of Ekurhuleni City (Challenges faced by municipalities)

Ms. Mbali, A head of Water Quality and Revenue Management, Ekurhuleni City is a member of Scientific Committee in this conference who presented a Keynote speech “Challenges faced by municipalities” in Opening Ceremony on May 7.

- Challenges : Reduction of NRW, Security of water supply, Aging infrastructure, inadequate technical solutions, budget constraints, FBW, Midblock system, Supply chain management issues, By-lows enforcement, and lack of technical skill, poor metering and billing system.
- DMA has too many valves, no-updated hydraulic model, and un-reported valve operation by technical staff.

- Unmetered consumption map, FBW allocation for cases to all citizens, or indigents only.
- Meter has no ICT, Estimate consumption.



ii) **Mr. Allestair Wensley of Water Services Macro Planning, DWS**

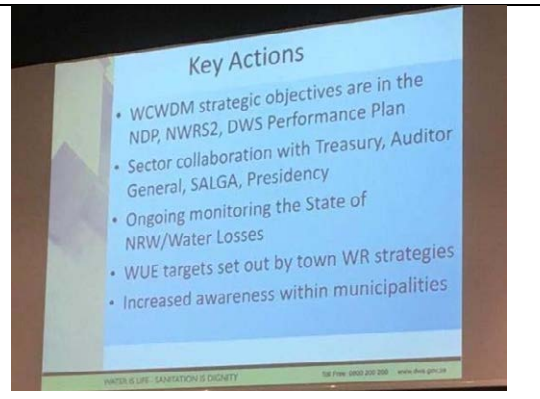
DWS Water Services Macro Planning presented “Benchmarking of water losses, non-revenue water and efficiencies in South Africa over the past decade” on May 8.

Mr. Allestair presented a review of the water balance benchmarking which has been carried out over the last 10 years. Municipality data has improved in accuracy compared to 10 years ago, however the number of submissions is only half, and the number of submissions seems to be decreasing year by year. Also, according to the IWA definition, the amount of water claimed is not non-revenue water, but there are many municipality of the B3 and B4 classes who do not understand this.

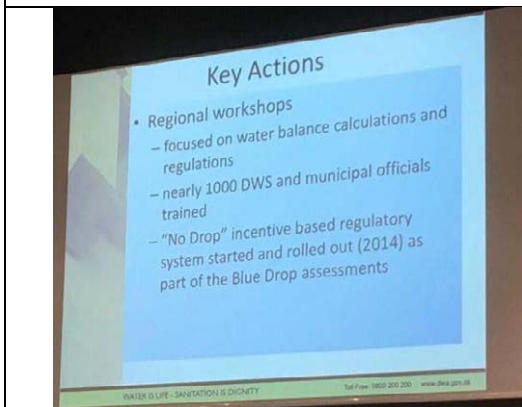
No Drop survey started in 2014. The survey follows IWA definition, but modified a part of FBW.



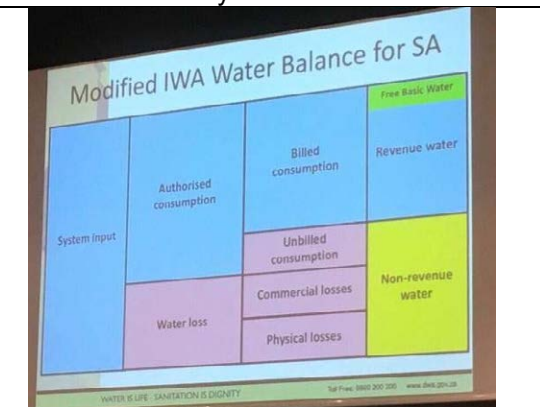
Title



Key Actions 1



Nearly 1000 DWS and municipal officials are trained



Modified Water Balance for FBW



State of NRW/Projects

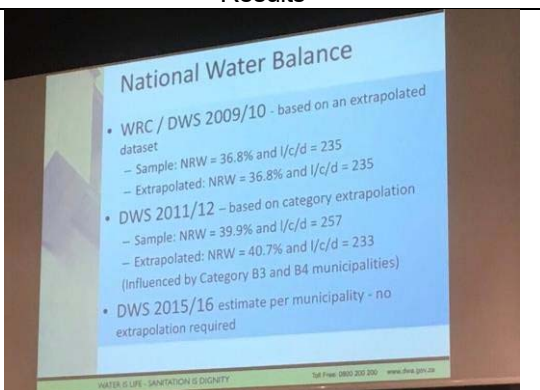


Results

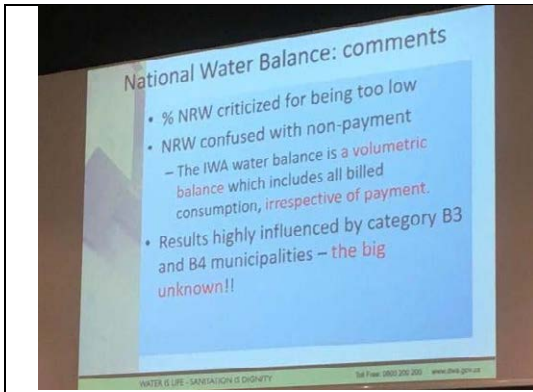
Summary of data submission

Category	Municipalities	State of NRW in SA (2009/10)	DWS (2011/12)	Net Drop (2012/16)	DWS 2015/16
A	8	8	8	8	8
B1	18	18	17	15	15
B2	27	26	21	15	15
B3	97	55	56	49	43
B4	63	25	20	14	26
Total	213	132	122	101	107
Return(%)		62%	57%	47%	50%

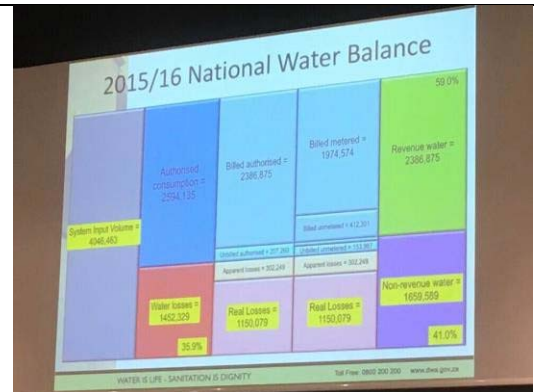
Decreased data submission



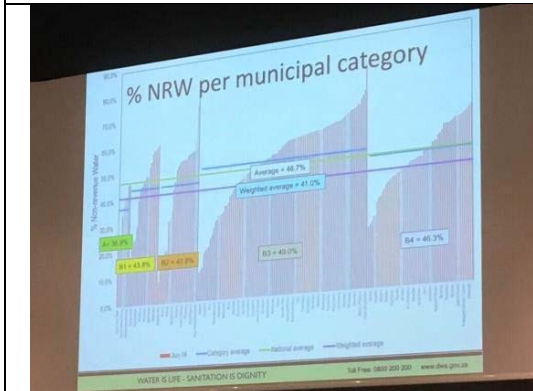
Summary of National Water Balance



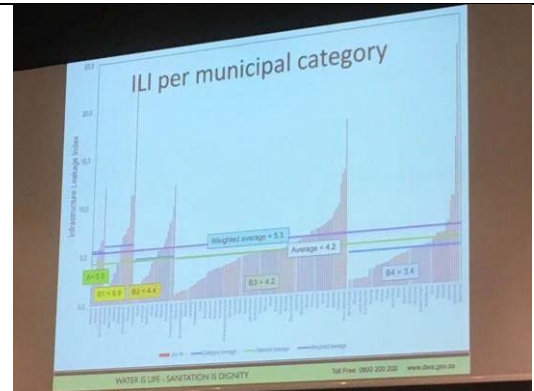
Different Definitions



41% of NRW Latest Water Balance



50% of NRW for B3 class category



MUNICIPAL BUSINESS CHALLENGES

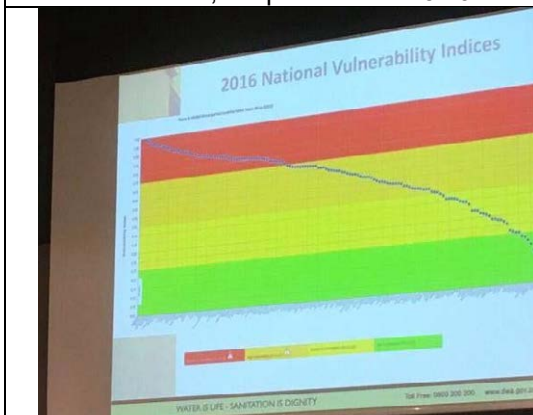
KPI trends

Category	State of NRW in SA (2009/10)				No Drop Assessment (2012/13)				2015/16 Best Benchmark			
	Population	% NRW	ILI	WU	Population	% NRW	ILI	WU	Population	% NRW	ILI	WU
A	8/8	34.3%	8.2	291	8/8	32.3%	5.4	280	8/8	34.4%	5.3	283
B1	18/18	41.3%	7.4	243	15/18	41.5%	6.5	261	15/18	48.1%	5.9	260
B2	26/27	30.5%	5.7	230	15/27	26.2%	4.8	321	15/27	44.3%	4.4	204
B3	55/57	37.0%	4.7	164	49/57	37.1%	4.2	217	43/57	52.7%	4.2	172
B4	25/63	72.5%	7.8	65	14/63	49.5%	4.0	90	26/63	49.6%	3.4	158
Total	152	46.4%	6.8	239	101	38.0%	6.2	352	107	41.6%	5.3	233

Latest 41%, the previous was 34.6%



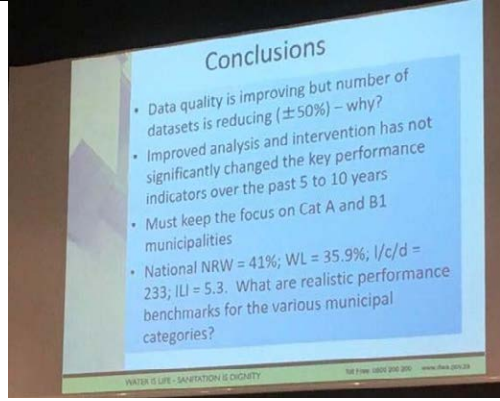
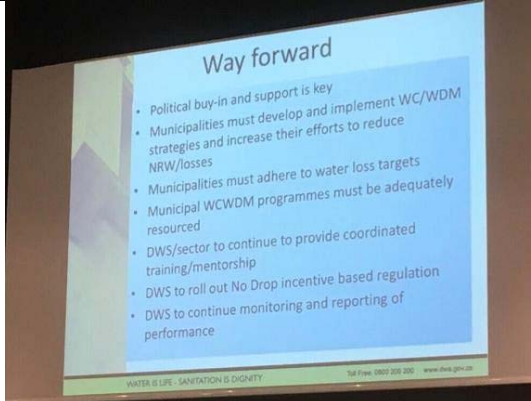
Municipal Business Challenges



A half is Red National Vulnerability Indices


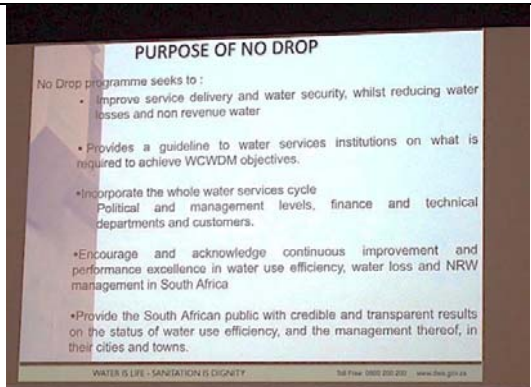
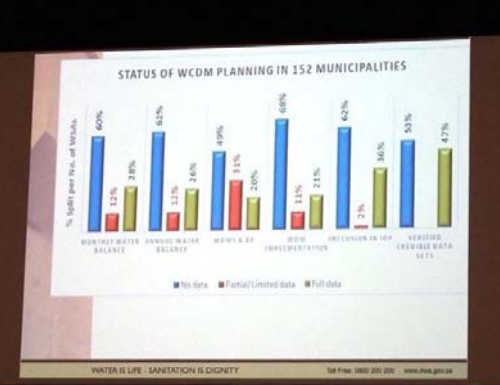
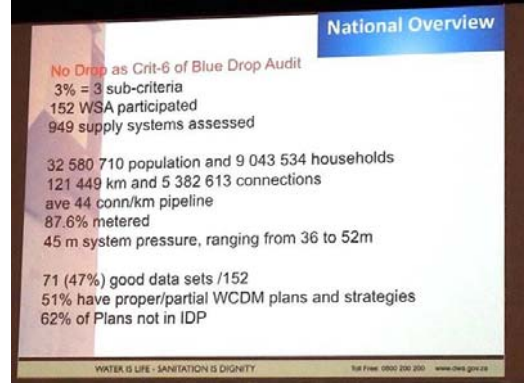
- ### Current Challenges
- Poor planning
 - Budgets not prioritised
 - Procurement delays.
 - Water resources SIV targets are not adopted
 - Water balance calculations not standardised
 - Poor metering and billing
 - Water tariffs not cost reflective
 - Poorly trained and apathetic staff
 - Lack of community acceptance/support

Current challenges

	
<p>Only the half of municipality submit the data</p>	<p>Political support is needed.</p>

iii) **Ms. Moloko Raletjena of DWS Water Use Efficiency**

Ms. Moloko Raletjena, our project team member, presented a no drop certificate program based on Water Balance bench mark survey.


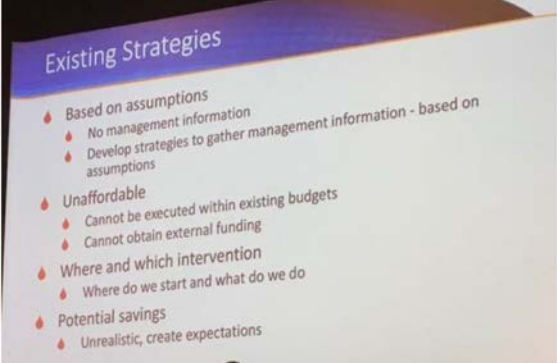
	
<p>No drop certificate</p>	<p>Purpose Improve service delivery Provides a guideline for WCWDM Incorporate the whole water services cycle Encourage and acknowledge continuous improvement Provide public with credible transparent on the status of the water use efficiency.</p>
	
<p>Blue: Nodata, Red: limited data, Green: Full data.</p>	<p>152 WSA participated, for 949 supply systems. Served 32,580,000, and 9043534 HHs,</p>

<p>Criteria 4: Key Objectives</p> <ul style="list-style-type: none"> What is the IWA water balance information provided in Criteria 1 based on in terms of? <ul style="list-style-type: none"> – What is metered? – Are the bulk and consumer meters accurate? – Are the monthly meter readings accurate? – Are consumers billed based on actual consumption against the correct water tariff code? <p><small>WATER IS LIFE - SANITATION IS DIGNITY Toll Free: 0800 200 200 www.dws.gov.za</small></p>	<p>Conclusions</p> <ul style="list-style-type: none"> We need to "manage" our water much better than we are currently doing!! Utilise the tools developed as a guideline and implement WCWDM - "No Drop" - measure and report progress!! <ul style="list-style-type: none"> Phases I and II of the No Drop programme is regarded as a steep learning curve. The buy-in and commitment by local government shows the need for such a programme in SA. Results will improve over time, as municipalities invest more and more in terms of human and financial resources towards WCWDM. No Drop will play an important role to change perceptions, raise awareness, improve performance Preparations for 2018/19 Assessment cycle should be started. <ul style="list-style-type: none"> Provincial Summits starting August/Sept 2018 Provincial workshops in the next months, which could assist the WSA in preparing the IWA water balance <p><small>WATER IS LIFE - SANITATION IS DIGNITY Toll Free: 0800 200 200 www.dws.gov.za</small></p>
<p>What is metered</p> <p>Are the bulk and consumer meters accurate? Are the monthly meter reading accurate? Are consumers billed based on actual consumption with the correct water tariff code?</p>	<p>Conclutoins</p> <p>We need to manage our water much better than we are currently doing. Utilise the tools developed as a guideline and implement WCWDM-No Drop measure and report progress No drop will play an important role to change perceptions, raise awareness, improve performance. Provincial summits starts August 2018 Provincial workshops starts next month.</p>

iv) **Mr. Willem Wegelin of WRP consultants**

Mr Willem Wegelin of WRP, a private leading consultant of the WCWDM field in South Africa, announced "Guideline Development to Assist Municipality's WCWDM Strategic Plan". (May 9).

The presentation was co-authored with Mr Allestair Wensley of the DWS Macro Planning Department, to improve the motivation for No Drop survey by showing the significance of Water Balance from the WCWDM guideline side.

	
<p>Development of municipal operational guideline to assist with the preparation of WCWDM strategic plan</p>	<p>Existing strategy (1) Based on assumptions Unaffordable Where and which intervention</p>

Existing Strategies....

- No or limited results if implemented
 - Wrong intervention or area
 - No benchmark
- Municipalities complain about lack of funding
- Funding organisations complaint about lack of business model and insufficient detail
- Analysis paralysis
 - Spend budget indicating what is wrong but nothing get fixed or implemented
- Lack of human resources, skills and capacity

No or limited results if implemented
 Municipalities complain about lack of funding
 Funding organizations complaint about lack of business model and insufficient detail
 Analysis paralysis
 Lack of human resources skills and capacity

Unsuccessful implementation or interventions not sustainable

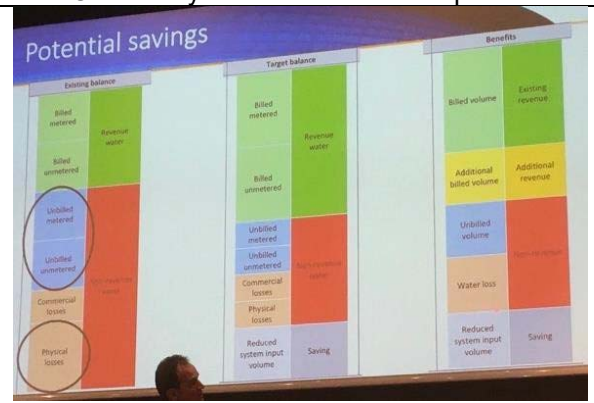
- Pressure management
 - Zones not discrete, PRVs not maintained, low pressure problems not resolved
- Text book implementation
 - DMAs based on 2000 to 5000 households cannot be maintained - impractical
- Check meters installed but not utilised
- Inappropriate technology
 - Pressure controllers, loggers, smart meters – technology cannot solve fundamental problems
- Community involvement and acceptance of
 - Metering and payment for services
 - Policies and procedures unclear

Unsuccessful implementation or interventions not sustainable
 Pressure management
 Text book implementation
 Check meters installed but not utilized
 Inappropriate technology
 Community involvement and acceptance

Guideline objectives

- Provide a methodology and template to prepare a WCWDM strategy
- Discuss the advantages and potential pitfalls of the various WCWDM interventions
- Calculate the financial benefits of WCWDM strategies
- Provide a practical example
- Provide a guideline, which can be used and understood by technical and non-technical staff.

Guideline objectives
 Provide a methodology and template to WCWDM
 Discuss the advantages and potential pitfalls of the various interventions
 Calculate the financial benefits of WCWDM
 Provide a practical example
 Provide a guideline, which can be used and understood by technical staff and non-technical staff



Existing balance-Target balance=Benefit

Potential savings from physical loss interventions

- Expected minimum night flow
 - Expected MNF mixed residential / industrial / commercial areas = %MNF x ADD
 - where the %MNF ranges between 20 and 50% depending on the levels of leakage
 - Expected MNF low cost housing and yard tap areas = %MNF x ADD
 - where the % MNF ranges between 50 and 80% depending on the levels of leakage
 - Saving excess MNF = Current MNF – expected MNF
- Pressure management
 - % Reduction in MNF = 10 to 30%
 - Saving pressure reduction = MNF x %MNF reduction x HDF
 - Where the average Hour Day Factor = 20 hours
- Mains replacement
 - Savings mains replacement = 80 £/km/h
 - Savings connection replacement = 5 £/connection/h
- Speed and quality of repairs
 - Potential saving included as part of leakage control assessment
- Reservoir overflow
 - Savings reservoirs = (0.5 x ADD / 24) x duration of overflow x frequency of overflow

Potential savings from physical interventions
 Expected MNF-depends of cases.
 Pressure management -10-30% of MNF
 Mains replacement-80L per house per km,
 Speed and quality of repairs
 Reservoir overflow

Potential savings from commercial loss interventions

- Meter accuracy and measurement
 - Saving meter error = % meter error x metered consumption, or
 - Saving meter error = (Current % – Target % meter error) x water loss*
- Data transfer errors
 - Saving transfer = % transfer error x metered consumption, or
 - Saving transfer = (Current % – Target % data transfer error) x water loss*
- Data analysis and assumption errors
 - Included in data transfer errors
- Theft and unauthorised consumption
 - Saving theft = number of unauthorised connections x average consumption for area, or
 - Saving theft = (Current % – Target % unauthorised consumption) x water loss*

* where current % and target %

Potential savings from commercial loss
 Meter accuracy and measurement
 Data transfer errors
 Data analysis and assumption errors
 Theft and unauthorized consumption

<p>Potential savings from improved efficiency</p> <ul style="list-style-type: none"> ◆ Education and awareness <ul style="list-style-type: none"> ◆ Saving awareness = 5 to 10% of ADD depending on the current levels of efficiency ◆ Water wise gardening <ul style="list-style-type: none"> ◆ Saving water wise = 40% of the ADD for medium to high income areas ◆ Retrofitting and removal of wasteful devices <ul style="list-style-type: none"> ◆ Saving retrofit = Current consumption – target authorised consumption ◆ Tariff setting <ul style="list-style-type: none"> ◆ Saving tariffs = 3% reduction in demand for a 20% increase in the water tariff <p>◆ Where ADD = Average Daily Demand</p>	<p>Strategy outcomes</p> <ul style="list-style-type: none"> ◆ Clear objectives in terms of reduced water losses, increased revenue and sustainable water supply ◆ Current available resources and capacity of the system ◆ Projected water demand and implications if the water demand exceeds the capacity of the system ◆ Identify of key interventions with budgets, timelines, benefits, and cost benefit ratios ◆ Indirect benefits such as job creation, community awareness and responsible users ◆ Benefit to the municipality in terms of increased revenue and sustainability ◆ Institutional arrangements required to achieve these objectives ◆ Development of a business case which can be presented to a financial institution for funding ◆ Operation and maintenance budgets required to ensure sustainability
<p>Potential savings from improved efficiency Education and awareness 5-10% Water wise gardening-40% Replacement of wasteful device Tariff setting-3% reduction for 20% increase</p>	<p>Strategy outcomes Clear objectives Current available resources and capacity Water demand Identify of key interventions with budgets, time benefit ratios Indirect benefits such as job creation, community awareness, responsible users Increased revenue and sustainability Institutional arrangements Development of business case for funding Operation and maintenance budgets</p>

(4) A meeting with Counterpart, Mr. Thabo Masike of WUE

We had a meeting with Mr. Masike, DWS's WUE and Project Manager (Technical) of this project on Friday, May 4, 2018. We shared the finding of the expert team on the situation of NRW.

[Findings by JICA Expert team]

In the case of JICA's non-revenue water project, it is common to install a water meter as a preliminary step of the project. Although this project is not a NRW reduction project, NRW reduction is one of our goals, so we investigated the number of meters installed for our customers in this country.

A NRW reduction pilot project in the Tsakane of Ekurhuleni reported that non-revenue water in no-meter households was higher than leak detection and water pipe renewal. A 2012 National Benchmark Study reported that adding additional meters would reduce the NRW rate to less than 30%. The 2012 national survey data shows a difficulty to collect accurate data by copy and paste or by region.

The definition of water balance in South Africa is different from that of IWA, but it is difficult to understand because its perception differs among municipalities. The national guideline states that “it is important for FBW households to install meters even if they do not have equipment that can limit the amount of water”. We have introduced a good example (Ekrelen, U.K.) that has been working on the installation of meters and has been successful.

[Comments of Mr. Masike]

WCWDM data is collected twice a year as a part of No Drop Certificate. It is considered as a benchmark and is not accurate enough to be called a survey.

Even if the data is collected, it is not being used effectively. There was a political change 10 years ago, and many veteran staff resigned at that time, and now the accuracy and collection rate of data have deteriorated. The situation is receding.

Previously, I was able to easily cite data from other departments such as the number of customers. Currently a data from various public service departments were also scattered, it made difficult to collect.

Regarding the Water Balance of IWA, the one for which the charge was collected is set as Revenue. This is the South African original. Metering and billing and theft are serious problems. (Measures are not mentioned)

The problem of metering is not the water supply department, but the financial department of each city. Many people don't like turning a meter on. South African do not care the fairness.

FBW is treated as revenue water. This is also a South African remodeling. (Capacity over 6 kL per month is not fully considered.) Dr. Biswas of Singapore advised him, "You have to pay tokens or something instead of cash, instead of deducting it from the beginning."

In FBW, the rules regarding the amount and target are at the discretion of each Municipality. Some municipalities operate 8kL per household, and some are uniform or indigents only. Various methods are accepted by the country.

The budget for the No Drop project (benchmark project of Water Balance of all municipalities) is expected to be insufficient for the next two years. This year, we have only R3.4mil for the next two years, which is very short. There is also the possibility of termination.

The 2012 National Water Balance Survey was also commissioned to WRP without a DWS budget, and a person in charge interviewed and summarize it by telephone.

I think HP is the best one to introduce the existing NRW benchmark results to the public. Although there are survey results themselves, the update has stopped due to lack of budget and personnel. There is an IT department within DWS, which has a large budget, and this WUE department has a small budget.

As for the training facilities, we have the land and funds to make more than the same as in Tokyo and Yokohama. There is no problem with Initial cost. Operation and maintenance are different issues. We don't know if we will get a budget for maintenance. That is the problem in South Africa.

5. Suggestions for Water Sector

Followings are challenges in water sector in South Africa.

- FBW policy obscures the measurement of water usage by customers.
- Due to lack of manpower, there is no activity other than emergency response.
- Since the finance department and the water supply department are separated, it is not possible to secure a budget for planned activities.
- Proposals cannot be made in the water supply sector due to lack of data and planning capacity.

It was caused by a political change about 10 years ago and many veteran staff left.

The problems are the measurement of usage caused by the FBW policy, the inaccuracy of meter reading due to the separation of the finance department, and the opaque budget allocation, but these are issues related to politics, so it is not easy to solve them.

However, from a technical perspective, it is necessary to properly measure the amount of used. There is an urgent need to grasp the water balance of the municipality by measurement, to secure transparent business operation costs, and to formulate and implement NRW reduction strategies.

6. Suggestions for the Project

Lack of water balance data of the municipalities is mentioned at the IWA Water Loss Conference by WRP consultants who have long been leading the field of Water Loss in South Africa, and Macroplanning staff of WUE, DWS. In order to achieve the purpose of this IBTC project, which is to cultivate human resources that contribute to NRW reduction, the primary is to be able to install and maintain the equipment for measurement for Water Balance. It is a technical transfer of the preparation of measurement plans and the technique required for them. As a result, ability to create Water Balance and NRW reduction plans can be strengthened in accordance with DWS policy.

Although some municipalities may move to water distribution management and leak detection activities after the stage where the necessary measurements for making a water balance can be made, cost and time are required for leak detection and repair. Currently, from the NRW rate data, many municipalities are not at that stage.

In the current situation where there is not enough water usage data, it is not possible to formulate a rational strategy such as selecting a priority route. After the training, it is not possible to even propose a leakage reduction project budget.

First of all, all the 152 municipalities should be able to provide water balance based on appropriate measurement, and at the same time, strengthen the cooperative system between the DWS and municipalities through collective training. This is the shortest way to NRW reduction and strengthening of water supply infrastructure in this country.

7. Comments

Water is one of a hot topic due to Day Zero in Cape Town, which is thought to be caused by climate change, and the drought situation in rural areas in South Africa.

A businessman named Ramaposa inaugurated as a president in this February. A vulnerability to water supply has become a major concern from the perspective of economic growth in South Africa.

The biggest issue that needs to be addressed at present is the simple matter of installing and managing meters and ensuring reliable monitoring. If we can catch the rising public awareness of water and intervene with top politicians, it would be extremely effective in improving the NRW situation in this country.

Appendix 4:

Benchmarking Reports of the Training in Japan
and Seminar Brief Note

1ST TRAINING IN JAPAN



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

**Report on Benchmarking of Water Services Framework
and Training on Non-Revenue Water in Japan**

**PROJECT TO STRENGTHEN THE INFRASTRUCTURE
BRANCH TRAINING CENTRE TO OFFER NON-REVENUE
WATER MANAGEMENT TRAINING**

DWS – JICA Technical Cooperation Agreement

1. Executive summary

The Department of Water and Sanitation in conjunction with SALGA signed a 3 year Technical Cooperation Agreement with the Japan International Cooperation Agency (JICA) to strengthen the training capacity of the DWS Infrastructure Branch Training Centre (IBTC). The project aims to skill and capacitate water sector employees on the management of Non-Revenue Water (NRW), learning from best practices in Japan.

South African delegation of nine (9) officials that comprised three Department of water officials and one each from the following organisations; municipalities of City of Tshwane, Cape Town and eThekweni, Tshwane University of Technology (TUT), South Africa Local Government Association (SALGA and the Local Government Sector Education and Training (LGSETA) undertook a water sector and training on non-revenue water benchmarking trip to Japan from the 16 to 27 April 2018. This benchmarking trip was undertaken as part of JICA sponsored project to strengthen general infrastructure training capacity at IBTC and assist with the establishment of National Non-Revenue Water (NRW) training facility for Municipalities.

Japan is an advanced country which operates and maintains its water supply systems very well. Its overall Non Revenue Water is below 10% with all water being properly measured and fully accounted. South Africa has very high water losses and non-revenue water is at 42%. Japan has an elaborate training system which is well structured and developed in technical training and skills transfer. It was considered prudent that South Africa learns some of the practices in Japan to manage NRW.

The benchmarking exercise was done which showed many similarities between the systems employed in Japan and in South Africa. For South Africa some areas require only improvement in implementation to reach the level of Japan. There are also many areas which South Africa can adopt from the Japan model to the betterment of the state.

The benchmarking also found the importance of long term commitment to human resources and skills development as well as adequate budgetary provision to achieve NRW reduction.

Japan water supply sector has ring fenced budgets resulting in more consideration given to important aspects of NRW management.

Training is a key element of NRW management in Japan and the water sector has elaborate training programs to skill practitioners which are run by associations representing the whole sector.

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1. Introduction

The governments of South Africa and Japan entered into a three year Technical Cooperation Agreement through their implementing bodies of Department of Water and Sanitation (DWS) and Japan International Cooperation Agency (JICA) respectively. The aim of the agreement is to strengthen the training capacity in Non-Revenue Water (NRW) management in South Africa. DWS and JICA identified the Infrastructure Branch Training Centre (IBTC) as a model and pilot in offering training in NRW management. The project aims to up skill and capacitate local government employees on the management of Non-Revenue Water (NRW), learning from best practices in Japan.

Water is a scarce resource in South Africa. The need to manage water equitably is espoused in the constitution of the Republic and also in the National Water Act (Act 36 of 1998). Water Conservation and Water Demand Management (WC/WDM) is recognized in the Act as an instrument for managing water equitably thus aiming at reducing Non-Revenue Water (defined as water not billed or accounted for).

South Africa has very high water losses and non-revenue water with a national average of 42%. This is a major contrast compared to Japan with less than 10%. It is therefore prudent that South Africa learns from best practices in Japan to bring down the proportion of non-revenue water in the water supply system.

The IBTC was selected as a site for a model and pilot of the NRW management training in the JICA-DWS Cooperation Agreement. The benchmarking trip was arranged as part of the program to improve NRW management training in order to select and identify suitable trainings offered in Japan. The benchmarking trip follows a process preceded by the baseline survey where priority areas were identified with the objective of identifying trainings which would be relevant and would suit the local conditions. The purpose of the trip to Japan undertaken from 16 to 27 April 2018 was to benchmark Water Service Framework and Non-Revenue Water training and make recommendations that the IBTC project should consider on the Non-Revenue Water management training project.

The delegation of nine members from South Africa selected for the exercise are senior members from organizations which are participating in the DWS-JICA technical cooperation agreement and are as follows:

Table 1: List of South Africa delegation

Item No	Name	Institution
1	Aloious Chaminuka	Department of Water and Sanitation (DWS)
2	Gladness Kentse Mathiba	Department of Water and Sanitation (DWS)
3	Thabo Masike	Department of Water and Sanitation (DWS)
4	Shantal Harigobin	South African Local Government Association (SALGA)
5	Pumla Mkele	Local Government Sector Education Training Authority (LGSETA)
6	Ashan Nandlal	EThekweni Municipality
7	Jacobus Debruyn	City of Cape town
8	Trevor Westman	City of Tshwane
9	Lizzy Monyatsi	Tshwane University of Technology (TUT)

2. The Benchmarking exercise

The delegation visited Japan from 16 to 27 April 2018 and was hosted by the JICA at the JICA centre in Yokohama city. There was a program prepared for the visit. The daily activities involved visiting water services institutions in and around the cities of Tokyo and Yokohama in Japan. The hosts had prepared presentations that were shared with the delegation at the start of the visit. During the visits, presentations were made by the hosts and discussions followed thereafter.

As part of the program, sessions were arranged to meet with bodies in the water supply sector in Japan such as the Japan Water Works Authority, Japan Water Plumbing Engineering Promotion Foundation, Kanagawa Water supply authority, Tokyo water Works Bureau, Yokohama Water works Bureau, Japan Sewage Works Agency. The delegation also visited various training facilities for the practical demonstrations of the training provided in Japan.

In order to package the outcomes of the visit, the delegation identified key focus areas or themes of the benchmarking exercise which are:

- Water supply administration in Japan
- Human resources development
- Skills development
- Operational training facilities

- Use of private resources
- Ageing staff skills transfer and Knowledge management
- Quality assurance.

For each of the focus areas, the benchmarking exercise employed the following criteria: - lessons and observations from the Japan system; how South Africa compares; what practices South Africa can follow; Institutions to lead the implementation and what opportunities and challenges are there for South Africa.

3. Discussion

To give a context to the benchmarking, a brief comparison of the water supply in Japan and South Africa was done. For the Japan water supply system a case study of the Yokohama city water supply was used. The team spent a number of working sessions with the Yokohama Water Bureau, the organisation managing water supply to the city of Yokohama.

3.1. Features of Yokohama City water supply

3.1.1. Water supply coverage

- Population 3.7million
- Water and Waste Water Connections 1.84 million
- Water and Waste Water Connection rate 100%
- Assurance of supply of water supply 24/7
- No growth in demand (population actually reducing)

3.1.2. Technical features

- Length of pipeline 9265 km
- Per capita consumption 303 l/c/d
- Min water pressure 15 m
- Max water pressure 75 m
- Pipe material type influenced by seismic occurrence (high quality)

3.1.3. Operation and maintenance issues

- Water losses 8.2%
- Planned maintenance system in place
- Well monitored water supply systems
- Proactive leak detection

3.1.4. Billing information

- Free basic water
- Illegal connections prevalent
- Collection rate below 50%
- Various Tariff regimes used
- Various types of water meter employed but no regular replacement program
- Water budget and revenue not ring fenced
- Culture of non-payment

3.1.5. Staff training

- Little or no in-house training
- Training mostly done by external service providers
- Training offered is mostly abstract
- High emphasis on formal qualifications

3.1.6. Refurbishments

- Capital investment for pipe replacement of 110 km's per year at 19 Billion Yen (R2,1 billion per year).
- Lengthy period to reduce Non Revenue Water (70 years)
 - From 80% to 26% - 24 years
 - 26% to 6 % - 31 years

3.2. Features of the South Africa water supply system

3.2.1. Water supply coverage

- Assurance of supply of water supply 24/7 in cities but decreases for rural areas. Intermittent supply in some areas
- Coverage varies 50 to 80%
- Rapid growth of service areas, demand exceeds supply capacity

3.2.2. Technical features

- Per capita consumption varies from urban (300l/c/d) to basic level of (25l/c/d)
- Min design water pressure 20m
- Max design water pressure 90m
- Pipe material type: Sub-standard materials used in some areas
- Deteriorating water quality is some areas

3.2.3. Operation and Maintenance

- Average NRW >42% and increasing
- Reactive maintenance
- Well monitored water supply systems in some Metros but decreases to none in some areas
- No Proactive leak detection
- Infrastructure is mostly under-maintained
- Ageing infrastructure in most areas

3.2.4. Billing information

- Free basic water given to all indigents
- Illegal connections prevalent
- Collection rate below 50%
- Various Tariff regimes used
- Various types of water meter employed but no regular replacements carried out
- Water budget and revenue not ring fenced
- Culture of non-payment prevalent

3.2.5. Training

- Little or no in house training
- Training mostly done by external service providers
- Training offered is mostly abstract

3.2.6. Refurbishments

- Funding challenges
- Inconsistent pipe replacement policy and no committed budgets
- Growing water shortage
- Vandalism of infrastructure.

4. Results of the benchmarking

Detailed benchmarking of key factors

Lessons/Observation in Japan	South African Perspective			
	How RSA compares	Practices RSA can follow	Institutions to take lead	Opportunities/Obstacles/Challenges
1. Benchmarked area: Water supply administration				
Three layers of water administration are national with five ministries, 47 prefectures and cities, town and villages.	Administration of water in South Africa is shared between three tiers of government National, Provincial and Local government There is less Provincial involvement in some Municipalities	None		
2. Human Resources Development				
System has a culture of long term (Lifetime) employment of personnel; and training and development is based on that principle	Job seeking is fairly common	Staff retention programs needed	Employer	Lack of funding and misallocation of Funds
Employees select company to work for	Employees choose profession and remuneration over company	No applicable	N/A	N/A
Less emphasis on academic qualification	Entry level determined by minimum qualification and experience	Not applicable different system	Employer	Learnership program and on the job training needs to be strengthened to supplement employment
There is high Organizational loyalty	Less emphasize to organizational loyalty but more on individual	Develop organizational culture of loyalty	Employer and employees	N/A
High culture of team work	Less culture of team work and seek individual recognition	Inculcate culture of multi-disciplinary teams and team work by	Employer and employees	Organizational culture

Lessons/Observation in Japan	South African Perspective			
	How RSA compares	Practices RSA can follow	Institutions to take lead	Opportunities/Obstacles/Challenges
		rewarding team achievements		
Innovation is encouraged	Innovation is encouraged but more compliance driven	Improved efficiency	Employer and employees	Remove compliance driven barriers, research done but there is no implementation and dissemination information to municipalities
Central recruitment process for staff and placement which includes entrance exam compulsory for all employees	Recruitment is decentralized	Strengthening South Africa recruitment and selection system	Employer	Improve our recruitment systems
Staff rotation is encouraged for development after three years	Staff development is encouraged and grants for further training are available. New knowledge and thereafter specialization is highly recommended	Ensure job rotation and multi skilling is developed and maintained	Employer	Better coordination
3. Skills development				
Structured skills development framework through Japan Water Works Association (JWWA) and Bureau's	Structured skills development framework through National Qualification Framework (NQF)	Holistic development of employees	Employer and employees	Lack of effective and consistent implementation
Japanese system identifies weakness in terms of diminishing skills	Identify weaknesses and implement through sector skills plan	Strengthen implementation South African skills development system	Employer and training providers and empower IBTC	Funding of training programmes internally and externally

Lessons/Observation in Japan	South African Perspective			
	How RSA compares	Practices RSA can follow	Institutions to take lead	Opportunities/Obstacles/Challenges
Places value on on-the-job training	On the Job Training is not structured and documented. Most training is done off-the-job	Improve appropriate knowledge and skills. Focused orientation training.	Employer and employee	Lack of funding and staff capacity
Japanese have refined training modules	Not available in SA	Refine sector specific training modules	Employer	Lack of dedicated staff, funding and uncoordinated training environment
Japanese match training to abilities of personnel and requirements of the job	Training is abstract and generic	Implement workplace skills plan and career path development	Employer and SETA's	Lack of skilled human resource practitioners
System determines gaps in terms of skills and training	Water sector requires consensus on the training and skills gaps	Water sector needs to mobilize resources to acquire skills		
4. Operational Training Facilities				
Japan invested heavily in internal training schools both centrally and regionally	South Africa invested on accredited and external training. Little internal training and no internal training facilities	Follow Japan model and commitment	Employer internal training and Sector Education Training Authority accredited training	Define scope of training Focus mainly on external training
Japan has identified qualified and experienced trainers	Not identified	Proper training skills transfer	Employer, Water Sector and Industry	Still to identify qualified experienced trainers and create criteria for qualified trainers
Scope of training well defined by the needs of the industry or organization.	Scope still to be defined.	Follow Japanese model with respect to identifying training scope according to	Water Sector and Industry	Still to identify the scope

Lessons/Observation in Japan	South African Perspective			
	How RSA compares	Practices RSA can follow	Institutions to take lead	Opportunities/Obstacles/Challenges
		the needs of the industry		
There is coordination and prioritization of funding for training facility.	National training facility not yet developed	Follow Japanese model to get sustainable funding model. Class rooms full and effective training	National Government and Employer and water sector industry	Insufficient funding and willingness to establish training facility
5. Use of external service providers				
Limited use of private training providers	Extensive outsourcing or use of external service providers due to lack of internal skills	Follow Japanese model and retain skills and increase capacity and include skills transfer as part of outsourced delivery	Employer	Change mindset in the organization to use internal staff and increase funding to employ more staff.
6. Ageing staff, Skills Transfer and Knowledge Management				
Japan Re-employ retired staff to be used as mentoring staff	Limited deployment executed by ECSA, IMESA and MISA	Plan, fund and implement mentoring program through retiring experienced staff	Employer and employee cooperation	Funding staff resource and change HR policies
In service staff volunteer to provide training	Rarely performed due to staff shortages	Plan properly and provide incentives for volunteer staff	Employer and water sector	Staff resource and HR policy development and willingness to share knowledge

Lessons/Observation in Japan	South African Perspective			
	How RSA compares	Practices RSA can follow	Institutions to take lead	Opportunities/Obstacles/Challenges
Standard Operating Procedures (SOP) documented and implemented	SOP available but not at the level of Japan standard	Provides clarity to employees on how to effectively perform tasks.	Employer and employee	Lack of willingness to share knowledge and enforcement of the discipline of documenting SOP manuals
7. Quality Assurance				
Certification bodies JWWA and JIS <ul style="list-style-type: none"> • Materials standard • Inspectorate 	Certification/approval body SABS and JASWIC <ul style="list-style-type: none"> • Materials standards SANS • Inspectorate New water works fitting	not applicable	Existing/not applicable	Limited resources for testing at certification bodies (SABS and others) High cost of testing
Municipal Approvals <ul style="list-style-type: none"> • Materials • Workmanship 	Municipal Approvals <ul style="list-style-type: none"> • Materials • Workmanship 	Improve municipal inspections for compliance of material and workmanship		Limited staff and skills for municipal inspections
In Japan Training is not accredited by any external body	Training is accredited by SETAs and benchmarked on the National Qualifications Framework			

5. Conclusion

The following conclusions can be drawn about the findings of the benchmarking trip:

- Measures outlined above can and should be implemented to reduce Non-Revenue Water in South Africa
- NRW management requires long term, consistent commitment with commensurate Human Resource Development, Skills Development and adequate budget provision
- NRW better managed with a ring fenced water account

- Training requires commitment of participant organizations, employees and sector departments

6. Recommendations

NRW management training should as the start, focus on developing practical skills to tackle water losses and NRW in the municipal environment. The DWS together with municipalities and other players must pool financial resources to support the IBTC training facility and ensure it offers effective training programs. Collaboration with other training centres especially in the Metropolitan Municipalities must be enhanced.

In the South Africa municipal water sector there is a need to establish an institution like Japan Water Works Association (JWWA) which can serve as a voluntary organization that encourages municipalities to maintain at certain level of training for its staff involved with water supply and services. With time the scope of South Africa training management of the sector could be expanded to include certification and mandatory codes of best practice for the country in all aspects that involves water supply and services in the municipal sector.

There is also a need to ring fence water budgets so that greater consideration can be given to areas of non-revenue water management such as training, leak detection, preventative maintenance and general asset management.

2ND TRAINING IN JAPAN

Presentation Outline

- Introduction
- Background (Non-Revenue Water)
- Benchmarking
- Lessons Learnt And Observation
- Recommendations
- Conclusion

Project for Strengthening the Training Capacity of Infrastructure Branch Training Centre (IBTC) on Non-Revenue Water

Results of the Benchmarking session in Japan (29 July – 9 August 2019)



water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA



1. Introduction

The Department of Water and Sanitation in conjunction with SALGA entered into a 3 year Technical Cooperation Agreement with the Japan International Cooperation Agency (JICA) to strengthen the training capacity of the DWS Infrastructure Branch Training Centre (IBTC).

The project aims to skill and capacitate water **service authorities (WSAs)** employees on the management of Non-Revenue Water (NRW), learning from best practices in Japan.

Introduction (continued)

- First Benchmarking exercise:
 - The benchmarking session was conducted in May 2018.
 - Ten officials from the Department, Salga, Sector Education and Training Authority (SETA), Tshwane University of Technology and selected Municipalities
- Second Benchmarking exercise
 - Benchmarking session from 29 July to 9 August 2019.
 - 17 member delegation from DWS, SALGA, LGSETA and participating municipalities

Participants of Second Session

Name	Sector	Name	Sector
Ndzululwazi Joni	Municipality	Xolani Hadebe	DWS
Henry Jansen	Municipality	Michael Singh	DWS – KZN (Province)
Thuli Mwelase	Municipality	Vincent Monene	DWS
Koena Moabelo	Municipality	Kgopotso Sekgoilane	DWS
Pholo Nthutang	Municipality	Armand Basson	DWS
Nico Schmulian	Municipality	Padi Andries	DWS
Mulalo Bvumbi	Municipality	Mr Musara Tapiwanashe	DWS
Sbongiseni Yekane	Municipality	Ms Thobile Mhlongo	SALGA
Onkemetse Modise	LGSETA		

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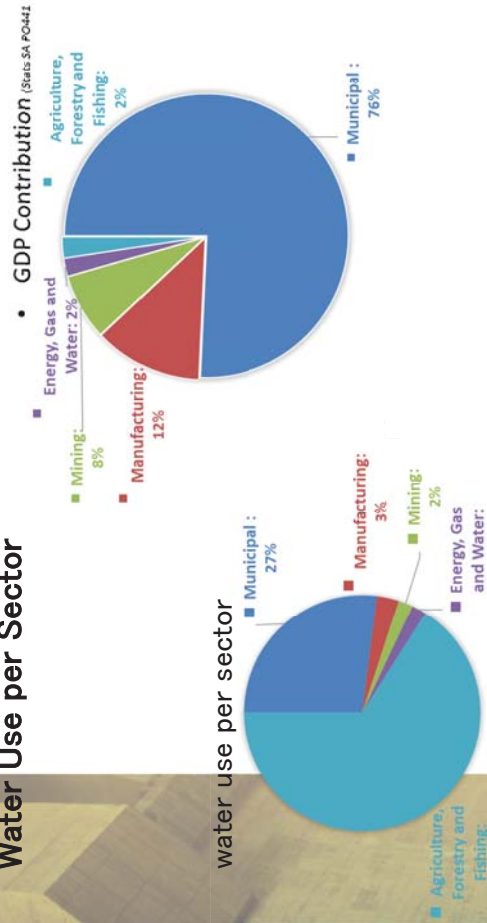
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2. Background

- Water is a scarce resource in South Africa. The need to manage water equitably is espoused in the constitution of the Republic and also in the National Water Act (Act 36 of 1998).
- WC/WDM is recognized in the Act as an instrument for managing water **sustainably and equitably** thus aiming at reducing Non-Revenue Water (defined as water not billed or accounted for)
- The National Development Plan is to reduce NRW by 15% by the year 2030
- SDG 6: “Ensure availability and sustainable management of water and sanitation for all”

GDP Contribution per Sector versus

Water Use per Sector



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3. Benchmarking

ITEMS	Japan	South Africa
Institutional arrangement	<ul style="list-style-type: none"> 5 ministries that are managing water business (names?) 3 spheres of government (National, Prefectures (47); Cities, towns, villages (1718)) Water utilities are autonomous (water services is ring-fenced) JWWA was formed voluntarily by water utilities for WU 	<ul style="list-style-type: none"> 1 ministry responsible for DWS 3 spheres of government (National, Provincial (9), Local (257 municipalities; 144 WSAs) & 8 Water Boards) WSAs have political interferences WRC, JASWIC & SANAS, WISA
Administration	<ul style="list-style-type: none"> Flexible (not policy oriented) Procurement systems are more efficient is faster Procurement: outsource all maintenance and construction work (<i>they only supervise</i>) 	<ul style="list-style-type: none"> Rigid and controlled by legislations and policies Slow regulated procurement system Mixed procurement methods

3. Benchmarking continue

ITEMS	Japan	SA
Technical	<ul style="list-style-type: none"> Design of infrastructure and material is based on their conditions hence less physical water loss Design philosophy entails maintaining same pressure within a supply area. (7 bar) 	<ul style="list-style-type: none"> Design of infrastructure is good, however the issues around workmanship and appropriate technology & costs remains a challenge Design philosophy entails constructing reservoirs on high lying areas as a result it is difficult to maintain same pressure
Innovation and Technology	<ul style="list-style-type: none"> Innovation is encouraged (infrastructure optimization e.g. Hydropower and solar) 	<ul style="list-style-type: none"> Innovation is encouraged but more compliance driven

3. Benchmarking continue

ITEMS	Japan	SA
NRW Revenue water	<ul style="list-style-type: none"> No free basic Water Revenue Collection rate 100% 	<ul style="list-style-type: none"> Free basic water Culture of non-payment
Non revenue Water	<ul style="list-style-type: none"> 7.7 % of NRW (water loss) 	<ul style="list-style-type: none"> 41% of NRW
Apparent loss	<ul style="list-style-type: none"> 0% of unauthorized (no illegal connections) Rising Block Tariff Cost reflective Standard brass mechanical water meters employed and replaced at an interval of 8 years Meter replacement programme 	<ul style="list-style-type: none"> High unauthorized connections (illegal connections prevalent) Various Tariff regimes used Not cost reflective Various types of water meter employed but no regular replacement due to budget constraints No Meter testing replacement programme
	<ul style="list-style-type: none"> Water budget and revenue are ring-fenced 	<ul style="list-style-type: none"> Water budget and revenue not ring-fenced

3. Benchmarking continue

ITEMS	Japan	SA
NRW	<ul style="list-style-type: none"> 5 % Pipe replacement program in place (1.25% ratio e.g. Yokohama) Active leakage control Response time on repairs and maintenance is effective 	<ul style="list-style-type: none"> 37% Pipe replacement program in place but insufficient funding for implementation, Limited active leakage control Response time on repairs and maintenance is not effective

Benchmarking continue

ITEMS	Japan	SA
6. HRD	<ul style="list-style-type: none"> Lower emphasis is placed on formal qualifications On-the-job training system is effective , with less Off – the-job training Training mostly done by in-house technical experts More practical Use of Japanese language is which is seen an advantage Certified three categories of plumbers: service pipe, reticulation and domestic 	<ul style="list-style-type: none"> Formal qualification is required and is regulated Little or no in-house training Training mostly done by external service providers More theoretical Use of English as medium (2nd language- barriers to some people) Only domestic plumber – this poses a challenge - work is on municipal reticulation systems

Benchmarking continue

ITEMS	Japan	SA
Socio-cultural/political/Economical	<ul style="list-style-type: none"> • Company oriented (lifetime employment) • Selection of company not a job (Sense of belonging) • No political interference 	<ul style="list-style-type: none"> • Job oriented (periodic employment) • Select the job not the company • Political interference

RECOMMENDATIONS

- Fast-tracking of the policy and to implement water utilities (municipal water services authorities) to be stand-alone water businesses. (**linked** to the concept of reorganizing and realigning the state institutions and structures to be professional and business oriented);
- Innovative and focused way to mitigate and deal with the various challenges and obstacles facing the water services sector, in the same way as Japan dealt with the situation post WWII and impacts and risks of earthquakes;
- Design training for municipality to **be** based critical **skills** analysis to identify and address critical **and key** priorities, which would include empowering staff. There is a need to establish a baseline and measure projected benefits and value over time;

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RECOMMENDATIONS (Cont...)

- Mandates, roles and responsibilities of all water sector stakeholder institutions should be realigned and integrated to improve efficiencies in water management, especially NRW including real and apparent losses;
- Due to limited resources, the IBTC must be developed as the model in terms of piloting the Japanese system (similar to the Water Bureaus) of implementing an integrated comprehensive water loss training facility;
- The training facility should also be accessible to contractors/service providers for income generation **who require the same skills and standards for private sector** – this will assist with maintaining standards;
- Funding should be sourced from donors, water utilities or beneficiary institutions (WSAs), the current supportive environment should be leveraged towards securing resources for fighting non-revenue water.

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RECOMMENDATIONS (Cont...)

- Municipalities must be empowered and assisted to develop the 5 year water conservation / water demand management / non revenue water management strategies. Project selection and prioritization will be based **available funding and** using return on investment (ROI) or projected actual savings;
- Create and facilitate implementation framework of appropriate policy, regulations to address and secure compliance in a positive or negative environment. For example to enhance and support use of recently retired personnel with critical skills and experience (like Japan). This will assist with **limiting** companies and contractors using these staff as consultants. Appropriate rules such as limitation of at least five years before one may consult on State work (**sensitive matter**).
- Based on the above, create technical committees of experts to sustain institutional memory and a mentorship pool. **Need to have** mechanism to incentivize the experts.

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RECOMMENDATIONS (Cont...)

- Trainers should be developed through building the training and facilitation skills of experienced and expert Technical personnel. **This will** ensure training and skills transfer is implemented, and that institutional memory and intuitive knowledge is documented for use and **not lost**;
- Develop policy to retain and utilise skills and experience of retired technical personnel, which should also include mentorship; **look at appropriate renumeration**;
- Build momentum through a phased and progressive ring-fencing (critical to the success of building and running sustainable **and financially viable** institutions) of water function leading to creation of stand-alone water utilities;
- Facilitation and implementation of NRW must be formalised and institutionalised through regulations and relevant performance agreement of municipal **management / leadership** (MM&EM);
- Take strategic advantage of the current positive environment that supports focussing on and implementing NRW and Water Loss through the NWRs I and II, the current National Water and Sanitation Masterplan.

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Concluding Remarks

- The IBTC-JICA funded project is critical to deal with the challenge of sustainable water services in South Africa; It deals with both the technical and financial aspects in terms of impact;
- This visit, including the training and field visits were invaluable, we have learnt so much that could be used to not only improve the current project, but the way we do our water business in the future;
- **It** must also appreciated this is one **key aspect**, and there are many other **key** issues that also need to be prioritised and addressed in order to get the full benefits of this project – a supportive, enabled and resourced scenario;
- We hope and anticipate our **exciting and valuable collaboration in the water sector will continue with Japan**.

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THANK YOU

SALGA-JWWA JOINT SEMINAR



SALGA-JWWA JOINT SEMINARS FOR WATER SUPPLY SECTOR

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water & sanitation

Department: Water and Sanitation
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Source: CCT



Source: WRC



Source: DWS/SALGA/JICA



Source: DWS/SALGA/JICA



Source: JWWA



Source: JWWA



Source: JWWA



Source: JWWA

1ST SEMINAR HUMAN RESOURCES DEVELOPMENT

28TH JAN. 2021: SOUTH AFRICA

- SALGA
- eThekweni Municipality
- City of Johannesburg
- City of Cape Town

29TH JAN. 2021: JAPAN

- JWWA
- Tokyo Metropolitan Government
- City of Yokohama

2ND SEMINAR DISASTER/EMERGENCY RESPONSE

25TH FEB. 2021: SOUTH AFRICA

- DWS
- City of Cape Town
- Joe Gqabi District Municipality

26TH FEB. 2021: JAPAN

- JWWA
- Fukuoka City
- Kagawa Water Supply Authority

3RD SEMINAR PRODUCT QUALITY AND TECHNOLOGY & INNOVATION

18TH MAR. 2021: SOUTH AFRICA

- Nelson Mandela Bay Municipality
- City of Ekurhuleni
- Rand Water

19TH MAR. 2021: JAPAN

- JWWA
- Osaka City
- City of Kawasaki



Mr. XOLILE GEORGE, CEO, SALGA

“It remains our mission and philosophy to be the hub of illuminating innovative partnerships and solution based approaches that strives to benefit our member municipalities working collaboratively with our partners such as JWWA. In a nutshell the 3 seminars are aimed at exchanging ideas, solutions between the two associations in the management of water. Crucially it is envisioned that outcomes of these seminars will be taken forward through joint twinning and structured engagements between SALGA, JWWA and its members.”



Mr. EI YOSHIDA, Executive Director, JWWA

“Whatever changes may occur within the water supply business’ operating environment, in every country throughout the ages those involved in this business have always shared the same missions of delivering a reliable supply of safe water and ensuring the sound development of the water supply into the future. I believe that collaboration among sector representatives will be a source of great strength for achieving these missions.”

PRESENTATIONS

1ST SEMINAR DAY-1: SOUTH AFRICA

- **SALGA:** Human resource development in water supply sector
- **eThekweni:** Building municipal water engineering capacity and capability
- **Johannesburg:** Human resource development and retention strategy
- **Cape Town:** Talent management strategy implementation for skills attraction of scientist

1ST SEMINAR DAY-2: JAPAN

- **JWWA:** Human Resources Development and Training for Waterworks
- **Tokyo:** Practical training in the Training and Technical Development Center
- **Yokohama:** Skills and knowledge transfer in the water utility

2ND SEMINAR DAY-1: SOUTH AFRICA

- **DWS:** Overview of disaster management in water services delivery
- **Cape Town:** Experiences in drought management
- **Joe Gqabi:** Drought & COVID-19 Intervention

2ND SEMINAR DAY-2: JAPAN

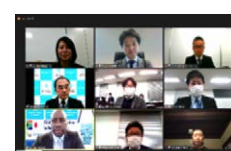
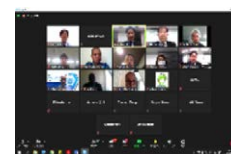
- **JWWA:** Waterworks in Disaster-prone Japan - Mutual support system in the event of a disaster
- **Fukuoka:** Water supply in Fukuoka City - Measures against drought and water saving
- **Kagawa:** Measures against drought and water saving, and regional water supply in Kagawa

3RD SEMINAR DAY-1: SOUTH AFRICA

- **Nelson Mandela Bay:** Compliance to drinking water quality - a scientific approach
- **Ekurhuleni:** Technological Innovation in enhancing drinking water quality
- **Rand Water:** Water Innovation Hub to enhance efficient water management

3RD SEMINAR DAY-2: JAPAN

- **JWWA:** Procedures for the establishment and revision of the drinking water quality standards
- **Osaka:** Water quality monitoring and control in Osaka
- **Kawasaki:** Service connection quality assurance - Case of Kawasaki



PARTNERING ORGANIZATIONS IN THE SEMINARS



OUR ACHIEVEMENT

We were pleased to welcome **over 1,000 participants** into the seminars from national government, public institutions, local government (municipalities), private sector, academia, and media of both countries as well as from third countries all over the world.



Mr. TOMOHIRO SEKI, Chief Representative, JICA South Africa Office

“Under the bilateral relationship between South Africa and Japan, JICA has recently supported South Africa’s water supply sector by utilising Japan’s experiences through “The Project for Strengthening the Training Capacity of IBTC on Non-Revenue Water (*IBTC: Infrastructure Branch Training Centre of DWS)”. It is an honour for JICA to be able to be a bridge in Japanese, for the relationship between SALGA and JWWA.”

VISIT OUR WEBSITE FOR KNOWLEDGE



Appendix 5:

Business Plan for the National NRW Training

BUSINESS PLAN

VERSION 1.0



**PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER**

BUSINESS PLAN FOR THE NON-REVENUE WATER NATIONAL TRAINING

Version 1.0



March 2019

Abbreviation

Abbreviation	Description
CoGTA	Department of Cooperative Governance and Traditional Affairs
DMA	District-Metred Area
DWS	Department of Water and Sanitation
EWSETA	Energy and Water Sector Education and Training Authority
FETWater	Framework Programme for Research, Education, & Training in the Water Sector
IBTC	Infrastructure Branch Training Centre (DWS)
IWA	International Water Association
IWS	International Water Support (DWS)
JICA	Japan International Cooperation Agency
LGSETA	Local Government Sector Education and Training Authority
MISA	Municipal Infrastructure Support Agent
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NRW	Non-Revenue Water
NWRI	National Water Resources Infrastructure (DWS)
OS	Operational Support (DWS)
O&M	Operation and Maintenance
PFMA	Public Finance Management Act
QCTO	Quality Council for Trades and Occupations
SALGA	South African Local Government Association
WCWDM	Water Conservation and Water Demand Management
WRP	Water Reticulation Practitioner (Qualification)
WSA	Water Services Authority
WSDP	Water Services Development Plan
WSIG	Water Services Infrastructures Grant
WSP	Water Services Provider
WUE	Water Use Efficiency (DWS)

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Purpose of Business Plan

This Business Plan outlines the implementing framework including business model, organogram, financial and personnel plans, and so forth for “The Non-Revenue Water (NRW) National Training (hereinafter “The NRW National Training”)” by the Department of Water and Sanitation (DWS), particularly Infrastructure Branch Training Centre (IBTC) of National Water Resources Infrastructure (NWRI) in collaboration with other relevant units such as Water Use Efficiency (WUE), Operational Support (OS), International Water Support (IWS) and relevant stakeholders.

Management (Revision) Method

The DWS is obliged to review and upgrade the Business Plan annually or when needed based on the feedback from facilitators and trainees in the NRW National Training. After the review of the feedback, the DWS may modify and/or add the contents of the Business Plan as necessary. The revised Business Plan shall be submitted to and approved by Chief Director: Engineering Services for every revision.

Record of Revisions


This Business Plan is

The Version 1.0: Submitted on 29th November 2018

Management Representatives of DWS:

Mr. Aloious Chaminuka

National Water Resources Infrastructure (NWRI)



Mr. Vincent Monene

National Water Resources Infrastructure (NWRI)



Ms. Mfomadi-Rahube Rosa Rose Molotelo, Centre Manager
Infrastructure Branch Training Centre (IBTC)



Mr. Xolani Hadebe
Water Use Efficiency (WUE)



Ms. Mathiba Kentse
Operational Support (OS)



Mr. Albert Mmbidi
International Water Support (IWS)



1. The NRW National Training in the DWS Mandate

The NRW National Training was shaped and developed to fulfil the DWS's responsibilities: the national development, use, protection, conservation and demand management and control of water resources, and technical support to Municipalities as Water Services Authority (WSA).

2. Purpose of the NRW National Training

The main purposes of the NRW National Training are:

- To develop NRW management skills for participating Municipalities
- To make NRW management skills be utilized in NRW reduction projects of participating Municipalities.
- Eventually, to contribute NRW reduction of Municipalities nationwide

3. Implementing Framework of the NRW National Training

3-1. Proposed Business Model

The Business Model of the NRW National Training is proposed as shown in [Figure 1](#), and the primary responsibilities of stakeholders are shown in [Table 1](#).

Table 1: Primary Responsibilities of Stakeholders

Organisation	Primary Responsibilities
DWS	<ul style="list-style-type: none">● Implementation and O&M of the NRW National Training● Training Manager, Quality Assurer, O&M staff and so on● Facilitators● O&M cost
FETWater Group	<ul style="list-style-type: none">● Collaboration (information sharing on qualification: Water Reticulation Practitioner)
SALGA	<ul style="list-style-type: none">● Collaboration (communication, publication)● Coordination with Municipalities
Municipality	<ul style="list-style-type: none">● Supporting Facilitators● Participants (Trainees)● Workplaces with Mentors/Supervisors
Water Boards, WRC, CoGTA(MISA)	<ul style="list-style-type: none">● Supporting Facilitators
LGSETA	<ul style="list-style-type: none">● Funding for the NRW National Training (Local Government related)
EWSETA	<ul style="list-style-type: none">● Funding for the NRW National Training (Water Sector related)

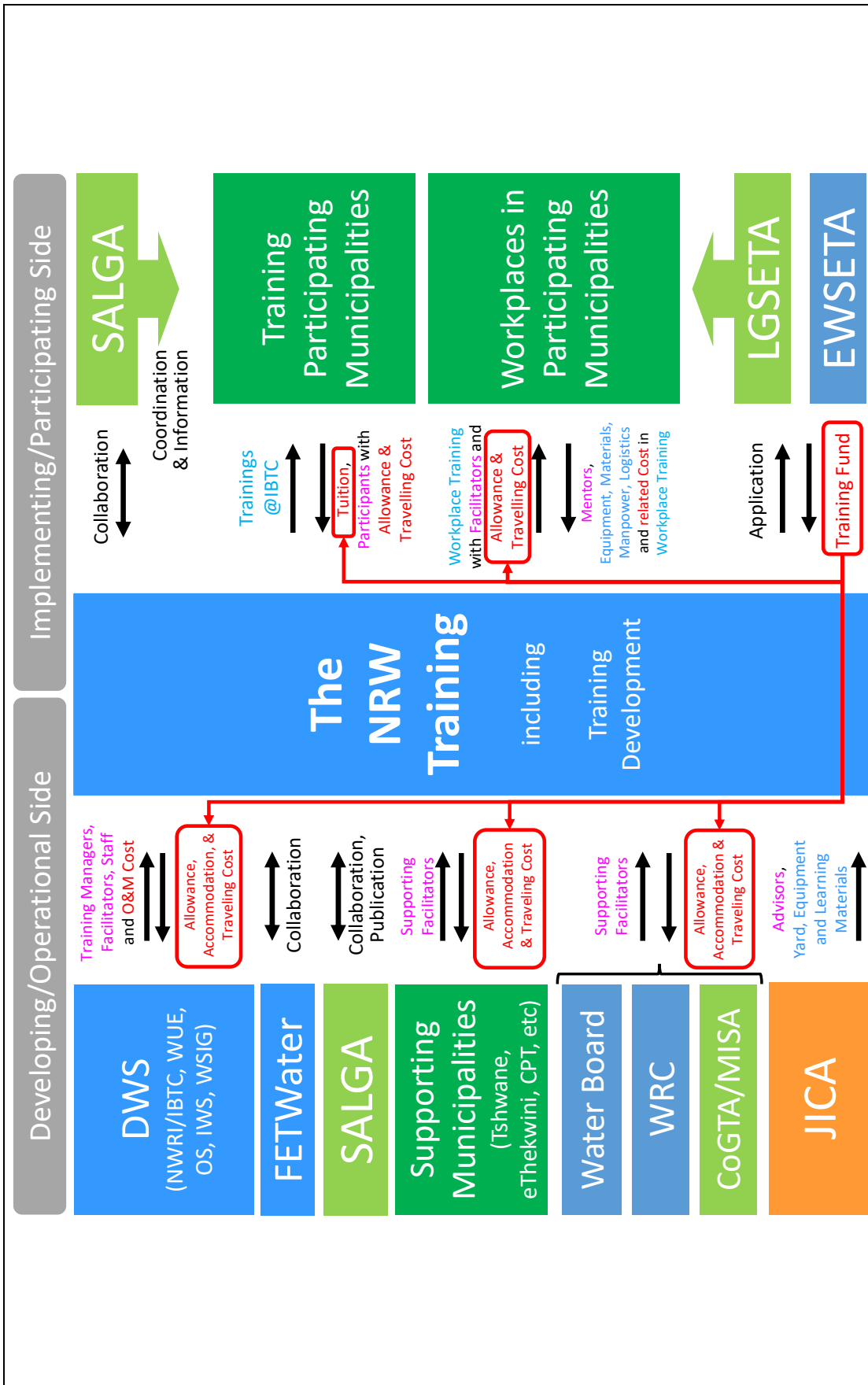


Figure 1: The Proposed Business Model of the NRW National Training

3-2. Roles and Responsibilities of DWS

The DWS takes roles and responsibilities on the implementation of the NRW National Training in cooperation with relevant municipalities described the above.

The DWS's major roles and responsibilities are:

- (1) To develop, improve and manage the NRW National Training in line with the Business Plan and its revisions.
- (2) To plan the NRW National Training programme, plan budget and manage the allocated budget for the training implementation and O&M.
- (3) To arrange the necessary human resources such as a training manager, a quality assurer, O&M staff and so on at IBTC.
- (4) To operate and maintain the class rooms, training yard and equipment properly and effectively.
- (5) To collect feedbacks from facilitators and trainees in the NRW National Training and needs from the stakeholders, then evaluate and improve the NRW National Training.
- (6) To liaise/coordinate internally or externally with stakeholders and ensure the implementation in terms of human resources, financial resources and information in particular by:
 - Developing and securing facilitators (assessors, moderators) strategically.
 - Selecting the target participating Municipalities including trainees' nomination fairly and squarely.
 - Arranging the workplace training including mentors with the target participating Municipalities in line with the curriculum requirements.
 - Applying for and securing funds from the relevant SETAs and so on.
 - Publicizing the NRW National Training in collaboration with SALGA

3-3. Proposed Organogram

The proposed organogram to implement the NRW National Training is shown in Figure 2.

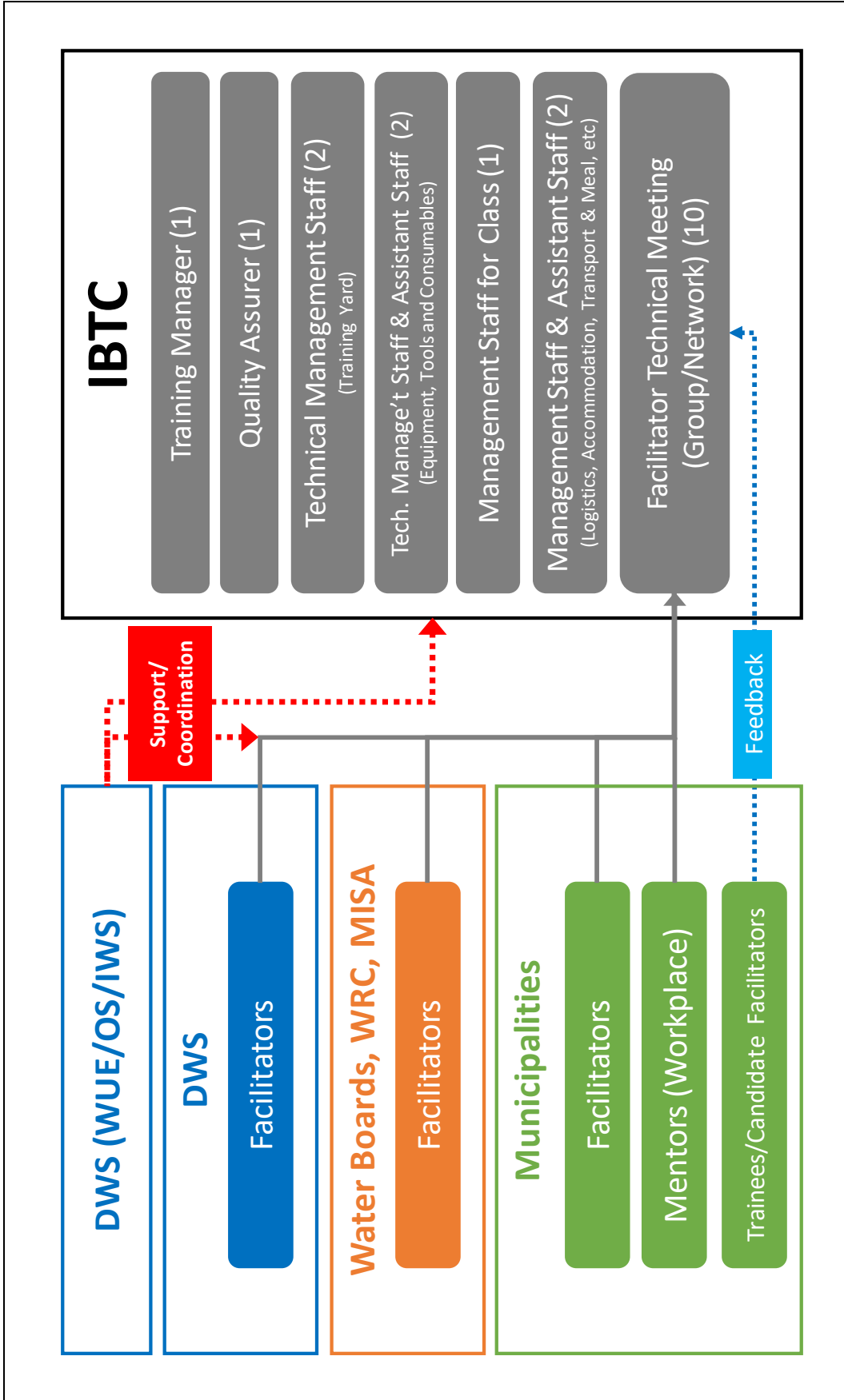


Figure 2: Proposed Organogram (Conceptual Version) to implement the NRW National Training

4. Implementation Resources Plan for the NRW National Training

4-1. Financial Plan

So that the DWS arranges/allocates the necessary budget as well as secures funding to implement the NRW National Training, the DWS shall have meetings/negotiations with the relevant sections and stakeholders such as LGSETA and EWSETA, then submit budget proposal and/or funding application without omission for the next fiscal year's programme.

Table 2 shows major expenditure items and possible financial resources.

Table 2: Expenditure Items and Financial Resources in the NRW National Training

Expenditure Items	Financial Resources
1. Training Development	
1-1. Facilitator Technical Meeting or equivalent	
1-1-1. Venue	DWS
1-1-2. Advisory Fee (if private organization)	Ditto
1-1-3. Allowance, accommodation and transport	Ditto
1-1-4. Meals & refreshment	Ditto
2. Training Implementation	
2-1. Facilitators/Assessor/Moderators	
2-1-1. Lecture Fee (if private organization)	LGESTA (EWSETA if applicable)
2-1-2. Allowance, accommodation and transport	Ditto
2-1-3. Meals & refreshment	Ditto
2-2. Trainees	
2-2-1. Tuition	LGESTA
2-2-2. Allowance, accommodation and transport	Municipalities (LGSETA if applicable)
2-2-3. Meals & refreshment	LGESTA
2-3. O&M Cost at IBTC	
2-3-1. Class-room training operation	DWS/IBTC (LGSETA if applicable)
2-3-2. Training yard	Ditto
2-3-3. Equipment	Ditto
2-3-4. Learning material preparation	Ditto
2-3-5. Consumables	Ditto
2-4. Workplace Training Cost (Facilitators)	
2-4-1. Advisory Fee (if private organization)	LGESTA
2-4-2. Allowance, accommodation and transport	Ditto
2-4-3. Meals & refreshment	Ditto
2-5. Workplace Training Cost (Mentors/Workplaces)	
2-5-1. Mentoring Fee(if private organization)	Municipalities (WSIG if applicable)
2-5-2. Equipment and Materials	Ditto
2-5-3. Manpower	Ditto

Expenditure Items	Financial Resources
2-5-4. Logistics	Ditto
2-5-5. Relevant Cost	Ditto
3. Monitoring and Evaluation	
3-1. Questionnaires and analysis	DWS/IBTC
3-2. Revision and improvement	DWS/IBTC
4. Publication and PR	
4-1. Website maintenance	DWS/IBTC, SALGA
4-2. Brochure distribution	DWS/IBTC, SALGA

4-2. Personnel Plan for IBTC

The DWS shall employ staff for IBTC required mainly for

- Implementation of the NRW National Training including operation and maintenance,
- Communication with stakeholders, and
- Facilitation of classes, logistics for facilitators and trainees.

Table 3 shows the proposed staff for the NRW National Training at IBTC in each position and its job descriptions.

Table 3: Proposed Staff for the NRW National Training at IBTC

Position (Number)	Job Description
1 Technical Management Staff for Training Yard (Two)	<ul style="list-style-type: none"> ● Checking the condition of valves, a flow-meter, pressure gauge, customer meters, a storage tank, a line pump, etc. (Daily, Monthly and Yearly) ● Minor repair of pipelines, fittings, valves, flow-meter, customer meters, storage tank, etc. ● Cleaning of the training yard ● Operation of the valves, pump and generator ● Calibration of flow meters and customer meters ● Estimate cost for procurement ● Assistance for security guards in security monitoring ● Take activities required for other yard issues
2 Technical Management Staff and Assistant Staff for Equipment, Tools and Consumables (One each = Two)	<ul style="list-style-type: none"> ● Checking the condition of a generator, leak detectors, tools, etc. ● Checking the connection of conductivity on equipment ● Battery charging for equipment ● Cleaning of the training yard ● Procurement of the pipes and their fittings ● Procurement of the spare parts of equipment ● Management of inventory for all the equipment (Daily, Monthly and Yearly)

Position (Number)		Job Description
		<ul style="list-style-type: none"> ● Assistance for security guards in security monitoring ● Procurement of fuel for a generator
3	Management Staff for Class (One)	<ul style="list-style-type: none"> ● Checking the condition of AC, lights, projector, PC, furniture, etc. ● Arrangement of stationery such as white board, pens, note-pad ● Printing the hand-outs and deliver them ● Cleaning of the class facilities ● Dealing with lost & found
4	Management Staff and Assistant Staff for Logistics, Accommodation, Transportation and Meal Service (One each = Two)	<ul style="list-style-type: none"> ● Arrangement and management for accommodation, transportation and meal ● Arrangement and management for cleaning of accommodation ● Arrangement and management of repairs in accommodation
5	IT Engineer (One)	<ul style="list-style-type: none"> ● Launch of the official website of the IBTC ● O&M of the IBTC official website including periodic updating of the data and information on the site. ● Arrangement of the training using PC and internet

Remarks: Position for No.4 and No.5 can be double as by existing DWS/IBTC staff.

4-3. Facilitator Securing Plan and Selection Criteria

For the NRW National Training until July 2020 at least, the DWS shall select and secure at least 10 facilitators as start-up from the DWS herself and stakeholders such as Municipalities, Water Boards, Water Research Commission (WRC) and Municipal Infrastructures Support Agent (MISA) in compliance with the following criteria.

- Experiences: More than 10 years of water supply reticulation design and O&M in a municipality (current active and retired)
- Qualification: Engineer, technologist, technician and/or artisan, supervisor, site manager
- Content/knowledge
 - Knowledge of IWA water balance
 - A wide range of knowledge on water reticulation and WCWDM
 - Operational and maintenance in municipality space
 - Bulk metering and techniques
- Core and specialized skills
 - Good interpersonal skill and communication including the ability to explain things clearly and simply to others. Facilitators in this course are not expected

to give lectures, but to guide participants through practical exercise and written materials

- Ability to teach, facilitate and demonstrate practical skills and application of principles
- Provision of mentorship
- Writing skill of reports

5. Targets of the NRW National Training

The main targets of the NRW National Training are staff of Municipalities as Water Services Authority (WSA) and/or Water Services Provider (WSP), which are defined by National Water Act and Water Services Act.

The NRW National Training shall be implemented for all Municipalities of South Africa and eventually whoever wants to participate, however, the DWS selects the target participating Municipalities according to selection criteria in the short term to establish successful implementing model with positive effects and impacts.

5-1. Trainees

The NRW National Training expects ideally Trainees from the each target participating Municipality to be organized hierarchically and cross-sectorally as a team consisting of 4 to 6 staff (1 Leader + 3 operational staff mandatorily and 1 or 2 technical director/engineer optionally) from relevant sections such as:

- Water conservation and water demand management (WCWDM)
- Operation and maintenance (O&M), and
- Equivalent

Also, the NRW National Training targets the following staff of Municipalities, who have accumulated a certain amount of education, knowledge, experience and expertise, for example:

- Technician (or Technician-to-be)
- Superintendent/Supervisor/Foreperson/Site-Manager (or Superintendent/Supervisor/Foreperson/Site-Manager-to-be)
- Artisan Plumber (or Artisan Plumber-to-be)
- General Worker, and
- Equivalent

5-2. Selection Criteria of the Target Participating Municipalities

The selected municipalities should be willing to allow the facilitators to visit the trainees in their workplace for the period that will be specified but it will not be more three day
The target participating Municipalities shall be selected in compliance with the following criteria. The Municipalities have:

- High NRW ratio and volume
- Capacity to provide safe and stable water supply by conventional piped scheme(s)
- Mapping of reticulation system (with accuracy by a yearly revision)
- Digital billing data
- Having a WSDP
- Municipality's vision/policy/plan and ongoing efforts in tackling NRW (if any)
- Affordability to allocate 4 to 6 staff during the whole training period (trainees shall NOT be changed during the period)

After the selection procedure, the DWS shall announce the result of evaluation to the relevant stakeholders and the target participating Municipalities immediately.

6. Institutional Arrangement with Stakeholders

As a formalization of institutional arrangement, the DWS and stakeholders enter into Memorandum of Understanding (MOU), Memorandum of Agreement (MOA) or equivalent official letter(s) appropriately before the implementation of the NRW National Training, in collaboration with SALGA for Municipalities..

These official documents include and/or cover the following information for both "Facilitators" and "Target Participating Municipalities (Trainees) and Workplace (Mentors)":

6-1. Facilitators

- Number of candidate facilitator(s)
- Personal information of the candidate facilitator(s)
- Level of education of facilitator(s)
- Experience of facilitator(s) in water services
- Period and schedule of the NRW National Training
- Institutional obligation (terms and conditions) between the DWS and his/her

organization

- Validity period of the MOU/MOA or equivalent official letter(s)

6-2. Target Participating Municipalities (Trainees) and Workplace (Mentors)

- Number of trainee(s) and mentor(s)
- Personal information of the trainee(s) and mentor(s)
- Level of education of trainee(s) and mentor(s)
- Experience and expertise of trainee(s) and mentor(s) in water services
- Period and schedule of the NRW National Training
- Institutional obligation (terms and conditions) between the DWS and his/her Municipality
- Validity period of the MOU/MOA or equivalent official letter(s)

7. Design Concepts, Outline of Training Curriculum and Implementation

7-1. Design Concepts of the NRW National Training

The NRW National Training has been designed based on the following observation and concepts:

Observation

- A lot of Municipalities have not conducted accurate water balance analysis with reliable data and information on NRW.
- Prior to taking NRW reduction measures effectively, a lot of Municipalities are still at the initial stage “measuring/metering” for proper analysis which leads to planning.

Concepts

- The NRW National Training focuses on water measurement, proper water balance analysis and planning in principle.
- The NRW National Training is “problem-solving-oriented” with secure positive effect and impact to participating Municipalities.
- The NRW National Training develops not only individuals (Trainees) but also organization (participating Municipalities) in tackling NRW.
- The NRW National Training curriculum is developed in consideration of occupational qualification standard model of QCTO: Theory, Practice and Workplace.

7-2. The NRW National Training Curriculum (Overview)

Training curriculum of the NRW National Training are composed of the following modules as a standard, so it should be customized flexibly based on participants' requirements and conditions.

- Orientation and General Overview
- Bulk Meter Knowledge and Technique (including Pipe Fitting)
- Customer Meter Knowledge and Technique
- Reticulation Facility Planning and O&M (Valves, Fire Hydrant, Air Valves, etc.)
- Measurement Planning
- Water Balance Analysis
- NRW Reduction Strategy Planning & Presentation
- Fundamental Knowledge of Active Leakage Detection (Equipment) and Theory *
- Fundamental Knowledge of Conditional Assessment *

*: These items should be targeted more intensively and in detail in the next stage.

The NRW National Training is a crash course of 6 weeks totally through the following stages as a training cycle (ideally for 2 or 3 participating Municipalities):

Stage 1: Theory & Practice: 1 week at IBTC

Stage 2: Workplace: 2 weeks in participating Municipalities with Mentor(s) with support from Facilitator(s)

Stage 3: Theory & Practice: 1 week at IBTC

Stage 4: Workplace: 2 weeks in participating Municipalities with Mentor(s) with support from Facilitator(s)

7-3. Learning Materials

Learning materials are developed in accordance to the NRW National Training curriculum.

The DWS shall review, revise the learning materials to meet the need from stakeholders.

7-4. Training Yard and Equipment, and Operation and Maintenance

Training yard and equipment are designed and procured in accordance to the NRW National Training curriculum.

Post the initial procurement of the training yard, equipment, instruments and materials¹, the DWS is obliged to manage them and ensure good operations and maintenance by securing the necessary budget to cover all the costs. The DWS shall review, expand, upgrade and re-engineer the training yard and equipment to meet the need from stakeholders. (* Operation and maintenance manuals will be prepared.)

7-5. Procurement of Goods/Consumables

The DWS is obliged to procure goods/consumables to implement the NRW National Training smoothly by securing the necessary budget to cover all the costs. The IBTC shall also procure the required goods/consumables in line with the Public Finance Management Act (PFMA) and the DWS's procurement regulations.

7-6. Quality Assurance of Training Implementation

The DWS, particularly IBTC shall assure quality of the NRW National Training by using a check list of the implementation regularly, for example every week. The DWS/IBTC shall prepared the check list for:

- Facilitators competency
- Lecture contents
- Training environment including class rooms, training yard and workplaces
- Requests from Facilitators/Trainees to improve the NRW National Training

7-7. Monitoring and Evaluation

The impacts of the NRW National Training are monitored, for example, by:

- Training evaluation questionnaire to trainees and his/her Municipality
- Updated information and/or report(s) on NRW of the participating Municipalities
- Change(s) in Vision/Strategy/Plans, organizational structure, implementation on NRW of the participating Municipalities
- Awareness and increased usage of the Training around stakeholders
- Accountability around NRW or water loss

These information shall be collected from stakeholders, particularly the participating Municipalities by means of questionnaire, email and website.

¹ These are referred to the current DWS- JICA agreement.

Then the DWS shall share the following knowledge, skills and information identified through the monitoring.

- Technical information on NRW
- Good practices and lessons learnt on NRW reduction strategic planning, political buy-in and efforts
- Funding information and application process

7-8. Reporting

The DWS, particularly IBTC prepares and submits an annual implementation report after the completion of the NRW National Training of the year. The report shall include the results of the analysis on the feedback from facilitators and trainees.

7-9. Implementation Plan

Since the NRW National Training is a new effort of the DWS in collaboration with stakeholders and also would be implemented through trial and error in the first two-three years at least as an initial developmental stage. Therefore, the DWS prepares an implementation plan for two-three years from the commencement of the NRW National Training.

From the 3rd-4th year, the DWS prepares an annual implementation plan of the NRW National Training by the month of budgetary request (every November) for the next fiscal year. The annual implementation plan shall reflect the lessons learned from the previous year's implementation, and shall be improved accordingly.

8. Dissemination, Advancement and Sustainability of the NRW National Training

8-1. Public Relations and Publication

The DWS, particularly IBTC in collaboration with SALGA enhances the public relations of the NRW National Training by every conceivable means such as website, official gazette, magazines and other related media. The DWS's website should include Q & A bulletin board to receive questions about the NRW National Training and to feed back.

An annual implementation report shall be published to announce the NRW National Training through the DWS's website.

8-2. Network and Platform of Knowledge/Information Sharing

The DWS aims at the NRW National Training be a springboard of both the network of the nationwide facilitators/practitioners and the future platform of knowledge/information sharing. Therefore, the DWS shall utilize the Training as an opportunity of workshops or equivalent among facilitators and trainees during training periods as well as utilize website as a bulletin board.

8-3. Facilitator Recruiting/Developing System

In order to ensure sustainability in securing facilitators from medium- and long-term viewpoint, the DWS shall keep recruiting candidates from the trainees participating in the NRW National Training and stakeholders, then develop them as facilitators for the next training cycles as well as for establishing the nationwide facilitator network.

The facilitator recruiting/developing system will be discussed and established through the implementation of the NRW National Training.

8-4. Middle- and Long-Term Monitoring and its Review

The DWS monitors the NRW National Training in middle- and long-term basis to harmonise the actual needs and trend of capacity development in the water sector. The DWS takes responsibilities for the entire monitoring and its review, and shall alter/upgrade the NRW National Training if necessary.

8-5. Collaboration with Qualification: Water Reticulation Practitioner

From medium- and long-term perspective, collaboration with FETWater programme for the new accredited full qualification: Water Reticulation Practitioner (WRP) will become a contributing factor for further advancement and sustainability of the NRW National Training.

The NRW National Training aims at synergic effects as a pilot practical training methodology to WRP training in the future.

(End)

BUSINESS PLAN

VERSION 2.0



**PROJECT FOR STRENGTHENING THE TRAINING CAPACITY OF IBTC
ON NON-REVENUE WATER**

BUSINESS PLAN FOR THE NATIONAL NON-REVENUE WATER TRAINING Version 2.0



March 2021

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Abbreviation

Abbreviation	Description
CoGTA	Department of Cooperative Governance and Traditional Affairs
DMA	District-Metred Area
DWS	Department of Water and Sanitation
ETDP-SETA	Education, Training and Development Practices Sector Education and Training Authority
EWSETA	Energy and Water Sector Education and Training Authority
FETWater	Framework Programme for Research, Education, & Training in the Water Sector
IBOM	Infrastructure Build, Operate and Maintenance (DWS)
IBTC	Infrastructure Branch Training Centre (DWS)
IWA	International Water Association
IWS	International Water Support (DWS)
JICA	Japan International Cooperation Agency
LGSETA	Local Government Sector Education and Training Authority
MISA	Municipal Infrastructure Support Agent
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NRW	Non-Revenue Water
OS	Operational Support (DWS)
O&M	Operation and Maintenance
PFMA	Public Finance Management Act
QCTO	Quality Council for Trades and Occupations
SALGA	South African Local Government Association
SAQA	South African Qualifications Authority
WCWDM	Water Conservation and Water Demand Management
WRP	Water Reticulation Practitioner (Qualification)
WSA	Water Services Authority
WSDP	Water Services Development Plan
WSIG	Water Services Infrastructures Grant
WSP	Water Services Provider
WUE	Water Use Efficiency (DWS)

Purpose of Business Plan

This Business Plan outlines the implementing framework including business model, organogram, financial and personnel plans, sustainability strategic (master) plan and so forth for “The National Non-Revenue Water (NRW) Training (hereinafter “The National NRW Training”)” by the Department of Water and Sanitation (DWS), particularly Infrastructure Branch Training Centre (IBTC) within the Water Resources Infrastructure Programme Services Management (WSMSub-Programme) in collaboration with other relevant units such as Water Use Efficiency (WUE), Operational Support (OS), International Water Support (IWS) and relevant stakeholders.

Management (Revision) Method

The DWS shall review and upgrade the Business Plan annually or when needed based on the feedback from facilitators and learners in the National NRW Training. After the review of the feedback, the DWS may modify and/or add the contents of the Business Plan as necessary. The revised Business Plan shall be submitted to and approved by Chief Director: Engineering Services for every revision.

Record of Revisions

This Business Plan is

The Version 2.0: Submitted on 15th March 2021

Management Representatives of DWS:

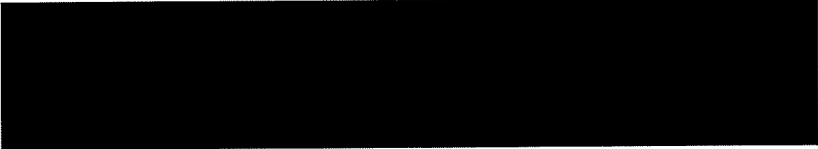
Mr. Aloious Chaminuka

Engineering Services

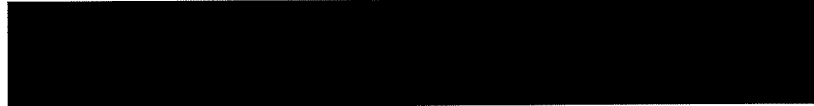


Mr. Vincent Monene

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Infrastructure Branch Training Centre (IBTC)



Mr. Xolani Hadebe
Water Use Efficiency (WUE)



Ms. Mathiba Kentse
Operational Support (OS)



Mr. Albert Mmbidi
International Water Support (IWS)



Management Representative of SALGA:

Mr. William Moraka
Technology and Innovative Projects



1. The National Non-Revenue Water (NRW) Training in the DWS Mandate

The National NRW Training was shaped and developed to fulfil the DWS’s responsibilities: the national development, use, protection, conservation and demand management and control of water resources, and technical support to Municipalities as Water Services Authority (WSA).

2. Purpose of the National NRW Training

The main purposes of the National NRW Training are:

- To develop NRW management skills for participating Municipalities
- To make NRW management skills be utilized in NRW reduction projects of participating Municipalities.
- To contribute NRW reduction of Municipalities nationwide
- To develop technical skills of NRW management capacity in the water sector

3. Implementing Framework of the National NRW Training

3-1. Proposed Business Model

The Business Model of the National NRW Training is proposed as shown in [Figure 1](#), and the primary responsibilities of stakeholders are shown in [Table 1](#).

Table 1: Primary Responsibilities of Stakeholders

Organisation	Primary Responsibilities
DWS	<ul style="list-style-type: none"> ● Implementation and O&M of the National NRW Training ● Training Manager, Quality Assurer, O&M staff and so on ● Facilitators
SALGA	<ul style="list-style-type: none"> ● Collaboration (communication, publication) ● Coordination with Municipalities
Municipalities	<ul style="list-style-type: none"> ● Facilitators ● Participants (Learners) ● Workplaces with Mentors/Supervisors
Water Boards	<ul style="list-style-type: none"> ● Facilitators, Mentors
CoGTA (MISA)	<ul style="list-style-type: none"> ● Facilitators, Mentors
LGSETA	<ul style="list-style-type: none"> ● Funding for the National NRW Training (Local Gov. related)
EWSETA	<ul style="list-style-type: none"> ● Funding for the National NRW Training (Water Sector related)
National Treasury	<ul style="list-style-type: none"> ● Funding for the National NRW Training
Other Local and Int’l Funders	<ul style="list-style-type: none"> ● Funding for the National NRW Training

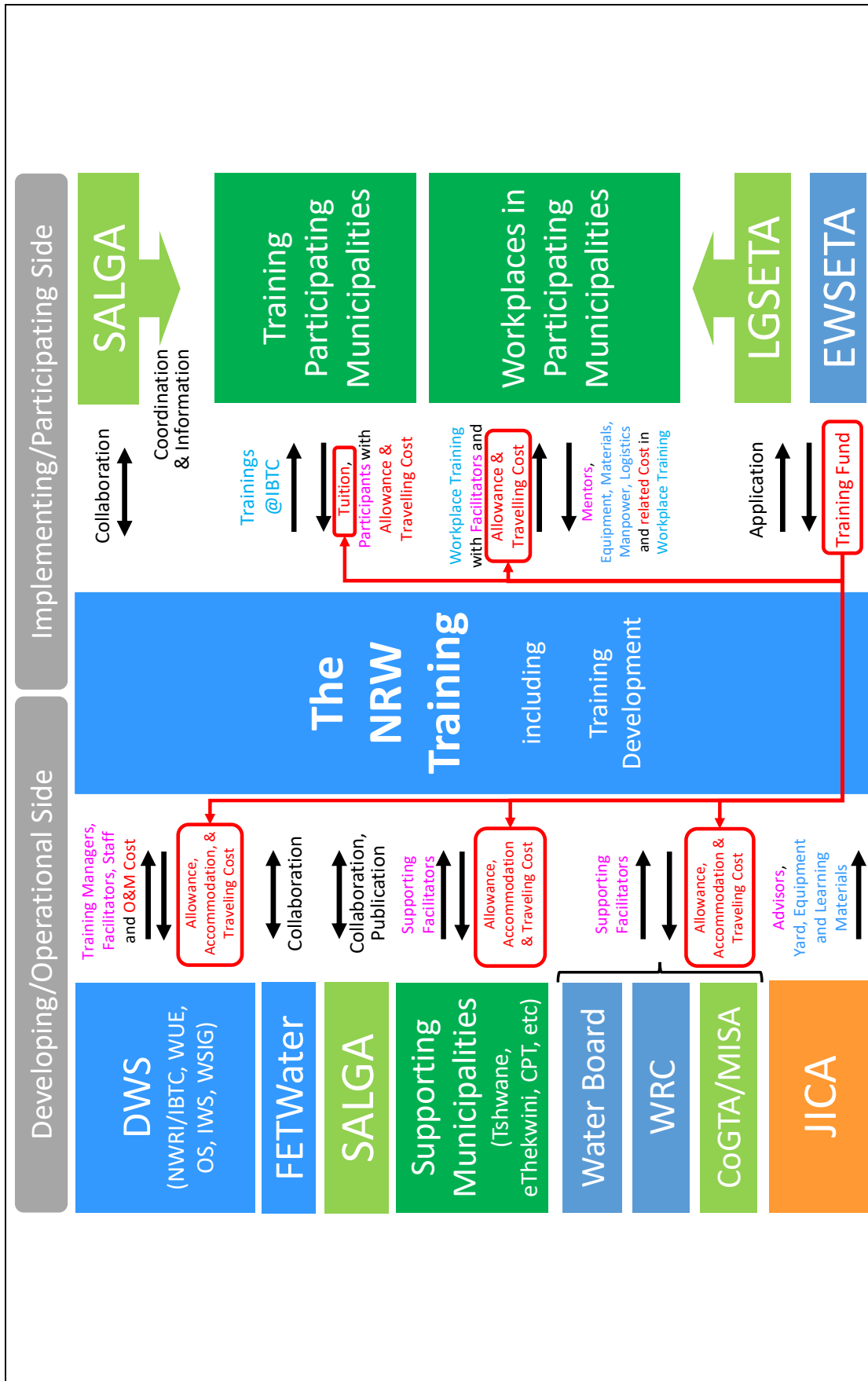


Figure 1: The Proposed Business Model of the National NRW Training

3-2. Roles and Responsibilities of DWS

The DWS takes roles and responsibilities on the implementation of the National NRW Training in cooperation with relevant municipalities described the above.

The DWS's major roles and responsibilities are:

- (1) To develop, improve and manage the National NRW Training in line with the Business Plan and its revisions.
- (2) To plan the National NRW Training programme, plan budget and manage the allocated budget for the training implementation and O&M.
- (3) To work towards the accreditation of the National NRW Training programme with relevant SETAs.
- (4) To coordinate and liaise with various stakeholders in the implementation of the National NRW Training Programme.
- (5) To arrange the necessary human resources such as a training manager, a quality assurer, O&M staff and so on at IBTC.
- (6) To operate and maintain the class rooms, training yard and equipment properly and effectively.
- (7) To collect feedbacks from facilitators and learners in the National NRW Training and needs from the stakeholders, then evaluate and improve the National NRW Training.
- (8) To liaise/coordinate internally or externally with stakeholders and ensure the implementation in terms of human resources, financial resources and information in particular by:
 - Developing and securing facilitators (assessors, moderators) strategically.
 - Selecting the target participating Municipalities including learners' nomination fairly and squarely.
 - Arranging the workplace training including mentors with the target participating Municipalities in line with the curriculum requirements.
 - Applying for and securing funds from the relevant SETAs and so on.
 - Publicizing the National NRW Training in collaboration with SALGA

3-3. Proposed Organogram

The proposed organogram to implement the National NRW Training is shown in Figure 2.

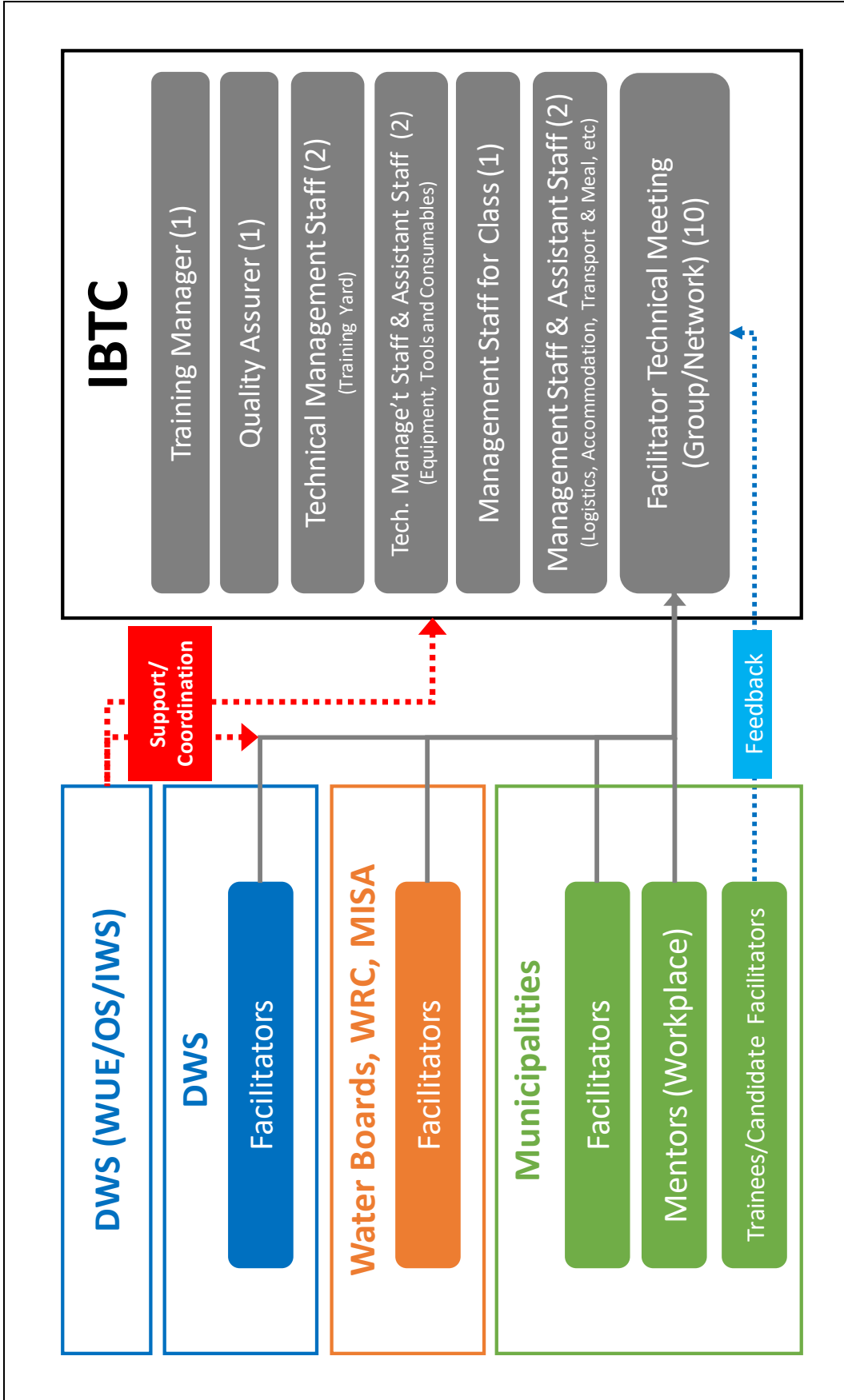


Figure 2: Proposed Organogram (Conceptual Version) to implement the National NRW Training

4. Implementation Resources Plan for the National NRW Training

4-1. Financial Plan

So that the DWS arranges/allocates the necessary budget as well as secures funding to implement the National NRW Training, the DWS shall have meetings/negotiations with the relevant sections and stakeholders such as LGSETA, EWSETA, National Treasury and other national and international funders then submit budget proposal and/or funding application without omission for the next fiscal year's programme.

Table 2 shows major expenditure items and possible financial resources.

Table 2: Expenditure Items and Financial Resources in the National NRW Training

Expenditure Items	Financial Resources
1. Training Development	
1-1. Facilitator Technical Meeting or equivalent	
1-1-1. Venue or online	DWS
1-1-2. Advisory Fee (if private organization)	Ditto
1-1-3. Allowance, accommodation and transport	Ditto
1-1-4. Meals & refreshment	Ditto
2. Training Implementation	
2-1. Facilitators/Assessor/Moderators	
2-1-1. Lecture Fee (if private organization)	LGESTA (EWSETA if applicable)
2-1-2. Allowance, accommodation and transport	Ditto
2-1-3. Meals & refreshment	Ditto
2-1-4. Accreditation	ETDP-SETA
2-2. Learners	
2-2-1. Tuition	LGESTA
2-2-2. Allowance, accommodation and transport	Municipalities (LGSETA if applicable)
2-2-3. Meals & refreshment	LGESTA
2-3. O&M Cost at IBTC	
2-3-1. Class-room training operation or online	DWS/IBTC (LGSETA if applicable)
2-3-2. Training yard	Ditto
2-3-3. Equipment	Ditto
2-3-4. Learning material preparation	Ditto
2-3-5. Consumables	Ditto
2-4. Workplace Training Cost (Facilitators)	
2-4-1. Advisory Fee (if private organization)	LGESTA
2-4-2. Allowance, accommodation and transport	Ditto
2-4-3. Meals & refreshment	Ditto
2-5. Workplace Training Cost (Mentors/Workplaces)	
2-5-1. Mentoring Fee(if private organization)	Municipalities (WSIG if applicable)
2-5-2. Equipment and Materials	Ditto

Expenditure Items	Financial Resources
2-5-3. Manpower	Ditto
2-5-4. Logistics	Ditto
2-5-5. Relevant Cost	Ditto
3. Monitoring and Evaluation	
3-1. Questionnaires and analysis	DWS/IBTC
3-2. Revision and improvement	DWS/IBTC
4. Publication and PR	
4-1. Website maintenance	DWS/IBTC, SALGA
4-2. Brochure distribution	DWS/IBTC, SALGA

4-2. Personnel Plan for IBTC

The DWS shall employ staff for IBTC required mainly for

- Implementation of the National NRW Training including operation and maintenance, quality assurance and institutionalisation of the programme
- Communication with stakeholders, and
- Facilitation of classes, logistics for facilitators and learners.

Table 3 shows the proposed staff for the National NRW Training at IBTC in each position and its job descriptions.

Table 3: Proposed Staff for the National NRW Training at IBTC

Position (Number)	Job Description
1 Technical Management Staff for Training Yard (Two)	<ul style="list-style-type: none"> ● Checking the condition of valves, a flow-meter, pressure gauge, customer meters, a storage tank, a line pump, etc. (Daily, Monthly and Yearly) ● Minor repair of pipelines, fittings, valves, flow-meter, customer meters, storage tank, etc. ● Cleaning of the training yard ● Operation of the valves, pump and generator ● Calibration of flow meters and customer meters ● Estimate cost for procurement ● Assistance for security guards in security monitoring ● Take activities required for other yard issues
2 Technical Management Staff and Assistant Staff for Equipment, Tools and Consumables (One each = Two)	<ul style="list-style-type: none"> ● Checking the condition of a generator, leak detectors, tools, etc. ● Checking the connection of conductivity on equipment ● Battery charging for equipment ● Cleaning of the training yard ● Procurement of the pipes and their fittings ● Procurement of the spare parts of equipment

	Position (Number)	Job Description
		<ul style="list-style-type: none"> ● Management of inventory for all the equipment (Daily, Monthly and Yearly) ● Assistance for security guards in security monitoring ● Procurement of fuel for a generator
3	Management Staff for Class (One)	<ul style="list-style-type: none"> ● Checking the condition of AC, lights, projector, PC, furniture, etc. ● Arrangement of stationery such as white board, pens, note-pad ● Printing the hand-outs and deliver them ● Cleaning of the class facilities ● Dealing with lost & found
4	Management Staff and Assistant Staff for Logistics, Accommodation, Transportation and Meal Service (One each = Two)	<ul style="list-style-type: none"> ● Arrangement and management for accommodation, transportation and meal ● Arrangement and management for cleaning of accommodation ● Arrangement and management of repairs in accommodation
5	IT Engineer (One)	<ul style="list-style-type: none"> ● Launch of the official website of the IBTC ● O&M of the IBTC official website including periodic updating of the data and information on the site. ● Arrangement of the training using PC and internet

Remarks: Position for No.4 and No.5 can be double as by existing DWS/IBTC staff.

4-3. Facilitator Securing Plan and Selection Criteria

For the National NRW Training until March 2021 at least, the DWS shall select and secure at least 10 facilitators as start-up from the DWS and stakeholders such as Municipalities, Water Boards and Municipal Infrastructures Support Agent (MISA) in compliance with the following criteria.

- Experiences: More than 10 years of water supply reticulation design and O&M in a municipality (current active and retired)
- Qualification: Engineer, technologist, technician and/or artisan, supervisor, site manager
- Content/knowledge
 - Knowledge of IWA water balance
 - A wide range of knowledge on water reticulation and WCWDM
 - Operational and maintenance in municipality space
 - Bulk metering and techniques
- Core and specialized skills

- Good interpersonal skill and communication including the ability to explain things clearly and simply to others. Facilitators in this course are not expected to give lectures, but to guide participants through practical exercise and written materials
- Ability to teach, facilitate and demonstrate practical skills and application of principles
- Provision of mentorship
- Writing skill of reports

5. Targets of the National NRW Training

The main targets of the National NRW Training are staff of Municipalities as Water Services Authority (WSA) and/or Water Services Provider (WSP), which are defined by National Water Act and Water Services Act. The target might also be extended to clusters working in the operation and maintenance of bulk water infrastructure.

The National NRW Training shall be implemented for all Municipalities of South Africa and eventually whoever wants to participate, however, the DWS selects the target participating Municipalities according to selection criteria in the short term to establish successful implementing model with positive effects and impacts.

The scope of the National NRW Training shall be extended to other South African citizens and neighbouring African countries.

5-1. Learners

The National NRW Training expects ideally learners from the each target participating Municipality to be organized hierarchically and cross-sectorally as a team consisting of 4 to 6 staff (1 Leader + 3 operational staff mandatorily and 1 or 2 technical director/engineer optionally) from relevant sections such as:

- Water conservation and water demand management (WCWDM)
- Operation and maintenance (O&M), and
- Equivalent

Also, the National NRW Training targets the following staff of Municipalities, who have accumulated a certain amount of education, knowledge, experience and expertise, for example:

- Technician (or Technician-to-be)

- Superintendent/Supervisor/Foreperson/Site-Manager (or Superintendent/Supervisor/Foreperson/Site-Manager-to-be)
- Artisan Plumber (or Artisan Plumber-to-be)
- General Worker, and
- Equivalent

5-2. Selection Criteria of the Target Participating Municipalities

The selected municipalities should be willing to allow the facilitators to visit the learners in their workplace for the period that will be specified.

The target participating Municipalities shall be selected in compliance with the following criteria. The Municipalities have:

- High NRW ratio and volume
- Capacity to provide safe and stable water supply by conventional piped scheme(s)
- Mapping of reticulation system (with accuracy by a yearly revision)
- Digital billing data
- Having a WSDP
- Municipality's vision/policy/plan and ongoing efforts in tackling NRW (if any)
- Affordability to allocate 4 to 6 staff during the whole training period (learners shall NOT be changed during the period)

After the selection procedure, the DWS shall announce the result of evaluation to the relevant stakeholders and the target participating Municipalities immediately.

6. Institutional Arrangement with Stakeholders

As a formalization of institutional arrangement, the DWS and stakeholders enter into Memorandum of Understanding (MOU), Memorandum of Agreement (MOA) or equivalent official letter(s) appropriately before the implementation of the National NRW Training, in collaboration with SALGA for Municipalities.

These official documents include and/or cover the following information for both "Facilitators" and "Target Participating Municipalities (Learners) and Workplace (Mentors)":

6-1. Facilitators

- Number of candidate facilitator(s)

- Personal information of the candidate facilitator(s)
- Level of education of facilitator(s)
- Experience of facilitator(s) in water services
- Period and schedule of the National NRW Training
- Institutional obligation (terms and conditions) between the DWS and his/her organization
- Validity period of the MOU/MOA or equivalent official letter(s)

6-2. Target Participating Municipalities (Learners) and Workplace (Mentors)

- Number of trainee(s) and mentor(s)
- Personal information of the trainee(s) and mentor(s)
- Level of education of trainee(s) and mentor(s)
- Experience and expertise of trainee(s) and mentor(s) in water services
- Period and schedule of the National NRW Training
- Institutional obligation (terms and conditions) between the DWS and his/her Municipality
- Validity period of the MOU/MOA or equivalent official letter(s)

7. Design Concepts, Outline of Training Curriculum and Implementation

7-1. Design Concepts of the National NRW Training

The National NRW Training has been designed based on the following observation and concepts:

Observation

- A lot of Municipalities have not conducted accurate water balance analysis with reliable data and information on NRW.
- Prior to taking NRW reduction measures effectively, a lot of Municipalities are still at the initial stage “measuring/metering” for proper analysis which leads to planning.

Concepts

- The National NRW Training focuses on water measurement, proper water balance analysis and planning in principle.
- The National NRW Training is “problem-solving-oriented” with secure positive effect

and impact to participating Municipalities.

- The National NRW Training develops not only individuals (learners) but also organization (participating Municipalities) in tackling NRW.
- The National NRW Training curriculum is developed in consideration of occupational qualification standard model of QCTO: Theory (knowledge), Practical and Workplace.

7-2. The National NRW Training Curriculum (Overview)

Training curriculum of the National NRW Training are composed of the following modules as a standard, so it should be customized flexibly based on participants' requirements and conditions.

- Orientation and General Overview
- Bulk Meter Knowledge and Technique (including Pipe Fitting)
- Customer Meter Knowledge and Technique
- Reticulation Facility Planning and O&M (Valves, Fire Hydrant, Air Valves, etc.)
- Measurement Planning
- Water Balance Analysis
- NRW Reduction Strategy Planning & Presentation
- Fundamental Knowledge of Active Leakage Detection (Equipment) and Theory *
- Fundamental Knowledge of Conditional Assessment *

*: These items should be targeted more intensively and in detail in the next stage.

Option-1: Physical (based on the 2nd Group in February - March 2020)

The National NRW Training is a crash course of 4 weeks totally excluding preparation for workplace and buffer through the following stages as a training cycle (ideally for 3 or 4 participating Municipalities):

Stage 1: 1st Week (5 days): Knowledge & Practical at IBTC (Monday pm to Friday am)

| 2nd Week: Preparation for Workplace

Stage 2: 3rd Week (5 days): Workplace in participating Municipalities with Facilitator(s)/ Mentor(s)

| 4th Week: Buffer

Stage 3: 5th Week (5 days): Workplace in participating Municipalities with Facilitator(s)/ Mentor(s)

Stage 4: 6th Week (2 days): Reporting & output sharing at IBTC (Thursday am to Friday am)

Option-2: Combination of Online and Physical (Provisionally based on the 3rd Group in November 2020)

The National NRW Training is a crash course of 4 weeks totally excluding preparation for workplace and buffer through the following stages as a training cycle (ideally for 3 or 4 participating Municipalities):

Stage 1: 1st Week (4 days): Knowledge & partial Practical online (3.5 hours each day)

| 2nd Week: Practical at IBTC (2 days) if possible and Preparation for Workplace

Stage 2: 3rd Week (5 days): Workplace in participating Municipalities with Facilitator(s)/Mentor(s)

| 4th Week: Buffer

Stage 3: 5th Week (5 days): Workplace in participating Municipalities with Facilitator(s)/Mentor(s)

Stage 4: 6th Week (2 days): Reporting & output sharing online (3.5 hours each day)

7-3. Learning Materials

Learning materials are developed in accordance to the National NRW Training curriculum.

The DWS shall review, revise the learning materials to meet the need of water sector and South African Qualification Authorities (SAQA).

7-4. Training Yard and Equipment, and Operation and Maintenance

Training yard and equipment are designed and procured in accordance to the National NRW Training curriculum.

Post the initial procurement of the training yard, equipment, instruments and materials, the DWS shall manage them and ensure good operations and maintenance by securing the necessary budget to cover all the costs. The DWS shall review, expand, upgrade and re-engineer the training yard and equipment to meet the need from stakeholders. (*Operation and maintenance manuals will be prepared.)

7-5. Procurement of Goods/Consumables

The DWS shall procure goods/consumables to implement the National NRW Training smoothly by securing the necessary budget to cover all the costs. The IBTC shall also procure the required goods/consumables in line with the Public Finance Management Act (PFMA) and the DWS's procurement regulations.

7-6. The National NRW Training Implementation

The National NRW Training shall be implemented in two effective efficient ways.

1. Contact learning sessions – Contact sessions shall be decentralised to various provinces such as Gauteng (IBTC), KZN, WC, EC and FS. Contact session will be scheduled as per annual training schedule. Three training components shall be implemented namely IBTC (knowledge/classroom), Training yard (practical) and Municipalities (workplace)
2. Digital and virtual learning – in response to COVID-19 disease, workplace learning is emerging as one of the earliest and hardest-hit business activities. The impact of the pandemic disease dictates for an urgent turnaround, which means “doing things differently”. As a result, the National NRW Training shall also be implemented online. Video recording of the presentations and the training yard and virtual workplace simulation (does not replace actual workplace component) shall be part of the programme. The IBTC shall be equipped to be able to hold online trainings and workshops.

7-7. Quality Assurance of Training Implementation

The DWS, particularly IBTC shall assure quality of the National NRW Training by using a check list of the implementation regularly, for example every week. The DWS/IBTC shall prepared the check list for:

- Facilitators competency
- Lecture contents
- Training environment including class rooms, training yard and workplaces
- Requests from Facilitators/learners to improve the National NRW Training

7-8. Monitoring and Evaluation

The impacts of the National NRW Training are monitored, for example, by:

- Training evaluation questionnaire to learners and his/her Municipality
- Updated information and/or report(s) on NRW of the participating Municipalities
- Change(s) in vision/strategy/plans, organizational structure, implementation on NRW of the participating Municipalities
- Awareness and increased usage of the Training around stakeholders

- Accountability around NRW or water loss

These information shall be collected from stakeholders, particularly the participating Municipalities by means of questionnaire, email and website.

Then the DWS shall share the following knowledge, skills and information identified through the monitoring.

- Technical information on NRW
- Good practices and lessons learnt on NRW reduction strategic planning, political buy-in and efforts
- Funding information and application process

7-9. Reporting

The DWS, particularly IBTC prepares and submits an annual implementation report after the completion of the National NRW Training of the year. The report shall include debriefing report of each group training and the results of the analysis on the feedback from facilitators and learners.

7-10. Implementation Plan

Since the National NRW Training is a new effort of the DWS and SALGA in collaboration with stakeholders and also would be implemented through trial and error in the first two-three years at least as an initial developmental stage. Therefore, the DWS prepares a strategic (master) plan for three years from the commencement of the National NRW Training.

The DWS prepares an annual implementation plan of the National NRW Training by the month of budgetary request (every November) for the next fiscal year. The annual implementation plan shall reflect the lessons learned from the previous year's implementation, and shall be improved accordingly.

8. Sustainability of the National NRW Training

8-1. Sustainability Strategic (Master) Plan

Sustainability plan document shall outline the future plans of the National NRW Training goals that will create financial, societal and environmental sustainability. It will consist of three pillars namely Administrative, Training and Development, and Monitoring &

Development as well as JICA follow up support and others.

8-2. Public Relations and Publication

The DWS, particularly IBTC in collaboration with SALGA enhances the public relations of the National NRW Training by every conceivable means such as website, dashboard, official gazette, magazines and other related media. The DWS's website should include Q&A bulletin board to receive questions about the National NRW Training and to feed back.

An annual implementation report shall be published to announce the National NRW Training through the DWS's website.

8-3. Network and Platform of Knowledge/Information Sharing

The DWS aims at the National NRW Training be a springboard of both the network of the nationwide facilitators/practitioners and the future platform of knowledge/information sharing. Therefore, the DWS shall utilize the Training as an opportunity of workshops or equivalent among facilitators and learners during training periods as well as utilize website as a bulletin board.

8-4. Facilitator Recruiting/Developing System

In order to ensure sustainability in securing facilitators from medium- and long-term viewpoint, the DWS shall keep recruiting candidates from the learners participating in the National NRW Training and stakeholders, then develop them as facilitators for the next training cycles as well as for establishing the nationwide facilitator network.

The facilitator recruiting/developing system will be discussed and established through the implementation of the National NRW Training.

8-5. Middle- and Long-Term Monitoring and its Review

The DWS monitors the National NRW Training in middle- and long-term basis to harmonise the actual needs and trend of capacity development in the water sector. The DWS takes responsibilities for the entire monitoring and its review, and shall alter/upgrade the National NRW Training if necessary.

8-6. Accreditation of the National NRW Training and other Water Related

Qualification with the relevant SETAs

The National NRW Training shall be accredited as part of full qualification: Water Reticulation Practitioner (WRP) will become a contributing factor for further advancement and sustainability of the National NRW Training.

The National NRW Training aims at synergic effects as a pilot practical training methodology to WRP training in the future. IBTC and other partner's training centres shall implement accredited and non-accredited programmes to enhance the National NRW Training such as bulk water NRW training.

9. Funding Models of the National NRW Training

Various funding models will be considered for the sustainability of the National NRW Training. The following funding models but not limited to, will be implemented to ensure continuous improvement and implementation of the training nationally and internationally.

- **Internal funding:** Budget allocation by DWS, SALGA and other partner departments.
- **SETA Grants:** 1. Mandatory Grants - EWSETA and PSETA- 20% of the total skills development levies paid by the employer can be claimed back for skills development. The DWS levies are paid to EWSETA and PSETA. 2. Discretionary Grants - SETA are mandated to allocate discretionary grants in support of the implementation of its Sector Skills Plan (SSP) and annual performance. Accredited programmes are mostly prioritised.
- **Government Departments:** National Treasury also have skills development funds to support critical skills.
- **National and International Donors:** National and International Donors to be approached through funding proposal to support the implementation of the programme.
- **IBTC:** The IBTC should be able to generate revenue for self-sustainability through training fellow local community members who are interested in NRW as a career and other African Nations on request. Annual schedule for public training and workplace training shall be discussed. Booking of accommodation, classrooms meals will also assist for revenue income.

(End)