

**Attachment 8. Minutes of Project Implementation Committee**

THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-REVENUE  
WATER REDUCTION

MINUTES OF THE FIRST PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING

Date	2017/02/15 (Wednesday) 09:00 - 10:30
Venue	Ministry of Water and Irrigation (MWI) Boardroom, Nairobi
Content	<ul style="list-style-type: none"> <li>• <u>Communication from the Chairperson</u> The Chairperson, Eng. S.A.O. Alima (Director of Water, Sewerage and Sanitation Development, MWI) made the opening remarks and welcomed everybody to the first PIC meeting of the project. He thanked all the project members for their continued efforts to make the project successful.</li>   <li>• <u>Introductions</u> All the members introduced themselves and their organizations.</li>   <li>• <u>Remarks by JICA representative</u> Mr. Miyagawa Masahito (JICA Kenya Office Representative) also thanked members for their continued efforts. He explained that in order to ensure the success of the project, the members should use the monthly PIC meeting to confirm the progress against PO and thus plan accordingly how to achieve all the outputs in time. He also mentioned that JICA is also supporting NRW activities in neighbouring countries such as Rwanda and Tanzania. He said that since Kenya is more advanced in NRW reduction, JICA is looking to share the results of this NRW reduction project with other countries in order to achieve NRW reduction in the region.</li>   <li>• <u>Presentation and discussion of roles and functions of PIC - Mr. Mabonga</u> Mr. David Mabonga (MWI, NRW Unit) gave a presentation highlighting the roles and functions of the PIC meeting. During the discussion, it was agreed by all members that the PIC meeting should be held every third Wednesday of the month at the Ministry of Water and Irrigation Boardroom, starting at 10:00 am. It was also agreed that in case some members cannot physically attend, the meeting could also be held via SKYPE.</li>   <li>• <u>Reporting about progress of baseline study – JICA Experts Team Leader</u> Mr. Igawa Masayuki, the JICA Expert Team Leader, gave an overview of the</li> </ul>

progress of baseline survey from its commencement in October 2016 until January 2017.

- Presentation of JICA's project monitoring sheet - Mr. Mabonga.

Mr. David Mabonga (MWI, NRW Unit) gave a detailed presentation of the monitoring sheet and the progress made so far in the project.

During the discussions, it was agreed that :

- The MoU with WASPA should be finalized and be ready for signing within one week
- The JICA Experts should assist CPs and their institutions to finalize a detailed plan of activities with deadlines indicated in order to achieve the relevant outputs. This plan should be presented at the next PIC.
- Mr. Igawa asked whether the Technical Note to finalize the selection of the 2 Leading WSPs and 7 Pilot WSPs will be signed between the MWI and JICA and if the Project would need signature from the Council of Governors (CoG). Mr. Alima confirmed that CoG does not need to sign the Technical Note, but the Project should inform the CoG about the baseline survey results and criteria of selecting the WSPs.
- JICA Expert team and MWI NRW Unit will explore ways to collaborate with KEWASNET (a national organization of NGO's working in water and sanitation) in order to utilize their experiences and network in sensitization of the public and Counties about NRW reduction activities.
- The JICA Expert Technical Team will carefully consider how to work with other donor organizations based on their activities in each pilot WSP in order to avoid duplication or overlapping of activities.

- Presentation of before and after project figures – Mr. Taguchi

Mr. Taguchi Masayuki (JICA Expert Team) gave a presentation on the current situation of the project and the image after project completion. He also urged the various institutions to use this as a draft and also input their thoughts about how they can better improve the project activities in order to achieve the various outputs.

- Schedule of next PIC meeting

The next meeting will be held on Wednesday the 15<sup>th</sup> March, 2017 at the MWI Boardroom starting at 10:00 am.

	<ul style="list-style-type: none"><li>• <u>AOB</u></li> <li>• The JICA Expert Technical Team will carefully consider how to work with other donor organizations based on their activities in each pilot WSP in order to avoid duplication or overlapping of activities.</li><li>• JICA Expert team and MWI NRW Unit will explore ways to collaborate with KEWASNET (a national organization of NGO's working in water and sanitation) in order to utilize their experiences and network in sensitization of the public and Counties about NRW reduction activities.</li><li>• Mr. Mori (JICA Expert Team) asked Eng. Alima whether the WSBs would disappear under the New Water Act 2016 and also what would happen to the non-revenue water departments in WSBs. Eng. Alima answered that the duties of WSBs will be handed over to WWDA (Water Works Development Agency) and the WSB will disappear three years after the transition period (from November 2016 when the Water Act was approved, till November 2019). However, with regard to the non-revenue water unit, Eng. Alima said that MWI will need to make organization studies and a detailed transfer plan before deciding.</li><li>• The JCC will be held in mid to end of April but the date has not been decided yet.</li><li>• All members were urged to ensure that they join the Google Group created to ensure smooth communication and sharing of information.</li><li>• Lastly, Eng. Alima thanked all the members who attended and urged the members to continue in their efforts</li></ul>
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THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-  
REVENUE WATER REDUCTION

MINUTES OF THE SECOND PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING

Date	2017/03/15 (Wednesday) 14:00 - 15:30
Venue	Ministry of Water and Irrigation (MWI) Boardroom, Nairobi
Content	<p><u>1. Introductions</u> All the members introduced themselves and their respective organizations.</p> <p><u>2. Communication from the Chairperson</u> The Chairperson, Eng. S.A.O. Alima (Director of Water, Sewerage and Sanitation Development, MWI) made the opening remarks and welcomed everybody to the second PIC meeting of the project. He thanked all the project members for their continued efforts.</p> <p><u>3. Remarks by JICA representative</u> Mr. Miyagawa Masahito (JICA Kenya Office Representative) also thanked members for their continued efforts. He introduced all the JICA Expert team members and their respective roles for each output. He mentioned that JICA recently had a meeting with the National Treasury (Kenya) and his opinion is that it will be important to liaise with the CoG (Council of Governors) in any kind of project going forward. He also wanted to know whether a budget for the NRW unit activities were included in MWI's budget since the deadline for submission of the budget this year is in March (usually it is in June) due to the general elections to be held in August. Eng. Alima confirmed that MWI had already submitted a budget of KES 65 million for the activities of the NRW Unit for the next fiscal year.</p> <p><u>4. Confirmation of previous minutes</u> Mr. David Mabonga (MWI, NRW Unit) presented the minutes from the first PIC meeting held on 15<sup>th</sup> February, 2017. They were confirmed as a true and accurate record of the meeting. Proposed by Mr. Onesmus Mwangi (MWI, NRW Unit) and seconded by Mr. Walter Moseti (KEWI)</p> <p><i>Matters Arising:</i></p> <ul style="list-style-type: none"> <li>• The minutes should include an attendance list</li> <li>• The PIC meeting is scheduled for the third Wednesday of every month at</li> </ul>

10:00 am, but for this meeting only the time meeting was changed to 2:00 pm following a request from MWI.

- The MoU between MWI and WASPA is under discussion and will be concluded soon.
- Detailed Work plans for each output will be carried over to the next PIC meeting.
- The transition period for the Water Act 2016 would not be between November 2016 to November 2019 (as mentioned in the minutes for the first PIC meeting), but rather 3 years from the date that the Water Act 2016 becomes operational through a notice placed in the gazette by the Cabinet Secretary in the near future.
- The new members and other who had not joined the google group should ensure that they do so as soon as possible to enable smooth communication.

#### 5. Presentation of project monitoring sheet (Attached)

Mr. David Mabonga (MWI, NRW Unit) gave a detailed presentation of the monitoring sheet and the progress made so far in the project.

During the discussions, it was agreed that :

- It was agreed that the next monitoring sheet should include an expected date of finalizing the activities that have not yet been achieved. The monitoring sheet should also be printed out for all the members during the next PIC meeting.
- Regarding Output 2-1 (WASREB conducts survey of the usage of current NRW reduction standards), WASREB confirmed that they have already engaged a consultant to implement this survey.

#### 6. Matters to be discussed:

##### i. Joint Training of KEWI: Mr. Moseti

- KEWI has scheduled the first trial training program in May, 2017. Mr. Moseti provided a brief breakdown of the trial training program which will feature 3 main parts;
  - a) Workshop for sensitization of the WSP's Top Management (1 day)
  - b) NRW classroom training at KEWI (5 days)
  - c) NRW On the Job Training at a Leading WSP (6 days)
- KEWI has submitted a budget for the estimated cost of the trial training program in to MWI. Afterwards, based on the experience of the trial training program, KEWI will review and improve on the syllabus and practical training methods in order to introduce a. new course on NRW reduction.

KEWI will charge a certain fee to WSPs for their staff to attend the course.

- On the question about whether WSPs can afford the training fees, it was suggested that the WSPs can put the training fees in their next budget. Also, WASREB approves a budget specifically for NRW reduction in the tariff structure during the tariff review process. It was also suggested that the WSPs could earmark some of the money meant for NRW reduction to be used as the training fee for the new NRW reduction course to be introduced at KEWI.
- It was noted that apart from the on-site trainings at the leading WSPs, KEWI should also have a training field at their campus where they can provide practical hands-on training such as leak detection to their students.
- The target for KEWI trainings are the staff in WSPs who are in charge of day to day operations.

ii. Participation of World Water Day: M/S Mwangi and Sugimoto

On the issue of sensitization, it was agreed that 3 members from the project will attend Murang'a WSP's World Water Day on March 22 which will focus on Non-Revenue Water. Meanwhile, MWI will hold the main event in Nyamira County on the same day.

iii. Presentation of the current scenario of the Project and after implementation: Mr. Taguchi.

Mr. Taguchi (JICA Expert Team) gave a presentation on the current situation of the project and the image after project completion. He also urged the various institutions to use this as a draft and also input their thoughts about how they can better improve the project activities in order to achieve the various outputs.

iv. MoU with WASPA : Mr. Mabonga

Mr. Mabonga presented the draft MoU. He explained that they are in negotiations with WASPA about the Specific areas of cooperation/collaboration under the MoU. It was suggested that one of the areas of cooperation should not be limited to supporting JICA activities only but should cover a wider range of activities. A meeting to work out the details to be held on March 16, 2017 at 9:00 am.

v. Meeting with CoG : Mr. Mabonga

It was agreed that a meeting with the CoG will be held on March 21, 2017 at a venue to be confirmed. The members to attend the meeting will be decided after consultations between MWI and the CoG secretariat. Mr. Mabonga to follow up.

The members to attend the meeting with the CoG should come from WASREB,

	<p>KEWI, WASPA, MWI and the JIC team. There will be 3 presentations as follows:</p> <ol style="list-style-type: none"> <li>1. WASREB to make a presentation about the current situation of NRW in Kenya.</li> <li>2. MWI to make a presentation about the history of the project, starting with Phase 1 of the NRW Project (2010-2014) up to date.</li> <li>3. JICA team to make a presentation about the current project and the results of the baseline survey for the selection of Pilot WSPs.</li> </ol> <p>7. Schedule of next PIC meeting</p> <ul style="list-style-type: none"> <li>• Due to the absence of Japanese Expert Team from Kenya for about one month (leaving on March 22 but the return date is not decided yet), it was agreed that the next PIC meeting will be held on May 10, 2017 and the 2<sup>nd</sup> JCC meeting will be held on May 17, 2017</li> </ul> <p>8. A.O.B.</p> <p>There being no other business to discuss, Eng. Alima closed the meeting and urged the members to continue in their efforts.</p>
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ATTENDANCE:

No.	Name	Institution
1	Eng. S.A.O. ALIMBA	MWI (Ministry of Water and Irrigation)
2	DAVID N. MABONGA	MWI
3	MARY W. MWANGI	MWI
4	ONESMUS N. MWANGI	MWI
5	DAVID NGETICH	KEWI (Kenya Water Institute)
6	WALTER M. MOSETI	KEWI
7	Eng. PETER NJAGGAH	WASREB (Water Services Regulatory Board)
8	DANIEL M. NGUGI	WASREB
9	EDDAH WAMBUI	WASPA (Water Service Providers Association)
10	PATRICIA WANJERI	WASPA
11	MASAHITO MIYAGAWA	JICA (Japan International Cooperation Agency) Kenya Office
12	JOHN N. NGUGI	JICA Kenya Office
13	MASAYUKI TAGUCHI	JICA Expert Team
14	HIROKO SUGIMOTO	JICA Expert Team
15	SHOZO MORI	JICA Expert Team
16	SHINICHI SEKIMOTO	JICA Expert Team
17	NAOKI HARADA	JICA Expert Team
18	CHARLES MAINGI	JICA Expert Team
19	EVANS KUNYUGA	JICA Expert Team



THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-  
REVENUE WATER REDUCTION

MINUTES OF THE THIRD PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING

Date	2017/05/19 (Friday) 09:00am - 10:30am
Venue	Ministry of Water and Irrigation (MWI) Boardroom, Nairobi
Content	<p><u>1. Introductions</u> All the members introduced themselves and their respective organizations.</p> <p><u>2. Communication from the Chairperson</u> The Chairperson, Eng. SAO Alima (Director of Water, Sewerage and Sanitation Development, MWI) made the opening remarks and welcomed everybody to the third PIC meeting of the project. He explained the importance of the project and the main targets and reiterated that there are high expectations for this project. He encouraged the team to continue with their efforts to ensure that the Project is successful.</p> <p><u>3. Confirmation of previous minutes</u> Mr. David Mabonga (MWI, NRW Unit) and Mr. Gitahi (JICA Expert team) presented the minutes from the second PIC meeting held on 15<sup>th</sup> March, 2017. They were confirmed as a true and accurate record of the meeting. Proposed by Mr. Ngugi (WASREB) and seconded by Ms. Mary Mwangi (MWI, NRW Unit).</p> <p><i>Matters Arising:</i></p> <ul style="list-style-type: none"> <li>• Min 6 (ii): Concerning the project members' participation in Murang'a WSP's World Water Day on March 22, it was found unnecessary to hold a parallel water day in a different venue from the national event held in Nyamira on the same day. Therefore, the project members did not participate.</li> <li>• It was noted that the confirmed Minutes of PIC should also be signed by the Chairman and thus a space for that should be prepared.</li> </ul> <p><u>4. Presentation of Project Monitoring Sheet</u> Mr. David Mabonga (MWI, NRW Unit) gave a detailed presentation of the monitoring sheet and the progress made so far in the project. During the discussions, it was agreed that :</p>

**Output 1**

Output 1-1: It was agreed that the NRW unit should have a strategic meeting to discuss the contents, design, persons in charge as well as the date (or month) when the Annual Report should be expected every year. The results of the above discussions should be presented at the next PIC meeting.

Output 1-2: Four sensitization meetings with county government officials are planned. One Sensitization meeting will be held in early June.

Output 1-3: The dates and budgets for workshops should be decided as soon as possible.

Output 1-4 and 1-5: Future plans but expected dates should be indicated

**Output 2**

Output 2-1: WASREB and SNV (providing financial support) have already chosen the consultant to carry out the survey of NRW Standards usage by WSPs. However, they are still in consultation about budget adjustments, but this should be concluded soon and the signing of the contract expected in early June.

Output 2-2 to 2-5: Future Plans

**Output 3**

Output 3-1: KEWI has finalized studies about the current status of the NRW reduction courses and identified challenges. KEWI were asked to share the results of this study with the rest of the PIC members.

Output 3-2: A plan to enhance the training course content has been developed

Output 3-3: KEWI in collaboration with the Leading WSPs is currently developing manuals to be used in the coursework for the new NRW training course as well as handbooks for the field training. These should be ready by early June after which the first course will be scheduled.

Output 3-4 to 3-6: Future Plans

**Output 4**

Output 4-1: Baseline survey conducted and 9 Pilot WSPs(including 2 Leading WSPs) selected

Output 4-2 to 4-4: Pilot WSPs have formulated their NRW reduction plans and are currently receiving advice from the JICA Expert team to finalize these plans. Once they are finalized, they will be shared with the PIC members.

Output 4-5 to 4-7: Future plans, to be implemented after Pilot WSPs start

implementing their NRW reduction plans.

Output 4-8: The regular meetings by Pilot WSPs should start as soon as they start implementing their annual plans. The monthly reports from the WSPs about their NRW reduction activities should be sent to WASREB who will act as the custodian of reports.

### **Output 5**

#### Output 5-1:

- Dates should be set for regular meetings with other organizations.
- Small counties should be included in the sensitization meeting in the next year (Next Phase)
- Sensitization of county government officials will target the Chief Officers and Technical experts. About CECs, who are political appointees who are likely to leave office after the general election in August, the Project should consult with the CoG secretariat's CEO office.

#### 6. Matters to be discussed;

- (i) Progress of preparation for KEWI's Joint Training - Mr. Moseti  
The manual and handbook for the Joint training is almost ready. The final programme will be circulated to the PIC members. KEWI expects to hold 2 trainings every year.
- (ii) MoU with WASPA - Mr. Mabonga  
MoU signed by 2 of 3 parties (MWI and JICA Expert Team) and WASPA expected to sign within a week.
- (iii) Sensitization of county governments on NRW Reduction – Ms. Mwangi  
The schedule and Budget for sensitizations have been prepared and will be presented for approval by the Permanent Secretary.
- (iv) MoU with Leading and Pilot WSPs – Mr. Mabonga  
Sample of the MoU will be presented to the Chair for comments
- (v) Procurement of equipment – Mr. Mabonga & Mr. Taguchi
  - Tendering for equipment to be imported from Japan has been done and are expected in September.
  - Letter to request tax exemption has been submitted to Treasury, and now awaiting reply.
  - Items to be procured in Kenya have been approved by the Permanent Secretary and now awaiting the Procurement department action.

	<p>7. Schedule of next JCC meeting and PIC meeting</p> <ul style="list-style-type: none"> <li>• Second JCC meeting will be held on May 29 (Monday) 2017. The venue and budget will be decided in the next one week. Proposal was Silver Springs Hotel for a half-day meeting.</li> <li>• Due to Management Training in Japan in early June, Fourth PIC meeting will not be held on third Wednesday as planned, but was proposed for 29<sup>th</sup> June, 2017. To be confirmed later.</li> </ul> <p>8. A.O.B. There was no other business for discussion.</p> <p>9. Closing Remarks Mr. Miyagawa from JICA Kenya Office noted that there will be many activities within the next one month such as KEWI's training, Management team training in Japan, Sensitization of county government as well as NRW reduction activities in the Pilot WSPS, and is looking forward to hear the results in the next PIC. Eng. Alima made the closing remarks and emphasized that all the activities should have the expected dates of completion clearly indicated as this a good monitoring tool. He thanked everybody for their efforts and for attending the PIC.</p>
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ATTENDANCE:

No.	Name	Institution
1	Eng. S AO ALIMA	MWI (Ministry of Water and Irrigation)
2	DAVID N. MABONGA	MWI
3	MARY W. MWANGI	MWI
4	ONESMUS N. MWANGI	MWI
5	WALTER M. MOSETI	KEWI
7	DANIEL M. NGUGI	WASREB
8	PATRICIA WANJERI	WASPA
9	MASAHITO MIYAGAWA	JICA (Japan International Cooperation Agency) Kenya Office
10	MASAYUKI IGAWA	JICA Expert Team
11	MASAYUKI TAGUCHI	JICA Expert Team
12	HIROKO SUGIMOTO	JICA Expert Team
13	EVANS KUNYUGA	JICA Expert Team

THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-REVENUE  
WATER REDUCTION

MINUTES OF THE FORTH PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING

Date	2017/06/29(Thursday) 09:00am - 10:30am
Venue	Ministry of Water and Irrigation (MWI) Boardroom, Nairobi
Content	<p><u>1. Introductions</u> All the members introduced themselves and their respective organizations.</p> <p><u>2. Communication from the Chairperson</u> The Chairperson, Eng. SAO Alima (Director of Water, Sewerage and Sanitation Development, MWI) made the opening remarks and welcomed everybody to the fourth PIC meeting. He mentioned that he was glad to see the project was progressing in a good way but urged members to assess themselves critically to ensure that what has not been achieved yet will be achieved in the expected timelines. He expressed his gratitude for the recent management training course in Japan and hoped that the members who participated in the course will apply the knowledge they learnt in the progress of the project. He also mentioned that the training course scheduled for the technical training course in Japan next year should be planned early enough for the purpose of selection for candidates and budgeting.</p> <p><u>3. Confirmation of previous minutes(Annex 1)</u> Mr. David Mabonga (MWI, NRW Unit) and Mr. Gitahi (JICA Expert team) presented the minutes from the third PIC meeting held on 19<sup>th</sup> May, 2017. They were confirmed as a true and accurate record of the meeting. Proposed by Ms. Mary Mwangi (MWI, NRW Unit) and seconded by Mr. W. Moseti (KEWI).</p> <p><u>4. Presentation of Project Monitoring Sheet(Annex 2)</u> Mr. David Mabonga (MWI, NRW Unit) gave a detailed presentation of the monitoring sheet and the progress made so far in the project. During the discussions, the following matters were referred:</p> <p><b>Output 1</b> <i>Output 1-2:</i> Four NRW sensitization meetings with county government officials are planned. The NRW Sensitization meeting is planned for 6<sup>th</sup> and 7<sup>th</sup> July in Naivasha. The approval has been completed but since the financial year ends in June, the</p>

workshops will be carried out in the beginning of the next financial year i.e. early July, and the financial commitment will be confirmed by the Chairperson as soon as possible. It was also suggested that the group should commit themselves to finalize the sensitizations by end of August.

**Output 4**

*Output4-8:* The regular meetings by Pilot WSPs were only held in Eldoret and Nyahururu WSPs. The other WSPs should start holding regular meetings within July 2017, after they start implementing their annual NRW reduction plans.

**Output 5**

It was noted that WASPA was not included in the reporting in the PIC meetings so far.

4. Matters to be discussed

i.) Report on KEWI’s Joint Training - Mr. Moseti (Annex 3)

Mr. Moseti gave a comprehensive presentation about the recent Joint Training Course held in conjunction with Embu and Meru WSPs (Annex).

One of the challenges encountered concerned the lack of capacity in data collection and interpretation as some WSPs employees had only a basic understanding of NRW issues. The chairperson suggested that the training may require extension to ensure that the trainees are NRW experts with better than just a basic understanding of NRW. He challenged KEWI to ensure that the employees can effectively interpret, integrate and use the data collected to enhance NRW reduction upon completion of the training course. It was also suggested that NRW Units/Teams should be established in all the WSPs to ensure that they all (from meter readers to billing staff) know the value of accurate data collection and interpretation. There was also concern about the level and capacity of the trainers at KEWI and it was suggested that KEWI should also explore if and how the trainers could improve their capacity to train on NRW.

ii.) Sensitization of county governments on NRW Reduction – Ms. Mwangi and Ms. Sugimoto

This was covered under the Presentation of the Monitoring Sheet (Minute 4: Output 1-2 above)

iii.) Procurement of equipment (Tax exemption) – Mr. Mabonga

Mr. Mabonga informed the members that the necessary letter had been written to the

Treasury department and was now awaiting reply.

iv.)Draft plan of Annual NRW Report – Ms. Mwangi & Mr. Gitahi (Annex 4)

Ms. Mwangi gave a presentation of the draft plan for the Annual NRW Report to be published by the MWI. There was a discussion on the objective of the plan as well the scope and method of data collection. Some members felt that the MWI Annual Report should utilize raw data from all the WSPs countrywide (including community WSPs etc.), while some felt that the same data provided to WASREB could be utilized for the MWI’s Annual Report. It was agreed that there needs to be further consideration and discussion about the purpose, scope and method of data collection in order to come up with a concrete action plan. (To be convened by the Ministry as soon as possible).

v.)Report on Management Training in Japan –Training participants (Eng. Alima)

The chairperson gave a summary of the management training in Japan, especially noting the differences with the water supply system in Japan and Kenya. He mentioned that the water, sanitation and sewerage coverage in Japan was over 97% and the NRW ration in Tokyo is below 3%. He noted that it is possible for Kenya to achieve such targets through a concerted effort by various stakeholders to improve water and sanitation, just as in Japan where the situation was terrible a few decades ago with water borne diseases being a problem in that country. He also mentioned that water treatment in Japan is now much more technologically advanced through the use of new methods such as ozone treatment while there is also total training on NRW reduction issues for all water supply employees. He also noted that other practices such as Japan’s daily water production is about 1.5 times higher than the demand, and the extra water is stored for emergencies. Old pipelines are not removed but rather twinned to ensure alternatives in case of emergencies. He also noted that adherence to standards is very strict, for example according to the law old meters are replaced every 8 years. He also observed that the Water Association in Japan is very powerful especially in matters of policy introduction and regulation.

#### 6. Schedule of next PIC meeting

The 5<sup>th</sup> PIC meeting will be held on 21<sup>st</sup> July, 2017. This is tentative, to be confirmed later.

#### 7. A.O.B.

There being no other business to be discussed, the meeting ended at 10:30 am.

ATTENDANCE:

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1	Eng. SAO ALIMA	MWI (Ministry of Water and Irrigation)
2	DAVID N. MABONGA	MWI
3	MARY W. MWANGI	MWI
4	ONESMUS N. MWANGI	MWI
5	DAVID NG'ETICH	KEWI
7	WALTER M. MOSETI	KEWI
8	DANIEL M. NGUGI	WASREB
9	PATRICIA WANJERI	WASPA
10	HIROKO SUGIMOTO	JICA Expert Team
11	SHOZO MORI	JICA Expert Team
12	CHARLES MAINGI	JICA Expert Team
13	EVANS KUNYUGA	JICA Expert Team



THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-  
REVENUE WATER REDUCTION

MINUTES OF THE FIFTH PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING

Date	2017/07/28 (Friday) 09:00am - 10:30am
Venue	Ministry of Water and Irrigation (MWI) Boardroom, Nairobi
Content	<p><u>1. Introductions</u> All the members introduced themselves and their respective organizations.</p> <p><u>2. Communication from the Chairperson</u> The Chairperson, Eng. SAO Alima (Director of Water, Sewerage and Sanitation Development, MWI) made the opening remarks and welcomed everybody to the fifth PIC meeting. He apologized for the postponement of the PIC meeting from the 21<sup>st</sup> and the short notice given for this meeting. He reminded the members that Phase one of the project would end in September and it was important to ensure that all the activities planned should be completed by then.</p> <p><u>3. Confirmation of previous minutes (Annex 1)</u> Mr. Evans Gitahi (JICA Expert team) presented the minutes from the fourth PIC meeting held on 29<sup>th</sup> June, 2017. They were confirmed as a true and accurate record of the meeting. Proposed by Ms. Mary Mwangi (MWI, NRW Unit) and seconded by Eng. D. Ngugi (WASREB).</p> <p><i>Matters Arising from the Previous Minutes</i></p> <p>1. The NRW sensitization workshops that were planned for July were postponed due to budgetary issues. They are now planned to take place in August. The representative from JICA was concerned whether this will be possible due to the elections. Eng. Alima expressed his hope that there would be no major distraction after the election and he also confirmed that the sensitization workshops will target the county officers and directors who are not political appointees and therefore will not change after the elections.</p> <p>2. On the issue of WASPA, it was noted that their role in the project is during the latter phases where they will be involved in knowledge sharing. Eng. Alima enquired whether the WASPA members (MDs of 9 Pilot WSPs) who went to Japan have shared their experiences during the monthly WASPA meetings. WASPA responded that this has not been achieved but they will invite some MD's to do this at the next WASPA meeting.</p> <p>3. Concerning KEWI's joint training and the difficulties experienced, this was</p>

consequently discussed further during the presentation (Below)

4. On the issue of MWI's Annual report, Eng. Alima said that a meeting will be convened on Monday, July 31<sup>st</sup> at 3:00pm.

#### 4. Presentation of Project Monitoring Sheet (Annex 2)

The monitoring sheet was presented to the meeting. The progress made so far in the project for the various outputs was presented.

During the progress reports, the following matters were discussed and agreed upon:

#### **Output 2**

WASREB reported that the Kick-off meeting with the consultant to carry out a survey of NRW Standards usage was held on July 24<sup>th</sup>, 2017. The commencement date was agreed to be on 14<sup>th</sup> August 2017 and Inception report and revised work plan are expected by 28<sup>th</sup> August, 2017.

#### **Output 3**

*Final Report on KEWI's Joint Training – Mr. Moseti*

Mr. Moseti from KEWI gave a presentation on the findings of the final report that was compiled after the first joint training in June, 2017 at KEWI and Embu in collaboration with Embu and Meru WSPs (Annex 4 Presentation at 5<sup>th</sup> PIC Meeting) Final Report to be shared after August 18, 2017.

During the discussions,

- It was agreed that EPZ should not be included as participants in the report as it is not an official WSP.
- It was noted that there were no NRW units within the WSPs, and the members agreed that creation of these units should be prioritized during the project.
- The lack of Metering guidelines to guide the WSPs was also discussed. It was agreed that KEWI, WASREB, WASPA and MWI should collaborate to come up with a policy on this to guide WSPs. The chairman emphasized on the importance of such a policy and also added that that it could be included as a new output in the NRW project.
- The new CEO of WASPA was also of the opinion that they should be included in future WASPA training as they have experience working with various WSPs.
- It was noted that the staff sent to KEWI for training are sometimes not the best candidates. WASPA mentioned that they could also utilize their

experience with various WSPs to enable KEWI get the best candidates for the training.

- It was also noted that participation of MEWASS (Meru WSP) during the Joint training was not sufficient. It was suggested that this could be due to the fact that they don't have a Technical Manager at the moment. Eng. Alima offered to follow up with the MD of MEWASS to ensure full participation in future.

#### **Output 4**

##### *Report on Recent Activities of Output 4 in Embu and Meru – Mr. Maingi*

Mr. Maingi from the JICA expert team gave a presentation on the recent activities that he and Mr. Mori (JICA Expert) had undertaken in 3 weeks in Embu and Meru, mainly in GIS training and Water Pressure management (Annex 4).

During the discussions,

- It was noted that Meru had finalized their Annual NRW reduction plan, but not their Mid-Term plan. The process was deemed to be lagging mainly due to the lack of a Technical Manager to head the activity. However, they gave a final date for the completion of their Mid-Term Plan as 1 month.
- Embu WSP had finalized their Mid-Term Plan but were working on their Annual plan. They gave a final date for the completion of their Annual plan as within 3 weeks.
- Mr. Charles took the members through the different mobile GIS free softwares that can be used for pressure mapping purposes. They include; SW Maps, GeoODK, GPS Essentials, Water Project Calculator, MAPinr and QField. He also took them through a mobile data collection form they had developed with Mr. Mori that can be used for pressure measurement and meter testing exercise while using the calibrated bucket.
- Engineer Alima enquired whether it was possible to merge the pressure maps with the leakage maps so that it could be easier to note the relation between the two. This was clarified by Mr. Moseti who said that it can be done.
- The members agreed that all the WSPS should be introduced to the calibrated bucket which have shown good success for testing customer meters since they are cheap and easy to use.

##### *Procurement of equipment from Japan side (Tax exemption)*

The treasury had written to the Ministry of Water and Irrigation clarifying that the master list of the equipment to be procured should be included in the main body of the letter requesting for tax exemption. This was duly done by the MWI and delivered to the Treasury, and now awaiting reply from the Treasury.

Eng. Alima mentioned that the MWI NRW Unit would fast track the process to ensure the letter was obtained in time.

*Procurement of equipment from the Kenyan side*

Eng. Alima informed the members that the funds from the previous fiscal year were distributed to the relevant WSBs to procure water meters. This was KES 5million for each WSP (For example, in the case of Tana WSB, KES 10million was forwarded to cater for Embu and Meru WSPs which fall under one WSB). Lake North WSB was not provided with the funds but this would be availed in the next fiscal year. However, the challenge faced was that the specifications were later forwarded and thus it is not yet clear whether the WSBs have successfully finished the procurement process for the correct equipment. MWI NRW Unit were tasked with following up with the WSBs to ensure the required meters have been procured. Mr. Maingi confirmed that he had been in contact with Mavoko WSP and it was confirmed that through Tanathi WSB the necessary water meters had been procured.

For the next fiscal year, the MWI NRW Unit will ensure that the specifications for the new equipment will be delivered to the relevant WSBs in time for procurement. The JICA representative wanted to know whether the disbursement of funds in the new fiscal year would be done in time to ensure procurement is done before the JICA Expert Team is back in the country. Eng. Alima assured the members that he would personally follow up on the procurement issue to ensure smooth implementation of the planned project activities.

6. Schedule of next PIC meeting

The 6<sup>th</sup> PIC meeting will be held on 30<sup>th</sup> August, 2017. This is tentative, to be confirmed later.

7. A.O.B.

There being no other business to be discussed, the meeting ended at 10:30 am.

## ATTENDANCE LIST:

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1	Eng. SAO ALIMA	MWI (Ministry of Water and Irrigation)
2	MARY W. MWANGI	MWI
3	ONESMUS N. MWANGI	MWI
4	Dr. LEUNITA SUMBA	KEWI
5	WALTER M. MOSETI	KEWI
6	DANIEL M. NGUGI	WASREB
7	MASAHITO MIYAGAWA	JICA Kenya Representative
8	ANTONY AMBUGO	WASPA
9	EDDAH WAMBUI	WASPA
10	PATRICIA WANJERI	WASPA
11	CHARLES MAINGI	JICA Expert Team
12	EVANS KUNYUGA	JICA Expert Team

**THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT  
IN NON-REVENUE WATER REDUCTION**

MINUTES OF THE SIXTH PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING

Date	2017/12/14 (Thursday) 11:00 am - 1:00 pm
Venue	Ministry of Water and Irrigation (MWI) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes - Mr. Gitahi</li> <li>4. Matters to be discussed; <ol style="list-style-type: none"> <li>i. Confirmation and discussion about Progress Report 1: By JICA Expert Team</li> <li>ii. Explanation and discussion about Work Plan 2: By JICA Expert Team</li> <li>iii. Confirmation of the progress of the Project by referring to the Project Monitoring Sheet: By MWI NRW Unit</li> <li>iv. Discussion on issues related to each Output of the Project: By Each C/P <ol style="list-style-type: none"> <li>a) Timeline for producing Annual Report of NRW reduction: MWI NRW Unit</li> <li>b) Confirmation of schedule for sensitization for County Governments: MWI NRW Unit</li> <li>c) Progress of the Survey for use of the Current NRW Standards: WASREB</li> <li>d) Proposal for forming a committee for Revising NRW Standards: JICA Expert Team</li> <li>e) Progress of Activities at Leading Pilot WSPs: Embu and Meru WSPs</li> </ol> </li> <li>v. Clarification and discussion on the current PDM of the Project: By JICA Expert Team</li> </ol> </li> <li>5. Discussion about Draft Agenda for the 3<sup>rd</sup> JCC Meeting: JICA Expert Team</li> <li>6. Schedule of next PIC meeting</li> <li>7. A.O.B.</li> </ol>
Content	<p><u>1. Self-introductions</u> All the members introduced themselves and their respective organizations.</p>

## 2. Communication from the Chairperson

The Chairperson, Eng. SAO Alima (Director of Water, Sewerage and Sanitation Development, MWI) made the opening remarks and welcomed everybody to the 6<sup>th</sup> PIC meeting. He mentioned that Phase 1 of the project ended in September, and Phase 2 started in November 2017 and will run for 2 years. He reminded the members that due to the long election period, some of the activities that were planned for Phase 1 had been postponed. He urged all the members to redouble their efforts to ensure that all the pending activities in Phase 1, as well as the planned activities in Phase 2 are accomplished in good time. He also mentioned that the NRW Policy was ready but needed finalization.

## 3. Confirmation of previous minutes (Annex 1)

Mr. Evans Gitahi (JICA Expert team) presented the minutes from the fifth PIC meeting held on 28<sup>th</sup> July, 2017. They were confirmed as a true and accurate record of the meeting. Proposed by Dr. Leunita Sumba (Director, KEWI) and seconded by Mr. W. Moseti (KEWI).

### *Matters Arising from the Previous Minutes*

1. The NRW sensitization workshops that were planned for August were postponed due to the political situation in the country after the Presidential elections. The sensitization workshops are now planned for February, 2018.

With

2. The annual report by MWI was also delayed and was now planned in May 2018, as explained subsequently by Mr. Mabonga (MWI).

3. The survey on NRW standards usage by WASREB was delayed but ongoing, as explained subsequently by Eng. Ngugi (WASREB).

4. On the issue of combining pressure maps and leakage maps, Mr. Maingi mentioned that the Output 4 team and KEWI are looking into how this could be achieved.

5. Procurement of equipment from Japan was successfully done and the equipment delivered to Maji House. The JICA Expert Team in conjunction with the MWI NRW Unit inspected and tested the equipment and found them satisfactory for use. However, on the issue of software for the Ultrasonic Flow meter, Mr. Sekimoto informed Eng. Alima and the members that he will confirm its necessity based on the data handling ability of the users through the activities since it was not very necessary.

6. Procurement of Equipment on the Kenyan side by WSBs experienced some problems with some WSBs not purchasing the equipment according to specifications. Mr. Mabonga and the NRW Unit were tasked with the role of following up with the WSBs to ensure the required equipment have been procured.

7. Embu and Meru WSPs have completed both their Mid-term and Annual Plans.

4. Matters to be discussed

i. Confirmation and discussion about Progress Report 1: By JICA Expert Team  
JICA Expert Team said that they have received comments about Progress Report 1 from MWI NRW Unit and WASREB and asked any other members who may have comments to forward them to the team as soon as possible. ( Not later than 20<sup>th</sup> December 2017).

ii. Explanation and discussion about Work Plan 2: By JICA Expert Team  
Mr. Taguchi, Chief Advisor JICA Expert Team, presented a summary of the Draft Work Plan 2 to all the members. He focused on the priorities for assistance for WSPs in Phase 2 as well as the expert team's schedule. He asked the members, especially the WSPs to utilize the limited time with the experts to ensure that all the outputs are achieved. He also asked the members to send their comments about the Draft Work Plan by 20<sup>th</sup> December, 2018.

iii. Confirmation of the progress of the Project by referring to the Project Monitoring Sheet: By MWI NRW Unit  
Mr. Mabonga presented the Project Monitoring Sheet (Annex 2) comparing the progress at the 5<sup>th</sup> PIC meeting in July and the current status on 14<sup>th</sup> December, 2018.

iv. Discussion on issues related to each Output of the Project: By Each C/P  
a) Timeline for producing Annual Report of NRW reduction: MWI NRW Unit  
Mr. Mabonga explained that the Ministry's NRW Unit had written to all the relevant institutions for the necessary data and articles for the NRW Annual Report. Currently, the unit is reviewing, verifying and compiling the information. The draft report will be ready by March 2018, and the final publication is planned for May, 2018. Subsequently, the Annual report will be published in May every year.

b) Confirmation of schedule for sensitization for County Governments: MWI



#### NRW Unit

The Sensitization Workshops planned in August were delayed due to the political situation in the country. Currently, the Ministry is planning to hold the first sensitization workshop in February 2018. The target will be the CEC's and Chief Officers in charge of Water in the various counties, and the Ministry is liaising with the C.O.G. to ensure the workshop is successful.

c) Progress of the Survey for use of the Current NRW Standards: WASREB  
The survey is currently ongoing, and the consultant presented the initial findings to WASREB on 6<sup>th</sup> December, 2017. The draft report is expected in mid-January and the validation workshop is planned for February, 2018, after which the final report will be published.

d) Proposal for forming a committee for Revising NRW Standards: JICA Expert Team

Mr. Taguchi proposed that a committee for Revising NRW Standards should be formed to undertake this task in Phase 2. He suggested that the members should discuss more about the details such as membership, timelines etc. early in 2018.

e) Progress of Activities at Leading Pilot WSPs: Embu and Meru WSPs

The representatives of the two Pilot WSPs briefly explained the progress at the WSPs. Mr. Gitonga from Embu WSP explained that they had prepared a new pilot area for training called Mugoko which is bigger than the previous one, and they are also undertaking pressure management in the area. Mr. Miruri from Meru WSP explained that the NRW Unit team is in place with 5 members and NRW reduction activities are on-going. However, the activities in Meru have been disrupted due to water shortage and road construction of the by-pass on-going around Meru town.

v. Clarification and discussion on the current PDM of the Project: By JICA Expert Team

Mr. Taguchi presented the PDM where the points and wording that need clarification were highlighted. He asked the members to go through the PDM and think of suggestions about how to clarify those issues. A discussion with the relevant counterpart organisations will be held in early 2018 to clarify these issues.

	<p><b><u>5. Discussion about Draft Agenda for the 3rd JCC Meeting: JICA Expert Team</u></b> Mr. Taguchi explained that the 3<sup>rd</sup> JCC meeting is planned for 25<sup>th</sup> January, 2018. During the 3<sup>rd</sup> JCC meeting, Work Plan 2 will be finalized. The members were asked to send their comments about the Draft Work Plan 2 by 20<sup>th</sup> December, 2018 to Mr. Taguchi and Mr. Mabonga.</p> <p><b><u>6. Schedule of next PIC meeting</u></b> The 7<sup>th</sup> PIC meeting will be held on 21<sup>st</sup> February, 2018. This is tentative, to be confirmed later.</p> <p><b>7. A.O.B.</b> There being no other business to be discussed, the meeting ended at 10:30 am.</p>
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ATTENDANCE LIST:

No.	Name	Institution
1	Eng. SAO ALIMBA	MWI (Ministry of Water and Irrigation)
2	DAVID N. MABONGA	MWI NRW Unit
3	ONESMUS N. MWANGI	MWI NRW Unit
4	WILFRED OPUNDO	Intern, MWI NRW Unit
5	Dr. LEUNITA SUMBA	Director, KEWI
6	WALTER M. MOSETI	KEWI
7	ROBERT K. MIRURI	Acting General Manager, MERU WSP (MEWASS)
8	RICHARD MWIRIGI	Technical Services Manager, MERU WSP (MEWASS)
9	CHRISTOPHER GITONGA	Acting Head of Technical Services, EMBU WSP (EWASCO)
10	DANIEL M. NGUGI	WASREB
11	MASAHITO MIYAGAWA	JICA Kenya Representative
12	WATARU TAKASHIMA	JICA Kenya Representative
13	MASAYUKI TAGUCHI	Chief Advisor, JICA Expert Team
14	SATOSHI SHIBAZAKI	JICA Expert Team
15	SHINICHI SEKIMOTO	JICA Expert Team
16	CHARLES MAINGI	JICA Expert Team
17	EVANS GITAHI	JICA Expert Team

**THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-REVENUE WATER REDUCTION**

**MINUTES OF THE SEVENTH PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING**

Date	2018/3/28(Wednesday) 9.00am -11.30am
Venue	Ministry of Water and Irrigation (MWI) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes - Mr.Gitahi</li> <li>4. Introduction and roles of the new NRW Unit members – Mr. Mabonga</li> <li>5. Matters to be discussed; <ol style="list-style-type: none"> <li>i. Confirmation of the progress of the Project by referring to the Project Monitoring Sheet: By MWS NRW Unit</li> <li>ii. Discussion on issues related to each Output of the Project: By Each C/P: <ol style="list-style-type: none"> <li>a) Timeline for producing Annual Report of NRW reduction: MWI NRW Unit</li> <li>b) Confirmation of schedule for sensitization for County Governments: MWI NRW Unit</li> <li>c) Progress of the Survey for use of the Current NRW Standards: WASREB</li> <li>d) 2<sup>nd</sup> joint training: KEWI</li> <li>e) Progress of Activities at Leading Pilot WSPs: JICA Experts team, &amp; Embu and Meru WSPs</li> </ol> </li> <li>iii. Progress of Procurement of equipment</li> </ol> </li> <li>6. Schedule of next PIC meeting</li> <li>7. A.O.B.</li> </ol>
Content	<p><b><u>1.Self-introductions</u></b> All the members introduced themselves and their respective organizations.</p>

## **2.Communication from the Chairperson**

The Acting Chairperson Dr. Leunita Sumba (Director KEWI) called the meeting to order and began by informing the members that she was chairing the meeting on behalf of the chairperson, Eng. SAO Alima (Director of Water, Sewerage and Sanitation Development, MWI) who was out on official duties. She congratulated the members for observing time and pointed out that it showed how much they had owned the project. She also informed the members that during the Cabinet Secretary's (CS) handing over ceremony, the new CS underscored that NRW is a big challenge and thus showed that he was in support to see the project move forward.

## **3.Confirmation of previous minutes (Annex 1)**

Mr. Evans Gitahi (JICA Expert team) presented the minutes from the sixth PIC meeting held on 14<sup>th</sup>December, 2017. A few corrections were highlighted and the minutes were confirmed as a true and accurate record of the meeting. The minutes were proposed by Mr. David Mabonga (NRW Unit) and seconded by Mr. Masayuki Taguchi (Chief Advisor, JICA Experts team).

### *Matters Arising from the Previous Minutes*

i)The ultrasonic Flow meter, that was procured lacked the software that would make it compatible for use. Mr. Mabonga was requested to liaise with Mr. Sekimoto to know how far he had gone on this.

ii)Sensitization of county representatives on NRW management will be done during the upcoming Kenya Water Summit in Naivasha.

## **4.Introduction and roles of the new NRW Unit members**

Mr. Mabonga introduced the new MWI NRW Unit members and their roles as follows:

- i) Mr. Anderson Kioi – Will handle WASREB and KEWI
- ii) Ms. Patricia Mutua – Will follow up on procurement and annual NRW report
- iii) Ms. Mercy Njung'e – Will handle sensitization teaming up with Ms. Sugimoto Hiroko
- iv) Mr. David N. Mabonga – Will handle general coordination of the project
- v) Mr. Onesmas Mwangi – Will Assist Mr. Mabonga on general coordination

There were other new members in the meeting who were also introduced as follows:

- i) Mr. William Oduor - KEWI
- ii) Ms. Kellyjoy Gakii – Secretary, JICA Expert team

## **5. Matters to be discussed**

### **i) Confirmation of the progress of the project by referring to the project monitoring sheet: By MWI, NRW Unit**

Mr. Mabonga presented the project monitoring sheet (Annex 2) comparing the progress as at the 6<sup>th</sup> PIC meeting held in December 2017 and the current status on 21<sup>st</sup> February 2018. However, Mr. Miyagawa, JICA Kenya office, suggested that during the subsequent meetings the monitoring sheet be circulated to the members in advance and key issues be presented in order to save time during the meeting.

### **ii). Discussion on issues related to each output of the project by Each C/P:**

#### **a) Timeline for producing Annual Report of NRW reduction: MWI NRW Unit**

The officer in-charge Ms. Patricia Mutua, MWI NRW Unit, informed the meeting that they had received some data and held a meeting as a unit in conjunction with the JICA Experts Team and assigned tasks to each member. She further explained that their main target will be the general citizen in their reporting and therefore the report will not be technical. Mr. Miyagawa, JICA Kenya office, suggested that the NRW annual report be considered to target the water sector stakeholders like the annual water sector review rather than the general citizen and to separate it from sensitization activities. The ministry answered that further discussions were needed with the project director to finalize on the target of the annual report.

Ms Mutua also reported that they had planned to have the first draft of the report ready by end of March 2018 and have the final report published by end of May 2018. A suggestion was made by one member (Mr. Anthony Ambugo, WASPA CEO) to have the NRW reduction Annual report committee expanded by including WASPA. They were also advised to share the report early enough so as to give room for comments by the rest of the committee before final draft was published.

#### **b) Confirmation of schedule of sensitization for county Governments: MWI NRW Unit**

Mr. Anthony Ambugo, CEO WASPA, confirmed at the meeting that this was well planned and communicated through writing to the concerned. A request to the procurement office on the venue had also been sent. Members were informed that they should be ready to adjust in case the communicated venue changes based on the procurement office's advice.

#### **c) Progress of the survey for use of the current NRW standards: WASREB**

Mr. Francis Maluki (Technical Officer, WASREB) informed the meeting that the

survey was still on going. The consultant was not able to submit the findings as earlier planned i.e. draft report in mid-January. Instead, the consultant requested for an extension to end of March 2018 which was approved. Mr. Francis added that on the previous day, they were also in receipt of a further extension request by the consultant to end of April 2018. In WASREB's opinion, this move could come with a cost on their side, and the extension had not been approved. WASREB suggested that the consultant be allowed to submit partial reports per WSP as soon they are done, rather than waiting for a report of all 9 WSPs. However, there was no report received so far.

d) 2<sup>nd</sup> Joint Training: KEWI

Mr. Walter Moseti, (Trainer and NRW Coordinator, KEWI) informed the meeting that the pre-training trace study had already been done and the 2<sup>nd</sup> Joint Training is scheduled for 26<sup>th</sup> Feb to Mar 17<sup>th</sup>, 2018. He further informed the meeting that they had extended invitation to other WSPs who were not part of the pilot WSPs. Their response was positive and they were ready to take care of their expenses during the training. The expected participants for the training were between 20 – 25 persons.

In addition, he informed the meeting that the evaluation report of the 1<sup>st</sup> Joint Training was already complete and that hard copies were disseminated to the relevant counterpart organizations. A soft copy would also be sent to members who needed it. However, evaluation on follow up was still on-going and will be reported during the next PIC.

e) Progress of activities at leading pilot WSPs: JICA Expert team, & Embu and Meru WSPs

Mr. Charles from JICA Experts Team (Output 4) made a presentation to the members on the progress of activities at the leading pilot WSPs. The representatives from the two leading WSPs confirmed at the meeting that the presentation was true based on the work on the ground with the experts.

Mr. Miyagawa, JICA Kenya Office, proposed that the representatives from the two leading WSPs prepare some presentation in collaboration with the experts during the subsequent meetings. This will help them to understand more as they prepare and also during the presentation.

iii) **Progress of procurement of equipment**

Mr. Mabonga informed the meeting that they had submitted a list of equipment together with the right specifications to the procurement office and the head of procurement promised to expedite the process in order to ensure that they are delivered by April, 2018 as agreed in the 3<sup>rd</sup> JCC meeting. He was requested to make

a follow up on the same.

**6. Schedule of the next PIC meeting**

The meeting agreed to hold the next PIC meeting on 28<sup>th</sup> March 2018 tentatively.

**7. A.O.B.**

- KEWI requested to use the new equipment procured from Japan during the 2<sup>nd</sup> Joint training. The JICA Experts team agreed and promised to liaise with KEWI on this during the OJT in Embu from 12<sup>th</sup> to 17<sup>th</sup> March, 2018.
- MWI would write a letter to encourage WSPs to use the World Water Day (March 22<sup>nd</sup>) to promote NRW reduction through events such as holding public barazas, customer open day, school visits, invite schools to tour the water facility, walks or rallies, one-day meter reader whereby a client accompanies the staff to do the meter reading, road shows, send SMS, printing small brochures etc.
- WASPA CEO suggested that a tentative yearly calendar for PIC and JCC meetings be drawn and shared to members so that they can plan in advance and avoid missing the meetings. He also encouraged members to embark on peer-to-peer learning whereby the leading WSPs share milestones with the rest of WSPs especially during the bi-monthly benchmarking workshops.
- Mr. Miyagawa, JICA Kenya office, enquired from the members on the Ministry's current name i.e. change from Ministry of Water and Irrigation to Ministry of Water and Sanitation. Mr. Mabonga responded that there will be an official communication from the Director's office in this regard.

There being no other business to be discussed, the meeting ended at 11:30 am.

**ATTENDANCE LIST:**

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1.	Dr. LEUNITA SUMBA	Director, KEWI
2.	MASAHITO MIYAGAWA	JICA Kenya Representative
3.	DAVID N. MABONGA	MWI NRW Unit
4.	ONESMUS N. MWANGI	MWI NRW Unit
5.	ANDERSON KIOI	MWI NRW Unit
6.	PATRICIA MUTUA	MWI NRW Unit
7.	MERCY K. NJUNGE	MWI NRW Unit
8.	FRANCIS MALUKI	WASREB
9.	WALTER M. MOSETI	KEWI
10.	WILLIAM W. ODUOR	KEWI
11.	ANTHONY AMBUGO	WASPA
12.	ROBERT K. MIRURI	Acting General Manager, MERU WSP (MEWASS)
13.	CHRISTOPHER G. KAMURANA	Acting Head of Technical Services, EMBU WSP (EWASCO)
14.	MASAYUKI TAGUCHI	Chief Advisor, JICA Expert Team
15.	SATOSHI SHIBAZAKI	JICA Expert Team
16.	HIROKO SUGIMOTO	JICA Expert Team
17.	NAOKI HARADA	JICA Expert Team
18.	CHARLES MAINGI	JICA Expert Team
19.	EVANS GITAHI	JICA Expert Team
20.	KELLYJOY GAKII	JICA Expert Team



**THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-REVENUE  
WATER REDUCTION**

**MINUTES OF THE EIGHTH PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING**

Date	2018/5/02(Wednesday) 9.00am -10.40am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes -Mr. Gitahi</li> <li>4. Matters to be discussed;             <ol style="list-style-type: none"> <li>i. Confirmation of the progress of the Project by referring to the Project Monitoring Sheet: By MWS NRW Unit</li> <li>ii. Discussion on issues related to each Output of the Project: By Each C/P:                 <ol style="list-style-type: none"> <li>a) Progress of Annual Report of NRW reduction: MWS NRW Unit</li> <li>b) Activities of sensitization for County Governments &amp; campaign for consumers: MWS NRW Unit</li> <li>c) Progress of the Survey for use of the Current NRW Standards: WASREB</li> <li>d) 2<sup>nd</sup> joint training: KEWI</li> <li>e) Progress of Activities at Leading Pilot WSPs: JICA Experts team, &amp; Embu and Meru WSPs</li> <li>f) Kenya Water Summit and Progress afterwards: WASPA</li> </ol> </li> <li>iii. Progress of Procurement of equipment</li> </ol> </li> <li>5. Schedule of next PIC meeting</li> <li>6. A.O.B.</li> </ol>
Content	<p><b><u>1.Self-introductions</u></b> All the members introduced themselves and their respective organizations.</p> <p><b><u>2.Communication from the Chairperson</u></b> The chairman Eng. SAO Alima called the meeting to order at 9.15am and confirmed the participants present as per the list outlined in the agenda. He further thanked the members present for attending the meeting and also the entire team for being effective on the project. The chairman also informed the meeting that it was important for the team to</p>

follow up on the issues raised at the JCC during the PIC meetings to ensure that they are all done. On this he pointed out on the particular activities that were already complete as per the previous JCC, such as the disbursement of Kshs. 5 million to KEWI for their project activities.

However, he acknowledged that new young staff had not been assigned to the NRW Unit and promised to follow up with the MWS and the PSC (Public Service Commission). He also pointed out on the issue of procurement of equipment for assisting Pilot WSP activities that there was a budget cut that was done in the 4<sup>th</sup> quarter, and this affected the procurement of the equipment. The procurement of the equipment has now been carried forward as the first priority in the early stage of the next fiscal year 2018/2019. He also informed the meeting that there were some WSBs who had not yet spent their budget allocations and so the NRW Unit should do a follow up to make sure that they procure the right equipment.

### **3. Confirmation of previous minutes(Annex 1)**

Mr. Evans Gitahi (JICA Expert team) informed the meeting that as agreed in the previous meeting, the minutes were sent to the members a week earlier and therefore the chair only had to guide the members in case there were matters arising. The minutes were proposed by Mr. Moseti (KEWI) and seconded by Ms. Sugimoto (JICA Experts team).

#### ***Matters Arising from the Previous Minutes***

i) Mr. Mabonga informed the meeting that Mr. Sekimoto who was away was to liaise with the company that sold the Ultrasonic Flow meter on the issue of software and would give a report on the same when he is back in the country.

ii) The meeting agreed that the Ministry would be sending invitation letters to WSPs to attend various water events in the future;

iii) The chairman confirmed that the ministry's name had been changed from Ministry of Water and Irrigation (MWI) to Ministry of Water and Sanitation (MWS).

iv) Mr. Taguchi informed the meeting that the JICA Experts team will work on a tentative yearly calendar by the next PIC meeting.

### **4. Matters to be discussed**

i) Confirmation of the progress of the project by referring to the project monitoring sheet: By MWI, NRW Unit

Based on the discussion and agreement that the monitoring sheet be sent to the members earlier before the meeting, Mr. Mabonga gave the key highlights on the project monitoring sheet (Annex 2) comparing the progress as at the 7<sup>th</sup> PIC meeting held in February 2018 and the current status on 2<sup>nd</sup> May 2018.

ii). Discussion on issues related to each output of the project by Each C/P:

a) Progress of Annual Report of NRW reduction: MWI NRW Unit

The officer in-charge Ms. Patricia Mutua, MWI NRW Unit, informed the meeting that

they were finalizing on the first draft of the report and that they will submit it to Eng. SAO Alima's office. They also confirmed that this will be done as per the timelines.

b) Activities of sensitization for County Governments & campaign for consumers: MWI NRW Unit

Mr. Mabonga and the NRW Unit reported that this was also covered in the Kenya Water Summit held in Naivasha on March 1<sup>st</sup> and 2<sup>nd</sup>, 2018. It was agreed that a new plan for sensitization activities in different regions of the country should be prepared for the next fiscal year.

c) Progress of the survey for use of the current NRW standards: WASREB

Eng. Ngugi WASREB reported that the report of the survey was tentatively complete and that they reviewed and shared it with the JICA experts and other related C/Ps for their comments. He also reported that WASREB will hold a meeting with the consultant and SNV (the facilitator of the survey) on Friday the 4<sup>th</sup> May, 2018 and that they are yet to decide on the date to disseminate the report. However, he pointed out that according to the findings the level of the usage of the standards was quite low and not encouraging.

The chairman, Eng. SAO Alima, advised that WASREB should ensure that an NRW Unit is formed in each registered utility. He also advised that WASREB should seek to understand the reasons as to why the WSPs are not using the standards.

Eng. Ngugi WASREB also informed the meeting that they were intending to anchor the standards to the tariff review and licensing since this way it would be easier to enforce the use of NRW standards on the WSPs.

Ms. Sugimoto also suggested that the best way to learn would be through peer-to-peer learning. The editorial committee for the review of NRW Standards was also tasked on finding the best ways of improving uptake and usage of NRW Standards.

d) 2<sup>nd</sup> Joint Training: KEWI

Mr. Walter Moseki, (Trainer and NRW Coordinator, KEWI) informed the meeting that the 2<sup>nd</sup> joint training was successful both for the classroom and OJT and the report on evaluation was on going.

He also reported that the 3<sup>rd</sup> classroom training was also done from 23<sup>rd</sup> to 2<sup>nd</sup> April, 2018 and the turn up was good. 3 Pilot WSPs, namely Kisumu, Ruiru-Juja and Eldoret participated, but Kilifi-Mariakani and Nakuru did not send any representatives. The OJT is yet to be held due to the on-going rains which make it difficult for field activities to be undertaken but would be scheduled for Mid-May to early June when the weather is favourable. He added that the key issue in NRW reduction was constituting an NRW team / unit in the various WSPs, which was not taken seriously, since the WSPs only organized a team when there was an event or training programme and disbanded it immediately thereafter. He added that the top management in the various WSPs also lacked commitment in the NRW management activities and allocating budgets. Lastly, he said that a number of WSPs had equipment for NRW but they are reluctant or did not know how to use them and hence are kept in the stores.

Mr. Taguchi (Chief Advisor JICA Experts) gave an opinion that KEWI should have a meeting to review the 2<sup>nd</sup> Joint Training as soon as possible. The training held from April 23<sup>rd</sup> to April 27<sup>th</sup> was not organized as the 3<sup>rd</sup> Joint training but rather a part of the regular NRW short course, and also because there review for 2<sup>nd</sup> Joint Training has not been held. Therefore, KEWI needs to organize a review meeting with the various stakeholders in order to identify challenges and ways of improving the training which will be implemented in the 3<sup>rd</sup> Joint training.

Mr. Miyagawa suggested that at the completion of the training there should be something to show for the trainees e.g. a certificate. Dr. L. Sumba reported that this was elective at 3<sup>rd</sup> year but not yet a certifiable course.

Eng. Ngugi WASREB suggested that in order to attach some significance in NRW it would be important if KEWI had a course on NRW so as to have specialists in this field. This would enhance its continuity even after the project is complete.

Eng. SAO Alima also informed the meeting that he would liaise with the Commissioner of Higher Learning to have NRW designated as an independent course at KEWI and even be introduced in the universities. Dr. Sumba requested for assistance with the formation of a team to look into this matter and Eng. Alima pledged to do so.

Ms. Sugimoto sort to know how KEWI was capacity building itself in as much as it did to the WSPs.

e) Progress of activities at leading pilot WSPs: JICA Expert team, & Embu and Meru WSPs

Mr. Charles from JICA Experts Team (Output 4) gave an introductory remark on the progress of the activities in Output 4. He then gave a chance to the two leading WSPs to make their own presentations. Mr. Miruri, the Ag. GM MEWASS, made a presentation on his part and informed the meeting that NRW has become an everyday activity with or without the experts.

Mr. Christopher Gitonga (EWASCO) also informed the meeting that Embu had been facing some challenges but they were able to reconstitute the NRW Unit and it was well equipped for the task. He also reported that they were undertaking a clean-up exercise on their billing system and they would present the results at the next PIC meeting.

Mr. Kioi highlighted that during the OJT at the 2<sup>nd</sup> Joint training, he had noticed some disconnect between the commercial and technical departments and therefore sought to know how EWASCO is addressing this issue. Responding to this Mr. Gitonga informed the meeting that they had brought all the parties on board when forming the NRW unit.

Mr. Kioi also sought to know how they were creating awareness to the customers. On this note Ms. Sugimoto informed the meeting that they had a chance to meet students from various schools during their visit to Mukangu treatment plant and had a chance to talk to them on the water conservation. They also requested them to pass over the information to their parents which they did and later wrote essays on water treatment and conservation.

Mr. Gitonga also informed the meeting that they also held Community Barazas especially in those areas where there is a lot of illegal connections to inform the community on the importance of NRW reduction.

Mr. Miyagawa sought to know how Embu and Meru WSPs were handling the new software introduced by the JICA experts for NRW management and if they would sustain it without the experts.

The representatives from both WSPs informed the meeting that based on the training they have received, they are now working on making it routine in their activities and they have confidence that they would sustain the use of these software applications.

f) Kenya Water Summit and progress afterwards: WASPA

Ms. Patricia informed the meeting that she was not at the meeting during the Kenya Water Summit and so did not have a report but would make a follow up and report during the next meeting.

### iii) **Progress of procurement of equipment**

Eng. SAO Alima informed the meeting that as he had earlier pointed out, there were budget cuts in the 4<sup>th</sup> quarter and this affected the procurement of the equipment. However, the equipment will be procured during the next fiscal year and regarding the WSBs that had not spent their budget allocations, a follow up would be made by the NRW Unit to ensure that they procure the right equipment.

## **6. Schedule of the next PIC meeting**

The meeting agreed to hold the next PIC meeting on 30<sup>th</sup> May 2018.

## **7. A.O.B.**

- Mr. Miyagawa sought to know the status of the NRW policy document. Eng. SAO Alima informed the meeting that the policy was still not finalized but pointed out this needed to be worked on before GIZ winds up in December 2018.
- Dr. Sumba requested to have a team to work on the curriculum on NRW. Eng. SAO Alima agreed to assist this activity.
- Mr. Mabonga requested the Embu WSP to incorporate customer care in the NRW unit.
- Ms. Patricia (MWS) requested the Meru WSP to quantify the gains in order to understand the progress in NRW reduction in numbers.
- Eng. Alima also recommended that the presentations from the Leading WSPs should include more specific information of the NRW reduction activities being undertaken on a daily basis and the challenges faced by the WSPs during the implementation of their activities.
- Eng. Ngugi sought to know the progress of the water policy. Eng. SAO Alima responding to this informed the meeting that the policy had not yet been finalized.
- Ms. Patricia (WASPA) informed the meeting that they had a good presentation from the JICA Expert team during their benchmarking meeting in the previous month. She further pointed out that WASPA was planning to visit the leading WSPs during the next benchmarking meetings e.g. in July they intend to have a team

	<p>activity instead of a classroom set up. The JICA team responded that they can have a discussion about this after the PIC meeting. Mr. Miyagawa suggested that in future, the leading WSPs should make the presentations at WASPA's seminars.</p> <ul style="list-style-type: none"> <li>• Mr. Mabonga also informed the meeting that since the equipment were not bought for the next activity as per the work plan, the Experts have resolved to borrow them from the WSPs since a schedule for the other expert was already in place.</li> <li>• Mr. Miyagawa suggested that the indicators of the PDM should be re-set for the next JCC meeting, and therefore it means a discussion should start early in this case.</li> <li>• The editorial committee meeting for revision of NRW standards was scheduled for Monday 7<sup>th</sup> May 2018 starting from 10.00am. There being no other business to be discussed, the meeting ended at 10:40 am.</li> </ul>
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#### ATTENDANCE LIST:

No.	Name	Institution
1.	ENG. SAO ALIMA	Director, Water Sewerage and Sanitation Development
2.	MASAHITO MIYAGAWA	JICA Kenya Representative
3.	WATARU TAKASHIMA	JICA Kenya Representative
4.	JOHN GITAU MUNGAI	JICA Kenya Representative
5.	DAVID N. MABONGA	MWI NRW Unit
6.	ONESMUS N. MWANGI	MWI NRW Unit
7.	ANDERSON KIOI	MWI NRW Unit
8.	PATRICIA MUTUA	MWI NRW Unit
9.	MERCY K. NJUNGE	MWI NRW Unit
10.	ENG. DANIEL M. NGUGI	WASREB
11.	Dr. LEUNITA SUMBA	Director, KEWI
12.	WALTER M. MOSETI	KEWI
13.	PATRICIA WANJERI	WASPA
14.	ROBERT K. MIRURI	Acting General Manager, MERU WSP (MEWASS)
15.	CHRISTOPHER G. KAMURANA	Acting Head of Technical Services, EMBU WSP (EWASCO)
16.	MASAYUKI TAGUCHI	Chief Advisor, JICA Expert Team
17.	HIROKO SUGIMOTO	JICA Expert Team
18.	CHARLES MAINGI	JICA Expert Team
19.	EVANS GITAHI	JICA Expert Team
20.	KELLYJOY GAKII	JICA Expert Team

**THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-REVENUE WATER REDUCTION**

**MINUTES OF THE NINETH PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING**

Date:	2018/5/30 (Wednesday)
Time:	8.30am - 09:50am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes -Mr. Gitahi</li> <li>4. Matters to be discussed; <ol style="list-style-type: none"> <li>i. Confirmation of the progress of the Project by referring to the Project Monitoring Sheet: By MWS NRW Unit</li> <li>ii. Discussion on issues related to each Output of the Project: By Each C/P: <ol style="list-style-type: none"> <li>a) Progress of Annual Report of NRW reduction: MWS NRW Unit</li> <li>b) Formation of the Editorial committee &amp; Kick off meeting- MWS NRW Unit</li> <li>c) 3<sup>rd</sup> Joint Training: KEWI</li> <li>d) Progress of Activities of output 4 at leading pilot WSPs: JICA Experts Team, &amp; Embu and Meru WSPs</li> <li>e) Achievements of Kenya Water Summit: WASPA</li> </ol> </li> <li>iii. Procurement of equipment</li> <li>iv. Annual Schedule of the project</li> <li>v. Change of PDM and targets</li> </ol> </li> <li>5. Schedule of next PIC meeting</li> <li>6. A.O.B.</li> </ol>
Content	<p><b><u>1. Self-introductions</u></b> All the members introduced themselves and their respective organizations.</p> <p><b><u>2. Communication from the Chairperson</u></b> The chairman Eng. SAO Alima called the meeting to order at 8.33am and confirmed the participants present as per the list outlined in the agenda. He further welcomed the members present and informed them that he believed that each output is</p>

committed to deliver in their target and that the WSPs are committed in reducing the Non- Revenue Water as they gain knowledge, plan and implement. He also stated that it was important for them to realize that non- revenue water management was not a one-day event neither was it a week's event but a continuous event throughout the utility.

### **3. Confirmation of previous minutes (Annex 1)**

Mr. Evans Gitahi (JICA Expert team) informed the meeting that as agreed in the previous meeting, the minutes were sent to the members a week earlier and therefore the chair only had to guide the members in case there were matters arising. The minutes were proposed by Mr. Anderson Kioi (MWS Unit) and seconded by Mr. Christopher Gitonga (EWASCO).

#### ***Matters Arising from the Previous Minutes***

- i) The chairman sought to know where about of the new Expert so that he can introduce him to the meeting. Mr. Taguchi explained that a new expert from Japan by the name Junichi TAKAHASHI had arrived in Kenya but he had already started work in the field.
- ii) Eng. Ngugi reported that WASREB had not finalized on the findings of the NRW Audit with the consultant but they would be holding an exit meeting later in the afternoon.

### **4. Matters to be discussed**

- i) Confirmation of the progress of the project by referring to the project monitoring sheet: By MWI, NRW Unit

Mr. Evans Gitahi informed the meeting that since the progress by each counterpart is discussed later, it had been agreed that there was no need to go through the Project Monitoring Sheet as it is a repetition. He also informed the meeting that during the next meetings this part will not be included as part of the agenda.

- ii). Discussion on issues related to each output of the project by Each C/P:

- a) Progress of Annual Report of NRW reduction: MWI NRW Unit

The officer in-charge Ms. Patricia Mutua, MWI NRW Unit, informed the meeting that they had finalized on the report and thanked all the institution who did the write-ups. She further informed the meeting that they had submitted the report to the Director's office for approval. The chairman requested that the report be circulated to other counterpart organizations so that they can go through it and raise their comments before approval. The chairman agreed that the unit should form a team with an Information Communication Technology (ICT) Expert to take care of the



graphics in the report. However, he stated that there was no need to seek approval from the communication department.

The chairman informed the meeting that the printing of the report will be possible in July when there will be availability of funds.

Mr. Takashima requested to know the timeline of the annual report and he was given the timeline as below:

Draft Report – May

Finalize – June

Printing – July

b) Formation of the Editorial committee & kick off meeting: MWI NRW Unit

The chairman sought to know why the Editorial committee took so long to kick off. In this regard he requested Mr. Kioi to present the ministerial communication to his office later in the day so that the kick off meeting will be held in the coming week.

c) 3<sup>rd</sup> Joint Training: KEWI

Mr. Moseti reported that they already did the classroom training for the 3<sup>rd</sup> Joint Training in the month of April 2018 but the OJT was rescheduled due to the rains and will therefore be held from 4<sup>th</sup> – 9<sup>th</sup> June 2018.

The chairman sought to know the participants of the classroom training which were: Narok, Kisumu, Eldoret, Ruiru-Juja and two participants from MWS. He also wanted to know if the participants were from the same WSPs as in the 1<sup>st</sup> and 2<sup>nd</sup> Joint training and Mr. Moseti answered that they were not.

Mr. Taguchi informed the meeting that the evaluation for the second training was not done but would be done together with the 3<sup>rd</sup> joint training. He also pointed out that the 3<sup>rd</sup> Joint training had not been officially recognized, and therefore the project still has to conduct 3 more Joint training courses in Phase 2.

Mr. Takashima sought to know the components of the OJT. Mr. Moseti informed the meeting that OJT was the practical work using the leak detection equipment.

The Chairman wanted to know about the progress of the training platform at KEWI and Mr. Moseti reported that the procurement of materials for the construction of the training platform had been initiated and would be completed in the next two weeks.

d) Progress of activities of output 4 at leading pilot WSPs: JICA Expert team, & Embu and Meru WSPs

Mr. Charles JICA Experts Team informed the meeting about some of the activities going on in Embu and Meru, and that they have also included Nyahuru and Nakuru WSPs on board. He gave a sample presentation on the data analysis in Nakuru's

billing systems and based on the presentation he explained that the WSPs are concentrating on the physical losses and leaving out the commercial losses which also should be a key part of the NRW management process. The results showed that most of the WSPs use a lot of estimated values. He further informed the meeting that they presented the data to Nakuru's commercial unit and the members were shocked indeed because they had not imagined such a worse fact. It is informed that the team would do the same to members of management class of Nakuru WSP on 31<sup>st</sup> May 2018. In this regard, the chairman suggested that WASREB should also be included in discussions with the WSPs. Based on the presentation Eng. Ngugi requested that the WSPs should have data analyst in the future.

The chairman also requested that the Output (4) team to train the WSPs in data analysis from the beginning so that they can get the concept and be able to practice in future. He also emphasized that the WSPs should check the status of the meters.

The leading WSPs (Embu and Meru) also made their presentations and the chairman requested them to work on elimination of the estimated billing. He also advised them to use the best pipes that will help in the management of the NRW. Mr. Charles and the members of pilot WSPs agreed that HDPE pipes were the best in this case. Eng. Ngugi requested that the WSPs needed to contextualize the presentations and be specific on the actuals i.e. what they were doing as far as the project was concerned.

Mr. Richard (MEWASS) requested that communication be done on time so that they can plan on time and be able to present the best as requested.

Mr. Takashima corrected that the rate of NRW in Japan was not 4% as it was recorded in one of the presentations but was 10% on average and around 4% in Tokyo.

The chairman pointed out that MEWASS should pull up their efforts so that they do not go back in terms of their NRW ratio. He also informed the meeting that Nyahururu WSP would also be making a presentation in the next meeting.

Mr. Ambugo, (WASPA CEO) stated that the utilities should focus on commercial losses and also monitor and evaluate the systems since this would assist in decision making.

Mr. Charles reported that the WSPs did not know where to begin on tackling the commercial losses but with the analysis that they are doing they hope that they will be able to get the start points and embrace the changes.

**e) Achievements of Kenya Water Summit: WASPA**

Mr. Ambugo reported that the Kenya water summit was a great success and the milestone was the signing of the inter-governmental water sector coordination framework. He reported that they agreed to be holding meetings twice per year i.e. in the month of June and December.

He also informed the meeting that the sensitization for NRW was covered during the summit.

**iii) Procurement of equipment**

Mr. Taguchi informed the meeting that a letter was sent from the JICA Kenya office to the Principal Secretary on the procurement of the equipment and that he would be seeing him in this regard to ascertain that the procurement of equipment from the Kenyan side would be assured at the beginning of the fiscal year.

**iv) Annual Schedule of the project**

Mr. Taguchi presented to the meeting a tentative calendar for the meetings in the remaining part of the year. The meeting unanimously agreed to adopt it for the next meetings of the year i.e. PIC, JCC and joint trainings.

**6. Schedule of the next PIC meeting**

The meeting agreed to hold the next PIC meeting on 27<sup>th</sup> June 2018.

**7. A.O.B.**

- Mr. Taguchi also informed the meeting that he held a meeting with the MD of Ruiru-Juja and the C.O. of Water in Kiambu County regarding clustering of WSPs in Kiambu County. He reported that they were both very supportive of the project and assured that the clustering would not interfere. Also, after discussions with WASREB, he reported this JICA Kenya Office and it was suggested that the project in Ruiru-Juja should go ahead in the planned timelines and this PIC meeting should affirm this. This was also supported by Eng. Ngugi (WASREB) who stated that Kiambu County have to follow the WASREB's guidelines.
- Mr. Taguchi raised an issue of revision of the current PDM. He pointed out portions to be amended in the table prepared by him. He also emphasized that the issue will be discussed and finalized at the next JCC to be held by end of July. He requested the CPs members to consider the points raised in the table until the next meeting.
- There being no other business to be discussed, the meeting ended at 09:50 am.

**ATTENDANCE LIST:**

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1.	ENG. SAO ALIMA	Director, Water Sewerage and Sanitation Development
2.	WATARU TAKASHIMA	JICA Kenya Representative
3.	ANDERSON KIOI	MWI NRW Unit
4.	PATRICIA MUTUA	MWI NRW Unit
5.	ENG. DANIEL M. NGUGI	WASREB
6.	WALTER M. MOSETI	KEWI
7.	ANTONY AMBUGO	WASPA
8.	PATRICIA WANJERI	WASPA
9.	ROBERT K. MIRURI	Acting General Manager, MERU WSP (MEWASS)
10.	RICHARD MWIRIGI	Manager in charge NRW reduction (MEWASS)
11.	CHRISTOPHER G. KAMURANA	Acting Head of Technical Services, EMBU WSP (EWASCO)
12.	JOSEPH I. MAINA	Head of NRW unit (EWASCO)
13.	PETER MWANGI	Technical manager (NYAHUWASCO)
14.	MASAYUKI TAGUCHI	Chief Advisor, JICA Expert Team
15.	HIROKO SUGIMOTO	JICA Expert Team
16.	CHARLES MAINGI	JICA Expert Team
17.	EVANS GITAHI	JICA Expert Team
18.	KELLYJOY GAKII	JICA Expert Team

**THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-REVENUE WATER REDUCTION**

**MINUTES OF THE TENTH PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING**

Date:	2018/07/04 (Wednesday)
Time:	8:30am – 10:30am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes -Mr. Gitahi</li> <li>4. Matters to be discussed; <ol style="list-style-type: none"> <li>i. Preparation for 4th JCC <ol style="list-style-type: none"> <li>a) Draft Agenda (Date, Venue, Participants) : MWS NRW Unit</li> <li>b) Preparation for the JCC Presentations: JCC : JICA Expert team</li> </ol> </li> <li>ii. Discussion on issues related to each Output of the Project: By Each C/P: <ol style="list-style-type: none"> <li>a) Progress of NRW Annual Report: MWS NRW Unit</li> <li>b) Updates from the Editorial committee: WASREB</li> <li>c) Updates &amp; Preparation of next Joint Training: KEWI</li> <li>d) Progress of Activities at Leading Pilot WSPs: JICA Experts team, &amp; Embu, Meru, Nyahururu &amp; Nakuru WSPs</li> <li>e) Next WASPA's Benchmarking: WASPA</li> <li>f) Preparations for the Procurement of equipment – MWS NRW Unit</li> </ol> </li> </ol> </li> <li>5. Schedule of next PIC meeting</li> <li>6. A.O.B.</li> </ol>
Content	<p><b><u>1. Self-introductions</u></b> All the members introduced themselves and their respective organizations.</p> <p><b><u>2. Communication from the Chairperson</u></b> The chairman Eng. SAO Alima called the meeting to order at 8.46am and confirmed the participants present as per the list outlined in the agenda. He further welcomed the members present and thanked them for attending the meeting. He also appreciated their effort to make the NRW project successful. He pointed out that NRW reduction was very important to the Ministry of Water and Sanitation and Kenya at large, and much more than it was of importance to the JICA Experts and even JICA itself. Therefore, he explained that it is necessary for the utilities and the counterparts to learn as much as possible from the JICA experts and make sure the project is sustainable in the future. He also emphasized that NRW reduction is a process and not a one-day event and so if the people in charge lose focus, the NRW ratio would</p>

go up again. On this note he insisted that the participants should make efforts to ensure that the NRW ratio keeps reducing.

### **3. Confirmation of previous minutes (Annex 1)**

Mr. Evans Gitahi (JICA Expert team) informed the meeting that as agreed in the previous meeting, the minutes were sent to the members a week earlier and therefore the chair only had to guide the members in case there were matters arising. The minutes were proposed by Mr. Walter Moseti (KEWI) and seconded by Mr. Charles Maingi (JICA Experts)

#### ***Matters Arising from the Previous Minutes***

- i.) Mr. Kioi requested to know if Mr. Takahashi was present so that he could be introduced to the meeting as agreed previously, but Mr. Gitahi informed the committee that Mr. Takahashi was not available since he was still in the field with the WSPs.
- ii.) The chairman informed the meeting that procurement of equipment will start in this fiscal year and, in this regard, he advised the NRW Unit to start early on the preparations so that by the following week the necessary documents could be ready for signing at the PS office.

### **4. Matters to be discussed**

#### **i) Preparation for 4th JCC**

##### ***a) Draft Agenda (Date, Venue, Participants): MWS NRW Unit***

Mr. Mabonga took the meeting through the draft agenda for the JCC. Ms. Sugimoto suggested that assignments given in the agenda should focus on a particular institution rather than individuals as was the case in the draft. The committee agreed that 10 minutes for the introduction of the project monitoring sheet would not be enough. This was amended so that the introduction for the Project Monitoring Sheet would take twenty minutes and the presentations for each institution would take 15 minutes, and therefore the lunch hour would start from 1.00pm instead of 12:30 as it appeared in the draft. This was agreed by all the members.

Mr. Evans presented to the members a draft registration form that was to be used during the JCC. He informed the meeting that the same form would be sent early enough to all the C/Ps and that they were expected to fill in the names of the members who will be attending the JCC from their particular entities early enough, in order to save time and reduce congestion at the registration desk.

He also requested that the MWS should confirm the date, venue and if the PS would be attending the meeting as early as possible. On this note Mr. Gitau from JICA Kenya office informed the committee that the suggested date for the meeting,

31<sup>st</sup> July 2018, would be very convenient for them as an office and would appreciate if it was adopted as the actual date.

The committee agreed that Mr. Mabonga should follow up on the invitation letters so that they can be sent to the counterparts by the following week. The meeting agreed that every invited entity should send a maximum of three participants for the meeting.

*b) Preparation for the JCC presentation: JCC: JICA Expert team*

Mr. Evans JICA Expert took the meeting through the expected JCC presentation format so as to give guidance to the C/Ps on the expectations during their presentations.

The meeting agreed that in order to be sure of the standards of the presentations, all the outputs should send in the 1<sup>st</sup> draft to the JICA team by 13<sup>th</sup> July 2018 and, after consultations/editing, the final draft to be produced by 20<sup>th</sup> July 2018.

ii). Discussion on issues related to each output of the project by Each C/P:

*a) Progress of Annual Report of NRW reduction: MWI NRW Unit*

Ms. Sugimoto reported on behalf of Ms. Patricia who was on leave that they had corrected the final draft but had few editorial issues which they would be working on during the week and then submit it to the project manager, Eng. Alima. She also informed the committee that Ms. Patricia had presented the budget to Mr. Mabonga who forwarded it to the Director and that they would be procuring the graphics designer and printing services once it is approved.

*b) Updates from the Editorial committee: WASREB*

Eng. Ngugi reported that the inception meeting was conducted on 6<sup>th</sup> June 2018 and was chaired by Eng. SAO Alima. Members present were given draft terms of reference (TOR) and questionnaires and they were requested to add their input. He also reported that Eng. SAO Alima requested the committee to prepare a work plan and budget so that it can be considered in the current fiscal year. He also informed the meeting that they would be meeting before the next PIC when he will be reporting their progress.

*c) Updates & preparation of next joint training: KEWI*

Mr. Moseki reported that the OJT was held from 4<sup>th</sup> to 9<sup>th</sup> June, 2018 in Embu WSP and that the turn up was good. KEWI is currently preparing for the training to be held in August 2018. He further informed the meeting that now with the JICA Expert in charge (Mr. Shibazaki) back in Kenya, they will be meeting to discuss on the evaluation of the 2<sup>nd</sup> Joint training which he would also invite the PIC members.

Mr. Kioi raised concern on the ongoing NRW trainings with the WSPs by Mr.

Takahashi and Mr. Sekimoto without involvement of KEWI. His main concern was that it may lead to contradictions amongst the WSPs especially on the trainings that they had received from KEWI earlier. Mr. Mori responded by informing the meeting that, what the two Experts were offering was more advanced but based on what KEWI was offering and so they are not in any way contradictory.

*d) Progress of activities at leading pilot WSPs: JICA Expert team, & Embu, Meru, Nyahururu & Nakuru WSPs*

The two leading WSPs Embu and Meru made their presentations.

(Presentations available on Google Drive created by Mr. Evans Gitahi)

Ms. Sugimoto enquired to know how Embu WSP handle their customers in the case when the bill suddenly increases and if the customers are usually willing to pay the high amount of money. Mr. Maina, who made the presentation for Embu, answered that they usually give a detailed explanation to the customer and they have not had a case where by a customer had refused to pay the bill. In the case where they have had over registering they offset in the billing for the next months.

Mr. Mutai from Nakuru WSP reported that they were currently replacing several meters that were found faulty based on the billing analysis and also servicing others to avoid estimated readings. He also reported that they were working on leak detection. On this he gave an example of a Midnight Flow Measurement exercise they did from 1:00am to 3:00am and realized that they were losing 27cubic meter per hour. This was an awakening call considering the amount of water that was likely to be lost in a month. He further assured the meeting that they were expecting to give a good report at the next PIC meeting.

Mr. Mwangi from Nyahururu WSP also made an oral presentation on the work that is being done at their utility. He reported that they started by preparing an annual draft NRW reduction plan. Using the calibrated buckets, they have already tested over 3,000 customer meters and were able to realize that some of the meters were not accurate, which they are working on replacing. He also informed the meeting that their staff members participated in the OJT training organized by KEWI and also their management team participated in the managers training in Japan and that they were putting into practice what they learnt in the training. Using the listening sticks, they have been able to detect the invisible leaks. Through the training by Mr. Takahashi using the UFM, they also discovered that some of their bulk meters were not accurate.

On commercial losses, they are currently working (servicing, checking the accuracy



and replacement of water meters) on the stopped and estimated meters from the results of their WSPs customer meter billing analysis which was conducted by the JICA Experts (Mr. Mori and Mr. Charles) which is helping them to prioritize by starting with the most urgent meters, with great impacts, as they eventually roll out to all the other connections.

The MD also reported that within a span of 6 months NYAHUWASCO has been able to reduce the NRW ratio from 43% to 39.6%.

*e) Next WASPA's Benchmarking: WASPA*

Ms. Patricia who was representing WASPA informed the meeting that they usually hold three benchmarking activities in a year. This is a platform whereby utilities come together and share their challenges and best practices. She further reported that this year they will have field activities in three categories; Customer care will be held in Kisumu in July, Pro-poor activities will be held in Nyeri in August, and in September they will have NRW reduction activities in one of the two leading WSPs.

*f) Preparations for the Procurement of equipment: MWS NRW Unit*

The chairman requested Mr. Mabonga to work in collaboration with Mr. Evans so that all the preparations on procurement of equipment can be ready for presentation to the PS by the following week.

**5. Schedule of the next PIC meeting**

The meeting agreed to hold the next PIC meeting on 29<sup>th</sup> August 2018.

**6. A.O.B.**

- Eng. Alima apologised for not concentrating on the meeting due to other urgent matters arising. He also enquired from Nakuru if they had received any equipment from Rift Valley water service board. Mr. Mutai, representing NAWASSCO, reported that they were promised to be given some equipment but they had not yet received them. The chairman requested Mr. Mabonga to share with Mr. Mutai the specifications for the equipment.
- Mr. Harada requested the committee to ensure that the counterparts' presentations for the JCC were clear and in the case whereby they had difficulties in the preparations, they should consult the Experts who are willing to assist. He also emphasized that they should be prepared early enough in case of corrections so that there would be enough time for that.
- There being no other business to be discussed, the meeting ended at 10:30 am.

**ATTENDANCE LIST:**

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1.	ENG. SAO ALIMA	Acting Water Secretary
2.	WATARU TAKASHIMA	JICA Kenya Representative
3.	JOHN GITAU MUNGAI	JICA Kenya Representative
4.	DAVID MABONGA	MWI NRW Unit
5.	MERCY NJUNGE	MWI NRW Unit
6.	ANDERSON KIOI	MWI NRW Unit
7.	ENG. DANIEL M. NGUGI	WASREB
8.	WALTER M. MOSETI	KEWI
9.	PATRICIA WANJERI	WASPA
10.	RICHARD MWIRIGI	Supervisor NRW Unit (MEWASS)
11.	SILAS NDATHO	Head NRW Unit (MEWASS)
12.	JOSEPH I. MAINA	Head of NRW unit (EWASCO)
13.	BERNARD MWAURA	Managing Director (NYAHUWASCO)
14.	PETER MWANGI	Technical manager (NYAHUWASCO)
15.	LEONARD MUTAI	NRW In-charge (Nakuru Water)
16.	NAOKI HARADA	JICA Expert Team
17.	HIROKO SUGIMOTO	JICA Expert Team
18.	SHOZO MORI	JICA Expert Team
19.	SATOSHI SHIBAZAKI	JICA Expert Team
20.	CHARLES MAINGI	JICA Expert Team
21.	EVANS GITAHI	JICA Expert Team
22.	KELLYJOY GAKII	JICA Expert Team

**THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-REVENUE WATER REDUCTION**

**MINUTES OF THE ELEVENTH PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING**

Date:	2018/09/05 (Wednesday)
Time:	9:20am – 10:40am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes -Mr. Gitahi</li> <li>4. Matters to be discussed;             <ol style="list-style-type: none"> <li>i. Report from the 4th JCC: MWS NRW Unit</li> <li>ii. Discussion on issues related to each Output of the Project: By Each C/P:                 <ol style="list-style-type: none"> <li>a) Progress of NRW Annual Report: MWS NRW Unit</li> <li>b) Updates from the Editorial committee: WASREB</li> <li>c) Updates from the 4<sup>th</sup> Joint Training: KEWI</li> <li>d) Progress of Activities at Pilot WSPs: JICA Experts team, &amp; Embu, Meru, Nyahururu &amp; Nakuru WSPs</li> <li>e) Sensitization and Benchmarking: WASPA</li> <li>f) Budget arrangement – MWS NRW Unit                     <ol style="list-style-type: none"> <li>i. Procurement of equipment</li> <li>ii. Exhibition at the Nairobi International Trade Fair</li> </ol> </li> </ol> </li> </ol> </li> <li>5. Schedule of next PIC meeting</li> <li>6. A.O.B.</li> </ol>
Content	<p><b><u>1. Self-introductions</u></b> All the members introduced themselves and their respective organizations.</p> <p><b><u>2. Communication from the Chairperson</u></b> The chairman Eng. SAO Alima confirmed the members present as per the Agenda. He then thanked the members for availing themselves for the meeting in good numbers and also for continuously making efforts on management of Non-Revenue Water. He further acknowledged some of the activities that have already been done in the course of the project like sensitization and monitoring commercial losses and informed the meeting that these excises will assist in management of NRW. He</p>

further informed the leading pilot WSPs and the other pilot WSPs that since they are part of the project, they are expected to be role models for other WSPs. He also reminded the members of the training in Japan which will be for the technical staff. In this regard, he advised the WSPs to select staff who are directly involved in the NRW activities. He also pointed out that sending the right staff for the trainings was important since they will practice and bring valuable change to their organizations and this will enable the WSPs and the ministry to move in the right direction.

### **3. Confirmation of previous minutes (Annex 1)**

Mr. Evans Gitahi (JICA Expert team) informed the meeting that as agreed in the previous meeting, the minutes were sent to the members a week earlier and therefore the chair only had to guide the members in case there were matters arising. The minutes were proposed by Mr. Anderson Kioi (MWS NRW Unit) and seconded by Mr. Gilbert Mutai (Nakuru WSP).

#### ***Matters Arising from the Previous Minutes***

- i.) Ms. Sugimoto pointed on a correction on minimum night flow measurement and not Midnight flow Measurement as was indicated in the minutes.
- ii.) Ms. Eddah (WASPA) informed the meeting that WASPA Benchmarking meeting was not held in August like it was reported in the previous meeting but was moved to October 2018.
- iii.) Eng. Alima informed the meeting that stage one of procurement of equipment was already done and the documents were handed over to the supply chain for procurement. He further said that it was expected that the equipment will be available between the month of October and November 2018.
- iv.) Eng. Alima enquired from Nakuru WSP if they had received any equipment from Rift valley water service board. Mr. Gilbert Mutai responded by informing the meeting that they had received single jet meters and were yet to receive volumetric metres and listening sticks. In this regard Eng. Alima regretted that the WSP did not receive the equipment that the MWS expected to be bought by the water board and so he informed him that WSPs will get equipment which are under procurement directly by the MWS.

### **4. Matters to be discussed**

- i) Report from the 4<sup>th</sup> JCC: MWS NRW Unit

Mr. Evans Gitahi JICA Experts team informed the meeting that the report that was expected to be given on the signing of the JCC minutes. Eng. Alima

responded by informing the meeting that the minutes were in the PS's office and would be signed in the course of the day.

ii). Discussion on issues related to each output of the project by Each C/P:

*a) Progress of Annual Report of NRW reduction: MWI NRW Unit*

Ms. Patricia NRW Unit informed the meeting that they had finalised incorporating comments from various counterparts and they were working on comments from the project manager after which the document will be presented to the procurement office. Eng. Alima requested to see the document before it was taken to the procurement office. Ms. Patricia also informed the meeting that the necessary budget was presented to Eng. Alima and was approved. She assured the members that the report will be to Eng. Alima by Friday the 7<sup>th</sup> September 2018.

*b) Updates from the Editorial committee: WASREB*

Eng. Ngugi informed the meeting that he regrets that they were not been able to meet since the inception meeting because he has been busy working on the dissemination of NRW audit report which was now in the past and that they have scheduled a meeting on 18<sup>th</sup> September 2018 and that they will be reporting on their progress during the next PIC meeting.

*c) Updates & preparation of next joint training: KEWI*

Mr. Mosei reported that the 4<sup>th</sup> Joint training was held as follows: MD sensitization was held on 13<sup>th</sup> August 2018, Classroom training was held from 14<sup>th</sup> to 18<sup>th</sup> August 2018 and the OJT was held from 27<sup>th</sup> August to 1<sup>st</sup> September 2018. The target WSPs were Nakuru, Ruiru-Juja, Kilifi-Mariakani and Kisumu, but Kisumu didn't attend.

He further informed the meeting that they will be holding a meeting later on 6<sup>th</sup> September 2018 at KEWI to deliberate on the challenges and way forward.

*d) Progress of activities at leading pilot WSPs: JICA Expert team, & Embu, Meru, Nyahururu & Nakuru WSPs*

The two pilot WSPs i.e. Nyahururu and Nakuru made their presentations about their NRW activities and results and the two leading WSPs i.e. Embu and Meru made oral presentations. (These presentations will be made available for access to by the counterparts as soon as possible).

Nakuru WSP pointed out that the equipment that they temporarily received from the JICA Expert team were very essential for them and they are now using them daily and that they might not be able to release them after the two months period that they were assigned the equipment lapses. In this regard, they requested that the

procurement of equipment be hastened so that they can be able to continue with the good practices since they have discovered the much they were losing through leakages.

Mr. Christopher (Embu WSP) reported that they were currently concentrating their efforts on stalled meters. He also pointed out on one major challenge that they have especially now that they are approaching the dry season is with miraa irrigation. He further informed the meeting that to curb this they will have a meeting with the local magistrate and the media to discuss on how to punish people involved in illegal connections and make it known to the public the charges involved. He also informed the meeting that they were partnering with a private company in order to acquire smart meters.

Mr. Silas (Meru WSP) reported that they were involved in intensive patrolling exercise and when they come across any leakage or burst they report using the NRW section data collection ODK form. The combination of patrolling and leak detection ODK forms will assist them to develop leakage pattern maps which in return can help in pipe replacement due to age.

*e) Sensitization and Benchmarking: WASPA*

Ms. Eddah from WASPA reported that the data template was updated and sent to WASPA members to fill in and send back to them by November 2018, validation was set to be done in January 2019. Benchmarking task group meeting was scheduled for 17<sup>th</sup> -18<sup>th</sup> October 2018 and the pro-poor meeting will be done in early October 2018.

*f) Budget arrangement: MWS NRW Unit*

**i). Procurement of equipment**

Mr. Kioi who was sitting in for the chairman, Eng. Alima, informed the meeting that Eng. Alima had already reported on this but to elaborate further he informed the meeting that a budget was done and they were given a certain ceiling and that is what they worked on and presented to the procurement office and are waiting for the tendering process to kick off since this is a huge procurement.

**ii). Exhibition at the Nairobi International Trade Fair**

Mr. Kioi reported that they had sent a letter to Nairobi Water and Sewerage Company requesting them for a space in their booth to exhibit during the trade fair. He also reported that they had prepared promotional materials with the help of Ms. Sugimoto to use during the day and that they had made a budget for the same which will be presented to Eng. Alima later in the day for approval.

### **5. Schedule of the next PIC meeting**

The meeting agreed to hold the next PIC meeting on 26<sup>th</sup> September 2018.

#### **7. A.O.B.**

- Mr. John Gitau JICA Kenya office informed the meeting that the information shared today was comprehensive. He suggested that the presentations from the WSPs should be in a set format to make it easier for the participants to understand. Mr. Evans JICA Expert team was tasked with sending the format to the WSPs and guiding them in future presentations.
- Mr. Taguchi, the Chief Advisor, JICA Experts Team informed the meeting that a letter was sent from the MWS to 6 pilot WSPs and other C/Ps asking them to nominate the members of staff to attend training in Japan in December 2018. He also informed the members that some WSPs had already sent back the names while others are yet to send. He requested the WSPs to nominate the right members of staff that who would benefit to their WSPs after the training.
- Ms. Sugimoto informed the meeting that in August they went to Nyahururu made a good educational video of field activities such as measuring of customer accuracy meters using calibrated buckets in collaboration with Nyahururu WSP. She said that she hopes to share the video during the next PIC.
- Mr. Moseti informed the meeting that the activities being promoted by Output 4 JICA experts and not very different from what KEWI teaches during their training courses. Therefore, he urged WSPs to be more aggressive in attending the courses at KEWI and applying what they learn there in their own WSPs.
- Eng. Ngugi emphasized on the WSPs taking KEWI's trainings seriously and sending the right members for the courses. He also encouraged the WSPs to ensure a dedicated NRW team is in place to carry out activities consistently in order to continuously manage NRW. He also requested that the JICA Experts team to share the billing data analysis with WASREM to ensure they can also benefit from the results. He also expressed his hope that the use of NRW Standards would be incorporated as a condition for licensing in future and urged the WSPs to familiarize themselves with the use the NRW standards.
- Ms. Patricia Mutua also encouraged the members to realize the importance of what they learn during the KEWI training courses, and also urged them to work as a team in order to achieve more than they can achieve individually.
- There being no other business to be discussed, the meeting ended at 10:40 am with a word of prayer.

**ATTENDANCE LIST:**

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1.	ENG. SAO ALIMA	Acting Water Secretary
2.	MASAHITO MIYAGAWA	JICA Kenya Representative
3.	JOHN GITAU MUNGAI	JICA Kenya Programme Officer
4.	MASAYUKI TAGUCHI	JICA Expert Team Chief Advisor
5.	ANDERSON KIOI	MWS NRW Unit
6.	PATRICIA MUTUA	MWS NRW Unit
7.	ENG. DANIEL M. NGUGI	WASREB
8.	WALTER M. MOSETI	KEWI
9.	FREDRICK MURIITHI	KEWI
10.	EDDAH WAMBUI	WASPA
11.	ROBERT K. MIRURI	Acting General Manager (MEWASS)
12.	SILAS NDATHO	Head NRW Unit (MEWASS)
13.	CHRISTOPHER KAMURUANA	Acting Head of Technical Services
14.	BERNARD MWAURA	Managing Director (NYAHUWASCO)
15.	PETER MWANGI	Technical manager (NYAHUWASCO)
16.	GILBERT K. MUTAI	Distribution Manager (Nakuru Water)
17.	HIROKO SUGIMOTO	JICA Expert Team
18.	SATOSHI SHIBAZAKI	JICA Expert Team
19.	CHARLES MAINGI	JICA Expert Team
20.	EVANS GITAHI	JICA Expert Team
21.	KELLYJOY GAKII	JICA Expert Team



**THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-REVENUE WATER REDUCTION**

**MINUTES OF THE TWELVETH PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING**

Date:	2018/09/26 (Wednesday)
Time:	9:00am – 10:40am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li>   <li>2. Communication from the Chairperson - Eng. SAO Alima</li>   <li>3. Confirmation of previous minutes -Mr. Gitahi</li>   <li>4. Matters to be discussed;             <ol style="list-style-type: none"> <li>i. Confirmation of the progress of the project by referring to the Project Monitoring Sheet: MWS NRW Unit</li> <li>ii. Discussion on issues related to each Output of the Project: By Each C/P:                 <ol style="list-style-type: none"> <li>a) Progress of NRW Annual Report and preparations for the Nairobi International Trade Fair (1<sup>st</sup>-7<sup>th</sup> Oct 2018): MWS NRW Unit</li> <li>b) Updates from the Editorial committee: WASREB</li> <li>c) Updates from the previous Joint Training and its review meeting: KEWI</li> <li>d) Progress of Activities at Pilot WSPs: JICA Experts team, &amp; Embu, Meru, Nyahururu &amp; Nakuru WSPs</li> <li>e) Next WASPA’s Benchmarking: WASPA</li> <li>f) Procurement of equipment – MWS NRW Unit</li> <li>g) Brief schedule of JICA Experts: JICA Experts Team</li> </ol> </li> </ol> </li>   <li>5. Schedule of next PIC meeting</li>   <li>6. A.O.B.</li> </ol>
Content	<p><b><u>1. Self-introductions</u></b>            All the members introduced themselves and their respective organizations.</p>

## **2. Communication from the Chairperson**

The presiding Chairperson, Dr. Leunita Sumba, called the meeting to order at 9:00am and requested Ms. Patricia NRW Unit to say a word of prayer before starting the meeting. She further informed the meeting that she was standing in for Eng. Alima who was away on official duty.

## **3. Confirmation of previous minutes (Annex 1)**

Mr. Evans Gitahi (JICA Expert team) informed the meeting that as agreed in the previous meeting, the minutes were sent to the members a week earlier and therefore the chair only had to guide the members in case there were matters arising. The minutes were proposed by Mr. Walter Moseti (KEWI) and seconded by Mr. Anderson Kioi (NRW Unit).

### ***Matters Arising from the Previous Minutes***

i.) Mr. Kihara (KEWI) raised a concern on how serious the WSPs were when it came to trainings. In his opinion the WSPs should emphasize on sending the right personnel for trainings and ensuring that they follow up by practicing what they learn from the trainings. Dr. Sumba requested Mr. Moseti to handle the concern and present a report on the training impact on both trainee and WSPs during next meeting presentation.

## **4. Matters to be discussed**

i) Confirmation of the Progress of the Project referring to the Project monitoring sheet:  
MWS NRW Unit

Members agreed that there was no need to go through the Project Monitoring Sheet as it is a repetition since the progress by each counterpart is discussed later in the meeting.

ii) Discussion on issues related to each output of the project by Each C/P:

a) *Progress of NRW Annual Report and preparations for the Nairobi International Trade Fair: MWI NRW Unit*

Ms. Patricia NRW Unit informed the meeting that they had finalised incorporating comments from the project manager and they are waiting for the approval of the procurement of the printing process. She also reported that the Ministry is co-exhibiting with Nairobi City and Sewerage Company and so far, they had their first planning meeting and agreed on the exhibits. They also showed them samples of their exhibition materials which they also presented to the committee.

b) *Updates from the Editorial committee: WASREB*

Eng. Ngugi informed the meeting that the editorial committee met on 19<sup>th</sup> September 2018 and they formulated a work plan, Terms of Reference and a budget which they

will Submit to the Ministry of Water and Sanitation.

*c) Updates from the previous Joint Training and its review meeting: KEWI*

Mr. Moseti reported that the 4<sup>th</sup> Joint training was held as follows: MD sensitization was held on 13<sup>th</sup> August 2018, Classroom training was held from 14<sup>th</sup> to 18<sup>th</sup> August 2018 and the OJT was held from 27<sup>th</sup> August to 1<sup>st</sup> September 2018. The target WSPs were Nakuru, Ruiru-Juja, Kilifi-Mariakani and Kisumu, but Kisumu didn't attend.

He further informed the meeting that they held three review meetings i.e. 6<sup>th</sup>, 10<sup>th</sup> and 25<sup>th</sup> September 2018. In the review meetings they agreed the questionnaires given to the trainees should be restructured to be clearer. They also agreed that a normal NRW short course will be implemented on 22<sup>nd</sup> October 2018. Its curriculum is to be as same as the newly formulated Joint Training course but it will not be recognized as the project-base Joint Training.

They also agreed that the contents of the course should include the output obtained by trainings conducted by Output 4 team. Topics like Ethics of staff in handling NRW, NRW standards and ODK tools will be taught as much as possible in the next training. The next joint training will be conducted in January or February 2019 and for the course to attract more trainees it was agreed that KEWI advertise the training and make a timetable in order to incorporate the challenges raised in the review meeting into the next Joint Training. The methodology of group discussions and interactive sessions will be employed as much as possible.

The following proposal was made on how to handle Non-NRW Joint Training:

Sensitization for MDs of WSP would be sought to be held in collaboration with WASPA's bi-monthly meetings. Indicate clearly in the invitation letters to WSPs the proper kind of staff expected to attend the Joint Training.

Time allocation and lecturer's competent for the curriculum should be enhanced in the next Joint Training course.

*d) Progress of activities at leading pilot WSPs: JICA Expert team, & Embu, Meru, Nyahururu & Nakuru WSPs*

Mr. Charles JICA Experts team informed the meeting that the training on new NRW reduction template was already done on all the WSPs and that he expected that the WSPs would submit their plans by 26<sup>th</sup> September 2018.

MEWASS and EWASCO WSPs made presentation to the meeting. (These presentations will be made available for access by the counterparts as soon as possible).

Nyahururu reported that they were working on the calibrated buckets and so far they had done around 3000. They were also testing pressures along the pipelines, GIS mapping was also at 65% and they were targeting to map all even in rural areas.

The MD Nyahururu sought to know if WASREB or the Ministry would provide in-depth analysis or feedback from regular meetings held or even the presentations made by the Pilot WSPs. Eng. Ngugi responded by informing the committee that inputs from the meeting with relevant information will be considered during the ongoing NRW review editorial task.

There was a disconnect between the WSPs and WASREB i.e. information was not flowing down and was stuck within the three senior persons in the WSPs. Eng. Ngugi responded by informing the committee that the new planning tool issued by WASREB was to encourage a participatory approach and will cascade to utility operators. He urged the WSPs to ensure they maintain a unit that is consistent in matters of NRW.

Mr. Gilbert from Nakuru WSP reported that they were dealing with both physical and commercial losses. 30% of meters were read accurately, they had replaced some of the large customer meters and the replacement was still going on. Their NRW ratio was at 31% and they were aiming to reduce it to the acceptable 25% by the end of this year.

*e) Sensitization and Benchmarking: WASPA*

Ms. Patricia from WASPA reported that Bench marking task group meeting was scheduled for 18<sup>th</sup> -19<sup>th</sup> October 2018 and the pro-poor meeting will be done in early October 2018.

*f) Procurement of equipment: MWS NRW Unit*

Ms. Patricia NRW Unit reported that the procurement process was still on and that the procurement office had already sent invitations for tender, after which they will select the appropriate bidder.

*g) Briefs schedule of JICA Experts: JICA Experts Team*

Mr. Taguchi informed the committee that he would be flying out of the country on 27<sup>th</sup> September 2018 and will be coming back in January 2019. He further introduced Mr. Takahashi to the members and informed them that he would be around for one and half months. He also informed the members that Mr. Sekimoto will also be arriving on 21<sup>st</sup> October 2018 and will also be around for one and half months, Mr.

Mori will arrive on 3<sup>rd</sup> October 2018 and work for two months, Mr. Harada would arrive on 15<sup>th</sup> October 2018 and work for one and half months and also Mr. Kano will arrive on 5<sup>th</sup> November work for 2weeks. He also reminded the members that he will be waiting to receive trainees who will be attending the training in Japan in December 2018.

**5. Schedule of the next PIC meeting**

The meeting agreed to hold the next PIC meeting on 31<sup>st</sup> October 2018.

**6. A.O.B.**

- Mr. John Gitau JICA Kenya office congratulated the WSPs for the nice presentations and requested that in future the font size for the same should be bigger for visibility purpose. He also suggested that if the WSPs felt that there was a gap in the monitoring sheet then they can come up with their own monitoring sheet to bridge the gap.
- Mr. Mabonga proposed that KEWI should allocate one lecturer to go with the experts in the field so that they can also learn what the WSPs are learning.
- Mr. Mabonga was requested to share Mr. Takahashi's itinerary with KEWI. He was also requested to share the required travel documents in preparation for the training in Japan.
- Madam Sugimoto requested that the number of participants attending the PIC be limited to 3 per institution.
- There being no other business to be discussed, the meeting ended at 11:20 am.

**ATTENDANCE LIST:**

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1.	DR. LEUNITA SUMBA	Director KEWI
2.	MR. MASAHITO MIYAGAWA	JICA Kenya Representative
3.	MR. JOHN GITAU MUNGAI	JICA Kenya Programme Officer
4.	MR. WATARU TAKASHIMA	JICA Kenya Representative
5.	MR. DAVID MABONGA	Coordinator MWS NRW Unit
6.	MR. ANDERSON KIOI	MWS NRW Unit
7.	MS. PATRICIA MUTUA	MWS NRW Unit
8.	MR. ENG. DANIEL M. NGUGI	WASREB
9.	MR. WALTER M. MOSETI	KEWI
10.	MR. WILLIAM W. ODUOR	KEWI
11.	MR. BERNADDATTE MAUNDU	KEWI
12.	MR. KIHARA KIBUCHI	KEWI
13.	MS. NYAKUDI EVERLYNE	KEWI
14.	MR. FREDRICK MURIITHI	KEWI
15.	MS. PATRICIA WANJERI	WASPA
16.	MR. ROBERT K. MIRURI	Ag General Manager (MEWASS)
17.	MR. SILAS NDATHO	Head NRW Unit (MEWASS)
18.	MR. CHRISTOPHER KAMURANA	Ag Head of Technical Services (EWASCO)
19.	MR. JOSEPH I. MAINA	NRW Head (EWASCO)
20.	MR. BERNARD MWAURA	Managing Director (NYAHUWASCO)
21.	MR. PETER MWANGI	Technical manager (NYAHUWASCO)
22.	MR. GILBERT K. MUTAI	Distribution Manager (Nakuru Water)
23.	MR. LABAN MWANIKI	Technical Manager (KIRIWASCO)
24.	MR. MASAYUKI TAGUCHI	Chief Advisor, JICA Expert Team
24.	MS. HIROKO SUGIMOTO	JICA Expert Team
25.	MR. JUNICHI TAKAHASHI	JICA Expert Team
26.	MR. CHARLES MAINGI	JICA Expert Team
27.	MR. EVANS GITAHI	JICA Expert Team
28.	MS. KELLYJOY GAKII	JICA Expert Team

**THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-REVENUE WATER REDUCTION**

**MINUTES OF THE THIRTEENTH PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING**

Date:	2018/11/07 (Wednesday)
Time:	8:30am – 10:50am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes -Mr. Gitahi</li> <li>4. Matters to be discussed;             <ol style="list-style-type: none"> <li>i. Confirmation of the progress of the project by referring to the Project Monitoring Sheet: MWS NRW Unit</li> <li>ii. Discussion on issues related to each Output of the Project: By Each C/P:                 <ol style="list-style-type: none"> <li>a) Progress Activities of NRW Unit, MWS                     <ol style="list-style-type: none"> <li>i) Printing of NRW Annual Report</li> <li>ii) Procurement of equipment for Pilot WSPs</li> <li>iii) Sensitization activities: Nairobi International Trade Fair (1<sup>st</sup>-7<sup>th</sup> Oct 2018) and others</li> </ol> </li> <li>b) Progress of the Editorial committee: WASREB</li> <li>c) Plan of preparation for the 5th Joint Training and progress of its implementation: KEWI</li> <li>d) Progress of Activities at Pilot WSPs: JICA Experts team, &amp; Embu, Meru, Nyahururu, Nakuru, Kisumu &amp; Ruiru-juja WSPs</li> <li>e) Activities of WASPA: WASPA</li> <li>f) Training in Rwanda: JICA Experts team</li> <li>g) Preparation of Training in Japan: JICA</li> </ol> </li> </ol> </li> <li>5. Schedule of next PIC meeting</li> <li>6. A.O.B.</li> </ol>
Content	<p><b><u>1. Self-introductions</u></b> All the members introduced themselves and their respective organizations.</p> <p><b><u>2. Communication from the Chairperson</u></b> The presiding Chairperson, Dr. Leunita Sumba, called the meeting to order at 8:30am. She further informed the meeting that she was standing in for Eng. Alima who was away on official duty. She informed the meeting that she expects the counterparts and the WSPs to continue with their work so as to move ahead with the</p>

project. She also requested the members to continue applying more efforts to meet their outputs target. She further appreciated the secretariat for making the documents for the meeting available in good time.

### **3. Confirmation of previous minutes (Annex 1)**

Mr. Evans Gitahi (JICA Expert team) informed the meeting that as agreed in the previous meeting, the minutes were sent to the members a week earlier and therefore the chair only had to guide the members in case there were matters arising. The minutes were proposed by Mr. Anderson Kioi (NRW Unit) and seconded by Eng. Ngugi (WASREB).

#### ***Matters Arising from the Previous Minutes***

i) Mr. Kioi (MWS NRW Unit) requested to know if KEWI was able to send a representative to join the experts when they are in the field, as requested in the previous meeting. Mr. Moseti explained that they had financial constraints and that it was not possible to send someone but they discussed the same with Mr. Mabonga who was in return supposed to talk to Eng. Alima to see how the MWS can help on the issue and get back to Mr. Moseti.

### **4. Matters to be discussed**

i) Confirmation of the Progress of the Project referring to the Project monitoring sheet:  
MWS NRW Unit

Members went through the monitoring sheet and discussed their output as indicated below in the discussions on issues related to each output.

ii) Discussion on issues related to each output of the project by Each C/P:

#### ***a) Progress of Activities of NRW Unit***

i) *Printing of the NRW Annual report:*

Mr. Kioi (MWS NRW Unit) informed the meeting that the procurement for the printing of NRW Annual report was approved and the process was expected to commence soon. Dr. Sumba requested Kellyjoy to share the draft with members. Eng. Ngugi (WASREB) also requested that the process be hurried up since the report needed to be launched as soon as possible. He also informed the meeting that WASREB will be launching the next impact report between the month of April – May 2019. That means after the launch of the impact report preparations for the next year's NRW annual report should start.

ii) *Procurement of equipment for Pilot WSPs*

Mr. Kioi informed the meeting that the process was in its final stage and that they



had sent an order to the winning bidder and they are awaiting delivery of equipment. Mr. Mori requested that they be issued with a copy of the order that was given to the supplier and also that they be allowed to see the equipment that will be delivered before they are issued to the WSPs. This was agreed by all the members.

iii) *Sensitization activities: Nairobi International Trade Fair (1<sup>st</sup> – 7<sup>th</sup> Oct 2018) and others.*

Ms. Sugimoto reported that the NRW Unit and the Experts team participated in the Nairobi International Trade Fair and as it was reported earlier, they were hosted by the Nairobi Water and Sewerage Company in their stand. They used posters, which can be availed to the WSPs. They also had an NRW quiz with 5 simple questions and if a participant got three of the questions right, they were given either a wrist band or candy. They also had children hats for colouring and they were also expected to make a pledge on how they will conserve water. She also suggested holding a training to the customer care persons in WSPs on NRW management. Dr. Sumba requested if that can be done in collaboration with KEWI since they have that in their curriculum.

**b) Progress of the Editorial committee: WASREB**

Eng. Ngugi informed the meeting that the editorial committee formulated a work plan for consideration, Terms of Reference and a budget which was submitted to the Ministry of Water and Sanitation and are waiting for approval of the budget. He also said that he was still reviewing the questionnaires and incorporating the comments raised by members of the editorial committee after which the questionnaires will be administered to the WSPs to respond.

**c) Plan of preparation for the 5<sup>th</sup> joint training and progress of its implementation: KEWI**

Mr. Moseti reported that after the 4<sup>th</sup> joint training, they have identified the improvements needed in their trainings design and delivery. He also reported that he was working on an action plan but he was not able to finalize it yet, since he was waiting to receive some feedback from the MWS on their financial support, especially about having one of the KEWI lecturers joining the experts during their field visits. He also informed the members that 5<sup>th</sup> joint training would be held in either late January or early February 2019.

Dr. Sumba also pointed out that there was need to work towards making KEWI courses attractive so that even after the project WSPs can still join them for further trainings.

**d) Progress of activities at leading pilot WSPs: JICA Expert team, & Embu, Meru, Nyahururu, Nakuru, Kisumu and Ruiru-Juja WSPs**

Mr. Mori reported that most of the pilot WSPs did not submit their revised mid-term and annual NRW reduction plans by the extended deadline of 26/9/2018. Therefore, JICA experts have been continuing to support their preparation of the plans. At the end of October, Kisumu and Mavoko had prepared detailed plans while Meru, Ruiru-Juja & Nyahururu WSP had prepared simple plans. The remaining 3 WSPs are still working on the formulation of plans using the new template.

He further reported that Embu had updated its GIS pipeline data as a preparation for better pressure management in Zone 2 where high pressure is causing frequent leakages. Inaccuracy of a production bulk meter (possibly due to air intrusion, effect of a throttled gate valve, or mechanical malfunction at a high flow rate) is being further investigated.

Meru WSP is trying to improve on utilizing existing billing system (M@jics) by incorporating in a new custom-made NRW monitoring software module into their system for accurate and timely calculation of NRW volume and ratio in each distribution zone and DMA. Embu WSP also uses M@jics and is currently working to realize its own NRW monitoring system after the installation of missing zonal & DMA bulk meters. Their experiences with this NRW monitoring software module would help the three pilot WSPs to be supported mainly in Phase 3 of the Project. In order to support their NRW monitoring in Phase 3, JICA experts started helping Mavoko and Eldoret WSP in improving their zoning of distribution systems.

Nyahururu & Nakuru WSP are continuing their efforts to reduce leakage by using ultrasonic flow meters, listening sticks, leak detectors, etc. Nyahururu is also improving their pressure mapping for entire service area by taking more pressure measurements.

Ruiru-juja WSP has recently started minimum night flow measurements with step test for leak reduction and is currently trying to improve their commercial losses related activities by utilizing mobile GIS on which they visualize their detailed customer identification survey results and navigate their field staff for efficient implementation of activities.

Kisumu WSP has prepared a draft preliminary plan for improving the zoning of their distribution systems for better NRW monitoring. Kisumu is about to select an area where they will have on-site leak detection trainings with the JICA experts.

He also pointed out that Based on experiences with the recent successful organizational rearrangement (i.e. establishment of dedicated NRW Section) at Embu WSP, JICA experts are now supporting other WSPs (e.g. Eldoret, Nakuru and

Kisumu) to improve their organizational structure and demarcation of NRW-related duties between different departments and sections.

Presentations from Nyahururu and Nakuru WSPs were further made to the members. Mr. Peter Mwangi (NYAHUWASCO) pointed out that in their case after the analysis they noted they were over estimating on the customers' bills and that this might have some implications but they were ready to work on the actual billing. Mr. Gilbert Mutai (NAWASSCO) reported that in their case they were under estimating and they were also willing to work with the actual billing. Mr. Mori enquired from the two if they knew of their trends of either over estimation on meter readings or under estimations. Mr. Peter Mwangi reported that they knew that they were over estimating on the bills and this happened in the case whereby they visited the customer to read the meters and the gates were locked. Giving them a high bill would make them visit the WSP for complaints and there they would raise their concern of the locked gates that hindered them to reach the meters for actual readings.

Dr. Sumba further enquired to know if the WSPs can attribute their progress to the project. NYAHUWASCO responded by saying yes, they did and also pointed out that NRW was not just about the physical and commercial losses but the leadership of a WSP was also very key in the management of NRW.

Mr. Mutai (NAWASSCO) also reported that in the case a customer's gate is locked for 3 consecutive months they disconnect water from outside.

Mr. Moseti informed the meeting that during the next scheduled training, KEWI will be doing demonstrations on the wrong and right ways of installing meters in their new test field. Mr. Ngugi suggested that WSPs should send their staff to KEWI for training on the matter of meters specifications and installation. Mr. Mutai also pointed out that in most WSPs most of the meter readers are untrained and they are involved even in installation of meters and that is why poor workmanship in meter installation is found. After a lengthy deliberation on the matter of meter reading the meeting found it necessary for the issue to be addressed as an urgent matter so as to avoid discrepancies leading to commercial losses. The meeting agreed on the importance of WSPs sending Trainer of Trainers (TOTs) to be trained in KEWI and have them train other members in the various companies or even request a lecturer from KEWI for a day or two and have their various employees trained on the same matter.

Mr. Mutai reported that NAWASSCO will be holding an inhouse training in the coming week with their representatives who attended the WASPA training in Embu.

Mr. Mori also informed the meeting that the Experts are coming up with a simple

meter test bench which is still at test stage and in Ruiru-Juja they did a customer identification survey to help in identifying meter location which will help in their billing.

*e) Activities of WASPA: WASPA*

WASPA had not sent any representative but Ms. Sugimoto reported that they had an NRW Management Forum in Embu which had over 100 participants including the MWS PS and CAS. The Forum Consisted of 1-day High Level Panel Meeting on NRW with exhibitions, and 3 days of NRW Management Field Training.

However, the members felt that it was important to have a clear-cut boundary on the WASPA's forums i.e. they be given a different name such as field demonstrations, but not training, since as far as the project was concerned, KEWI is the one mandated to do the trainings. Mr. Moseti gave an example of a mix up that happened when they invited the WSPs for the 4<sup>th</sup> training and they said they will not be attending since they will attend the upcoming WASPA's training. Ms. Sugimoto also enquired to know when WASPA will be carrying out their benchmarking activities since they were charging on their previous training which to her that meant that it was not a part of the benchmarking.

The meeting agreed that there should be a meeting between WASPA, MWS and the Experts to clarify this issue.

*f) Training in Rwanda: JICA Experts team*

Mr. Gitau (JICA Kenya) informed the members that there was a study tour in Rwanda and Mr. Sekimoto, Mr. Miyagawa and two members from Embu WSP were attending from 5<sup>th</sup> to 9<sup>th</sup> November 2018.

*g) Preparation of Training in Japan: JICA*

Mr. Gitau informed the members that they received approval for 8 participants who are going to Japan for the training and in the coming week they will be working on their visas. He further informed the members that they were on point as far as the timelines were concerned.

**5. Schedule of the next PIC meeting**

The meeting agreed to hold the next PIC meeting on 28<sup>th</sup> November 2018.

**6. A.O.B.**

- Mr. John Gitau JICA Kenya office informed the members that when he visited Nyahururu WSP and he saw a lot of enthusiasm in the NRW team as they worked with the equipment together with the Experts but it was

	<p>important to note that some of the activities they were doing then could not be possible in the absence of the experts because of lack of the equipment. He therefore asked the MWS to ensure the promised equipment were procured as soon as possible.</p> <ul style="list-style-type: none"> <li>• Mr. Kano introduced himself to the members and informed them that he was back to work on reduction of commercial losses and also to prepare curriculum for meter readers. Dr. Sumba informed the meeting that they will be working together with him on the curriculum.</li> <li>• Mr. Harada informed the meeting that he had talked to Mr. Taguchi and he requested them to continue working together.</li> <li>• There being no other business to be discussed, the meeting ended at 10:50 am.</li> </ul>
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#### ATTENDANCE LIST:

No.	Name	Institution
1.	DR. LEUNITA SUMBA	Director KEWI
2.	MR. JOHN GITAU MUNGAI	JICA Kenya Programme Officer
3.	MR. WATARU TAKASHIMA	JICA Kenya Representative
4.	MR. ANDERSON KIOI	MWS NRW Unit
5.	MR. ENG. DANIEL M. NGUGI	WASREB
6.	MR. WALTER M. MOSETI	KEWI
7.	MR. PETER MWANGI	Technical manager (NYAHUWASCO)
8.	MR. GILBERT K. MUTAI	Distribution Manager (Nakuru Water)
9.	MR. JOB LIECH	NRW (KIWASCO)
10.	MS. HIROKO SUGIMOTO	JICA Expert Team
11.	MR. TOSHIO KANO	JICA Expert Team
12.	MR. SHOZO MORI	JICA Expert Team
13.	MR. NAOKI HARADA	JICA Expert Team
14.	MR. CHARLES MAINGI	JICA Expert Team
15.	MR. EVANS GITAHI	JICA Expert Team
16.	MS. KELLYJOY GAKII	JICA Expert Team

#### Apologies

- MEWASS

#### Absent with no Apology

- RUIRU-JUJA
- EWASCO
- WASPA

**THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN NON-REVENUE WATER REDUCTION**

**MINUTES OF THE FOURTEENTH PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING**

Date:	2018/11/28 (Wednesday)
Time:	9:00 – 11:20am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes - Mr. Gitahi</li> <li>4. Matters to be discussed; <ol style="list-style-type: none"> <li>i. Confirmation of the progress of the project by referring to the Project Monitoring Sheet: MWS NRW Unit</li> <li>ii. Discussion on issues related to each Output of the Project: By Each C/P: <ol style="list-style-type: none"> <li>a) Progress Activities of NRW Unit, MWS <ol style="list-style-type: none"> <li>i) Printing of NRW Annual Report</li> <li>ii) Procurement of equipment for Pilot WSPs</li> </ol> </li> <li>b) Progress of the Editorial committee: WASREB</li> <li>c) Plan of preparation for the 5<sup>th</sup> Joint Training and progress of its implementation: KEWI</li> <li>d) Progress of Activities at Pilot WSPs: JICA Experts team, &amp; Embu, Meru, Nyahururu, Nakuru, Kisumu &amp; Ruiru-juja WSPs</li> <li>e) Activities of WASPA: WASPA</li> <li>f) Training in Japan: JICA</li> </ol> </li> </ol> </li> <li>5. Schedule of next PIC meeting</li> <li>6. A.O.B.</li> </ol>
Content	<p><b><u>1. Self-introductions</u></b> All the members introduced themselves and their respective organizations.</p> <p><b><u>2. Communication from the Chairperson</u></b> The chairperson Eng. Alima thanked the members for attending the meeting on time and also for their efforts in the project. He said that he believed the WSPs were making progress and with commendable impact. He pointed out that the WSPs should always remember that they are the pilot in the project and must do things well since others will learn from them. NRW is a challenge and the country was losing</p>

funds that could be used for other developments through it. However, we should start small and should never lose focus, make serious commitments so that others can learn from you since you are expected to give the rest of the WSPs the expertise you are acquiring from the experts. He further acknowledged that Nyeri was doing a good job but the pilot WSPs can bypass them. Also, he gave an example of Malindi who was once at 17% but they are now at 31%. He encouraged them to have NRW as a lifestyle to know how and where they are distributing water to everyday. The experts have come to assist and so they should take the exercise seriously. He said that the country relies on the pilot WSPs and should therefore take the exercise with all the seriousness that it deserves.

### **3. Confirmation of previous minutes (Annex 1)**

Mr. Evans Gitahi (JICA Expert team) informed the meeting that as agreed in the previous meeting, the minutes were sent to the members a week earlier and therefore the chair only had to guide the members in case there were matters arising. The minutes were proposed by Mr. Walter Moseki (KEWI) and seconded by Ms. Sugimoto (JICA Experts Team).

#### ***Matters Arising from the Previous Minutes***

i) Ms. Sugimoto requested that KEWI be added to the meeting that was proposed between the MWS, Experts and WASPA during the previous meeting.

### **4. Matters to be discussed**

i) Confirmation of the Progress of the Project referring to the Project monitoring sheet:  
MWS NRW Unit

Members went through the monitoring sheet and discussed their output as indicated below in the discussions on issues related to each output.

ii) Discussion on issues related to each output of the project by Each C/P:

#### ***a) Progress of Activities of NRW Unit***

i) *Printing of the NRW Annual report:*

Ms. Patricia (MWS NRW Unit) informed the meeting that like it was reported in the previous meeting the procurement for the printing of NRW Annual report was approved and the process had already commenced. She further informed the members that they had agreed with the in-charge procurement department that the printer who wins the bid will be advised to bring a draft copy of the report to the

NRW team for prove reading and also to agree on the final copy design before printing the entire work.

*ii) Procurement of equipment for Pilot WSPs*

Ms. Patricia informed the meeting that the MWS had sent an order to the winning bidder and they are awaiting delivery of equipment which they are optimistic that it would be in the course of the week. Members were however concerned that the equipment were taking longer than expected and, in this regard, Mr. Mabonga requested that the experts and even the WSPs should be a bit patient since the procurement by the government had to take the entire process as required. Mr. Sekimoto requested that now that he will be away during the arrival of the equipment Mr. Charles and Mr. Moseti be a part of the committee that will be receiving the equipment so as to access the specifications. He also raised his worry in the initial training of the WSPs on the use of the equipment. Members agreed that the MWS can propose during the next JCC on the coming back of Mr. Sekimoto to do the training on the usage of the equipment.

Mr. Moseti pointed out that some WSPs had the right equipment but were not using them since they did not know how to use them. He gave an example of the coastal water services where all the WSPs had the right equipment but kept them in the stores since they did not know how to use them.

**b) Progress of the Editorial committee: WASREB**

Eng. Ngugi informed the meeting that he had finalised on the questionnaires and that he had already sent it to the editorial committee. He further reported of a planned meeting with some of editorial committee members to go through the finalized questionnaires later after the PIC.

**c) Plan of preparation for the 5<sup>th</sup> joint training and progress of its implementation: KEWI**

Mr. Moseti reported that they were planning to hold the 5<sup>th</sup> joint training between the month of January and February 2019. He also reported that he had received communication from the expert in-charge of their output and that they will be meeting in Japan and he will give progress during the next PIC meeting.

**d) Progress of activities at leading pilot WSPs: JICA Expert team, & Embu, Meru, Nyahururu, Nakuru, Kisumu and Ruiru-Juja WSPs**

Mr. Mori informed the members that they were testing the cheap equipment with the WSPs and he also showed them some pictures with the equipment in the field.



He also reported that as of November 22, Kisumu and Mavoko had prepared detailed plans while Meru, Nyahururu, Nakuru & Ruiru-juja had prepared simpler plans. Embu & Eldoret are still working on the formulation of plans using the new template. The progress of Kilifi-Mariakani had not been confirmed yet. The status of planning above was shared with WASREB on November 19.

Highlights of activities from November 1st to 22nd are shown below.

Embu WSP has recently conducted another investigation on its largest production meter by measuring flow with UFM's under various conditions. Back flows through the production meter was observed. As a result, a new chamber will be constructed for installing new production meters downstream to replace this problematic production meter.

JICA Expert Team supported Meru WSP to conduct hydraulic analyses to plan the improvements required to divide existing Zone 3 into two distribution zones while solving low pressure problems at small hills in the lower area of Zone 3.

Nyahururu, Nakuru, Ruiru-Juja & Mavoko have been setting up hand-built meter test benches with support from JICA Expert Team.

Nakuru, Kisumu & Ruiru-juja have been preparing significant scale-up of their commercial loss management including accuracy test of large customer meters by using low-cost ultrasonic flow meters and mobile GIS software.

Meru, Embu, Nyahururu, Nakuru, Ruiru-juja and Kisumu have received trainings on meter reading and meter standards, etc.

Eldoret, Mavoko, Kisumu & Nyahururu have roughly calculated their total financial losses caused by NRW and potential financial gains from reducing the NRW by half.

Ruiru-Juja has re-selected a new pilot area, where JICA experts will support their leak detection, after the minimum night flow measurement at the area previously selected for the leak detection failed due to its intermittent water supply conditions.

Kisumu had selected a new relatively-large pilot area and conducted the first trial of step testing with JICA Expert Team.

Ruiru-Juja is currently trying to improve the coordination between the different sections involved in NRW reduction (e.g. meter reading, meter installation, distribution, billing, NRW & GIS) and the chains of command related to NRW Section.

Kisumu (after intensive discussions between its Technical Department including NRW Section, Commercial Department including Zone Coordinators and Internal Audit) is currently going through a trial to increase the responsibility of its NRW

Section over customers having 3/4” meters or those consuming more than 50m<sup>3</sup>/month on average, in addition to their existing duties of dealing with very large customers having 1” or larger water meters.

EWASCO and MEWASS did their presentation to the members. Mr. Silas later raised his concern in the governance of their WSP especially in the top management. Eng. Ngugi responded by saying WASREB was aware of the turbulence in governance in some WSPs and that they were attempting to do their best but members should be aware of the boundaries between the politicians and the technical people. However, there are times that they are forced to allow the court to take over and they follow the ruling of the court. Ms. Sugimoto informed the members that the Experts are planning to have a meeting with MEWASS new CEO when Mr. Taguchi returns in the country. Members agreed it was also important to involve the CEC the General Manager and the Technical Manager in the meeting.

Mr. Mwangi (Nyahururu WSP) reported that they were proceeding with the main activities mainly the meter testing. He also reported that they got the simplified meter testing, they were working on the pressures and also the pipelines i.e. leak detections using the listening sticks. He said they were also planning to complete the simple plans but they were not as simple as the name may appear.

Mr. Gilbert (Nakuru WSP) reported that they had noticed tremendous changes in their NRW ratio since the month of August which was at 37.9%, dropped to 35.6 in September and at October it was at 31.1%. He also reported that as at now they can be able to calculate the NRW ratio for all their zones. Further to this he said they had noted that they had 8 county estates that were not metered and did not pay for the water they received. These estates were their main contributor of NRW. However, they are working on disconnecting the estates and giving them new lines and also forcing them to open accounts. He also reported that they were targeting to have 100% individual meters by the end of the year in the southern zone. He also said they were key in the quality of the meters they were receiving from the suppliers. In this the acting chairperson congratulated all the WSPs for emphasizing on quality meters from the suppliers.

Ms. Mary Mwangi (RUIRU-JUJA) reported that they were above 35% in NRW ratio. They were working on selecting the DMAs and mapping. They were able to know that the main contributor to NRW in their WSP was commercial losses which were caused by either illegal connections or non-billed customers. They had finished working on the planning tool.

*e) Activities of WASPA: WASPA*

Ms. Patricia (WASPA) informed the members that WASPA had a training calendar and that is what they were implementing during the High-level Panel Meeting. Eng. Alima pointed out that WASPA should have involved KEWI during the trainings since they are the ones mandated by the project to train. Ms. Sugimoto enquired to know when WASPA was

planning to undertake their benchmarking activities since they were charging the attendees during the training in Embu. Ms. Patricia responded by informing the members that even for the benchmarking the attendees are expected to pay only that they pay a little amount of money and they pay it annually. Members agreed to have a meeting tentatively in the following week to discuss this matter further. She also reported that they were having a review to incorporate the right specifications in the smart meters especially now that they are coming in.

*f) Training in Japan: JICA*

Mr. Charles, JICA Experts Team, reported to the members that in the previous year JICA had sponsored the management team to attend a training in Japan and in this year's, they were targeting the technical team. This year's training will start from 1<sup>st</sup> – 16<sup>th</sup> December 2018. He reported that it was expected that the knowledge gathered by the members attending the training will be transferred to the rest of the members who were not attending. He informed the members that the attendees were expected to carry their laptops and also prepare presentations from their various organisations.

**5. Schedule of the next PIC meeting**

The meeting agreed to hold the next PIC meeting on 16<sup>th</sup> January 2019.

**6. A.O.B.**

- Eng. Ngugi requested that Ruiru-Juja and Kisumu WSP be marked for subsequent presentations. He also informed the members that provisions of NRW will be secured in the licensing of the WSPs
- Utilities in the pilot should not have an issue of driving the project ahead
- They should capitalize in making the losses less everyday
- Only Nyahururu had been compliant in submitting the NRW report. He encouraged the WSPs to start submitting their reports using the new plan
- He further encouraged them to sustain their results consistently
- Mr. Mosei informed the members that KEWI has a 5days short course on the use of the leak detection equipment and therefore WSPs should make effort and take the course
- Members suggested that the 5<sup>th</sup> JCC be held on 6<sup>th</sup> February 2019 tentatively
- There being no other business to be discussed, the meeting ended at 11:20 am.

**ATTENDANCE LIST:**

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1.	Eng. SAO ALIMA	MWS
2.	MR. DAVID MABONGA	MWS NRW Unit
3.	MS. PATRICIA MUTUA	MWS NRW Unit
4.	ENG. DANIEL M. NGUGI	WASREB
5.	MR. WALTER M. MOSETI	KEWI
6.	MS. PATRICIA WANJERI	WASPA - NRW Specialist
7.	MR. BERNARD MWAURA	NYAHUWASCO
8.	MR. PETER MWANGI	Technical Manager (NYAHUWASCO)
9.	MR. GILBERT K. MUTAI	Distribution Manager (Nakuru Water)
10.	MR. MICHAEL GITAU	Head of NRW RUJWASCO
11.	MS. JANE NGUGI	Technical RUJWASCO
12.	MS. MARY MWANGI	TM RUJWASCO
13.	MR. SILAS NDATHO	Head NRW
14.	MR. JOSEPH I. MAINA	Head NRW
15.	MR. FELIX G. MUTUURA	HTS EWASCO
16.	MS. HIROKO SUGIMOTO	JICA Expert Team
17.	MR. SEKIMOTO SHINICHI	JICA Expert Team
18.	MR. SHOZO MORI	JICA Expert Team
19.	MR. CHARLES MAINGI	JICA Expert Team
20.	MR. EVANS GITAHI	JICA Expert Team
21.	MS. KELLYJOY GAKII	JICA Expert Team

**Apologies****1. JICA Kenya office****Absent without Apology**

- Kisumu

**THE PROJECT FOR STRENGTHENING CAPACITY DEVELOPMENT IN  
NON-REVENUE WATER REDUCTION**

**MINUTES OF THE FIFTEENTH PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING**

Date:	2019/01/23 (Wednesday)
Time:	8:30 – 11:00am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes -Mr. Charles Maingi</li> <li>4. Matters to be discussed;             <ol style="list-style-type: none"> <li>i. Preparation for 5th JCC                 <ol style="list-style-type: none"> <li>a) Draft Agenda (Date, Venue, Participants, etc): MWS NRW Unit</li> <li>b) Preparation for the JCC Presentations: JCC: JICA Experts team</li> </ol> </li> <li>ii. Discussion on issues related to each Output of the Project: By Each C/P:                 <ol style="list-style-type: none"> <li>a) Progress of NRW Annual Report: MWS NRW Unit</li> <li>b) Procurement of equipment for Pilot WSPs: ditto</li> <li>c) Progress of the Editorial committee: WASREB</li> <li>d) Updates on the Preparation for the 5<sup>th</sup> Joint Training: KEWI</li> <li>e) Progress of Activities at Pilot WSPs: JICA Experts team, &amp; Embu, Meru, Nyahururu, Nakuru, Kisumu and Ruiru Juja WSPs</li> <li>f) Activities of WASPA: WASPA</li> <li>g) Report of Outputs acquired through Training in Japan: An appointee of trainee members</li> </ol> </li> </ol> </li> <li>5. Schedule of next PIC meeting</li> <li>6. A.O.B.</li> </ol>
Content	<p><b><u>1. Self-introductions</u></b> All the members introduced themselves and their respective organizations.</p> <p><b><u>2. Communication from the Chairperson</u></b> The chairperson Eng. Alima welcomed the members to the 15<sup>th</sup> PIC meeting. He pointed out that it was worth noting that we have had these meetings since the project began and that he believed that WSPs are making effort at institutional level to implement what they learnt after they attend the meetings so that others can learn from them.</p> <p>Eng. Alima requested to know the progress of the procurement of equipment for the WSPs. Mr. Mabonga responded by informing the members that the supplier had not yet supplied the equipment and that he has been postponing the delivery dates. In</p>

this regard the chairman Eng. Alima made a call to the in-charge procurement and he emphasized on having the equipment delivered by the end of the week. He also requested to know if the experts gave the right specifications for the equipment so as to avoid back and forth after the equipment were delivered. Mr. Taguchi, JICA Experts team Chief Advisor, responded by informing the members that the team gave out the right specifications to the Procurement Dept. of MWS and that they are very worried since there has been no notable progress in this regard. Mr. Miyagawa also pointed out that he hoped that the equipment would be delivered before the next JCC to avoid mentioning the same issue again before the senior members of the ministry. Mr. Mabonga also informed the members that an inspection committee which comprises of the KEWI, JICA Experts and other members would be formed to receive the equipment.

### **3. Confirmation of previous minutes (Annex 1)**

Mr. Charles Maingi (JICA Expert team) informed the meeting that as agreed in the previous meeting, the minutes were sent to the members a week earlier and therefore the chair only had to guide the members in case there were matters arising. The minutes were proposed by Mr. Walter Moseti (KEWI) and seconded by Eng. Ngugi (WASREB).

#### ***Matters Arising from the Previous Minutes***

i) Mr. Taguchi raised a concern about the meeting that was to be held between the MWS, JICA Experts, KEWI and WASPA and was not held. The chairman requested that the said meeting be held in the coming week.

### **4. Matters to be discussed**

#### **i) Preparation for the 5<sup>th</sup> JCC**

a) Draft Agenda (Date, Venue, Participants etc): MWS NRW Unit

Mr. Taguchi, JICA Experts Team Chief Advisor, informed the members that the JCC meeting was very important for the project since it helps to monitor the progress of the project. He further informed them that the coming JCC is very key since we are coming to the end of the 2<sup>nd</sup> phase of the project (i.e. September 2019) and therefore it is important to know how the progress of the various counterparts, and if there is need for change of approach in specific areas. He further presented to the members a tentative agenda for the 5<sup>th</sup> JCC meeting and explained the two sessions therein. Mr. Miyagawa requested to know if the Permanent Secretary would be present at the JCC meeting. Eng. Alima responded by informing the members that he would do a brief note for the PS to go through so as to be aware of what the meeting was all about. He further

informed the members that the PS cannot attend the meeting for the whole day and therefore it was very important for the members to be able to adjust the programme so that key issues are handled first in his presence before he leaves the meeting. Mr. Taguchi agreed to change the sequence of the presentations in the tentative agenda for the JCC meeting.

b) Preparations for the JCC presentations: JCC: JICA Experts team

Mr. Taguchi also explained to the members his expectations in terms of evaluation and challenges to be addressed during the remaining period of the Phase 2 of the project as issued for the discussion in the next JCC. He pointed out that its main purpose is to assess the achievement of each Output with regards to promoting the NRW reduction activities in the various WSPs and counterpart organisations. He however stated that the sheet that he presented to the members had room for further adjustment to make it better for the next JCC meeting.

ii) Discussion on issues related to each output of the project by Each C/P:

**a) Progress of Activities of NRW Unit**

i) *Printing of the NRW Annual report:*

Mr. Mabonga presented to the members the draft printing of the first version of the NRW annual report was submitted. He further explained to the members that they were going through the report identifying the necessary corrections to be worked on before the final version was printed. Ms. Patricia (MWS NRW Unit) informed the members that they had not designed the right cover page and in this regard the chairman requested members if there could be any of them with a very nice picture that can fit to be used for the cover page to forward it to Mr. Mabonga. Mr. Miyagawa also pointed out that it was worth noting that the annual report would be a progressive report and not a one-time report

ii) *Procurement of equipment for Pilot WSPs*

This was discussed at the beginning of the meeting in the communication from the chairperson i.e. agenda no. 2.

**b) Progress of the Editorial committee: WASREB**

Eng. Ngugi informed the members that they had a meeting between the MWS NRW Unit and representatives from the JICA Experts team and they agreed on the set of questions to be used for the questionnaires. He further prepared the questionnaires and before he came for the meeting, he had sent a link to the members on how to access the questionnaires for trial. He also requested the members to make comments on the link and thereafter it would be sent to the WSPs. Eng. Ngugi also informed the members that he was planning to call for a meeting on either 30<sup>th</sup> or 31<sup>st</sup> of January. Mr. Taguchi enquired to know if the TOR, budget and workplan that had been prepared earlier were approved. Mr. Mabonga responded by saying that

they were approved by the PS and that a memo was written by the PS for funds to be released.

The chairperson requested that the committee should see to it that they were making good progress and gave a timeline of 6<sup>th</sup> February 2019 for the committee to hold the meeting.

**c) Updates on the preparation for the 5<sup>th</sup> joint training: KEWI**

Mr. Moseti informed the members that KEWI was progressing well in the preparations for the 5<sup>th</sup> joint training. He said that the classroom training would be held on 4<sup>th</sup> – 8<sup>th</sup> March 2019, and OJT would be on 18<sup>th</sup> – 23<sup>rd</sup> March 2019. He further stated that the dates were subject to review on some issues highlighted during the reviewing of the 4<sup>th</sup> joint training and that they were holding a meeting to discuss the issues on Friday, January 25<sup>th</sup> 2019. Mr. Taguchi requested to be sent a report on the agreed issues the following week i.e. (after the mentioned meeting).

Mr. Moseti further informed the members that the invitation for the 5<sup>th</sup> Joint training would be made a month before. The chairman suggested that they go through WASPA to send the invitations so as to get a wider communication. Mr. Moseti also requested that the WSPs to send different people who have not attended their trainings there before since it's the same things that were taught before. This will help in empowering more personnel in the WSPs. He also requested if the pilot WSPs can be allowed to send 2 people for the training since there are only 2 training courses remaining. He also said it was worth noting that all the pilot WSPs have so far participated fully in the trainings. Mr. Irungu informed the members that the OJT held in Embu were very beneficial to them and he suggested if it could be possible to have it held in any other WSP for them to benefit also. The members agreed that since the training can only be conducted in the leading WSPs, the 5<sup>th</sup> OJT course will be held in EWASCO but the members will consider holding it in MEWASS in the future so as to give KEWI enough time to prepare Meru for hosting the training. Mr. Ndatho expressed his enthusiasm and goodwill to hold the OJT in MEWASS in the future, but pointed out that MEWASS doesn't have a good water meter test bench. Mr. Liech from Kisumu WSPs also expressed his willingness to hold the OJT course in Kisumu in the future.

**d) Progress of activities at leading pilot WSPs: JICA Expert team, & Embu, Meru, Nyahururu, Nakuru, Kisumu and Ruiru-Juja WSPs**

Mr. Charles gave a brief highlight on the activities going on at the WSPs.

In Embu WSP, plans are underway to have the faulty production meters replaced.

They have so far collected and uploaded pressure data from 30no. pressure points in zone 2 using ODK which will later be useful for the pressure management



exercise in the zone. They have also started the exercise of procuring pressure reduction valves for the same. They have also developed and adopted meter standard specifications for R-200 meters to be used for procurement and have so far tested 40 new meter samples.

Large and small customer meter survey on stalled and mal-functional meters is ongoing and have so far tested 174no.small customer meters, replaced the faulty ones and netted 4no. illegal connections and the appropriate action taken.

Nyahururu, Nakuru, Ruiru-Juja & Mavoko have been setting up improvised meter test benches which he is to start training them on their usage.

Kisumu WSP has been working on the Hydraulic Zoning where so far, the desktop review is complete and is now awaiting acceptance by the management for implementation to commence. Minimum Night Flow measurements are also on going where they recently worked on the 8” Chiga pipeline. As a result, mapping and repair of the physical leaks found is complete and the active underground leakage detection exercise is scheduled to start in January 2019.

Meru, Nyahururu, Nakuru and Ruiru-juja are mainly concentrating on large customer monitoring, Step testing and Minimum Night Flow measurements (e.g. Zone 4 lower in Meru, Bondeni Estate in Nakuru, and Rwathia and Agostino lines in Nyahururu).

Kilifi – Mariakani is mainly dealing with customer meter servicing, testing and replacement of the mal-functional meters.

In conclusion he notified the members that the project encourages WSPs to adopt and use improvised apparatus temporarily if sophisticated and expensive equipment is not available to ensure no delays their NRW reduction activities.

Highlights from the WSPs

#### **MERU**

Mr. Ndatho began by thanking the MWS and JICA for according him a chance to attend the training in Japan. He further informed the members the various activities that they were undertaking as a WSP which included the following:

Intensive patrolling using the ODK, night flow measurement, meter calibration and in particular started this in zone 8. He further informed the members that they have a budget for the replacement of the pipelines, old tertiary lines and also for procuring new meters for replacing the faulty ones.

#### **EMBU**

Mr. Irungu informed the members that they were involved in under taking the following activities:

Checking large customer meters and testing the customer meters. He pointed out that they had prepared a draft metering policy. He also informed the members they were ready to carry out the second billing data analysis so that they can monitor their progress in commercial losses. Mr. Charles however responded by informing him that results from the data analysis keep on varying and it is advisable to have it on either annual or semi-annual basis so that the WSP can review the changes over a wider span of time. They however agreed that since they already had a difference of more than 6 months since the previous analysis was done, they can work on the 2<sup>nd</sup> analysis.

Mr. Irungu also informed the members that they had formed a task force that meets on monthly basis to review the NRW status and give a way forward. He also informed the members that the task force was comprised of the technical people but they would be incorporating the key people from other department in the future. Mr. Charles enquired about the progress made by EWASCO on the planning template. Mr. Irungu responded by informing the members that they had completed  $\frac{3}{4}$  of the template and the reason as to why they were taking longer was because they are going through it in a detailed manner and that they are hoping to complete and submit it soon.

Ms. Patricia, WASPA, informed the members that WASPA was aware that there was a component of smart meters that is failing and she requested the WSPs with the challenge to forward them to WASPA so that they can work on the specifications again.

### **KISUMU**

Mr. Liech informed the members that in Kisumu they did analysis and realized that 22 accounts that were major were being billed on average. Out of the analysis he reported that a bigger percentage of their connections totalling to 51% was billed on estimation. He also said that they are currently testing all the customer meters in Milimani DMA and replacing the ones found to be faulty. Currently, they have tested 200 out of the current 2000 connections using either the calibrated buckets, portable test meters or the main test bench. So far, they have realized a 1% decrease in NRW ratio in this DMA and expect further decrease in the near future over the entire service area.

He also reported that they were monitoring pressures remotely using digitalized pressure loggers, they also realized theft of air valves and have so far done four plastic replacements that are working well. They are also working towards proper protection of their air valves since most of the vandalism cases are at the air valves.

Mr. Liech further reported that the WSP had realized a decrease of 3% in their NRW ratio over 4 months, and that they are now at 31%. Their billing also had increased by over 3million per month and he thanked JICA Experts Team for their efforts in training them.

Eng. Ngugi proposed that the WSPs should control the quality of materials and workmanship for new connections so that after a customer pays the connection fee, he/she is connected using the materials specified by the company and also the work is done by the company staff.

#### **NYAHURURU**

Mr. Muthami reported the activities that they were undertaking in Nyahururu as follows:

Meter testing using calibrated buckets, ODK and smart phones

They have so far tested a total of 2,477 meters and replaced the faulty ones. They have spread the use of the listening sticks and have so far found and repaired many leakages where a lot of water was being lost. Mapping of their entire area using GIS is almost complete. They have drafted a metering and materials policy. They have also formed a committee on NRW from technical, commercial and public relations departments. The committee will conduct trainings for other departments so that they can learn about NRW reduction. He also pointed out that they had a major challenge with their bulk meters, especially their location, but they had identified appropriate areas to install them and also want to replace them with Electro-magnetic meters. He also reported that as of December 2018 their NRW ratio was 39%. Mr. Kioi enquired whether they had obtained assistance from other project activities apart from the training by the JICA Experts. He responded by saying that training from KEWI was also very important to them and it had assisted them greatly.

#### **RUJWASCO**

Ms. Mary Mwangi reported the following activities from Ruiru-Juja WSP:

They are currently testing customer meters and replacing the malfunctioning ones with high accuracy meters. So far about 500 customer meters have been replaced. They are also relocating customer meters in a bid to curb illegal water usage and theft. On zoning, she reported that they have now completed the zoning and sub-zoning exercise together with the installation of the respective zonal and sub-zonal meters. She also reported that mapping of the entire distribution area is nearing completion having done about 70%. They are currently tackling the physical losses by repairing the physical leaks by using the UFM and the listening sticks to identify the underground leakages. She also reported that after calibration of 15 sub-zonal meters, only one was within the acceptable range and so there is need to have them replaced. They are majoring on best practices like: use of HDP pipes for replacement and extensions, and inspection work for illegal connections. Their NRW ratio as of December 2018 was 35%.

## NAKURU

Mr. Mutai reported the following activities that are being carried out in Nakuru WSP:

They have so far isolated 5 zones from the initial 3 zones. They had realized a drop in NRW ration from 35.7% in June 2018 to 31% as of December 2018. They had also noted that some of their bulk meters were under registering. The margin of error ranged up to 14% for some bulk meters, meaning the production volume was not accurately recorded.

The chairman pointed out that during the JCC, presentations should not only be showing the activities undertaken by various WSPs but also figures and percentages in terms of NRW reduction as well as revenue increase will be of great importance.

### *e) Activities of WASPA: WASPA*

Ms. Patricia (WASPA) informed the members that after the 14<sup>th</sup> PIC, WASPA did not have so many activities but they held a meeting in December with various chairpersons of the tasks force and discussed what went well or wrong in the course of their activities in the course of the year and the calendar of activities was also agreed upon.

1<sup>st</sup> meeting -Data Validation workshop (February 2019)

2<sup>nd</sup> meeting – 15<sup>th</sup>& 16<sup>th</sup> April 2019 (Development of Performance Improvement Plans)

3<sup>rd</sup> Meeting – July (Best/ Leading Practices)

She further thanked JICA and the MWS for involving WASPA in the training in Japan where she learnt that Japan had an organization similar to WASPA called Japan Water Works Association (JWWA) and from them they learnt the following:

- Quality is key and WASPA should bring other partners like KEBS on board for quality checks
- Retired water experts were retained so as to share their experiences with other upcoming experts
- Other lessons learnt would be shared in the other forums of WASPA

Mr. Miyagawa enquired to know the consistency in the items of planning (NRW reduction plan). Eng. Ngugi requested the WSPs to work closely with WASREB and WASPA so as to converge issues in NRW reduction plans to make it simpler for the utilities.

Mr. Felix Mutuura, EWASCO, suggested that there should be a way of sanitizing the pipes after repairs have been undertaken, as well as have a standard way of doing the plumbing work for all the WSPs under WASPA. He also suggested that there should be a way whereby a customer who needs a meter installed in her home can have something to show that the plumbing work in his/her house was done by a licensed or qualified plumber. This is because it had come to their knowledge that WSPs lose a lot of water due to poor plumbing works especially within the

customers' premises.

Eng. Ngugi also pointed out that it was the mandate of all members to bring order in the water sector.

*f) Report of Outputs acquired through training in Japan: An appointee of trainee members*

Mr. Moseti informed the members that they had 8 representatives from various counterpart organizations and one local Expert of the JICA team who attended training in Japan. The training took place between 1<sup>st</sup> and 16<sup>th</sup> December 2018. The training was administered through the following ways:

Lectures, visit to manufacturing companies that manufacture materials such as meters and pipes, as well as practical sessions using the NRW equipment.

Mr. Moseti also pointed out the following;

- ✓ The materials used in the network were of high quality
- ✓ Satisfying customers was also very key in Japan and that complaints were taken very seriously
- ✓ Knowledge transfer at whichever level was also highly embraced
- ✓ Data management in term of monitoring, documenting etc was also very key i.e. data helps to build a history on how a solution was formulated and the current stage
- ✓ Japan also embraced supervision of the workers by a senior employee

The chairman concluded by suggesting that following the training in Japan, the members should include their commitments and the way forward in the JCC presentations.

#### **5. Schedule of the next PIC meeting**

It was agreed that the next PIC meeting will be held on 26<sup>th</sup> February 2019.

#### **6. A.O.B.**

Mr. Taguchi requested the members to send the names of three persons from their utilities to attend the JCC so as to prepare the attendance sheet in advance.

Mr. Mabonga suggested if the WSPs can start tendering for the plumber services so as to get qualified plumbers.

There being no other business to be discussed, the meeting ended at 11:00 am.

**ATTENDANCE LIST:**

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1.	ENG. SAO ALIMA	Ag. Water Secretary (MWS)
2.	MR. MASAHI TO MIYAGAWA	JICA Kenya office
3.	MR. BERNARD MWAURA	Managing Director (NYAHUWASCO)
4.	MR. DAVID MABONGA	MWS NRW Unit
5.	MS. PATRICIA MUTUA	MWS NRW Unit
6.	MR. ANDERSON KIOI	MWS NRW Unit
7.	ENG. DANIEL M. NGUGI	WASREB
8.	MR. WALTER M. MOSETI	KEWI
9.	MS. PATRICIA WANJERI	NRW Specialist (WASPA)
10.	MS. MARY MWANGI	Technical Manager (RUJWASCO)
11.	MR. FELIX G. MUTUURA	HTS (Head of Technical Services) EWASCO
12.	MR. PAUL MUTHAMI	Head of NRW (NYAHUWASCO)
13.	MR. JOB LIECH	Head of NRW (KIWASCO)
14.	MR. GILBERT K. MUTAI	Distribution Manager (NAWASSCO)
15.	MR. MICHAEL GITAU	Head of NRW (RUJWASCO)
16.	MR. SILAS NDATHO	Head NRW (MEWASS)
17.	MR. JOSEPH I. MAINA	Head NRW (EWASCO)
18.	MR. MASAYUKI TAGUCHI	Chief Advisor, JICA Experts Team
19.	MR. NOBORU SAITO	JICA Expert Team
20.	MR. CHARLES MAINGI	JICA Expert Team
21.	MR. EVANS GITAHI	JICA Expert Team
22.	MS. KELLYJOY GAKII	JICA Expert Team

**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION**  
MINUTES OF THE SIXTEENTH PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING

Date:	2019/02/26 (Tuesday)
Time:	9:00 – 11:40am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Mr. Anderson Kioi for Eng. SAO Alima</li> <li>3. Confirmation of previous minutes -Mr. Charles Maingi</li> <li>4. Matters to be discussed; <ol style="list-style-type: none"> <li>i. Feedback of Project Achievement: JICA Expert Team</li> <li>ii. Discussion on issues related to each Output of the Project: By Each C/P: <ol style="list-style-type: none"> <li>a) Progress of NRW Annual Report: MWS NRW Unit</li> <li>b) Procurement of equipment for Pilot WSPs: ditto</li> <li>c) Progress of the Editorial committee: WASREB</li> <li>d) Preparations for the 5<sup>th</sup> Joint Training: KEWI</li> <li>e) WASPA Activities schedule: WASPA</li> <li>f) Progress of Activities at Pilot WSPs: JICA Experts team; &amp; Embu, Meru, Nyahururu, Nakuru, Kisumu, Ruiru-Juja and Kilifi-Mariakani WSPs</li> </ol> </li> <li>iii. Discussion among Participants</li> </ol> </li> <li>5. Schedule of next PIC meeting</li> <li>6. A.O.B.</li> </ol>
Content	<p><b><u>1. Self-introductions</u></b> All the members introduced themselves and their respective organizations.</p> <p><b><u>2. Communication from the Chairperson</u></b> The chairperson Mr. Anderson Kioi began by informing the members that he was sitting in for Eng. Alima who was held up in other official duties. He therefore welcomed the members to the 16<sup>th</sup> PIC meeting. He pointed out that it was worth noting that there were several achievements that had been realized in the project from various outputs but the WSPs were very key in the project since their progress was the main determinant of success in the project.</p>

### **3. Confirmation of previous minutes (Annex 1)**

Mr. Charles Maingi (JICA Experts team) informed the members that as agreed in the previous meeting, the minutes were sent to the members a week earlier and therefore the chair only had to guide the members in case there were matters arising. The minutes were proposed by Mr. Bernard Mwaura (Nyahururu) and seconded by Ms. Patricia Mutua (MWS NRW Unit) and therefore confirmed as the true record of the meeting.

#### ***Matters Arising from the Previous Minutes***

i) The meeting between MWS, JICA Experts, KEWI and WASPA was not held. Members agreed that the MWS should articulate on a clear agenda for the said meeting and have it held then give feedback during the next PIC meeting.

### **4. Matters to be discussed**

#### **i) Feedback of Project Achievement: JICA Experts Team**

Mr. Taguchi (Chief Advisor, JICA Experts Team) presented to the members a document showing feedback of the project achievement on the indicators of each output. In his conclusion he said in comparison to the indicator there were commendable achievements so far in some areas in various outputs but still in other areas there was work to be done.

#### **ii) Discussion on issues related to each output of the project: By Each C/P**

##### **a) Progress of NRW Annual Report: MWS NRW Unit**

Mr. Mabonga reported that the 1<sup>st</sup> contractor for the printing services was below their expectations and in view of this they had secured a new contractor. He said that the new contractor had already finished working on the content of the report and was working on the cover page. He was therefore expected to deliver the 1<sup>st</sup> draft in the course of the day for prove reading and corrections.

##### **b) Procurement of equipment for pilot WSPs: MWS NRW Unit**

Mr. Mabonga further reported that the supplier had brought some brochures of the equipment to the ministry but they were rejected since they lacked the right specifications. The ministry on its part sought for the right sample brochures and forwarded them to the supplier, who further promised to deliver some of the equipment in 3 days and the rest later after he gets them from Japan.

##### **c) Campaigns and sensitization**

Ms. Patricia reported that the unit was taking campaigns to the primary schools near the pilot WSPs. This exercise commenced in the previous year in Embu and Meru WSPs and now is being rolled out to the rest of the pilot WSPs. Alongside the technological approach to fight the NRW monster it is planned to give a social approach to the fight. She said the exercise will target pupils in classes 6 -7. The aim is to have children in the WSPs service areas aware of the importance of water conservation and reduction of NRW; and nurturing the young water users



to be aware of their responsibility on water use. She further presented a draft county sensitization programme which will start with a workshop at Nakuru county on 28<sup>th</sup> March 2019 in Nakuru. Mr. Felix (EWASCO) suggested that the Reduction of NRW from WASREB i.e. in relation to the program, be made clear to the members on how the pilot WSPs are performing, amount of money lost and the various NRW efforts being made. Eng. Ngugi pointed out that the zeal for reducing the NRW is not as much as it is in infrastructure development among the WSPs and therefore it was important for awareness to be created to all the concerned parties so as to have them come together to fight the NRW. He further pointed out that the NRW Standard is the right instrument to help do the work and therefore will be included in their presentation as WASREB. Members also agreed that the draft program be circulated for their opinion.

**d) Progress of the Editorial committee: WASREB**

Eng. Ngugi reported that the 3<sup>rd</sup> NRW Standard editorial committee meeting was held on 4<sup>th</sup> February 2019. The meeting agreed on the contents of the revised NRW standard and allocated each committee member specific chapters and/or issues within the three (i.e. guideline, manual and hand book) volumes of the standard to review. He also reported that 25 WSPs had made responses to the questionnaires on the NRW Standard review and that he was pursuing the rest of the WSPs to get their responses. He said that he hopes the committee will catch up on the lost time. The Editorial committee had set 13<sup>th</sup> March 2019 as the day of the 4<sup>th</sup> meeting.

**e) Updates on the preparation for the 5<sup>th</sup> joint training: KEWI**

Mr. Moseti informed members that KEWI was preparing for the 5<sup>th</sup> joint training. He said that the classroom training will be held from 4<sup>th</sup> – 8<sup>th</sup> March 2019 in KEWI, and OJT from 18<sup>th</sup> – 23<sup>rd</sup> March 2019 in Embu. He pointed out that the project will sponsor 2 participants per WSP while the WSPs will sponsor any ones. He also reminded Meru to prepare for the 6<sup>th</sup> OJT early enough to avoid changing its venue at the last minute. He informed that this time, 3<sup>rd</sup> party evaluators will be involved to help in reviewing the course. They have suggested MWS, JICA Experts, WASREB and JICA Kenya as 3<sup>rd</sup> party evaluators to give feedback. He said that official communication to the above will be sent by close of business. He also enquired on the budget facilitation from the ministry and Mr. Mabonga agreed to make follow up on the same with the account's office.

**f) WASPA Activities schedule: WASPA**

Mr. Ambugo reported that WASPA was planning to have a lot of NRW activities this year the most recent one being the international conference and EXPO which will be held from 2<sup>nd</sup> – 4<sup>th</sup> April 2019 at the KICC Nairobi. Further, WASPA will host at least three regional NRW forums among others activities. The calendar will be communicated to the members soon.

**g) Progress of activities at the leading pilot WSPs: JICA Expert team, Embu, Meru, Nyahururu, Nakuru, and Kilifi–Mariakani WSPs (NB: Kisumu & Ruiru–Juja WSPs did not send representatives)**

Mr. Charles (JICA Experts Team), informed members that the mandate of the Experts in the project was to train or knowledge sharing. He gave the example of the analysis on billing and meter reading that was done for all the pilot WSPs and said the experts were waiting to receive feedback on the WSPs progress after the analysis. He said that it was the mandate of the management of the various WSPs to take-up after the various activities done by the Experts and to see to it that it is consistently practiced and observed. He encouraged the managers present to have systems in place for sustenance even after the end of the project. He said that for them to be the leading WSPs, they will have to excel in the various field.

Highlights from the WSPs

**EMBU**

Mr. Maina reported that EWASCO had done the following key activities:

- Customer meter billing analysis: So far they had tested 78 in January mainly C3 upwards and 128 in February. They were monitoring the large customer meters e.g. car washes and construction sites on weekly basis. Started on the accuracy testing using the bucket and portable UFM

Upgrade of the NRW management module of the billing system: he reported that they had encountered a challenge but had engaged the developer who was working on it.

**MERU**

Mr. Ndatho reported on the various activities that MEWASS was undertaking as a WSP which included the following:

- Connected 98 customers and updated them on GIS with latitudes and longitudes.
- 63 pressure measurement
- Meter calibration – so far they had worked on 300 customer meters in zone 8.
- Started testing and monitoring customer meters and so far have worked on 39 meters. In the case of broken seals a fine of Ksh. 5,000 is imposed on the particular customer. Over flow from BPTs is being controlled and NRW has gone down to 26%.

- Intensive patrolling using the ODK after night flow measurement is being done.

Mr. Miruri pointed out that the ongoing road construction for bypasses in Meru was posing serious challenges due to the heavy water loss caused by the pipeline damages.

The chairperson pointed out that it was important for the WSPs to report on the revenue gained after undertaking these activities.

### **NYAHURURU**

Mr. Muthami reported the activities that they were undertaking in Nyahururu as follows:

- Have so far tested 2,507 meters and replaced 23 which were either under registering, over registering or dormant.
- Pressure management is continuing and 40 points had been checked earlier. 30 points were to be re-tested and so far 8 have been retested.
- A new pilot area (Manguo) had been incorporated.
- They also did benchmarking at Nanyuki WSP and they are advancing in the use of the toolbox (Kobo collect).
- All water kiosks have been mapped.
- New zonal meters have been installed at the right positions, trained on improvised meter testing bench and so far, found 4 illegal connections. There is also an ongoing training by a consultant called Smart People Africa for meter readers, billing clerks, scheme managers, commercial manager and the NRW unit.

### **NAKURU**

Mr. Mutai reported the following activities that are being carried out in Nakuru WSP:

Their NRW ratio as at January was 30.9%

They were interconnecting the overflow with the inlet pipes so that in case of overflow the water will go to the customers.

They were working on the Central Business District (CBD) which has 9000 accounts where they were losing between 38 - 40% of the water. They were planning to create 4 territories, relocate consumer meters to the main line and have them protected to avoid damage or cases of theft. They were also monitoring the southern zone and have established a good network to the 2 remaining zones which is easy to understand and to work on.

### **KILIFI-MARIAKANI**

Mr. Munga reported the following activities that are being carried out in Kilifi-Mariakani WSP:

They had received 160 bulk meters from the Coast Water Services Board (CWSB) which they do joint meter reading with the CWSB. Some of the bulk meters are

stalled while others are inaccurate, and although they have severally requested for their replacement to CWSB nothing has been done so far. The WSP is therefore planning to replace them on their own.

They are adopting smart metering on about 100 households because they are usually locked during meter reading exercise.

They are sensitizing the staff members and residents to report leaks and are also in the process of procuring GIS system.

They have so far found 50 illegal connections leading to the sacking of 6 staff members involved in the illegal connections. The revenue has increased by Ksh. 10 million and they are investigating whether the sackings are the reason.

They have also serviced 300 meters and replaced 200 meters and are in the process of buying additional meters for both new connections and for replacements.

The NRW ratio currently stands at 46%.

Mr. Bernard Mwaura (MD NYAHURURU) raised a concern that if the bulk meters were not accurate Kilifi–Mariakani will never get right NRW ratios. In this regard he requested to know how the ministry can intervene. Mr. Mabonga responded by informing the members that the issue of CWSB was brought to the attention of the ministry and a letter was written to them and if they had not worked on the issues raised in the letter then the ministry would revisit the issue with them.

Mr. Gitonga (EWASCO) recommended that WSPs provide WSBs with their preferred meter specifications through the ministry for a better relationship.

Eng. Ngugi also informed the members that the relationship between WSPs and WSBs should be good but it was good practice to allow the WSPs to give their specifications for the bulk meters. He also encouraged the WSPs to be more proactive and do their own meter testing and with the facts on the inaccuracy of the bulk meters then it was easier to engage the regulator. On the same note he said that the water regulations are soon coming on board and the relationship between the various institutions will be well defined. In view of this he encouraged the WSPs to play their role well when the regulations are dispatched and flag out issues so that the regulator can work on them.

#### **5. Schedule of the next PIC meeting**

It was agreed that the next PIC meeting will be held on 27<sup>th</sup> March 2019.

#### **6. A.O.B.**

Mr. Taguchi appreciated the participation of Kilifi–Mariakani in the PIC. He also gave a tentative timetable for dispatching the JICA experts as follows:

Mr. Taguchi will leave on 9<sup>th</sup> March 2019 and come back in early April, and stay for 1.5 months.

Mr. Shibazaki arrived on mid-February and will be around for 2 months

Mr. Mori will arrive in early April and stay for a month and come back next time in June.

Mr. Sekimoto will arrive in mid-April and be around for one month.

Mr. Takahashi will arrive in mid-May and be around for one and half months.  
Mr. Harada will arrive in June and be around for one month.  
Mr. Saito will arrive in August and be around for one month.  
Mr. Kioi recommended that the soft copy of the timetable be circulated.

Eng. Ngugi encouraged the WSPs to continue practicing the pair attendance to the PIC meetings since this will help the information to stream down to the rest of the members in the WSP.

Members agreed to invite the rest of the pilot WSPs i.e. Eldoret and Mavoko to the PIC meetings. Mr. Taguchi agreed to send letters to the two WSPs inviting them to attend the subsequent meetings.

Members agreed to have the management of Kisumu WSP explained the importance of the PIC meeting so as to allow a representative attend the subsequent meetings. Mr. Taguchi informed the members that he will be visiting them in the coming week and would discuss the same with them.

Mr. Taguchi also informed the members that it was important to have the PIC on monthly bases since this would help in monitoring the progress and also getting feedback from the WSPs on the month's activities.

Mr. Charles encouraged the WSPs to prepare their own Standard Operating Procedures (SOP) since this would ease their work flow and for efficient record keeping. Eng. Ngugi in this regard also said that the documentation would help to bridge the gap in the technical side.

Ms. Patricia (MWS NRW Unit) also encouraged the members to participate in the coming world water day that will be observed on 22<sup>nd</sup> March 2019 by creating awareness even at WSP level especially in the NRW management issues.

The chairperson thanked the members for their fruitful participation in the meeting.

There being no other business to be discussed, the meeting ended at 11:40 am.

## ATTENDANCE LIST

No.	Name	Institution
1.	MR. DAVID MABONGA	MWS NRW Unit
2.	MS. PATRICIA MUTUA	MWS NRW Unit
3.	MR. ANDERSON KIOI	MWS NRW Unit
4.	MS. LEUNITA A. SUMBA	Director KEWI
5.	MR. WALTER M. MOSETI	KEWI
6.	ENG. DANIEL M. NGUGI	WASREB
7.	MR. ANTONY AMBUGO	WASPA
8.	MR. BERNARD MWAURA	Managing Director (NYAHUWASCO)
9.	MR. PAUL MUTHAMI	Head of NRW (NYAHUWASCO)
10.	MR. FELIX G. MUTUURA	HTS (Head of Technical Services) EWASCO
11.	MR. JOSEPH I. MAINA	Head NRW (EWASCO)
12.	MR. GILBERT K. MUTAI	Distribution Manager (NAWASSCO)
13.	MR. JOHN WACHIRA	NRW (NAWASSCO)
14.	MR. ROBERT K. MIRURI	GM (MEWASS)
15.	MR. SILAS NDATHO	Head NRW (MEWASS)
16.	MR. R.N. MUNGA	NRW - O (KIMAWASCO)
17.	MR. MASAYUKI TAGUCHI	Chief Advisor, JICA Experts Team
18.	MR. SATOSHI SHIBAZAKI	JICA Expert Team
19.	MS. HIROKO SUGIMOTO	JICA Expert Team
20.	MR. GEORGE KARANJA	JICA Expert Team
21.	MR. CHARLES MAINGI	JICA Expert Team
22.	MS. KELLYJOY GAKII	JICA Expert Team

### Apologies

- JICA Kenya office
- Ruiru -Juja

**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION**  
MINUTES OF THE SEVENTEENTH PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING

Date:	2019/03/26 (Tuesday)
Time:	8:30 – 11:30am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes - Mr. Charles Maingi</li> <li>4. Matters to be discussed; <ol style="list-style-type: none"> <li>i. Confirmation of the progress of the project by referring to the Project Monitoring Sheet: MWS NRW Unit</li> <li>ii. Discussion on issues related to each Output of the Project: By Each C/P: <ol style="list-style-type: none"> <li>a) Progress of NRW Annual Report: MWS NRW Unit</li> <li>b) Procurement of equipment for Pilot WSPs: ditto</li> <li>c) Progress of the Editorial committee: WASREB</li> <li>d) Update on the 5<sup>th</sup> Joint Training: KEWI</li> <li>e) WASPA Activities schedule: WASPA</li> <li>f) Progress of Activities at Pilot WSPs: JICA Experts team, &amp; Embu, Meru, Nyahururu, Nakuru, Kisumu, Eldoret, Mavoko, Kilifi- Mariakani and Ruiru - Juja WSPs</li> </ol> </li> <li>iii. Discussion among Participants</li> </ol> </li> <li>5. Schedule of next PIC meeting</li> <li>6. A.O.B.</li> </ol>
Content	<p><b><u>1. Self-introductions</u></b> All the members introduced themselves and their respective organizations.</p> <p><b><u>2. Communication from the Chairperson</u></b> The chairperson Eng. Alima welcomed the members to the 17<sup>th</sup> PIC meeting. He pointed out that it was worth noting that the project has never missed any of the PIC meetings as it was earlier planned and this should continue. He also said that he was hopeful that members were improving on the various areas discussed on during the meeting since that was one of the main reason as to why the meetings were being held consistently. He also said that it was the duty of the pilot WSPs to pass the</p>

learnt knowledge to their neighboring WSPs and to the counterparts also they were expected to complete their various tasks given unto them for the success of the project. He also acknowledged the participation of the NRW Unit during the world water day held in Kakamega on 22<sup>nd</sup> March 2019.

### **3. Confirmation of previous minutes (Annex 1)**

Mr. Charles Maingi (JICA Experts team) informed the members that as agreed in the previous meeting, the minutes were sent to the members a week earlier and therefore the chair only had to guide the members in case there were matters arising. The minutes were proposed by Eng. Daniel Ngugi (WASREB) and seconded by Mr. Walter Moseti (KEWI) and therefore confirmed as the true record of the meeting.

#### ***Matters Arising from the Previous Minutes***

i) Mr. Mabonga informed members that the meeting between MWS, JICA Experts, KEWI and WASPA was not held due to the unavailability of Dr. Sumba on the scheduled date. Members recommended that the meeting be held in the 1<sup>st</sup> week of April to enable Mr. Taguchi, who will be back from Japan, to attend.

### **4. Matters to be discussed**

i) Confirmation of the progress of the project by referring to the Project Monitoring Sheet: MWS NRW Unit

Mr. Mabonga took the members through the project monitoring sheet and discussed their output as indicated below in the discussions on issues related to each output:

ii) Discussion on issues related to each output of the project: By Each C/P

#### **a) Progress of NRW Annual Report: MWS NRW Unit**

Mr. Mabonga presented to the members a copy of the printed annual report and explained that they were waiting for the signatures from the CS, CAS and the PS. Eng. Alima however requested the concerned members to work on the colours appearing at the cover page of the report so that they are colours with a meaning. In this regard he gave an example of the unit members using the WASREB colours instead of using other colours for the report.

Mr. Miyagawa also suggested that it was important to have the JICA logo appearing at the back of the cover page of the annual report.

The MD Nyahururu suggested that the unit should also consider using the pilot WSPs to give their good practices in the annual report since they are the direct beneficiaries of the project. Ms. Sugimoto responded by saying this would be put in place in the subsequent annual reports.



**b) Procurement of equipment for pilot WSPs: MWS NRW Unit**

Mr. Mabonga reported that the supplier had brought some brochures of the equipment to the ministry which were rejected since they lacked the right specifications. The ministry however assisted the supplier and the procurement department to get in touch with Mr. Sekimoto who further directed the supplier to manufacturing companies in Japan that could sell him equipment with the required specifications. He further reported that the equipment were already in the country but had to be passed by the Kenya Bureau of Standards to prevent entry of counterfeit goods. The ministry was hopeful that the equipment will be released in the next two weeks.

**c) Campaigns and sensitization**

Ms. Patricia reported that the MWS NRW Unit participated in the world water day held in Kakamega as part of their campaigns and that they will be holding a county sensitization meeting in Nakuru on 28<sup>th</sup> March 2019.

The unit is also planning to roll out NRW school campaigns and introduce students to meter reading in Nakuru Water and sanitation co. Consultative planning is still on going

**d) Progress of the Editorial committee: WASREB**

Eng. Ngugi reported that the 4<sup>th</sup> NRW Standards review editorial committee meeting was held on 13<sup>th</sup> March 2019. Members reviewed the progress of the revisions as allocated to each member earlier. To enhance effectiveness of the review, the specific topics were re-allocated to more than one individual but with a focal person taking the lead. As at the day of the meeting 25 WSPs out of the 66 WSPs that received the questionnaire had responded and this number has since risen to 35 WSPs who already sent their response to WASREB that makes the 50% target that the editorial committee members wanted to at least use for the survey. Members also had agreed not to miss on the monthly meetings so as to catch up on the lost time in the initial stages.

**e) Updates on the preparation for the 5<sup>th</sup> joint training: KEWI**

Mr. Moseti informed members that the 5<sup>th</sup> joint training was done as proposed there before. He said that the classroom training was held from 4<sup>th</sup> – 8<sup>th</sup> March 2019 in KEWI, and OJT from 18<sup>th</sup> – 23<sup>rd</sup> March 2019 in Embu. He pointed out that the WSPs participated as shown below:

- ✓ Ruiru-Juja sent 2 participants
- ✓ Meru sent 2 participants
- ✓ Nyahururu sent 2 participants

- ✓ Narok sent 1 participant
- ✓ Nakuru sent 3 participants
- ✓ Eldoret sent 4 participants
- ✓ Naivasha sent 2 participants

Mr. Moseti further stated that the outcome of the evaluation questionnaire showed improvement in course delivery and understanding of the course content. Average score for the classroom training was 73% and the OJT was 76%. He also reported that KEWI was working on the evaluation report of the training. He also informed members that Trace study of NRW reduction course participants is scheduled to take place after the 5<sup>th</sup> Joint training and 2 participants per pilot WSP that have attended the training will be involved. He also pointed out that it was important for the WSPs to note that the selection of the participants will be random and in view of this KEWI will be visiting the WSPs for the exercise.

**f) WASPA Activities schedule: WASPA**

There was no representative from WASPA.

**g) Progress of activities at the leading pilot WSPs: JICA Expert team, Embu, Meru, Nyahururu, Nakuru, Kilifi–Mariakani, Eldoret, Mavoko and Ruiru-Juja WSPs (NB: Kisumu did not send a representative nor an apology)**

Mr. Charles (JICA Experts Team), informed members that the Experts had managed to revisit all the WSPs except for Eldoret which they will be visiting on 27<sup>th</sup> March 2019 and Mavoko but plans are underway. Their main reason for the visits was making follow ups on the plans done by the WSPs, achievements realized from the plans and if they had it right as far as the implementation was concerned.

He also reported that after the meter reading analysis the experts had guided the WSPs on the areas to work on and they had started working on them.

He also said the WSPs had started to realize the importance of customer identification survey and that they were also updating the missing data realized after conducting checks on the ground or the customer identification survey on to their billing systems. The experts also were encouraging the WSPs to harmonize their various units which the WSPs were now practicing and they had minutes of their various meetings held as proof to this. Mr. Charles further invited representatives from all the WSPs present to make their verbal presentations to the members:

**EMBU**

Mr. Maina from Embu WSP reported that they were done working on the plan and that they would be sharing it in the course of the week. He also reported that

the management together with the key head of departments had a meeting and worked on the skeleton part of the standard operating procedures (SOPs) which will be shared with rest of the members.

He also reported that they had done the customer meters testing and replacement as follows:

Zone 1 and 2 – 89 meters were replaced

Zone 3 – 20 meters were replaced

Zone 5 – 37 meters were replaced

New customer meters – currently they have around 2000 meters

Large customer meters – these are meters using 100M3 and above. So far they have replaced 50% of the meters that were faulty and they are planning to procure the remaining ones. They are also checking on them on a weekly basis.

Mr. Maina also reported that the training with KEWI was successful and in the particular DMA where they were carrying out the training, they had maintained the NRW ratio of 10% and below consistently.

Pressure management – EWASCO corrected the pressure data and they will be working on it with Mr. Mori when he arrives in the country in early April.

The NRW ratio so far at the urban area stands at 25% and in the rural areas in January was 55% and in February 41%.

**Reason for the drop in the NRW ratio in the rural areas;**

- a. Illegal connections identification
- b. Air valves repairs and main line closure at night
- c. Community tasking where by they appreciate the community members who report illegal connections
- d. Customer meter survey i.e. clean up

Mr. Kamurana also reported that EWASCO was privileged to host Dr. Muto who is a director in Tokyo.

**MERU**

Mr. Ndatho began by introducing the Meru CEO and the GM to the members. He then reported that MEWASS was currently undertaking the following activities:

- ✓ Updating the new connections and undertaking the customer survey. As of last month, they had a total of 92 connections all mapped and updated in the GIS system.
- ✓ Daily zonal meter reading, schedules made on weekly basis.
- ✓ Pressure measurement on 63 connections had been done since last month Their targets is 150 connections in zone 4 lower especially D4 -23 which has been having no water since 2017 because of the road bypass constructions.
- ✓ Meter testing – more than 3000 connections were tested and 45 meters were found faulty, and replaced by customer connection section

- ✓ Monitoring of large customer – monitoring of car wash, hotels and construction sites
- ✓ Checking the status of the meter whether stopped or faulty and taking the necessary action
- ✓ Illegal consumption detection
- ✓ Seal status check for the sealed connections
- ✓ Meter readings accuracy check

The above started in the previous week and more than 69 of the connections are done, 15 were faulty but were serviced and 2 dead meters were replaced

- ✓ Monitoring of C1 and C2 customers – C1 and C2 has 141 customers where by C1 has 21 and C2 has 120.
- ✓ So far they have checked 118 connections and 16 were found faulty and serviced and 6 out of the 16 were totally dead and were replaced.

In February the revenue went up by almost 0.5m and the NRW decreased from 23% to 21%

The CEO Mr. Joseph Mberia – explained to the members that he had a meeting with the JICA Experts team and that is why he decided to come for the meeting upon their invitation. He reported that the meeting had a case study of EWASCO that had increased their revenue out of good practices to manage NRW. He also explained that MEWASS management was in full support of the NRW reduction activities and in this regard the management will be going out every month to visit a minimum of 10 key accounts starting with the very large consumers.

#### **NYAHURURU**

Mr. Muthami reported the activities that they were doing in Nyahururu as follows:

- i) There was a significant drop in production of 7,672m<sup>3</sup> in Nyahururu CBD area and 17,022 M<sup>3</sup> combined which was attributed to the following factors:
  - ✓ Dry season
  - ✓ Better burst/leak management. 148 leaks recorded in January and 184 leaks recorded in February
- ii) There was an increase in billing by 1626M<sup>3</sup> in Nyahururu CBD and 1699M<sup>3</sup> combined as a result of the increased efficiency which has been brought about by:
  - ✓ Enhancement of meter reading by including photo of meter screen and taking of customer point GPS coordinates
  - ✓ Timely reporting, testing and replacement/servicing of faulty meters
  - ✓ Ongoing meter installation orientation rectification exercise. i.e. vertical to horizontal

The volume sold did not change materially as compared to drop in production although volumetric billing was increased by 1626M<sup>3</sup> in Nyahururu and 1699M<sup>3</sup>

combined. Billing increased by Ksh. 205,844 considering the increase in volume billed was mainly from domestic consumers.

iii) Meter testing using the calibrated bucket, portable meter and GEODK collect app – 38 customer meter tests have been conducted during the month. Total tested 2545 customer meters. Total tested C3- C1 53 out of 335 customers.

iv) Pressure testing and mapping – 11 consumer points measured using red pointer mechanical gauges and mapped using QGIS. Close monitoring ongoing 11 more points yet to be measured.

v) Flow measurements using UFM – Measurements done at: Manguo tank line, Agostino line, Rwathia scheme, KCC and raw water intake – measurement in the above listed is used to determine accuracy and to conduct step test for leak detection.

Also flow measurements using portable UFM's so far 7 customer meters have been tested as trial and staff training is ongoing

vi) Leak detection – step tests and listening sticks - 2 leaks were detected in Manguo zone. Patrols are done on a daily basis and leaks are booked through the system

vii) New DMA- Manguo – 3month implementation plan has been prepared – a customer identification survey is ongoing using the Kobo Collect.

viii) 3 members of staff attended NRW Training in KEWI and in Embu, one from NRW, Revenue and Patrol and also 6 staff members from meter reading attended meter reader training at KEWI.

### **NAKURU**

Mr. Mutai reported the following activities that are being carried out in Nakuru WSP:

- ✓ Their current NRW ratio is 28.2%
- ✓ They have 3 DMAs at the CBD
- ✓ Procurement of bulky meters is under way
- ✓ Mapping of consumers meters (GIS) is a continuous exercise
- ✓ Are using NRW self-assessment template
- ✓ Have already replaced 40 no. of faulty meters
- ✓ They also have realized an increase in billing from 21million to 23.7 million in central zone

### **Ruiru – Juja**

Mr. Gitau reported the following NRW activities that are going on in Ruiru-juja

- i) Zoning and installation of zonal meters
- ii) GIS mapping of distribution network and customer water meters
- iii) Leak detections and repairs
- iv) Testing for accuracy of customer meters and bulk meters
- v) Inspections of illegal connections
- vi) Relocations of consumer meters to enhance meter reading efficiency

vii) Replacing faulty and stuck water meters with high accuracy meters R200 to minimize estimated billing

Based on the frequent occurrence of illegal water uses in Juja scheme, a system to monitor all the high consumers in all the zones in the schemes has been developed

- ✓ Selected 2 no DMA's within Ruiru supply system- Membley 3 and varsity ville estate
- ✓ Consists of 704 active connections
- ✓ Mapping of connections and distribution network is complete
- ✓ Minimum night flow and leak detection activities are in progress

#### **Kilifi-Mariakani**

Mr. Ngatata reported on the following activities from Kilifi Mariakani

- ✓ No dedicated NRW team in place but management is working hard to establish one soon.
- ✓ Received UFM, Improvised meter testing bench and GPS from JICA Expert team which will be put into use from April, 2019.
- ✓ Installed master meter to a small pilot zone of about 250 accounts, did zero reading on 15/3/019 for all meters.
- ✓ Did an LPO to supplier to supply bulk meters to replace stalled ones.
- ✓ Did an LPO to supplier to supply GIS equipment.
- ✓ Started pipeline identification from primary-secondary- tertiary 2 and plan to have network sketch by May 2019.
- ✓ NRW ratio for Jan 46% and Feb 52%. The rise is attributed to an increase in production by 5000m<sup>3</sup> daily from a new 24" pipeline commissioned in late January.

#### **Eldoret**

Mr. Maiyo reported the following from Eldoret WSP

Started by thanking the JICA Experts team and WASREB for their support especially in ensuring that they had a NRW Unit. Initially they had only 2 members and currently they have a team of 41 staff members.

- ✓ Pressure – they have mapped 500 connections
- ✓ They are in the process of installing sectional valves
- ✓ Are developing sub DMAs out of their current which are very huge
- ✓ Commercial losses – they are targeting to test 1000 in this quarter and so far they are at 500
- ✓ Testing and replacing faulty meters – they are testing and replacing at least 40 meters per week
- ✓ They are in the process of procuring leak detection equipment because some of their pipes are very old and might need replacements
- ✓ Consumers with 100m<sup>3</sup> and above are being monitored daily
- ✓ They did meter resizing in a certain hotel whose consumption was 40m<sup>3</sup>/month and after the replacement its consumption rose to 200m<sup>3</sup>/month
- ✓ They are also monitoring illegal connections and in case they get them they are penalizing the consumers.

### **Challenges**

- ❖ Road construction which are especially done on the weekends when they are not in the office

### **Mavoko**

- ✓ Have started to use the smart phone for meter reading which are working well for them.
- ✓ They have learnt on their own that it was possible to reduce the NRW
- ✓ They agreed with the consumers to have hotline numbers for the consumers to help in reporting leaks
- ✓ So far, their NRW ratio is at 35% though they realized that when they have insufficient water supply their NRW goes down and when they have sufficient or enough water, their NRW goes up

### **5. Schedule of the next PIC meeting**

It was agreed that the next PIC meeting will be held on 24<sup>th</sup> April 2019.

### **6. A.O.B.**

- ❖ The Ag. Chairman Eng. Ngugi requested that Kisumu WSP be followed up to know why they were not consistent in attending the meetings.
- ❖ Mr. Mabonga requested to know why the officer in Embu (Mr. Mugendi) who was sent for the training in Japan had never attended the NRW meetings and a lot on him had been said previously especially on his strengths as far as NRW was concerned.
- ❖ Members agreed that personalities that goes overseas for trainings should be considered as national assets and be utilized for the benefit of all.
- ❖ Mr. Kioi requested that the CEO Meru share the news on NRW with the rest of the WSPs under him.
- ❖ Members agreed that the management should support their technical teams to execute their duties in NRW
- ❖ Mr. Mosei thanked the WSPs for sending the right staff for the 5<sup>th</sup> joint training.
- ❖ CEO Meru advised the members to be supporting their case study with documentation e.g. weekly report for the management will help them to realize what they are losing through NRW and what they are gaining through its management
- ❖ Eng. Ngugi encouraged all the WSPs to document all their activities
- ❖ Ms. Sugimoto raised a concern on the general management of the meetings. She requested that members be careful on time management and that very lengthy talks that are time consuming may not have any impact because people easily lose their concentration.
- ❖ The NRW Unit will have their 1<sup>st</sup> regional sensitization in Nakuru and Ms. Sugimoto requested Nyahururu and Kisumu to prepare a success story for the same.

	<p>❖ Mr. Maina raised a challenge that they have with an irrigation scheme that is draining all the water from river Rupingazi until they are forced to close their connections. In this he requested the intervention of the ministry.</p> <p>There being no other business to be discussed, the meeting ended at 11:40 am.</p>

## ATTENDANCE LIST

No.	Name	Institution
1.	Eng. SAO ALIMA	MWS
2.	MR. DAVID MABONGA	MWS NRW Unit
3.	MS. PATRICIA MUTUA	MWS NRW Unit
4.	MR. ANDERSON KIOI	MWS NRW Unit
5.	MS. LEUNITA A. SUMBA	Director KEWI
6.	MR. WALTER M. MOSETI	KEWI
7.	ENG. DANIEL M. NGUGI	WASREB
8.	MR. MASAHITO MIYAGAWA	JICA Kenya
9.	MR. BERNARD MWAURA	Managing Director (NYAHUWASCO)
10.	MR. PAUL MUTHAMI	Head of NRW (NYAHUWASCO)
11.	MR. CHRISTOPHER G. KAMURANA	O&M
12.	MR. JOSEPH I. MAINA	Head NRW (EWASCO)
13.	MR. GILBERT K. MUTAI	Distribution Manager (NAWASSCO)
14.	MR. JOHN WACHIRA	NRW (NAWASSCO)
15.	MR. JOSEPH MAIYO	WD&NRWM (ELDOWAS)
16.	MR. JOSEPH MBERIA	CEO (MEWASS)
17.	MR. MICHAEL GITAU	NRW TECHNICIAN (RUJWASCO)
18.	MR. ZADRIAN ANGWENYI	NRW TECHNICIAN (RUJWASCO)
19.	MR. ROBERT K. MIRURI	GM (MEWASS)
20.	MR. SILAS NDATHO	Head NRW (MEWASS)
21.	MR. R.N. MUNGA	NRW – O (KIMAWASCO)
22.	MR. MICHAEL MANGELI	MD (MAVUWASCO)
23.	MR. SATOSHI SHIBAZAKI	JICA Expert Team
24.	MS. HIROKO SUGIMOTO	JICA Expert Team
25.	MR. GEORGE KARANJA	JICA Expert Team
26.	MR. CHARLES MAINGI	JICA Expert Team
27.	MS. KELLYJOY GAKII	JICA Expert Team



**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION**  
MINUTES OF THE EIGHTEENTH PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING

Date:	2019/04/24 (Wednesday)
Time:	8:40 – 11:50am
Venue	Ministry of Water and Sanitation (MWS) Staffroom, Nairobi
Agenda	<p>1. Self-introduction</p> <p>2. Communication from the Chairperson - Eng. SAO Alima</p> <p>3. Confirmation of previous minutes -Mr. Charles Maingi</p> <p>4. Matters to be discussed;</p> <p style="padding-left: 40px;">i. Highlighting the remarkable progress of the project by referring to the Project Monitoring Sheet: MWS NRW Unit</p> <p style="padding-left: 40px;">ii. Issues related to each Output of the Project: By Each C/P</p> <p style="padding-left: 80px;">a) Progress on sensitization activities: MWS NRW Unit</p> <p style="padding-left: 80px;">b) Revision of the NRW Guidelines: WASREB</p> <p style="padding-left: 80px;">c) Review of the 5<sup>th</sup> joint training and way forward: KEWI</p> <p style="padding-left: 80px;">d) WASPA Activities &amp; timelines: WASPA</p> <p style="padding-left: 40px;">iii. Progress of Activities at Pilot WSPs</p> <p style="padding-left: 80px;">a) Summary of achievement and way forwards: JICA Experts team</p> <p style="padding-left: 80px;">b) Presentations or reports from Pilot WSPs</p> <p style="padding-left: 120px;">The order of presentation; Embu, Meru, Nyahururu, Nakuru, Kisumu, Ruiru-Juja, Kilifi- Mariakani, Mavoko and Eldoret</p> <p style="padding-left: 40px;">iv. Discussion among Participants</p> <p>5. Schedule of next PIC meeting</p> <p>6. A.O.B.</p>
Content	<p><b>1. <u>Self-introductions</u></b></p> <p>All the members introduced themselves and their respective organizations.</p> <p><b>2. <u>Communication from the Chairperson</u></b></p> <p>The meeting was chaired by Mr. Anderson Kioi who was requested by the members to sit in for Eng. Alima who was away on official duties. Mr. Kioi welcomed the members to the meeting and informed them since PIC was a forum to exchange Non-revenue water reduction experiences among the pilot WSPs and members</p>

should be learning from each other. He also extended apologies from Eng. Alima and Dr. Sumba who were away on official duties.

### **3. Confirmation of previous minutes (Annex 1)**

Mr. Charles Maingi (JICA Experts team) informed the members that as agreed in the previous meeting, the minutes were sent to the members a week earlier and therefore the chair only had to guide the members in case there were matters arising. The minutes were proposed by Mr. Silas Ndatho (MEWASS) and seconded by Mr. Paul Muthami (Nyahururu) and therefore confirmed as the true record of the meeting with amendment.

#### ***Matters Arising from the Previous Minutes***

Mr. Mabonga informed members that:

- the meeting between MWS, JICA Experts, KEWI and WASPA was not held due to the unavailability of the counterparts but he was hopeful that the meeting would be certainly convened.
- the raised suggestion for the annual report were incorporated in the report and that printing was complete and it was delivered at the ministry of water and sanitation stores. However, he could not get a copy to share with the members during the meeting due to stores procedures but he will be sharing the report after the meeting.
- Mr Mabonga informed the meeting of the substantial progress and efforts being undertaken by all parties to ensure timely delivery of the NRW equipment being procured by the MWS.
- Members regretted on the absence of Mr. Mugendi from Embu WSP whom they had requested to be joining the projects meetings. Mr. Maina, EWASCO, responded by informing the members that Mr. Mugendi was a bit busy working in the field but he would be attending some of the PIC meetings.

### **4. Matters to be discussed**

i) Confirmation of the progress of the project by referring to the Project Monitoring Sheet: MWS NRW Unit

Mr. Mabonga took the members through the project monitoring sheet and discussed their output as indicated below in the discussions on issues related to each output. However, there were matters arising at point 4-8 of the monitoring sheet whereby the GM-MEWASS pointed out that the situation at Meru had greatly improved and therefore the challenge raised in that clause had been overcome. Mr. Mori, JICA Experts Team, responded that he appreciated very much the GM's opinion and that the Experts team was still concerned with the

present situation on the organizational relation. The experts would therefore be observing future improvement of MEWASS.

**ii) Issues related to each output of the project: By Each C/P**

**a) Progress on sensitization activities: MWS NRW Unit**

Ms. Patricia Mutua reported that the 1<sup>st</sup> regional County sensitization workshop was conducted successfully as scheduled in Nakuru County with four of the invited 5 counties attending the workshop. Uasin Gishu County did not attend as they had a County event during that period.

Planning for the next workshop which is scheduled to be held in Laikipia County is on-going in consultations with the COG. The following Counties together with the chairpersons and MDs of their eleven (11) WSPs are expected to participate:  
- Laikipia, Isiolo, Meru, Garissa and Nyeri.

Ms. Sugimoto reported that from the experience of the 1<sup>st</sup> sensitization workshop, only people with background in water attended thereby causing worry especially if the others who failed to attend assumed that NRW is a WSP only issue. She said there was a challenge on how to improve the participation.

Eng. Ngugi enquired on the report from the previous sensitization. Mr. Mabonga responded that a draft report was done and shared with the Water Secretary who in return gave his suggestion for future sensitization workshops.

**b) Revision of the NRW Guidelines: WASREB**

Eng. Ngugi reported that 41 out of 66 WSPs to whom the survey questionnaire had been sent responded. He also reported that the 5<sup>th</sup> NRW Management Standard Review Editorial committee met on 17<sup>th</sup> April 2019. To fast track the finalization of the revision work of the standards, the team revised the work plan with indication of potential launch date of the standards as September 2019, the end of phase II of the project. The editing of the allocated chapters is in progress with a target to have a draft by June 2019.

He also enquired whether the ministry had released the money that was to be used for the exercise. Mr. Mabonga responded that the financial documentation were prepared for approval by authorizing officers in reference to workplan and budget. He advised KEWI and WASREB to liaise with their account section to confirm whether the expected funds were credited.

**c) Review of the 5<sup>th</sup> joint training and way forward: KEWI**

Mr. Moseti informed members that the 5<sup>th</sup> joint training was conducted in April 2019 as planned. Follow up survey of the previous trainees was also conducted in Nyahururu and Nakuru WSPs. Evaluation for the 5<sup>th</sup> joint training was going

on and would be shared when complete. The 6<sup>th</sup> joint training is scheduled for June 2019. Kisumu, Kilifi- Mariakani, Mavoko and Embu will be the main target. KEWI also hopes to publish the course one month before the training commences.

**d) WASPA Activities and timelines: WASPA**

Mr. Taguchi reported that WASPA had informed him that they were conducting their benchmarking workshop in Kakamega on 24<sup>th</sup> and 25<sup>th</sup> April 2019. He also reported that WASPA was currently busy preparing for its International conference and Expo which will be held on 8<sup>th</sup> to 10<sup>th</sup> May 2019.

Members raised concern over WASPA's benchmarking which coincided with the PIC meeting. After lengthy deliberations members agreed that the ministry should take charge in regards to harmonizing the activities of WASPA and the project. They also raised concern on the low attendance by the WSPs for KEWI trainings and suggested that there should be adequate time for the WSPs to prepare in between WASPAs benchmarking and KEWI's trainings. KEWI was also requested to do more advertising of their courses so as to attract more attendees.

Mr. Miyagawa, JICA, requested Mr. Taguchi to share information about the SNV forum that he had attended on 17<sup>th</sup> April 2019. Mr. Taguchi informed members that SNV was in the process of establishing a 'new water academy'. He then gave the members briefs as follows:

- SNV considers the institution currently existing to have inadequate level for training WSPs staff.
- SNV is making a survey on the need of a new academy and they will complete it by July this year.
- Some MDs from various WSPs who participated were not sure if they would support the SNV's plan. They suggested that the urgent challenge was the lack of proper management by the top of WSP instead of establishment of a new academy.

**iii) Progress of activities at the leading pilot WSPs:**

**a) Summary of achievement and way forward: JICA Experts Team**

Mr. Charles (JICA Experts Team), informed members that so far only Eldoret had not submitted their annual plans but will obtain the reason during a visit scheduled on 25<sup>th</sup> April 2019. He further made a presentation to the

members using a plan made by Embu WSP. He then gave highlights on the improvement on NRW ratio from some WSPs. He then welcomed individual WSP to make their oral presentations.

**b) Presentations or reports from Pilot WSPs: Embu, Meru, Nyahururu, Nakuru, Kisumu, Ruiru-Juja, Kilifi-Mariakani, Mavoko and Eldoret**  
**EMBU**

Mr. Maina from Embu reported on the following:

➤ The Draft NRW reduction plan is complete and the budget harmonized with the annual budget for the year 2019/2020 awaiting approval. However there has been cuts on GIS (1million) with proposal to start using QGIS which is a free software. Priority is on master meters for accurate NRW recording.

➤ The drafts of SOPs are now complete and formulation of workflows is ongoing.

➤ Weekly monitoring of large customers consumption still ongoing and the following categories have been added to the list due to their high risk of commercial losses.

- Large miraa farms
- Construction works
- Car washes (47)

➤ 103 customer meters were replaced and 97 tested.

➤ Pressure management data was collected in zone 2 and reduction planning complete. Procurement of PRVs has commenced and readjustment of the existing ones is to commence immediately.

➤ On illegal water usage, a proposal to start **Water Integrity Committees** in the rural areas is on course aimed at reduction of water theft.

➤ After reorganization of NRW unit (with JICA input), there is increase in revenue collection.

➤ Monthly Monitoring meetings are being held.

➤ A Budget proposal for improving the meter test bench has been done awaiting approval. The testing flows will be stabilized by rehabilitating the old elevated tank and installing a booster pump.

**MERU**

Mr. Ndatho reported that MEWASS was currently undertaking the following activities:

➤ Survey for and installation of new connections.

➤ In the previous month a total of 99 connections were installed and all were mapped and updated in GIS and billing system.

➤ Schedule of daily zonal meter readings is made on weekly basis

- Pressure measurements have been done on 78 connections Since January to date.
- Customer meter calibration exercise using the 20litre bucket has partially been done in zone 8.
- 350 meters have been tested out of which 48 faulty ones serviced and 15 unserviceable replaced. This exercise will be replicated in other zones.
- Monitoring of carwashes, hotels and construction sites is done every two weeks
- The NRW team unearth an illegal consumer on a construction site and a fine of Ksh.100,000 imposed
- 18 out of 21 C1 and 128 out of 141 C2 meters were found to be faulty and serviced. 9 out of the 18 were unserviceable and were replaced.
- In two months they are expecting some changes in revenue collection out of the above interventions.
- Over all NRW ratio remained at 21% in the month of March
- More than 1105 bursts and leaks were reported in the previous month and attended to. Response time is 1hour for bursts and 24 hours for the leaks.
- A total of 3000m of 63mm dia. pipelines have been replaced with 110mm dia at a cost of Ksh. 3 million with a view of meeting water demand in Zone 1 and 2.
- Kobo Tool Box has be adopted for data collection and analysis on pressure measurement, mapping and leakage detection instead of ODK due to some challenges.

#### **NYAHURURU**

Mr. Muthami reported ongoing NRW activities in Nyahururu as follows:

- There was a significant increase in production of 1,132m<sup>3</sup> in Nyahururu Scheme and a drop of 3,743m<sup>3</sup> combined production in overall area.
- Billing increased by 2,144m<sup>3</sup> in Nyahururu and 445 m<sup>3</sup> combined which is due to increased efficiency in meter reading and billing. This resulted in an increase of billing by Ksh. 1,775,955.

Measures taken in Nyahururu town are:

- Immediate confirmation of abnormal meter readings using meter reader's photographs and site visits by meter reading/NRW supervisor
- Analysis and action on exceptions report
- Timely reporting, testing and replacement/servicing of faulty meters
- Meter relocation exercise to the nearest main
- Ongoing meter installation orientation rectification exercise i.e. vertical to horizontal
- Three NRW meetings were held during the month:
  - ✓ NRW team and scheme managers meeting
  - ✓ Monthly section heads meeting
  - ✓ NRW – JICA Team meeting

**NAKURU**

Mr. Mutai reported the following ongoing NRW reduction activities in Nakuru WSP:

- Laying of new pipe network in Flamingo and Kimathi County estates (appro.7.71 km) and advocating for individual connections to reduce unauthorized unbilled consumption is ongoing
- Decommissioned pipelines in central zone with the aim of minimizing illegal water consumption
- Testing and replacement of customer meters Illegal water consumption reduction – 31 illegal cases reported and Ksh.182,000 paid as penalties
- Modified meter testing bench is 80% complete
- Inter-departmental meeting on NRW reduction strategy will be held on 2<sup>nd</sup> May 2019 and headed by the managing director
- QMNG measurement will be conducted on 7<sup>th</sup> and 8<sup>TH</sup> May 2019 to quantify physical losses.
- Current NRW ratio is 29%

**RUIRU-JUJA**

Mr. Gitau reported the following ongoing NRW reduction activities in Ruiru-juja

- Billing analysis – 500 meters have been relocated from customer premises
- 10 customer meters have been tested using test bench and calibrated bucket
- 65 meters have been relocated based on billing analysis to avoid estimated billing.
- Following many complaints of low pressure 10 pressure, point have been created on trunk mainlines in order to monitor pressure during rationing program.
- Introduction of digital pressure monitoring system by a JKUAT Masters student is ongoing.
- Five illegal connections have been netted and charged guided by the tariff.
- A redesign of the Juja network has been done to ensure hydraulic zones, pending implementation.
- JICA NRW equipment has been widely used by NRW water technician.
- Step testing using UFM.
- Sounding using acoustic stick.
- Burst registration.
- Mobile meter reading has been embarked and is on initial stage
- Mapping of both distribution pipe network and customers meter has been on going and is 80% complete.
- Current NRW ratio is 35%

**Challenges**

- Frequent burst.
- Billing estimates.
- Vandalism of DMA meters.
- Interconnection of water by private borehole.
- Illegal connection by carwash.
- Low production of water due to droughts condition

**Overall impact result**

- Increase in billing hence increase in revenue collection

**ELDOROT**

Mr. Maiyo reported the following from Eldoret WSP:

- Customer meter testing: 192 meters have been tested
- Illegal connections: 5 so far identified illegal connections, penalized the customers and reconnected them well
- Leakages – 443 identified 443 leakages and all were repaired
- They intend to do connections up to customer point so as to avoid poor workmanship which is one of the major cases of leakages

**Challenges**

- They have 4 water sources and 2 were almost dry and this led to a lot of rationing

**KISUMU**

Mr. Job Liech reported the following ongoing NRW reduction activities in the WSP:

- 7no. remote pressure loggers have been installed within the network
- NRW has reduced on average from 36% to 29%. This has enhanced revenue increase from 64,000,000 to 71,000,000 Ksh.
- Consumption volume has increased from 480,000m<sup>3</sup> to 600,000m<sup>3</sup>
- Increase meter testing and calibration activities from 50 to 200 per month
- Over 1000 meters have been so far replaced
- They are able to question the accuracy and efficiency of China meters which do not give accurate volume
- A good working relationship has been created between the technical and commercial departments
- Minimum night flow and step test have been carried out in two identified lines
- Improved on their analysis which has positively contributed to reduction in apparent losses
- They are able to extend their meter testing to meters below 1” as a result of good working cooperation
- 90% of their consumers have been mapped



### **Challenges**

➤ In the recent past they have had serious bursts on major transmission pipelines and this has led to huge physical loss

### **vi) Discussion among participants**

➤ The chairman requested Mr. John Wachira to prepare a progress report on digital pressure monitoring, a program that Ruiru-juja is undertaking together with a master's student in Jomo Kenyatta University of Agriculture and Technology (JKUAT) and present it to the members during the next meeting

➤ Mr. Liech, KIWASCO, also reported that the ultrasonic smart meter is accurate for Kisumu WSP and they are currently using it. In this regard members requested Mr. Liech to prepare a report on cost benefit on the use of the smart meter and share it with the members during the next meeting

### **5. Schedule of the next PIC meeting**

It was agreed that the next PIC meeting will be held on 29<sup>th</sup> May 2019.

### **6. A.O.B.**

- ✓ Ms. Patricia Mutua, MWS NRW Unit, informed members that the unit was in its initial stages of preparing the 2<sup>nd</sup> version of the annual report and so she requested members to cooperate with them and prepare their contributions as they will be required. She also pointed out that they were hopeful to have the 1<sup>st</sup> draft by July 2019. She said that the unit was working on a template for reporting to avoid long reports from members that might not be very necessary
- ✓ Eng. Ngugi enquired on the launching plans for the NRW Annual report. He further explained that this would be important so as to disseminate it to the rest of the WSPs and the public at large. Mr. Mabonga responded that the MWS was working on the launching modalities.
- ✓ Mr. Maina enquired to know when the bulk meter bought by JICA will be installed. Members agreed that the JICA Expert team would arrange on that.
- ✓ Mr. Miruri enquired to know if the 6<sup>th</sup> OJT would be held in Meru as earlier proposed. Mr. Taguchi responded that they had a meeting with KEWI and the ministry and they agreed that the preparation period was quite short and therefore the OJT will be held in Embu but Meru would still be considered in the future.
- ✓ Mr. Gitau JICA Kenya office, congratulated the members on the reports that they made that were quite positive. He hence requested members to continue working hard in the project. He further informed members that JICA was complementing NRW Courses in Japan and currently they were making applications for two nominees from Nyahururu and Eldoret to join the training.

	<ul style="list-style-type: none"> <li>✓ Mr. Mabonga enquired to know when the brief notes will be made available. Ms. Sugimoto responded that the translation will be made available on 25<sup>th</sup> April 2019.</li> <li>✓ Mr. Taguchi shared with the members a plan of the Experts schedule in the country.</li> <li>✓ Mr. Miyagawa enquired to know the status on the signing of the amended Record of Discussion and minutes of the 5<sup>th</sup> JCC meeting. Mr. Mabonga was requested to follow up on the same.</li> <li>✓ Mr. Miyagawa further requested the WSPs to prepare a simple format summarizing outcome from the pilot WSPs for reporting during the PIC meeting and to ensure the key areas of their activities were well captured.</li> <li>✓ Mr. Kioi, the chairman, concluded the meeting by informing the members that the main importance of the project outcome was how the project was making impact to the entire country</li> </ul> <p>There being no other business to be discussed, the meeting ended at 11:50 am.</p>

#### ATTENDANCE LIST

No.	Name	Institution
1.	MR. ANDERSON KIOI	MWS NRW Unit
2.	MR. DAVID MABONGA	MWS NRW Unit
3.	MS. PATRICIA MUTUA	MWS NRW Unit
4.	MR. WALTER M. MOSETI	KEWI
5.	ENG. DANIEL M. NGUGI	WASREB
6.	MR. MASAHI TO MIYAGAWA	JICA Kenya
7.	MR. JOHN GITAU	JICA Kenya
8.	MR. PAUL MUTHAMI	Head of NRW (NYAHUWASCO)
9.	MR. JOSEPH I. MAINA	Head NRW (EWASCO)
10.	MR. GILBERT K. MUTAI	Distribution Manager (NAWASSCO)
11.	MR. JOHN WACHIRA	NRW (NAWASSCO)
12.	MR. JOSEPH MAIYO	WD&NRWM (ELDOWAS)
13.	MR. MICHAEL GITAU	NRW TECHNICIAN (RUJWASCO)
14.	MR. ZADRIAN ANGWENYI	NRW TECHNICIAN (RUJWASCO)
15.	MR. ROBERT K. MIRURI	GM (MEWASS)
16.	MR. SILAS NDATHO	Head NRW (MEWASS)
17.	ENG. JOB LIECH	NRW – Engineer
18.	MR. MASAYUKI TAGUCHI	JICA Expert Team
19.	MS. HIROKO SUGIMOTO	JICA Expert Team
20.	MR. SHOZO MORI	JICA Expert Team
21.	MR. GEORGE KARANJA	JICA Expert Team
22.	MR. CHARLES MAINGI	JICA Expert Team
23.	MS. KELLYJOY GAKII	JICA Expert Team

**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION**

**MINUTES OF THE 19<sup>TH</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING**

Date:	2019/05/29 (Wednesday)
Time:	8:40 – 11:20am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes -Mr. Charles Maingi</li> <li>4. Matters to be discussed;             <ol style="list-style-type: none"> <li>i. Highlighting the remarkable progress of the project by referring to the Project Monitoring Sheet: MWS NRW Unit</li> <li>ii. Issues related to each Output of the Project: By Each C/P                 <ol style="list-style-type: none"> <li>a) Progress on sensitization activities: MWS NRW Unit</li> <li>b) Revision of the NRW Guidelines: WASREB</li> <li>c) Preparations for the 6<sup>th</sup> joint training: KEWI</li> <li>d) WASPA Activities &amp; timelines: WASPA</li> </ol> </li> <li>iii. Progress of Activities at Pilot WSPs                 <ol style="list-style-type: none"> <li>a) Summary of achievement and way forwards: JICA Experts team</li> <li>b) Presentations or reports from Pilot WSPs; Embu, Meru, Nyahururu, Nakuru, Kisumu, Ruiru-Juja, Kilifi- Mariakani, Mavoko and Eldoret</li> </ol> </li> <li>iv. Discussion among Participants</li> </ol> </li> <li>5. Schedule of next PIC meeting</li> <li>6. A.O.B.</li> </ol>
Content	<p><b>1. <u>Self-introductions</u></b></p> <p>All the members introduced themselves and their respective organizations.</p> <p><b>2. <u>Communication from the Chairperson</u></b></p> <p>The meeting was called to order by Eng. Alima the project manager. He welcomed all the members to meeting and informed them that the PIC meetings had been held consistently every month and also the JCC every quarter. He also commended the 9 pilot WSPs for the good progress they were making. He sampled a few WSPs to give their progress in terms of the NRW ratio and they gave as follows:</p>

Nyahururu 34% from 43%

Kisumu 29% from 37%

Nakuru 29% from 40%

Eng. Alima emphasized that fighting NRW needs commitment at all times and from all the members of the organization. Other WSPs in Kenya will learn from the pilot WSPs. He gave an example of Nyeri WSP that was doing very well in terms of maintaining their NRW ratios. He also informed the members that the equipment for the WSP had arrived in the Ministry and the Experts will now be able to use them to assist the WSPs. He also informed that the Public Service Commission had given the ministry go ahead to recruit young engineers and that the jobs had already been advertised. After the recruitment the ministry will place some of them in the NRW Unit for sustainability of the project activities even after the project face out.

### **3. Confirmation of previous minutes (Annex 1)**

Mr. Charles Maingi (JICA Experts team) informed the members that as agreed in the previous meeting, the minutes were sent to the members a week earlier and therefore the chair only had to guide the members in case there were matters arising. The minutes were proposed by Mr. Joseph Maina (EWASCO) and seconded by Ms. Patricia Mutua (MWS NRW Unit) and therefore confirmed as the true record of the meeting.

#### ***Matters Arising from the Previous Minutes***

- ✓ Mr. Mabonga enquired to know if the brief notes were ready as it was reported in the previous PIC. Ms Sugimoto responded that the brief notes were ready and that they will be circulated to the members.
- ✓ Eng. Alima also informed that the NRW annual report was ready and that it will be launched on 20<sup>th</sup> June 2019 together with another report. He also thanked all the members who participated in the compiling of the report.
- ✓ The chairman also informed that there are budget cuts and therefore some activities will have to be suspended till July 2019.

### **4. Matters to be discussed**

i) Confirmation of the progress of the project by referring to the Project

Monitoring Sheet: MWS NRW Unit

Mr. Mabonga took the members through the project monitoring sheet and discussed their output as indicated below in the discussions on issues related to each output.

**ii) Issues related to each output of the project: By Each C/P**

**a) Progress on sensitization activities: MWS NRW Unit**

Ms. Patricia Mutua reported that the report for the 1<sup>st</sup> workshop was ready and will be circulated soon. She also informed the members that the NRW Unit was preparing the format for submitting articles for 2018/2019 annual report which will be circulated to members as soon as it is ready.

**b) Revision of the NRW Guidelines: WASREB**

Mr. Kioi who was reporting on behalf of Eng. Ngugi who was absent informed the members that the Editorial committee had their 6<sup>th</sup> NRW Standards meeting on 23<sup>rd</sup> May 2019. The members went through the content of the revisions each chapter at a time as earlier allocated. As at the day of the meeting the members were at 70% completion rate. However, the members were concerned since funds had not yet been released to WASREB and therefore requested the intervention of the chairman. On the WASREB NRW Editorial revision funds disbursement, the chairman informed the meeting of the water sector approved financial year 2018/19 budget cut that may adversely affect NRW planned activities.

**c) Preparations for the 6<sup>th</sup> joint training: KEWI**

Mr. Moseti informed that the 6<sup>th</sup> Joint training was scheduled for 3<sup>rd</sup> – 7<sup>th</sup> June 2019 (Classroom in KEWI) and the OJT will follow thereafter in Embu WSP. He further informed that all the WSPs were invited and some had responded. From the pilot WSPs he reported that Embu, Mavoko, Kisumu and Kilifi-Marikani will be participating. He also requested Mr. Job Liech (KIWASCO) to take up to it so that they have representatives from Kisumu WSP since they had not been available during the other trainings.

**d) WASPA Activities and timelines: WASPA**

Ms. Patricia (WASPA) apologized for the benchmarking workshop held in April that collided with the PIC meeting. She then informed that the next benchmarking workshop will be in July 2019 at a date to be communicated later. She also thanked members for participating during their 3<sup>rd</sup> WASPA International Conference & Expo 2019 held at KICC from 8<sup>th</sup> to 10<sup>th</sup> May 2019.

**iii. Progress of activities at the leading pilot WSPs:**

**a) Summary of achievement and way forward: JICA Experts Team**

Mr. Charles (JICA Experts Team), informed that output 4 is involved in the revision of the current NRW standards. He further shared with the members the table of content that was adopted by the members of the Editorial committee, the improved planning template and the monthly NRW monitoring template that was to be introduced to the WSPs after the meeting at JICA Experts Team office. He then welcomed individual WSPs to make their oral presentations.

**b) Presentations or reports from Pilot WSPs: Embu, Meru, Nyahururu, Nakuru, Kisumu, Ruiru-Juja and Eldoret**

**EMBU**

Mr. Maina from Embu reported on the following:

EWASCO has developed a rapid results Initiative plan to reduce NRW from 43% to 35% in 100 days. The initiative will focus on both commercial and physical losses reduction. A task force has been formed with appointment from all key departments.

Weekly monitoring of large customers is still ongoing and the following categories has been added to the list due to their high risk of commercial losses.

- Large miraa farms
- Construction works
- Car washes (47)

**Customer meter sizing:** Most of the large customer meters are wrongly sized. Correct sizing will be rolled out to all connections that require the upgrade.

**Customer meters survey:** The NRW unit has been conducting door to door visits and out of the exercise they were able to realize the following results:

**Pressure reduction:** Pressure management data was collected for zone 2, analysed and pressure reduction planning completed. Procurement of the PRVs has commenced. Further, the following prvs were serviced and adjusted to the designed levels:

- Dallas area 29
- Blue valley pilot area.

- ZONE 2 - Kivue around booster PRV
- ZONE 2 - Soko mjinga around methanol (needs to be replaced)
- PI - Murinduko line

**Illegal water usage:** Door to door illegal detection exercise was conducted in zone 53 and 9 illegal connections detected, disconnected and penalized.

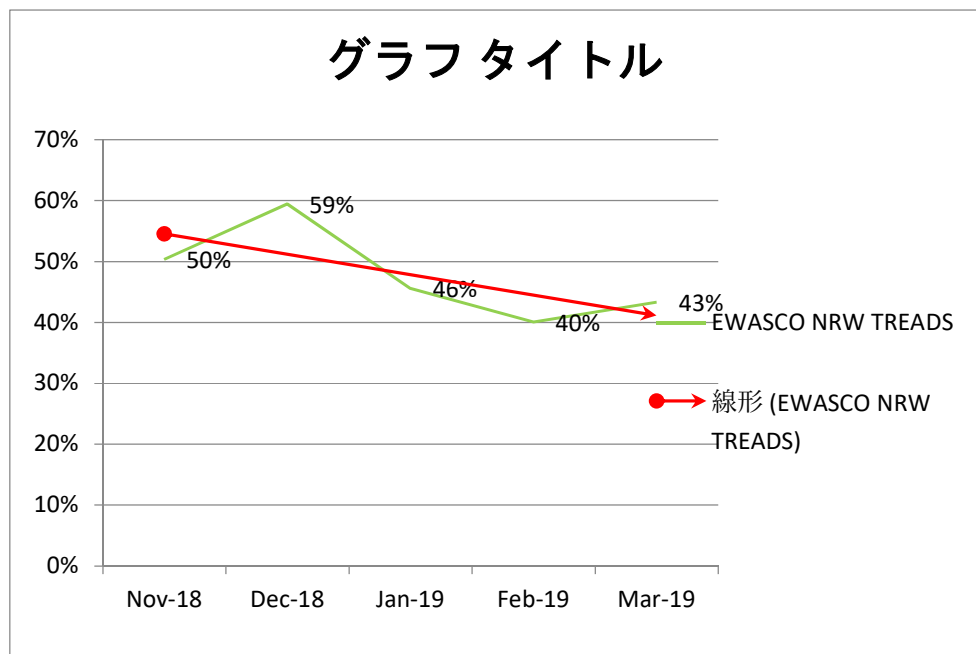
**Joint NRW Monthly Monitoring meetings are being held:**

Yes, the meetings include the 3 key department (Technical, Commercial & Human Resource)

**Master meter accuracy test and replacement:**

- During the month JICA donated a DN 300 master meter for zone 2 which has been successfully installed.
- EWASCO has procured and installed 2 no DN 300 master meters on the distribution pipelines at mukangu. This will improve data accuracy for NRW calculation and monitoring.

**NRW trends:** The NRW trend has been on decrease as shown in the graph below.



**Meter testing:** During the period 66 customer meters were tested where 39 failed and were replaced.

### **MERU**

Mr. Ndatho reported that MEWASS was currently undertaking the following activities:

- ❖ Updating of new connections
- ❖ Installation of new connections and customer survey
- ❖ Coordinates for new connections
- ❖ In the previous month a total of 96 connections were installed and all were mapped and updated in GIS system.
- ❖ Daily zonal meter reading are scheduled and made on weekly basis
- ❖ Pressure measurements and mapping in zone 4 lower using Kobo tool box application in the following pipelines: D4-07; D4-08; D4-09; D4-11; D4-23 & J-04-01.
- ❖ For the last 3 months pressure measurements were done on 63 connections and 13 in May (150 connections are targeted for pressure measurement and mapping in zone 4 lower).
- ❖ Customer meter calibration exercise using 20 ltr bucket has partially been done in zone 8. 350 meters were tested out of which 48 were serviced and 15 replaced. The same exercise will be replicated in other zones.
- ❖ Bi-weekly monitoring of car wash, hotels and construction sites is ongoing. The tasks includes:-
  - ✓ Checking the status of the meter
  - ✓ Possibility of Illegal consumption/connections
  - ✓ Seal status of the meter and where tampered, ksh. 5,000 fine imposed.
- ❖ One illegal consumer on a construction site was found and a fined ksh.100,000 imposed.

### **NYAHURURU**

Mr. Mwangi reported NRW activities in Nyahururu as follows:

- ✓ Meter testing using calibrated bucket, portable meter and GEODK collect app:-14 customer meters tested a month after the last PIC. Total tested is 2592, total replaced 10 (C3-C1) and 61 (C4-C6).
- ✓ Leak detection (patrols and using listening sticks) done daily and leaks booked through the system. 199 leaks and 14 bursts were reported.
- ✓ Customer identification – 6801 customer location coordinates acquired for mapping, comprehensive report on findings is being compiled. 3218 customer location coordinates acquisition is targeted in the next meter reading cycle.
- ✓ Water theft – 10 cases of water theft were found and respective accounts penalized.



- ✓ Two NRW monthly meetings were held- NRW team; and scheme managers/section heads meeting.
- ✓ Data collection form for leaks and bursts has been commissioned using Kobo collect app and is being rolled out to all the schemes.

### **NAKURU**

Mr. Mutai reported NRW reduction activities in Nakuru WSP as follows:

- ✓ The NRW ratio has stabilized at 29% (January – April 2019) from 40.6% in July 2018
- ✓ Interdepartmental meeting on NRW headed by MD held.
- ✓ New pipe laying at flamingo and Kimathi county estates is 50% complete and sensitization for individual connections ongoing
- ✓ Overflow pipes for 2 reservoirs receiving borehole water interconnected with the outlet pipe so that overflow water can be channelled to customers to curtail physical losses from overflows.
- ✓ Decommissioning of old lines and relocation of customer meters to next to the premises perimeter walls is ongoing.
- ✓ Modification of the meter testing bench is complete and the target is to test 40 meters daily.
- ✓ Step testing to reduce physical and commercial losses in southern zone is ongoing.

### **RUIRU-JUJA**

Mr. Gitau reported NRW reduction activities in Ruiru-juja as follows:

- ✓ Current NRW ratio is 35.5%
- ✓ Recorded 148 leakages
- ✓ 42 large consumer meter relocated
- ✓ 20 large consumer meter tested (All Passed)
- ✓ 10 customer meters tested on customer request - all were accurate
- ✓ 82 old AWVB metallic meters replaced
- ✓ 5 No. illegal connections identified- 3 legalised while the other two are still in the process of legalization
- ✓ Development of zones/DMA's is complete
- ✓ Digital pressure management (with a JKUAT student) in Juja is ongoing.
- ✓ Planning for MNF exercise and step test in Juja is underway
- ✓ Data clean up based on the CSI survey previously conducted is ongoing.
- ✓ Tested 2 master meters (DN 500mm) and found accurate.

### **ELDORET**

Mr. Maiyo reported the following from Eldoret WSP:

1) Large consumers (Over 300m<sup>3</sup>)

118 Accounts consume over 300m<sup>3</sup>/month and 21 were dealt as follows in April 2019 (In total 53 accounts dealt so far).

- ✓ **Water Meter testing:** 15 meters tested using bucket- 3 were faulty.
- ✓ **Replacement:** 21 meters replaced
- ✓ **Resizing:** 13 meters out of the 21 above.
- ✓ **Relocation:** 6 meters relocated.

Monitoring by meter reading is done weekly to monitor the progress even though the result will be seen after two billing cycles.

2) Establishment of DMA (Action estimate)

2150m HDPE pipeline has been laid at Action replacing shallow leaking PVC pipes to enable Sub-DMA installation area.

3) Upgrading and Replacement of Service Line

Replacement of leaking aged 160mm asbestos pipe with 315mm HDPE in progress- 2100m completed.

4) Relocation of Consumer Water Meters

74 meters for small consumers' relocated (1m from premises boundary)

5) Water Meter Testing

40 large (C1) meters tested and 5 found to be defective.

6) Bursts and Leakages

806 Leakages and bursts repaired April. Those that re-occurred more than once replaced with HDPE pipes for permanent solution.

**KISUMU**

Mr. Job Liech reported NRW reduction activities as follows:

- ✓ Installation of 2 Isolation/control valve. This has reduced hydraulic pressure surge thereby reducing the frequency of bursts on main transmission pipeline.
- ✓ An incentive of Ksh.10,000 was introduced to anybody who reports a meter thief to curb such cases that have become rampant recently.
- ✓ Arrested a scrap metal dealer with stolen meters with the assistance of CID
- ✓ The company has resolved to install plastic meters henceforth.

- ✓ Managed to conduct MNF and step test in a zone with the help of Mr. Sekimoto (JICA Expert Team). Resolved to continue the exercise in other areas zones.
- ✓ Inspection and testing of all customer meters in progress
- ✓ Commissioning of RIAT project which targets about 2000 customers will be done on 31st May 2019. This will require increase in production which may impact negatively on service.

**vi) Discussion among participants**

- ✓ Mr. Liech (KIWASCO) reported that they are using smart meters and they are accurate (an instrumentation engineer has been employed and is helping to overcome challenges meter accuracy).
- ✓ Ms. Patricia (WASPA) informed that WASPA will investigate on the part of the smart meter that is failing. She also enquired to know if the suppliers were offering after-sale service to WSPs. Members agreed that the main advantage of smart meters is its ability to relay information directly to the server. WSPs who were using the meters were encouraged to report to WASPA on the challenges they are encountering with the use of the smart meters.
- ✓ Mr. Charles (JICA Experts team) reported that the main challenge with smart meters is mobile network transmission which is costly.

**5. Schedule of the next PIC meeting**

It was agreed that the next PIC meeting will be held on 26<sup>th</sup> June 2019.

**A.O.B.**

- ❖ Mr. Takashima (JICA Kenya office) requested the WSPs be sending their reports to the Experts before the meeting to enable sharing with JICA office well in advance.
- ❖ Mr. Karanja requested members to expedite responses to queries raised from the minutes to ensure smooth coordination of the project.
- ❖ Mr. Mugendi requested members to be wary of smart meters because the supplier might be in business and not caring of what happens with them later. He also pointed out that Japan was not using the said smart meters.
- ❖ Mr. Job Liech informed that their leak detector had failed and therefore requested that they be issued with a new one
- ❖ Mr. Maiyo requested the Experts to be visiting their WSP often for knowledge transfer.
- ❖ Mr. Maina informed that their bulk meter obtained from JICA was not working properly and requested the Experts to visit Embu and check on the same.
- ❖ Mr. Karanja requested the WSPs to use simple reporting formats for PIC meetings.
- ❖ Mr. Sekimoto informed that he will join the ministry staff and other selected members on 31<sup>st</sup> of May 2019 to inspect the procured NRW equipment. He

	<p>also informed that Mr. Takahashi will arrive on 4<sup>th</sup> June 2019 and will visit Embu WSP to check on the bulk meter. He further requested Ruiru-juja WSP to provide data from the pressure gauges so that the experts can assist with pressure zoning.</p> <ul style="list-style-type: none"> <li>❖ Members agreed that the WSPs expecting meters from the WSBs be notified by the Ministry</li> <li>❖ Ms. Sugimoto informed members about the loss of 4 No casual workers in Mavoko WSP while in their line of duty. Mavoko being one of the pilot projects, members were deeply concerned and requested the chair to send their condolences to the WSP on their behalf.</li> <li>❖ Mr. Karanja informed that Meru WSP worked with JICA since 2002 and one of the values they learnt was self-reliance. In this regard he advised WSPs to strive to procure their needs using their own funds and avoid begging. He also informed that KEWI inhouse training are very effective in quickening coverage of large staff numbers and therefore encouraged members to try them out.</li> <li>❖ Mr. Gilbert informed that the meters that they received from the WSB were of the right specifications. Members requested him to share the specifications they had given to the WSB.</li> <li>❖ Patricia (NRW Unit) advised the WSPS to liaise with their counterpart Water service boards in order to ensure that the meters procured from the funds dispatched from the ministry are according to their specifications</li> </ul> <p>There being no other business to be discussed, the meeting ended at 11:20 am.</p>
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#### ATTENDANCE LIST

No.	Name	Institution
1.	ENG. SAO ALIMA	MWS
2.	MR. WATARU TAKASHIMA	JICA Kenya
3.	MR. DAVID MABONGA	MWS NRW Unit
4.	MR. ANDERSON KIOI.	MWS NRW Unit
5.	MS. PATRICIA MUTUA	MWS NRW Unit
6.	MR. WALTER M. MOSETI	KEWI
7.	MS. PATRICIA WANJERI	WASPA
8.	MR. PETER MWANGI	TM (NYAHUWASCO)

9.	MR. JOSEPH I. MAINA	Head NRW (EWASCO)
10.	MR. CYRUS MUGENDI	TECHNICAL OFFICER (EWASCO)
11.	MR. GILBERT K. MUTAI	Distribution Manager (NAWASSCO)
12.	MR. JOSEPH MAIYO	WD&NRWM (ELDOWAS)
13.	MR. MICHAEL GITAU	NRW HEAD (RUJWASCO)
14.	MR. ZADRIAN ANGWENYI	NRW UNIT (RUJWASCO)
15.	MR. SILAS NDATHO	Head NRW (MEWASS)
16.	ENG. JOB LIECH	NRW – Engineer (KIWASCO)
17.	MR. SATOSHI SHIBAZAKI	JICA Expert Team
18.	MS. HIROKO SUGIMOTO	JICA Expert Team
19.	MR. SHINICHI SEKIMOTO	JICA Expert Team
20.	MR. GEORGE KARANJA	JICA Expert Team
21.	MR. CHARLES MAINGI	JICA Expert Team
22.	MS. KELLYJOY GAKII	JICA Expert Team
23.	MR. KEN OTIENO	SUPPORTING STAFF, JICA Team

## Apologies

### 1. MR. ROBERT MIRURI – G.M MEWASS

**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION**

**MINUTES OF THE 20<sup>TH</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC) MEETING**

Date:	2019/07/03 (Wednesday)
Time:	8:40am – 12:10pm
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes -Mr. Charles Maingi</li> <li>4. Matters to be discussed; <ol style="list-style-type: none"> <li>i. Highlighting the remarkable progress of the project by referring to the Project Monitoring Sheet: MWS NRW Unit</li> <li>ii. Issues related to each Output of the Project: By Each C/P <ol style="list-style-type: none"> <li>a) Progress on sensitization activities: MWS NRW Unit</li> <li>b) Revision of the NRW Guidelines: WASREB</li> <li>c) Feedback from the 6<sup>th</sup> joint training: KEWI</li> <li>d) WASPA Activities &amp; timelines: WASPA</li> </ol> </li> <li>iii. Progress of Activities at Pilot WSPs <ol style="list-style-type: none"> <li>a) Summary of achievement and way forwards: JICA Experts team</li> <li>b) Presentations or reports from Pilot WSPs; Embu, Meru, Nyahururu, Nakuru, Kisumu, Ruiru-Juja, Kilifi- Mariakani, Mavoko and Eldoret</li> </ol> </li> <li>iv. Discussion among Participants</li> </ol> </li> <li>5. Schedule of next PIC meeting</li> <li>6. A.O.B.</li> </ol>
Content	<p><b>1. <u>Self-introductions</u></b></p> <p>All the members introduced themselves and their respective organizations.</p> <p><b>2. <u>Communication from the Chairperson</u></b></p> <p>The meeting was called to order by Eng. Alima the project manager. He welcomed all the members to the 20<sup>th</sup> PIC meeting. He pointed out that members have held meetings every month and they have been monitoring efforts for the sustainability of the project. He said that the Ministry of Water and Sanitation has been keen to work on its part e.g. procurement of equipment was complete and the remaining equipment for the next phase would be made available for the WSPs. He informed</p>

members that the positions for young engineers were advertised and that Eng. Njeru had been brought on board so as to grow the NRW Unit into a department. He requested the NRW Unit members to work hard so as to implement the work plan. He also requested Eng. Njeru to follow up on the money that was to be disbursed to KEWI and WASREB.

### **3. Confirmation of previous minutes (Annex 1)**

Mr. Charles Maingi (JICA Experts team) informed members that the minutes were sent to the members a week earlier as agreed in the previous meeting, and therefore the chair only had to guide members in case there were matters arising. The minutes were proposed by Mr. Job Liech (KIWASCO) and seconded by Mr. Silas Kirimi (MEWASS) and therefore confirmed as the true record of the meeting.

#### ***Matters Arising from the Previous Minutes***

- ✓ On AOB, Eng. Alima pointed out the need to assist WSPs by developing standards for smart meters since they are already in use (in Kisumu, Eldoret and Embu). Eng. Ngugi warned that it was important for WSPs know that suppliers are in business and hence handle smart meters with care to ensure sustainability.
- ✓ Mr. Liech reported that there was notable increase in revenue collection in Kisumu after using Electromagnetic (EMF) and Ultrasonic (UFM) Flow Meters compared to mechanical meters since they are not easily tampered with. Other meters being used and performing well are Insertion Meters though they require competent technicians to install.

### **4. Matters to be discussed**

i) Highlighting the remarkable progress of the project by referring to the project Monitoring Sheet: MWS NRW Unit

Ms. Patricia took the members through the project monitoring sheet and discussed their output as indicated below in the discussions on issues related to each output.

#### **ii) Issues related to each output of the project: By Each C/P**

##### **a) Progress on sensitization activities: MWS NRW Unit**

Ms. Patricia Mutua reported that the proposed Nanyuki County Sensitization Workshop was not held by close of financial year as scheduled. A meeting will be held with the CEC Laikipia county in the coming week on the same. It is planned to hold the workshop by end of August. Further, there are plans to roll out children campaigns in Nakuru by end of July (i.e. before the schools close

for August holiday). Ms. Sugimoto informed members that letters had been sent to various WSP heads to submit articles to be used in the NRW report for the year 2018/2019. Plans are underway to send the same to directly to contact persons who will be sending back the articles.

**b) Revision of the NRW Guidelines: WASREB**

Eng. Ngugi reported that the 7<sup>th</sup> NRW Standards editorial committee met on 14<sup>th</sup> June 2019.

During the meeting, WASREB proposed that Performance Based Contracts (PBCs) be included in the new guideline as an innovative way of dealing with NRW challenges. This is informed by the new innovative approach being advanced through Performance Based Financing (PBF) project under WASREB within the Water and Sanitation Development Program (WSDP).

He also reported the committee's observation that Output 4 will have significant lessons which if well documented in the new guideline, will enhance the guideline's usage by WSPs compared to the current situation. Such lessons are in GIS, billing analysis and, use of simple and cheap equipment for data collection and analysis, among others. To this end, the editorial committee felt that they had a capacity gap in coming up with the guideline envisaged. They therefore proposed that Mr. Mori be formally engaged to give support to the NRW Std editorial team and facilitate putting into perspective and logically the content of the new NRW guideline and hence output 2. Eng. Alima informed members that the matter would be discussed with Mr. Taguchi when he comes back from Japan. Eng. Ngugi informed members that the editorial committee members have been meeting in WASREB boardroom and working on the guideline individually which is prone to interruptions; hence the ministry needs to facilitate a workshop to consolidate the document.

Ms. Sugimoto requested WASREB to share the analysis of the responses to the NRW Std usage questionnaire with the PIC members.

**c) Feedback from the 6<sup>th</sup> joint training: KEWI**

Mr. Mosei informed that the 6<sup>th</sup> Joint training was conducted from 3<sup>rd</sup> – 7<sup>th</sup> June 2019 (Classroom in KEWI) and the OJT thereafter in Embu WSP from 17<sup>th</sup> – 23<sup>rd</sup> June 2019 as scheduled; whereby 18 staff from total 8 WSPs (including 2 Pilot WSPs) participated. This being the last training in Phase 2, KEWI is therefore in the process of consolidating and analysing data from the 1<sup>st</sup> to 6<sup>th</sup> joint training so as to highlight the impact the training has had on the WSPs. He also reported that KEWI had conducted inhouse training in Nyahururu and Thika WSPs on request; and was preparing to do the same for Eldoret WSP. Eng. Njeru



requested WSPs to participate in the training offered by KEWI. Mr. Moseti was requested to share the report of the evaluation (expected by early August) with the counterparts once it is ready.

**d) WASPA Activities and timelines: WASPA**

Ms. Patricia reported that WASPA will hold its bimonthly meeting in Kakamega Golf Club, Kakamega on 12<sup>th</sup> July 2019. She said that WASPA will hold discussions with the JICA Experts to agree on the project activities to be included for benchmarking and the dates. She also said that WASPA in collaboration with SNV was documenting leading practices which will be shared once done. Ms. Sugimoto informed that they are planning the thematic workshop back to back with the JCC and that Unauthorised Water use is proposed as the theme for the workshop. This is proposed as a one-day workshop in Nairobi with further details being provided later.

**iii. Progress of activities at the leading pilot WSPs:**

**a) Summary of achievement and way forward: JICA Experts Team**

Mr. Charles (JICA Experts Team), informed members that output 4 group was tasked to come up with new ideas or activities and to pass the same to the WSPs. In this regard he shared with the members a graphical presentation on the monthly NRW monitoring at the 9 pilot WSPs. He then invited individual WSPs to make their own oral presentations

**b) Presentations or reports from Pilot WSPs: Embu, Meru, Nyahururu, Nakuru, Kisumu, Ruiru-Juja Mavoko, Kilifi-Mariakani and Eldoret**  
Presentations from the WSPs were made as per the attached reports from the WSPs.

**vi) Discussion among participants**

- ✓ Mr. Mori informed members that they are coming with new ideas as game changers such as customer identification survey. He also informed that he will be collaborating with KEWI on GIS and that the new ideas will be included in the NRW guidelines. He also suggested that procurement of equipment by and for WSPs should be based on each WSP's NRW level, e.g. mostly starting with listening stick and the UFM.
- ✓ Mr. Silas suggested that WSP that are not very familiar with various activities can have a benchmark with the ones that are ahead of them e.g. Meru was doing well in meter test bench and he invited other WSPs to go and learn from them.

- ✓ Mr. Kemboi suggested using GI elbows for meter stands instead of PPR elbows for service connection. However, members warned that PPR is not suitable for external environment since it is affected by UV light.
- ✓ Members agreed that Mr. Mori can share a template which WSPs can use for PIC meetings. He also emphasized the need for members to share their reports with their MDs as they share with the JICA experts.
- ✓ Eng. Njeru encouraged the WSPs to not only identify their needs in the NRW management but also to come up with ways of self-financing on these activities. He pointed out that this was important since water services is a devolved function. He however stated that the ministry will follow up with county governments to ensure that the NRW functions were factored in their annual budgets.
- ✓ Mr. Gitau (JICA Kenya office) informed that this project was a follow up intervention after the Narok infrastructure project and that after the project JICA and the ministry will discuss on the way forward.

#### **5. Schedule of the next PIC meeting**

It was agreed that the next PIC meeting will be held on **31<sup>st</sup> July 2019**.

#### **A.O.B.**

- ❖ Mr. Karanja informed that some WSPs sent their monthly reports on time as while others did not. He encouraged timely sending of the reports to ensure timely sharing with JICA Kenya office, the ministry and the JICA Experts. Members agreed that the reports for the month of June should be sent by 21<sup>st</sup> July 2019.
- ❖ Mr. Mabonga informed that the procured equipment will be issued to the concerned WSPs after the meeting.
- ❖ Mr. Mori raised concern on when the outstanding equipment and those for Phase 3 will be procured. Eng. Njeru responded that he will give a response after further consultations.
- ❖ Eng. Njeru informed that the most important thing was for the WSPs to learn from each other and to implement the best practices in their various WSPs. In this regard the experts were requested to share the reports of various WSPs with all the members after receiving them.
- ❖ He also requested the WSPs who were receiving the procured equipment to put them to use otherwise it will mean they didn't need them.
- ❖ Members were further advised to copy what others are doing instead of taking more time inventing their own ways.

There being no other business to be discussed, the meeting ended at 12:00pm.

## ATTENDANCE LIST

No.	Name	Institution
1.	ENG. SAO ALIMA	MWS
2.	MR. WATARU TAKASHIMA	JICA Kenya
3.	MR. JOHN GITAU	PROGRAM OFFICER (JICA, KENYA)
4.	ENG. VICTOR C. N. NJERU	HEAD OF NRW UNIT
5.	MR. DAVID MABONGA	MWS NRW Unit
6.	MR. ANDERSON KIOI	MWS NRW Unit
7.	MS. PATRICIA MUTUA	MWS NRW Unit
8.	MS. PATRICIA WANJERI	WASPA
9.	MR. WALTER M. MOSETI	KEWI
10.	MR. JAMES K. NYAUMA	NRW OFFICER (MAVWASCO)
11.	MR. ANTHONY MWANGI	AG. NRW IN-CHARGE (NYAHUWASCO)
12.	MR. JOSEPH GITAU M.	OPERATIONS ENG. (NYAHUWASCO)
13.	MR. JOSEPH I. MAINA	Head NRW (EWASCO)
14.	MR. CYRUS MUGENDI	TECHNICAL OFFICER (EWASCO)
15.	MR. GILBERT K. MUTAI	Distribution Manager (NAWASSCO)
16.	MR. ALEX KEMBOI	AG. Distribution Manager (ELDOWAS)
17.	MR. HEZEKIAH N. MWARUA	MD (KIMAWASCO)
18.	MR. EMMANUEL KARAVINA	T.O.M (KIMAWASCO)
19.	MR. ERNEST CHEA	CBDM (KIMAWASCO)
20.	MR. ROBERT NGATATA	NRW OFFICER (KIMAWASCO)
21.	MR. MICHAEL GITAU	NRW HEAD (RUJWASCO)
22.	MR. ZADRIAN ANGWENYI	NRW UNIT (RUJWASCO)
23.	MR. JOSEPH MBERIA	CEO (MERU WATER)
24.	MR. CHRIS KABERIA	TM (MERU WATER)
25.	MR. SILAS NDATHO	Head NRW (MEWASS)
26.	MR. JOB LIECH	NRW Engineer (KIWASCO)

27.	MR. NAOKI HARADA	JICA Expert Team
28.	MS. HIROKO SUGIMOTO	JICA Expert Team
29.	MR. SHOZO MORI	JICA Expert Team
30.	MR. GEORGE KARANJA	JICA Expert Team
31.	MR. CHARLES MAINGI	JICA Expert Team
32.	MS. KELLYJOY GAKII	JICA Expert Team

**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION  
MINUTES OF THE 21<sup>ST</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING**

Date:	2019/11/28 (Wednesday)
Time:	8:40am – 12:30pm
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. SAO Alima</li> <li>3. Confirmation of previous minutes -Mr. Charles Maingi</li> <li>4. Matters to be discussed; <ol style="list-style-type: none"> <li>i. Program and timeline of the 3<sup>rd</sup> Phase: JICA Expert team</li> <li>ii. Progress of the project by referring to the Project Monitoring Sheet: MWS NRW Unit</li> <li>iii. Issues related to each Output of the Project: By Each C/P <ol style="list-style-type: none"> <li>a) Report on the previous sensitization activity: MWS NRW Unit</li> <li>b) Revision of the NRW Guidelines: WASREB</li> <li>c) Updates on NRW regular training: KEWI</li> <li>d) WASPA Activities &amp; timelines: WASPA</li> </ol> </li> <li>iv. Efficient use of Annual NRW Reduction Planning Template as a suggestion for reviewing the NRW reduction activities: JICA Expert team</li> <li>v. Progress or challenges on and around Activities at Pilot WSPs (Discussion among all members) <ol style="list-style-type: none"> <li>a) Achievement, difficulties or way forward</li> <li>b) Suggestions for the 3<sup>rd</sup> Phase of the Project:</li> </ol> </li> </ol> </li> <li>5. Schedule of next PIC meeting</li> <li>6. A.O.B.</li> </ol>
Content	<p><b>1. <u>Self-introductions</u></b></p> <p>All the members introduced themselves and their respective organizations.</p>

## **2. Communication from the Chairperson**

The meeting was called to order by Eng. Ngugi who informed the members that Eng. Alima had requested him to chair the meeting on his behalf since he was held up with other official duties. Eng. Ngugi reminded members that the last PIC meeting was held in July and subsequently the JCC held in August 2019. The JCC marked the end of Phase 2 of the project and the days meeting was ushering in the 3<sup>rd</sup> phase of the project. He mentioned that it was his believe that in the 3<sup>rd</sup> phase members will be proactive in their activities so that the objectives of the project can be realized. He specifically singled out output 2 and 4 and urged them to be more aggressive this time since they are very key in the project performance.

### **Confirmation of previous minutes (Annex 1)**

Mr. Charles Maingi (JICA Experts team) informed members that the minutes were sent to the members a week earlier as agreed in the previous meeting, and therefore the chair only needed to guide members in case there were matters arising. The minutes were proposed by Mr. Walter Moseti (KEWI) and seconded by Ms. Patricia Mutua (MWS) and therefore confirmed as the true record of the meeting.

### ***Matters Arising from the Previous Minutes***

- ✓ Ms. Sugimoto enquired on the results of the analysis of the responses to the NRW Std usage questionnaire. Members agreed that since the analysis had been shared with the members of the editorial committee and all the counterparts are well represented Mr. Taguchi should be the best person to share the analysis with Ms. Sugimoto.

## **4. Matters to be discussed**

### **i) Program and timeline of the 3<sup>rd</sup> phase: JICA Experts team**

Mr. Taguchi informed members that the project is now at the starting point of phase 3, having been in progress for the last 3 years as phase 1 and 2. He said that phase 3 is scheduled to run for another 2 years. He also pointed out that it was important to note that the project's support for KEWI ended with phase 2 and that they will henceforth undertake training on their own. He also said it was important for the members to start thinking and discussing dissemination of the project activities to the rest of the WSPs in the country. He further did a PowerPoint presentation explaining the timelines allocated for the project.

### **ii) Progress of the project by referring to the project monitoring sheet: MWS NRW Unit**

Ms. Patricia Mutua took members through the project monitoring sheet and discussed their output as indicated below in the discussions on issues related to each output.

### **iii) Issues related to each output of the project: By each C/P**

- a) *Report on the previous sensitization activity: MWS NRW Unit*

Ms. Patricia Mutua reported that the Second County sensitization workshop was held in Nanyuki, hosted by Laikipia County on November 14<sup>th</sup> 2019. Two counties (Laikipia and Meru) with Nine (9) WSP representatives participated out of the invited 11 WSPs. The discussion was focused on the issues dealing with County government. The challenge was the low participation from the County governments. Ms. Sugimoto suggested that there was a need to re-strategize the activity to enhance the participation of counties since the CECs, when contacted to rope in other relevant county staff, they seem very supportive; but actually don't do much after hence the low turnout during the sensitization workshop. Mr. Gitonga suggested that the MWS&I NRW Unit invite the boards of directors of various WSPs for a meeting and since the Counties are usually represented through two chief officers (in-charge of water and in-charge of finance) it will be easier to pass the information on the importance of managing the NRW at the WSPs level and also encourage them to sensitize the county government to attend the workshops.

Ms. Patricia Mutua also reported that the MWS&I was in the process of collecting data for the annual NRW report version 2. She further requested members to share articles for the report with the Unit. She informed that an official letter requesting the same will be sent to all WSPs.

Mr. Gitau (JICA Kenya office) enquired about the progress of procurement of the equipment. Ms. Patricia responded that the budget and list of equipment was sent to the PS for approval and allocation of funds. She also stated that the ministry was working hard to ensure that the equipment are available by end of March 2020. She further requested KEWI to formally request for the funds for renovation of the leak detection training platform.

Mr. Taguchi also informed that through the request made by JICA Kenya office, the Experts are in the process of returning the equipment borrowed from Kapsabet and Narok WSPs since the two WSPs also wish to use them.

*b) Revision of the NRW Guidelines: WASREB*

Eng. Ngugi reported that the Editing work of the NRW Standard is ongoing. Completion of the work is planned by May 2020. Monitoring and evaluation on the usage of the revised NRW standards will commence after dissemination.

*c) Updates on NRW regular training: KEWI*

Mr. Moseti informed that like Mr. Taguchi had reported earlier, KEWI undertook 6 joint trainings in phase 1 and phase 2 of the project as scheduled and this marked the end of the trainings scheduled for the pilot WSPs. However, during the 6 trainings the challenge of low trainees turn out was encountered. He further reported that KEWI was currently undertaking trainings related to NRW even though it is outside the short courses calendar. He also reported that the WSPs are currently requesting for onsite training and cited Nyahururu WSP case where 46 participants were trained, Thika WSP 15 participants,

Mombasa WSP 28 participants; KEWI has sent a proposal to Lodwar WSP's request; while Meru WSP has shown interest. He also reported that after the training, KEWI normally presents the report of the participants to the management in a forum and clearly indicates on their progress.

Mr. Taguchi requested Mr. Moseti to document the proceeds of the Tailor made (request basis) trainings for presentation in the 7<sup>th</sup> JCC. Mr. Moseti also informed that NRW management is now part of the water engineering curriculum in KEWI. Eng. Ngugi requested the WSPs to ensure that their TORs are clear and specific as they request for these trainings so that the various issues that affect the WSPs are addressed during the trainings.

Mr. Liech informed members that it was quite unfortunate that the NRW management aspect is yet to be incorporated in the university curriculum. Mr. Gitonga suggested that the MWS&I should invite the various heads of departments from various universities and sensitize them on the importance of incorporating the element of NRW management in their curriculum.

*d) WASPA Activities and timelines: WASPA*

Ms. Patricia reported that WASPA's bench-making workshop was held from 19<sup>th</sup> to 22<sup>nd</sup>, November 2019 in Nyeri. 70 participants from 25 utilities attended the meeting. She also reported that the billing analysis presentation made by the JICA Experts team; the MNF and leak detection from KEWI stood out. She also reported that WASPA will be holding its annual AGM in Mombasa on 29<sup>th</sup> November 2019 and a retreat on 4<sup>th</sup> – 5<sup>th</sup> December 2019 in Nakuru. The next WASPA calendar will be communicated after the AGM and the retreat.

*iv) Efficient use of Annual NRW Reduction planning Template as a suggestion for reviewing the NRW reduction activities: JICA Experts team*

Mr. Charles reported that all the 9 pilot WSPs had reviewed their annual and mid-term NRW reduction plans through the proper templates. He reminded all the WSPs that they are expected to have reviewed their 1<sup>st</sup> quarter achievements and obstacles. The 2<sup>nd</sup> quarter is ending on 31st December 2020 and hence should be reviewed before the JCC meeting to be held in early February 2020. Mr. Charles further invited the pilot WSPs to make their comments as shown below:

**a) Embu WSP**

Mr. Irungu reported the progress in Embu WSP as follows:



- a) EWASCO had developed and adopted a 100 days **Rapid Results Initiative (RRI)** aimed at reducing non-revenue water to below 30% focusing on both commercial and physical losses reduction.

The proposal has the following 7 milestones: -

1. Baseline survey - completed and documented
2. Replaced/serviced 50% of all stalled meters identified
3. Disconnect all accounts with over Kshs.50,000 balance
4. Disconnect from the main all dormant accounts and accounts that have stayed over 3 months from date of disconnection
5. Repair all vandalized air valves and construct chambers
6. Give amnesty for illegal water users and waiver 50% of all outstanding bills above 20,000
7. Clean up accounts data in South West (Gachoka) and South East (Kiritiri) areas

The estimated budget for the RRI is Ksh. 3,537,657

**b) Illegal water usage /Customer meters survey**

Door to door illegal detection exercise was conducted in sections indicated below. Cases of illegal connections and meter tampering were detected, disconnected and charged. This led to increase in revenue and authorized consumption. (these sections are in rural miraa farming zones.)

	<b>Jun-19</b>	<b>Jul-19</b>	<b>Aug-19</b>
<b>MBEERE SECTION</b>	<b>CONS(m<sup>3</sup>)</b>	<b>CONS(m<sup>3</sup>)</b>	<b>CONS(m<sup>3</sup>)</b>
44	19,822.00	21,099.00	28,254.00
45	11,893.00	13,837.00	21,552.00
46	34,280.00	38,482.00	51,398.00
47	21,102.00	14,502.00	18,743.00
48	9,172.00	10,800.00	13,380.00
<b>Increased revenue from customer investigative survey</b>			
45	1,124,800	1,220,205	1,707,154
46	704,036	797,366	1,307,117
47	2,141,742	2,393,835	3,338,448
48	1,250,845	895,921	1,126,921
49	537,013	651,622	832,683
Total (ksh.)	<b>5,758,436</b>	<b>5,958,949</b>	<b>8,312,323</b>
Increase (ksh.)	<b>2,553,887</b>	<b>2,353,374</b>	

**c) Joint NRW Monthly Monitoring meetings are being held**

A joint NRW monitoring and reduction task force has been constituted. The members were drawn from all key sections that directly affect NRW reduction.

**d) Meter testing**

During the period 356 no customer meters were tested- 164 failed and were replaced.

**e) Large customers monitoring**

Weekly monitoring is still ongoing and the following categories have been added to the list due to their high risk of commercial losses.

- Large miraa farms
- Construction works
- Car washes (47)
- hostels

**f) Master meter accuracy test and replacement**

Procurement of master meter has commenced to replace faulty ones. This will enable realizing accurate flow data for NRW computation. Priority was given to the production and zonal meters.

**NRW status**

The NRW ratio for the 3 months was **44%**. Through the RRI initiative the water losses are projected to be below 30% in 100 days.

**Weakness area that needs urgent action**

- Faulty and inaccurate master meters
- Meter tampering and illegal connections.
- Air valve vandalism.
- Pressure management in zones 1,2 and 3
- System clean-up for commercial losses reduction.

**Meru WSP**

Mr. Silas reported the following activities at Meru WSP in the period:

- ✓ All inactive customers were visited to know where they obtain their alternative source of water and also understand why they had not been reconnected. This is help curb the illegal water usage.
- ✓ Customers with high outstanding debts were approached to make arrangements while using our water
- ✓ Around 30 dormant customers were revived through customer satisfaction survey.

- ✓ an average of 104 connections installed, mapped and updated in the customer database in the last 4 months.
- ✓ Large customer monitoring is done weekly. Tasks include: checking meter status, possibility of illegal consumption/connections, meter seal status with a Ksh. 5,000 fine imposed where tampered
- ✓ 48 out of 144 meters in both C1 and C2 were found faulty and serviced with 27 being replaced.
- ✓ Checking of C3 meters is planned to start from 3<sup>rd</sup> quarter of this financial year
- ✓ MEWASS has requested KEWI to carry out both theory and OJT trainings on NRW reduction activities in their utility so as to incorporate NRW, O&M, production, meter readers and customer care.
- ✓ The NRW team detected 967 bursts and leaks in the last 4 months which were all repaired
- ✓ Two MNF measurements were carried out since July
- ✓ 2 GIS staff members were trained in Mombasa
- ✓ 3 GIS staff members were also trained at KEWI

#### **Challenges**

- ❖ Road construction along the by-pass uprooting of pipelines causing financial loss to the company
- ❖ Large customers in C1 and C2 are the main customers tampering with meters
- ❖ Overflows from BPTs
- ❖ Heavy rains hence high turbidity in treatment works leading to no water

#### **Ruiru-Juja**

The WSP undertook the following NRW activities:

- NRW calculation for Juja Elevated Tank DMA: it was found that the DMA had an NRW of 42.13%.
- From the data obtained, 130 customer meters were confirmed as stalled and recommended for replacement
- A total of 427 faulty customer meters were replaced in August to October period
- A total of 329 bursts and leakages were identified and repaired in August to October.
- GIS & Map: Mapping of the water network is at 95% completion.
- Additionally, 20,000 customer locations have been mapped, an increase of 33%
- A total of 1,174 high consumer accounts are continuously monitored for anomalies.
- Customer meter accuracy testing is an ongoing exercise

#### **Challenges**

- a) Using kobo collect app has been a challenge since the data collection forms are unavailable in the app.
- b) Frequent bursts caused by ongoing road construction works and sewer

extensions.

- c) Vandalism of customer meters and DMA bulk meters.
- d) There is a huge difference in billing between wonderkid and Majisoft

### **Kilifi-Mariakani WSP**

The company undertook the following NRW activities:

- Meters serviced-296
- Meters replaced- 60-50,000 impact
- GIS – the hardware components including two desktops and two flat screens were purchased
- Meter relocation – 20 meters which were under gate locks
- 10 illegal connections were unearthed. This was as a result of formation of an inspection team equipped with motor bikes for the exercise
- Management approved the increase of staffing in the NRW team
- Rolling out of maji voice system 90% for reporting of burst and complain
- It was ensured that specifications are adhered to in procuring materials usually done quarterly.
- Sensitization meetings in Bamba where the CC and board members were in attendance, where vandalism is rampant –meeting led to reduction of NRW by 5% in the area.
- Formation of a committee to formulate standard Operating procedures; - which is underway
- Collaboration with KEWI to map Kiwandani as a pilot project for both meters and network to ascertain NRW levels and creation of DMAs - 20,000,000 is being lost
- The company is also procuring pipes and fittings under WSDP project to facilitate in the formation of DMAs by eradicating spaghetti connections
- The company has developed data capturing tools for standard data capturing.
- The company plans to replace stalled 300 meters by the end of December 2019.
- The board of directors are positive on NRW reduction after engagement by the management and have requested to be taken for short courses on NRW. KEWI has been contacted on this awaiting response
- Relocation of Bofa pipeline under WSDP programme which is passing through customer's premises
- The company plans of purchase 3500 meters under WSDP project to replace stalled meters

### **Challenges**

- Intermittent water supply
- Aged pipeline
- Lack of meters for replacement
- Road grading – in five months 10km DN 100mm has been damaged

### **Kisumu WSP**

The WSP undertook the following NRW activities:

- ✓ Public sensitization and awareness on meter theft
- ✓ Leak detection being undertaken on various pipe networks - 6.2 Km of covered during the period under review. 2.9km out of the 6.2kmpipeline was recommended for replacement.
- ✓ Minimum night flow and step test has been carried out in various DMAs Including: Gudka, Arina and Kenya- Re.
- ✓ Tank level remote monitoring sensor installed hourly data updates through sms
- ✓ Baseline survey for newly isolated CBD DMA
- ✓ Installation of multijet meter in areas prone to silt. Already 364 meters installed with a target of 1500 by end of 3<sup>rd</sup> quarter.

#### **Challenges**

Introduction of new billing software system has affected billing process thus contributing to increase in NRW.

#### **Way forward**

Customer data base clean up

### **Mavoko WSP**

NRW - 34%, Average production 55,000m<sup>3</sup>/month, Total water connections 7612

The WSP undertook the following NRW activities:

- Cumulatively 887 meters have been replaced since January 2018 with 78 being in the reporting period. A sample analysis of 60 meters replaced showed at least 66% improvement in billing on average.
- Mobile meter reading has been introduced and effectively deployed after successful piloting
- Master and bulk meter testing done once every quarter
- Introduction of disconnection stickers on meters to reduce illegal reconnections



- GIS mapping of all water connections completed. Continuing updating for new water connections
- Mapping of meter reading anomalies (as generated from billing system) on GIS is currently being done
- Installation of three strainers on at least DN 90mm pipes to reduce meter stops due to silt
- NRW monthly review joint participatory meeting between Commercial and technical departments

- Billing system improvement in progress to achieve zonal/sub zonal NRW analysis
- Enhancing data analysis on distribution to track zonal NRW trends
- Focus on disconnected accounts with data cleaning and actions to disconnect from mains for the outstanding

#### **Challenges**

- Policy on disconnection from mains is not available
- Customer meter tampering still persists
- Vandalism of infrastructure in some areas
- Management of accounts disconnected in the system but not on ground not completed (25% of the connections)

Low volumes of water and impeding interruption due to Nairobi Expressway project (37% of connections not receiving water)

#### **v) Progress or challenges on and around activities at Pilot WSPs**

##### **Discussion among participants**

Members requested WASREB to share with the WSPs guidelines on particular policies that needs to be adopted by the various WSPs

Members also agreed to suggest and send to the secretariat the various polices that they felt were missing and were quite useful for their WSPs

Mr. Maina Embu WSP suggested that the experts should visit even the 6 pilot WSPs even though they are not part of phase 3 of the project and help them in working with the techniques that were developed and introduced to them earlier on e.g. the kobo collect and the ODK, zonal monitoring system and billing analysis. Mr. Charles responded by informing the members that the experts will be visiting the 6 WSPs to finalize on the Kobo collect and share it as best practice; zonal monitoring will also be done on the current phase for all WSPs and; billing analysis will be redone for WSPs but on the basis of the availability of an analysis unit since it requires lots of dedication. Mr. Maina also requested WASREB to conduct audit on the various WSPs since some of the WSPs have imaginary NRW Units. Eng. Ngugi responded by informing members that it was a requirement in the licencing to have functional NRW Units in all WSPs in the country. However, WASREB will monitor the implementation of the licence among the WSPs.

Mr. Gitonga suggested a research be carried out to ascertain the effectiveness of smart meters in fighting the NRW. Mr. Moseti was requested to take the challenge and have the research conducted by KEWI and inform the sector on the effectiveness of the smart meters in fighting NRW. Patricia (WASPA) pointed out that smart meters do not guarantee a return on investment and that there is research by World Bank with the first phase already done awaiting the second phase.

Mr. Charles informed members that smart meters are just the ordinary meters but smart enabled. They are also tamper-proof and cannot be repaired hence expensive.

	<p>Mr. Gitau (JICA Kenya) requested that the suggestions from phase 3 of the project be documented and sent to JICA for future use.</p> <p><b><u>5. Schedule of the next PIC meeting</u></b></p> <p>It was agreed that the next PIC meeting will be held on <b>22<sup>nd</sup> January 2020</b>.</p> <p><b><u>A.O.B.</u></b></p> <p>Mr. Taguchi informed members that there was an executive forum in Rwanda from 13- 14 November 2019 attended by himself and MDs from Embu, Kisumu and Nakuru WSP. The forum was a benchmark on collaboration between Kenya, Rwanda and Malawi. Ms. Patricia Wanjeri was requested to liaise with Christopher and Njiru for more information and share the knowledge with the rest of the WSPs.</p> <p>There being no other business to be discussed, the meeting ended at 12:30pm.</p>
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#### ATTENDANCE LIST

No.	Name	Institution
1.	ENG. DANIEL NGUGI	WASREB
2.	MR. JOHN GITAU	PROGRAM OFFICER (JICA, KENYA)
3.	MS. PATRICIA MUTUA	MWS NRW UNIT
4.	GODFREY KIGWEI	NRW -INTERN
5.	MS. PATRICIA WANJERI	WASPA
6.	MR. WALTER M. MOSETI	KEWI
7.	ENG. JESSE AMBUNDO	TECHNICAL MANAGER
8.	MR. PAUL MUTHAMI	NRW IN CHARGE
9.	MR. FELIX G. MUTURA	HTS
10.	MR. JOSEPH I. MAINA	HEAD NRW (EWASCO)
11.	MR. JOSEPH K. MAIYO	WATER DISTRIBUTION & NRW MANAGER
12.	MR. HEZEKIAH N. MWARUA	MD (KIMAWASCO)
13.	MR. PASCAL JIRA	AG. T.O.M
14.	MR. ROBERT NGATATA	NRW OFFICER (KIMAWASCO)
15.	MR. MICHAEL GITAU	NRW HEAD (RUJWASCO)
16.	MR. ZADRIAN ANGWENYI	NRW ENGINEER (RUJWASCO)

17.	MR. SILAS NDATHO	HEAD NRW (MEWASS)
18.	MR. JOB LIECH	NRW ENGINEER (KIWASCO)
19.	MR. MASAYUKI TAGUCHI	JICA TEAM
20.	MR. NAOKI HARADA	JICA EXPERTS TEAM
21.	MS. HIROKO SUGIMOTO	JICA EXPERTS TEAM
22.	MR. GEORGE KARANJA	JICA EXPERTS TEAM
23.	MR. CHARLES MAINGI	JICA EXPERTS TEAM
24.	MS. KELLYJOY GAKII	JICA EXPERTS TEAM

**Apologies**

Nakuru WSP



**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION  
MINUTES OF THE 22<sup>ND</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING**

Date:	2020/01/24 (Friday)
Time:	8:30am – 11:00am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<p>1. Self-introduction</p> <p>2. Communication from the Chairperson - Eng. SAO Alima</p> <p>3. Confirmation of previous minutes -Mr. Charles Maingi</p> <p>4. Matters to be discussed;</p> <p style="padding-left: 20px;">✓ Progress of the project by reporting from representatives of each CPs</p> <p style="padding-left: 20px;">a) Activities of MWS NRW Unit (NRW Annual report, County Sensitization, Campaign in WSPs, Procurement of Equipment, etc.)</p> <p style="padding-left: 20px;">b) Activities of WASREB (NRW Managing Guidelines and Handbook)</p> <p style="padding-left: 20px;">c) Activities of KEWI (Implementation of NRW Short Course, etc.)</p> <p style="padding-left: 20px;">d) Activities of WASPA’s program (Bi-monthly meeting, Seminar or forums, etc.)</p> <p style="padding-left: 20px;">e) Activities of Output 4 in Pilot WSPs to be summarized by Project team.</p> <p>ii) Preparation of 7th JCC meeting: JICA Expert team</p> <p style="padding-left: 20px;">Issues to be discussed in the next JCC meeting.</p> <p style="padding-left: 20px;">a) How to disseminate NRW reduction activities in Kenya after the Project. (Launching &amp; seminars about NRW Managing Standards are not enough for WSP → Supporting mechanism is needed for WSPs to start, continue and be rooted to the actual activities → Who/What organization will be responsible, by what measures)</p> <p style="padding-left: 40px;">• Discussions and decision to be made by the heads of CPs (MWS&amp;I, WASREB, KEWI), then Ordering appointed working team to make plan for dissemination. → Authorizing the group for implementing the work with budgetary by MWS&amp;I.</p> <p style="padding-left: 20px;">b) Feedback of utilization of the NRW Annual plan</p> <p style="padding-left: 40px;">• Do you make quarterly reporting to WASREB by using your plan which has columns for reviewing the activities?</p> <p style="padding-left: 40px;">• How do you evaluate your achievement against the annual targets activities selected specially after the last JCC?</p>

	<p>c) Measures for ensuring procurement of leak detecting Equipment for Phase 3</p> <p>5. Schedule of next PIC meeting</p> <p>6. A.O.B.</p>
Content	<p><b>1. <u>Self-introductions</u></b></p> <p>All the members introduced themselves and their respective organizations.</p> <p><b>2. <u>Communication from the Chairperson</u></b></p> <p>The meeting was called to order by the Chairman, Eng. Alima, who later welcomed the members to the 22<sup>nd</sup> PIC meeting. He later informed members that he was happy with the attendance though some WSPs had not yet showed up for the meeting but he was hopeful that they will soon join the meeting. He also thanked members for the efforts they had so far employed in the project and further informed them that now that the project was in its 3<sup>rd</sup> phase it is very critical. He said it is the best point for the WSPs to reflect on where they are coming from, where they are and where they are headed to. He also acknowledged receipt of quite encouraging reports from the PIC meetings and noted that the good reports have kept the project going.</p> <p><b><u>Confirmation of previous minutes (Annex 1)</u></b></p> <p>Mr. Charles Maingi (JICA Experts team) informed members that the minutes were sent to members a week earlier as agreed in the previous meeting, and therefore the chair only needed to guide members in case there were matters arising. The minutes were proposed by Mr. Walter Moseti (KEWI) and seconded by Mr. Paul Muthami (NHAHUWASCO) and therefore confirmed as the true record of the meeting.</p> <p><b><i>Matters Arising from the Previous Minutes</i></b></p> <p>✓ There were no matters arising from the previous minutes.</p> <p><b>4. <u>Matters to be discussed</u></b></p> <p><b>i) Progress of the project by reporting from representatives of each CPs</b></p> <p><b>a) Activities of MWS NRW Unit (NRW Annual report, county sensitization, campaign in WSPs, procurement of equipment, etc)</b></p> <p>Mr. Kioi reported on the following activities by the MWS NRW Unit:</p> <p>They have received input from members for the annual report and they are hopeful the write up will be ready by the month of March 2020.</p> <p>They are currently planning for another county sensitization workshop which will be held in Kisumu county by the month of March 2020. Eng. Ngugi requested the Unit to consider a</p>

suggestion made in the previous meeting by Mr. Felix Gitonga (EWASCO) of holding a sensitization workshop and inviting some of WSP's board members, who belong to the County government sent to the WSP, instead of directly inviting the members of the County government for the workshop. This will improve the current difficulty in the attendance.

They are also planning for another thematic workshop dates and venue to be communicated

On the NRW reduction equipment, the meeting was informed that the procurement process is still ongoing fairly. NRW unit informed the meeting of anticipated challenge they had encountered during the market survey whereby they got a quotation that was way too high compared to the previous financial year procurement. However, they were procuring with a competitive budget within. Mr. Taguchi urged the MWS&I to be precise and timely in their procurement to avoid the explanations as in the previous JCC meeting and no progress had been realized since then.

Eng. Alima, as a result of another meeting that was to be attended by the presiding chairman, he proposed Eng. Ngugi to continue chairing the meeting.

**b) Activities of WASREB (NRW Managing Guidelines and Handbook)**

Eng. Ngugi reported that the editorial committee has been holding their meetings promptly except for the month of December and January. However, they will be holding the next meeting in February 2020 and expect to finalize the work by May- June 2020. In view of this he requested the ministry to consider its facilitation in order to realize the workplan. He also said that the committee was still in need of an expert's input into the document. Mr. Taguchi responded by informing members that he is part of the committee and that results were being realised so far.

**c) Activities of KEWI (Implementation of NRW short course, etc)**

Mr. Moseti reported that there has not been much change from the last meeting's report. However, short courses calendar is out and they have advertised the new structure NRW courses. The training is planned to start in March. He also reported that they had received requests from some WSPs like Meru, Kilifi and others for onsite training. He also promised to giving a report on the trainings in the next meeting. Eng. Ngugi enquired whether KEWI has reach out to the WSPs themselves for the trainings or what is happening. Mr. Moseti reported that most WSPs consider it cost effective to hold the trainings onsite using their own facilities instead of coming to KEWI. Mr. Taguchi enquired about the number of the participants into the short courses in this year. Eng. Ngugi suggested that Mr. Moseti report in terms of parameters in future so as to show the participants in the regular courses and those in the customed courses. Mr. Gitau (JICA Kenya office) suggested that non-pilot WSPs showing interest in the courses can be encouraged by being invited by their neighbouring pilot WSPs during the onsite trainings. Mr. Taguchi explained that the purpose of the onsite training are for particular WSPs specific area of weakness. Mr. Moseti also clarified that training in a WSP was not per head but as a group as long as they have a maximum number of 25 persons.

**d) Activities of WASPA's program (Bi-monthly meeting, Seminar or forums, etc)**

This item was not reported on since WASPA had not sent a representative.

**e) Activities of output 4 in pilot WSPs to be summarized by project team**

Mr. Charles (JICA Experts team) reported that there would not be presentations by individual WSPs but he will give a summary on the WSPs' progress as follows:

Embu WSP: - collecting and uploading of pressure data from the selected pressure points in zone 2 using ODK was done which will later be useful for pressure management exercise in the zone. They were waiting for procurement of PRVs for installation in the designated places. He enquired from Mr. Gitonga on the progress of the procurement. Mr. Gitonga responded that the tenders were not responsive and they might be forced to repeat the process by end of February. They have also planned to conduct Minimum Night Flow measurement in zone 2 by the end of January to establish the amount of water loss.

Survey on stalled, opaque and mal-functioned large and small customer meter meters was on-going. They have bought 2000no.meters for the exercise and had replaced 400 No meters which were found to be faulty after servicing and testing. Data clean-up was is-ongoing and had started with those accounts that had ~~have~~ not been billed for over 6 months.

They were ~~are~~ in the process of procuring Air valves for replacement and this was ~~is~~ after they noticed that they are losing a lot of water on leaking air-valves along main and service lines. Nyahururu, Nakuru, Ruiru-Juja and Kilifi-Mariakani WSPs reported that they had set up their improvised meter test benches which they are currently using to test meters after the training by the JICA expert team.

Nyahururu WSP was currently conducting a customer Identification Survey in Rumuruti scheme which is meant to assist in data clean-up, location and identification of customer meters which will assist to improve on billing.

Eldoret WSP had recently acquired some new leak detection equipment which they are to start using soon after training on how to use by the JICA team.

They are also concentrating on meter testing, resizing, relocation and replacement of stalled and faulty meters, prioritizing the large consumers which seems to be yielding some good results with improvement in billing of at least 3 to 4 times on the acted-on connections.

Meru, Nyahururu, Nakuru, Kisumu and Ruiru-Juja are concentrating mainly on large customer monitoring, Step testing and Minimum Night Flow measurements (e.g. Nyalenda and Dunga areas in Kisumu, Zone 8 lower in Meru, Naka Estate in Nakuru and Manguo Estate in Nyahururu). Kilifi-Mariakani is mainly dealing with customer meter servicing, testing and replacement of mal-functioned meters. So far 95 of the planned 300 customer meters have been replaced as at end of December 2019. Replacement of some of their old dilapidated AC pipes is ongoing with World Bank funding replacement of service pipeline to customer premises mainly in BOFA area.

Mr. Taguchi appreciated Eldoret WSP for their efforts in procuring the NRW reduction equipment. He also informed them that Mr. Takahashi will be visiting them for training on use of the equipment on 5<sup>th</sup> -7<sup>th</sup> February 2020. Eng. Ngugi also encouraged the WSPs to plan for procurement of NRW equipment since this shows how seriously a particular WSP has taken the matters of NRW management

Mr. Kioi raised concern on the reporting not appreciating the effort (investment) by the MWS&I and how the procured equipment had assisted them to NRW reduction objectives. Eng Gitonga (EWASCO) reported that using the pipe locator bought procured and issued to Ewasco by the MWS&I, they were able to locate a case where a customer had tapped their water and built houses on top of the pipe line and directed the water into a pit from where he was pumping like an underground water source. This was one of the many achievements realized from the WSPs after they got the equipment. Mr. Karanja requested for photos of such cases.

Mr. Miyagawa (JICA Kenya office) enquired to know how many of the WSPs had submitted their reports using the new planning template that is being piloted. Eng. Ngugi responded by reporting that only Kisumu WSP had submitted their reports using the new planning template. He further enquired the challenges that the WSPs were facing while using the template. Mr. Gitonga reported that the reason failure to use the template could mostly be the tendency of the WSPs updating the old template and sending it to WASREB, which they are used to. Members further agreed there was no clear communication for them to be using the new template. Eng. Ngugi explained that it was unfortunate that the pilot WSPs were not using the template to submit their reports yet this was the best way to evaluate the template. He therefore requested all utilities to be using the new template for reporting but excused the three WSPs which joined the project in phase 3 since they were currently learning on how to use it.

## **ii) Preparation of the 7<sup>th</sup> JCC meeting: JICA Experts team**

Issues to be discussed in the next JCC meeting

### *a) How to disseminate NRW reduction activities in Kenya after the project*

(Launching and seminars about NRW management standard are not enough for WSP:- supporting mechanism is needed for WSPs to start, continue and be rooted to the actual activities- who/what organization will be responsible, by what measures,)

Mr. Taguchi presented to the members a draft agenda and minutes of the forthcoming JCC meeting. He expressed his concern in the support mechanism that is required for the dissemination of the project to the rest of the country and sustainability of the project activities after the project is complete. He proposed establishing a reliable system to disseminate NRW reduction activities to other WSPs. He also stated that a working group should be organized in order to make real action plans on how to disseminate the activities on the recognition of the present poor situation. Real steps for dissemination of the project need to be taken by the 3 C/Ps i.e. MWS&I, KEWI and WASREB.

Mr. Karanja also enquired to know who will be in charge of the activities introduced now after the project for sustainability. Members agreed that follow-up was very key. Mr. Gitonga

suggested borrowing the idea of dissemination used by National Aids Control Council, whereby they roped in the ministry of health to ensure that trainees acquired the required knowledge through introduction in their regular courses. In the same way the MWS&I can rope in universities to incorporate NRW reduction courses in the engineering course curriculum so that Engineers do not have to learn NRW management from their junior staff trained in KEWI. He also suggested that peer to peer intervention can be a workable way for dissemination whereby the pilot WSPs are paired with another WSP that was not in the project so that they journey together. He said this is possible if mechanisms are set by the national institutions.

Mr. Ambundo (Mavoko WSP) suggested that a benchmarking approach from the MWS&I and other water sector partners can be of use. Regular reporting framework can be employed in benchmarking and someone or a team that is conversant with NRW activities to journey with the WSPs in terms of listening and providing opinions and guidance.

Mr. Charles also suggested that if the NRW Unit in the MWS&I is well strengthened they could be of great help in the dissemination. KEWI and WASREB should also be brought on board in the whole process.

Mr. Mabonga suggested that JICA in their reporting can include the need for the NRW Unit to be adequately strengthened.

*b) Feedback of utilization of the NRW Annual plan*

Mr. Charles reported that like Mr. Miyagawa had raised concern on the feedback on utilization of the NRW Annual Planning Template, the experts had received the plans from the 9 WSPs based on the new template. However, Eng. Ngugi informed members that only Kisumu WSP had submitted their report using the new template. Mr. Charles also pointed out that even though they received the plans, none of the WSPs had submitted any feedback in regards to its quarterly evaluation. He therefore requested the WSPs to do evaluation for their quarterly plans and share with both WASREB and the experts. He also requested them to review the priority activities they came up with in their analysis and determine what was achieved and what was not achieved. Mr. Taguchi requested the WSPs to submit the evaluated template before the forthcoming JCC scheduled on 5<sup>th</sup> February 2010. Members agreed that the evaluation reports should be sent to Mr. Charles by 31<sup>st</sup> January 2020.

Eng. Ngugi also informed the members that there could be a risk in the usage of the template whereby a utility fails to continue using the template in a case where the members of staff who are familiar with it leaves the organization or are promoted and the incoming staff do not know how to use the template.

Mr. Ambundo informed members that there was no clear communication whether utilities should use the template to submit their plans to WASREB. Their idea was the template was still being piloted.

Mr. Pascal (Kilifi-Mariakani WSP) enquired if there is a way the template can be simplified since as it stands it has lots of formulas. Mr. Charles responded that Mr. Mori was working on simplifying the document further but he will help Kilifi-Mariakani further so that they are well conversant with the template in its current state. He also encouraged the WSPs to use the document so that they make progress even before the more simplified version is made available.

Mr. Mabonga also pointed out that there may be NRW reduction staff turn-over in some WSPs thus posing challenges to the current staff.

Members agreed that the following WSPs will make presentations in the forthcoming JCC meeting: Eldoret, Nakuru and Mavoko WSPS.

*c) Measures for ensuring procurement of leak detecting equipment for phase 3*

Eng. Ngugi (chairing the meeting in place of Eng. Alima) informed members that this issue was already dealt with together with the ministry activities. However, Mr. Kioi added that in the procurement plan, they had factored in the equipment for the WSPs which were left out in the previous procurement.

#### **5. Schedule of the next PIC meeting**

It was agreed that the next PIC meeting will be held on **26<sup>th</sup> February 2020**.

#### **A.O.B.**

Mr. Gitau JICA Kenya office informed members that Phase 2 reports were ready except for Meru and Embu and that WSPs should collect them after the meeting. He also suggested the importance of the MWS&I to prepare a presentation on the technical assessment on the phase 2 of the project since a representative from the COG, Embassy of Japan and JICA headquarters will be in the meeting. Members agreed the JCC agenda be amended to incorporate the presentation by the MWS&I.

Mr. Maina (EWASCO) reported that the first bulk meter donated by JICA had mechanical issues and also the second one that was brought to replace it. The supplier was however supposed to send their expert on the ground but this has not been done yet. Mr. Gitau responded by informing members that he was working on the issue and will get back to EWASCO.

Mr. Miruri reported that MEWASS was using the new template.

Mr. Miyagawa informed members that the 22<sup>nd</sup> PIC is his last since he is leaving the country in the first week of February 2020. However, he encouraged members to continue with the activities of the project even after the project is over.

Eng. Ngugi thanked Mr. Miyagawa for his support in the project.

Mr. Karanja requested members to send the names, organization and position held for the members who will attend the JCC to Ms. Kellyjoy for prior preparations. Each organization was requested to send a maximum of three representatives.

	<p>Eng. Ngugi thanked members for their participation in the days meeting and encouraged them not to give up on NRW reduction.</p>
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There being no other business to be discussed, the meeting ended at 11:00am.



## ATTENDANCE LIST

No.	Name	Institution
1.	ENG. SAO ALIMA	WATER SECRETARY
2.	MR. DAVID MABONGA	NRW CO-ORDINATOR
3.	MR. ANDERSON KIOI	NRW OFFICER
4.	GODFREY KIGWEI	NRW -INTERN
5.	ENG. DANIEL NGUGI	WASREB
6.	MR. MASAHITO MIYAGAWA	SENIOR REP. (JICA, KENYA)
7.	MR. JOHN GITAU	PROGRAM OFFICER (JICA, KENYA)
8.	MR. WALTER M. MOSETI	KEWI
9.	ENG. JESSE AMBUNDO	TECHNICAL MANAGER
10.	MR. PAUL MUTHAMI	NRW IN CHARGE
11.	MR. FELIX G. MUTURA	HTS (EWASCO)
12.	MR. JOSEPH I. MAINA	HEAD NRW (EWASCO)
13.	MR. ALEX KEMBOI	AG. WATER DISTRIBUTION & NRW
14.	MR. PASCAL JIRA	AG. T.O.M
15.	MR. ROBERT NGATATA	NRW OFFICER (KIMAWASCO)
16.	MR. ZADRIAN ANGWENYI	NRW ENGINEER (RUJWASCO)
17.	MR. ROBERT K. MIRURI	GM (MEWASS)
18.	MR. WILLIAM MWENDA	NRW UNIT
19.	MR. GILBERT MUTAI	DM (NAWASSCO)
20.	MR. JOHN WACHIRA	O&M SUPT
21.	MR. MASAYUKI TAGUCHI	CHIEF ADVISOR (JICA EXPERTS)
22.	MR. NABORU SAITO	EXPERT
23.	MR. GEORGE KARANJA	JICA EXPERTS TEAM
24.	MR. CHARLES MAINGI	JICA EXPERTS TEAM
25.	MS. KELLYJOY GAKII	JICA EXPERTS TEAM

**Apologies**

WASPA

**Absent without apologies**

Kisumu WSP

**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION  
MINUTES OF THE 23<sup>RD</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING**

Date:	2020/02/26 (Thursday)
Time:	8:30am – 11:00am
Venue	Ministry of Water and Sanitation (MWS) Boardroom, Nairobi
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction (5 min.)</li> <li>2. Communication from the Chairperson - MWS&amp;I (5 min.)</li> <li>3. Confirmation of MM of 23<sup>rd</sup> PIC and monitoring activities after the Covid-19 from April to September (JICA team, 5 min.)</li> <li>4. Matters to be discussed; (70 min. in total) <ul style="list-style-type: none"> <li>✓ Information and notices to be shared</li> <li>a) Project implementation policy (JICA representative, 5 min.)</li> <li>b) Rescheduling of the Project implementation (Expert team, 15 min.)</li> <li>c) Progress of editing NRW Management Standards, Guidelines and Hand-book) (Mr. Karanja, 10 min.)</li> <li>d) Activities of Output 4 in Pilot WSPs to be summarized by Project team. (Mr. Charles, 10 min.)</li> <li>e) Notices or remarks from WASREB, KEWI, WASPA (Rep×5min.)</li> </ul> <p>Questions and Answers (15min.)</p> <ul style="list-style-type: none"> <li>ii) Discussions on how to strike the Covid-19 (1 hr.) <ul style="list-style-type: none"> <li>a) Presentation of good examples from Pilot WSPs <ul style="list-style-type: none"> <li>• How to recover the revenue collection (KIMAWASCO, 10 min.)</li> <li>• Importance of collaboration with stakeholders (ELDOWAS 10 min.)</li> </ul> </li> <li>b) Discussion by the participants (30 min.)</li> <li>c) Requests or opinion to the project activities (10 min.)</li> </ul> </li> </ul> </li> <li>5. Schedule of next JCC meeting (3 min)</li> <li>6. A.O.B.</li> </ol>

Content	<ul style="list-style-type: none"> <li>• <b><u>Self-introductions</u></b></li> </ul> <p>All the members introduced themselves and their respective organizations.</p> <ul style="list-style-type: none"> <li>• <b><u>Communication from the Chairperson</u></b></li> </ul> <p>The meeting was called to order by Mr. Taguchi who confirmed if the members had all the annexes for the meeting. He then invited Eng. Njeru to make his remarks on behalf of Eng. Alima. Eng. Njeru welcomed members to the 24<sup>th</sup> PIC meeting. He said that the meeting was very important both for the project WSPs and the ministry and that he hoped that they were using the knowledge acquired in their various areas of work. He also informed the members that the ministry expects that the project WSPs will be great partners in the spreading of the knowledge acquired during the project period to the rest of the country. He also reported that he was aware that the WSPs had been struggling during the current pandemic period to provide the essential commodity to the public. However, he was grateful to JICA for not only offering knowledge but also donating chemicals for the pilot WSPs. He informed the members that the WSPs were expected to embrace the technology they were acquired from the experts so that they will spread the knowledge to the rest of the WSPs in the country. He also acknowledged the efforts made by all the counterparts in ensuring that the project was running smoothly and also a communication platform from JICA experts despite the pandemic.</p> <p>Mr. Taguchi further requested the members to endorse Mr. Karanja as the chairperson of the meeting on behalf of the ministry.</p> <p><b><u>Confirmation of previous minutes (Annex 1)</u></b></p> <p>Mr. Karanja (JICA Experts team) informed members that the minutes were sent to members a week earlier as agreed in the previous meeting, and therefore the chair only needed to guide members in case there were matters arising. The minutes were proposed by Mr. Walter Moseti (KEWI) and seconded by Mr. Joseph Maina (EWASCO) and therefore confirmed as the true record of the meeting.</p> <p><b><i>Matters Arising from the Previous Minutes</i></b></p> <ul style="list-style-type: none"> <li>➤ Mr. Taguchi however, informed members that since the previous meeting was held in February it was hard to confirm each item in the minutes of previous meeting but there were pending matters that were very key to the project like the formulation of the working group like was agreed in the JCC meeting. He also informed the members that the Working group was formulated and had their first sitting whereby they agreed to formulate the action plan and other activities.</li> <li>➤ Mr. Taguchi also highlighted on some matters that were discussed by the participants in the previous meeting that members did not have a chance to implement/ work on</li> </ul>
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them but he considered them important for members to be reminded about them. There were no matters arising from the previous minutes.

#### **4. Matters to be discussed**

i) Progress of the project as per the reports from representatives of each CPs

##### **a) Activities of MWS&I NRW Unit (NRW Annual report, County Sensitization, Campaign in WSPs, Procurement of Equipment, Progress in formulating a Working Group, etc.)**

Mr. Taguchi informed the members that the MWS NRW Unit was in their last stage of printing the annual report and will be released soon.

The unit was compiling articles for the annual reports and was currently working on the children's Corner and would be visiting Murang'a the following week to collect children articles. The first draft of the report was expected to be ready by mid-March 2020. Eng. Alima encouraged the editorial team of the annual report to be meeting often for them to meet the deadline.

The unit was then planning for another county sensitization workshop in Kisumu county by end of March. Eng. Alima enquired to know the target number of workshops. Ms. Patricia reported that the target was to hold 8 workshops in 3 years. Eng. Alima suggested that the number be revised to 8 workshops in 1 or 2 years.

School campaigns – she reported that school campaigns were held in Murang'a WSP on 3<sup>rd</sup> and 4<sup>th</sup> February 2020 while Nyahururu WSP planned to hold theirs on 27<sup>th</sup> and 28<sup>th</sup> February 2020. A letter agreeing to support Mathira WSP was also written.

##### **b) Activities of WASREB (NRW Management Guidelines and Handbook)**

Mr. A. Kioi represented Eng. Ngugi who was absent due to other official duties. He reported that the editorial committee held its 12<sup>th</sup> meeting on 18<sup>th</sup> February 2020. He said the committee was proceeding very well with its mandate but it had a challenge with appropriation of funds to conduct an open forum. Mr. Karanja also informed that the committee was finalizing on the various chapters to ensure they are easily understandable.

##### **c) Activities of KEWI (Implementation of NRW short course, etc)**

Mr. Moseti reported that the NRW course had been incorporated in the short course calendar. He said that the upcoming course would be held in March 2020 and 15 participants had already confirmed their attendance for both the OJT and Classroom training; and requests from more WSPs were still being accepted. He also said that MWS&I and WASREB will be invited to oversee and review the course.

##### **d) Activities of WASPA's program (Bi-monthly meeting, Seminar or forums, etc)**

Ms. Patricia Wanjeri reported that WASPA will hold their Benchmarking meeting on 16<sup>th</sup> and 17<sup>th</sup> April 2020 in Nairobi and the bimonthly meeting on 20/03/ 2020 in Eldoret. She also

reported that other WSPs who are not in the project had shown a lot of interest in the billing analysis after Mr. Charles did a presentation during one of their meetings in Nyeri.

**e) Activities of output 4 in pilot WSPs to be summarized by project team**

Mr. Charles (JICA Experts team) reported that Mr. Takahashi was currently working with the WSPs on MNF and step testing. He also reported that they were currently reviewing the 1<sup>st</sup> version of the planning template having received feedback from 8 of the WSPs. Kilifi-Mariakani WSP, which had not given feedback will be visited by the Experts in the coming week. He also reported that he was working with the 3 WSPs in phase 3 on data analysis and planning as well as making follow up with the 6 WSPs.

He then requested the WSPs to make their presentations which proceeded as follows:

**Embu WSP:**

During the period the NRW/ RRI team concentrated on commercial losses mostly with meter issues with the following activities being carried out.

➤ **Stalled and opaque meters.**

A total of 635 meters were attended to as shown below.

<b>Section</b>	<b>31</b>	<b>29</b>	<b>32</b>	<b>15</b>	<b>30</b>	<b>45</b>	<b>35</b>	<b>33</b>
<b>No. of meter serviced/ replaced</b>	<b>115</b>	<b>64</b>	<b>19</b>	<b>16</b>	<b>14 3</b>	<b>70</b>	<b>36</b>	<b>26</b>
<b>Section</b>	<b>26</b>	<b>22</b>	<b>27</b>	<b>28</b>	<b>25</b>	<b>43</b>	<b>8</b>	<b>Total</b>
<b>No. of meter serviced/ replaced</b>	<b>26</b>	<b>36</b>	<b>14</b>	<b>36</b>	<b>13</b>	<b>11</b>	<b>10</b>	<b>635</b>

- All accounts with over Ksh. 50,000 balance were disconnected
- Disconnection was effected for customers who did not respond to the demand notice given.
- All dormant accounts and accounts that had stayed more than 3 months from date of disconnection were disconnected from the main
- The exercise was still ongoing having fully covered section 47 and 44.
- Accounts data was cleaned-up for South West (Gachoka ) and South East (Kiritiri ) areas
- Data collection for Accounts without complete customer details was ongoing.

**5.** Weekly review meetings were being held with representation from both commercial and technical departments.

**Illegal Water Usage/Customer Meters Survey**

The activity was carried in zone 2 and was still ongoing. This followed a QMNF and later a step test that indicated high water losses suspected to be illegal use in section 37/38 .

### **Joint NRW Monthly Monitoring Meetings**

A joint NRW monitoring and reduction task force had been constituted. Members were drawn from all key sections that directly affect NRW reduction and are active members in the RRI TEAM.

### **Meter Testing**

During the period 81 customer meters were tested and necessary actions taken.

<b>Meter tested</b>		
<b>pass</b>	38	
<b>fail</b>	43	All were replaced

10% of new meters were also tested before acceptance.

### **Large Customers Monitoring**

Weekly monitoring was still ongoing and the following categories had been added to the list due to their high risk of commercial losses.

- Large miraa farms
- Construction works
- Car washes (47)
- Hostels

### **Master Meter Accuracy Test and Replacement**

Procurement process to replace faulty master meters was complete and awaiting awarding. This will enable realizing accurate flow data for NRW computation. Priority was given to production and zonal meters.

### **QMNF in Zones 2**

EWASCO team had undertaken 3 QMNF measurements in zone 2, areas of high-water leakage and illegal water usage identified. Currently the team was conducting door to door leakage survey and had discovered a bypass to another WSP pipeline.

### **Planned activities**

- PRVs installation in zone 2
- Large customer meters sizing
- QMNF and step tests in zone 2 (with Eng. Takahashi)
- Air valve installation and securing
- Data clean up
- Master meter installation

- In house NRW training for field officers

### **MERU**

Members were informed that Meru did not have a report as of the day of the meeting since there had been a change in the NRW head. However, the representative was requested to try and catch up with the project activities so that he will be in a position to give a report in the coming meetings.

### **KISUMU**

- Installed 1750 plastic seal on domestic meters within Migosi area.
- Replaced of 782 volumetric meters with multijet meters in Kajulu area which is prone to silting.
- Carried out minimum night flow and step test on Nyalenda line (underground leakage discovered and flows dropped from 37 to 16.6 m<sup>3</sup>/h) and the 6” Dunga pipeline.
- Installed of 5 digital pressure gauges within the network.
- Installed 2 Non-Return valves on 14” Rising main from Dunga. This had reduced the number of bursts on the pipeline.
- 423 faulty meters replaced during the period under review. This was done after carrying out field meter testing and servicing.
- Installed tank level sensors in all the tanks within the network. Currently tank level alerts were being received hourly through the phones. This had help in reduction of overflows especially at night.

### **RUIRU-JUJA**

Step test – this was conducted on a total of 2,187 customer accounts. The obtained results are as follows:

- A total of 58 accounts were duplicated i.e. same account labelled on 2 different plots
- 44 meters were found to be buried
- 14 gate valve leakages
- 10 meter liner leakages
- 5 meter leakages
- 131 connections were not labelled
- 12 stalled meters
- 6 cases of meter tampering

Replacement of stalled meters – a total of 60 stalled customer meters were replaced

Identification and repair of bursts and leakages – a total of 260 bursts and leakages were identified and recorded to have been repaired

### **Challenges**

- Self-reconnection of disconnected customers
- Duplicated accounts

### **KILIFI-MARIAKANI**

NRW% - 61%, System input Vol. 1,053,802m<sup>3</sup>, Billed Vol. 415,532m<sup>3</sup>

Billed Amount KSh. 41,898,124.00

**NB:** Bulk meters along Mzima line were read 4 days past the planned day thus affecting NRW.

The following NRW reduction activities were undertaken:

- Joint bulk meter reading with the Bulk supplier was conducted
- 21 Bulk meters were found stalled and recommended for replacement, so far 3 were replaced.
- 167 stalled meters were serviced, 150 were within the required error while 15 were unserviceable and replaced. Meter servicing and testing was an ongoing exercise.
- 165 meters which were replaced in December increased billed vol. by 619m<sup>3</sup> and Ksh. 63,138.00 (74 accounts were under-estimated, 53 accounts were over-estimated while 34 accounts were correctly estimated).
- 50 dormant accounts were disconnected from the off-take point
- GPS Coordinates for all 169 bulk meters were captured
- Initiated procurement process for delivery of pipes and fittings to establish pilot DMAs
- Received 3,500 meters from a world bank project.

### **Challenges**

- Vandalism of infrastructure in some areas so as to water livestock
- Damage of pipelines due to road construction works
- Staff complacency
- Lack of adequate transport
- Inadequate repair kit

### **Way forward**

- GIS & Mapping: Mapping of the water network with the help of JICA expert team and by contracting GIS specialist.
- Developing TOR for engaging a consultant to carry out Customer Identification Survey.
- Developing pilot DMAs
- Expecting delivery of 2 Pickups and 15 Motor bikes from WSDP by early March, 2020 to boost our fleet.
- Expecting repair kit from WSDP in the 4<sup>th</sup> quarter of FY 2019/20 to enhance leak repair

### **ELDOWAS**

NRW activities: 2 production meters (for Kapsoya and Chebara T works) are faulty. Procurement of replacement meters is complete waiting delivery from supplier



Customer meters: 66 category C4 meters were meters were tested using portable meter tester- 12 were found to be defective and 15 had leakages after the meter. All 12 faulty meters were replaced.

Pipeline replaced: (m) – excavation, laying and backfilling of the remaining pipeline was done awaiting connection from main and relocation of consumer connections.

PRVs – mapping of high-pressure zones was done and procurement of PRVs was in progress.

4 Illegal connections were identified by meter readers during their normal routine work (meter reading)

**Other activities**

- Permanent solutions to areas affected by frequent leaks and bursts. A distance of 5600m using HDPE pipe was replaced and consumer meters relocated as per the company policy
- Large consumer meters monitoring of C1 and C2 category were carried out. A total of 200 were either resized, replaced, serviced and/or relocated
- A total of 644 leaks and bursts were repaired with permanent solution being priority.
- New connections done up to consumer point using HDPE pipe.
- Created sub-DMAs in Action and Chepkanga estates.
- A total of 400 water meters relocated at chepkanga and town Centre.
- Adoption of auto bill and instant billing. This has reduced the estimated accounts.
- Introduction of toll-free line of which all issues related to our services can be reported by customers.

**Meter replacement impact report**

A total of 198 water meters were replaced and relocated with impact as shown below

BEFORE			AFTER		
Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
6,493m <sup>3</sup>	5,519m <sup>3</sup>	5,579m <sup>3</sup>	6,298m <sup>3</sup>	7,448m <sup>3</sup>	7,263m <sup>3</sup>
Average	5,864 m <sup>3</sup>		7,003 m <sup>3</sup>		

**Challenges**

- ❖ Intermittent water supply (water rationing)
- ❖ Aged pipeline.
- ❖ Human activities (Pipeline damage during upgrading of roads and laying of fibre optic)
- ❖ Pressure management.
- ❖ Illegal water consumption (lack of proper procedure to deal with illegal connections)

- ❖ Lack of water meters for replacement category C3, C4 and C5 (still at procurement stage).

### **MAVOKO**

NRW ratio as at January 2020 was 39%, production at 69,093m<sup>3</sup>.

#### **NRW Activities**

- Meter servicing- a total of 73 meters have been serviced in the past one month.
- Meter testing and Replacement- 15 meters tested 4 replaced (have inadequate meters for replacement)
- Bulk and large consumer meter testing done -1 4'' meter tested
- NRW monthly review joint participatory meeting between Commercial and technical departments-held on 23<sup>rd</sup> January.
- Disconnection from mains for dormant accounts ongoing-70 accounts disconnected and some are paying (A total of Ksh. 2million collected)
- QMNF was done with technical assistance from the JICA team-for Kinanie line and already we are working on the area for better results (The flow rate during the day was almost the same as night flow which is abnormal at (37m<sup>3</sup>/h)

#### **Challenges**

- Low volumes of water supply-there is no supply in Mlolongo and Syokimau.
- Financial constraints hence making it difficult for procurement of some NRW materials

#### **e) Current status of bulk meter procured for Embu WSP by JICA Kenya office**

Mr. Gitau reported that he was still in contact with the manufacturer and hope something will be done as soon as possible.

#### **g) Discussion among the participants**

Mr. Taguchi informed members that the experts will be training the WSPs more on the billing analysis.

Ms. Patricia Wanjeri encouraged Kilifi-Mariakani to own up their data and work towards reducing the NRW

Eng. Alima suggested that the lessons learnt from Nakuru WSP be shared with the NRW Unit so that they can be incorporated in the annual report.

#### **ii) Feedback from 7<sup>th</sup> JCC meeting: JICA Experts team**

Mr. Taguchi reported that the JCC was successful in terms of the discussions and the attendance by the members. Amongst the items that were discussed in the JCC were the formation of the working group which the members agreed should involve the MWS&I,

KEWI, WASREB and WASPA. Members in the JCC had agreed to hold the first meeting in February 2020 but up to the day of the PIC meeting this had not been done. Mr. Chemeril responded by informing the members that the meeting would be held in the coming week.

- Summary of issues discussed in the meeting
- Feedback about the half year review on the NRW Annual plan reported by each Pilot WSPs for better use of the template
- Discussion by the participants

Ms. Sugimoto enquired to know how much the NRW Unit were committed in helping the WSPs. She further emphasized on them understanding what the experts were doing and owning it up so that they can help the WSPs. She challenged them to move out and learn what the experts were doing so that they will be able to pass over the information to the WSPs.

Mr. Chemeril responded by informing members that the members of the unit were committed in helping the WSPs e.g. they were currently working to come up with a structure for the county on the roadworks. This would prevent the many damages that were being experienced through the roadworks

Eng. Alima also advised the NRW Unit to bring the structure up for further discussions at the PS meeting.

Mr. Pascal, KIMAWASCO, enquired if the MWS&I was in a position to procure customer meters for the WSPs.

Mr. Gitau suggested that the WSPs should come up with articles that they will share via the social media on how to reduce NRW in preparation for the World water day.

Eng. Alima further emphasized on the NRW Unit to take the challenge and do something that will be of impact in the project.

#### **5. Schedule of the next PIC meeting**

It was agreed that the next PIC meeting will be held on **25<sup>th</sup> March 2020**.

#### **A.O.B.**

There being no other business to be discussed, the meeting ended at 11:30am.

**ATTENDANCE LIST**

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1.	ENG. SAO ALIMA	WATER SECRETARY
2.	MR. CHEMERIL CHEPYEGON	MWS&I NRW OFFICER
3.	MR. ANDERSON KIOI	MWS&I NRW OFFICER
4.	MS. PATRICIA MUTUA	MWS&I NRW OFFICER
5.	GODFREY KIGWEI	NRW -INTERN
6.	MR. JOHN GITAU	PROGRAM OFFICER (JICA, KENYA)
7.	MR. WALTER M. MOSETI	KEWI
8.	MS. PATRICIA WANJERI	WASPA
9.	MR. JAMES NYAUMA	MAVOKO
10.	MR. LEONARD MUTAI	NAWASCO
11.	MR. PAUL MUTHAMI	NYAHUWASCO
12.	MR. FELIX G. MUTURA	EWASCO
13.	MR. JOSEPH I. MAINA	EWASCO
14.	MR. JOSEPH MAIYO	ELDOWAS
15.	MR. PASCAL JIRA	KIMAWASCO
16.	MR. ROBERT NGATATA	KIMAWASCO
17.	MR. ZADRIAN ANGWENYI	RUJWASCO
18.	MR. MICHAEL GITAU	RUJWASCO
19.	MR. JOB LIECH	KIWASCO
20.	MR. FRANKLINE THURANIRA	MEWASS
21.	MR. MASAYUKI TAGUCHI	CHIEF ADVISOR (JICA EXPERTS)
22.	MS. HIROKO SUGIMOTO	JICA EXPERTS TEAM
23.	MR. GEORGE KARANJA	JICA EXPERTS TEAM
24.	MR. CHARLES MAINGI	JICA EXPERTS TEAM
25.	MS. KELLYJOY GAKII	JICA EXPERTS TEAM

**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION  
MINUTES OF THE 24<sup>TH</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING**

Date:	2020/10/09 (Friday)
Time:	8:30am – 11:00am
Venue	Virtual meeting
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction (5 min.)</li> <li>2. Communication from the Chairperson - MWS&amp;I</li> <li>3. Confirmation of MM of 23<sup>rd</sup> PIC and monitoring activities after the Covid-19 from April to September JICA team,</li> <li>4. Matters to be discussed; <ul style="list-style-type: none"> <li>✓ Information and notices to be shared <ol style="list-style-type: none"> <li>a) Project implementation policy JICA representative</li> <li>b) Rescheduling of the Project implementation Expert team</li> <li>c) Progress of editing NRW Management Standards, Guidelines and Hand-book Mr. Karanja</li> <li>d) Activities of Output 4 in Pilot WSPs to be summarized by Project team. Mr. Charles,</li> <li>e) Notices or remarks from WASREB, KEWI, WASPA</li> </ol> </li> </ul> <p>Questions and Answers</p> <ol style="list-style-type: none"> <li>ii) Discussions on how to strike the Covid-19 <ol style="list-style-type: none"> <li>a) Presentation of good examples from Pilot WSPs <ul style="list-style-type: none"> <li>• How to recover the revenue collection KIMAWASCO</li> <li>• Importance of collaboration with stakeholders ELDOWAS</li> </ul> </li> <li>b) Discussion by the participants</li> <li>c) Requests or opinion to the project activities</li> </ol> </li> </ol> </li> <li>5. Schedule of next JCC meeting</li> <li>6. A.O.B</li> </ol>

Content	<ul style="list-style-type: none"> <li>• <b><u>Self-introductions</u></b></li> </ul> <p>All the members introduced themselves and their respective organizations.</p> <ul style="list-style-type: none"> <li>• <b><u>Communication from the Chairperson</u></b></li> </ul> <p>The meeting was called to order by Mr. Taguchi who confirmed if the members had all the annexes for the meeting. He then invited Eng. Njeru to make his remarks on behalf of Eng. Alima.</p> <p>Eng. Njeru welcomed members to the 24<sup>th</sup> PIC meeting. He said that the meeting was very important for both the pilot WSPs and the ministry and that he hoped that they were using the knowledge acquired in their various areas of work. He also informed the members that the ministry expects that the pilot WSPs will be great partners in the spreading of the knowledge to the rest of the country. He also reported that he was aware that the WSPs had been struggling during the current pandemic period in providing the essential commodity to the public. He was very grateful to JICA for not only offering knowledge but also donating chemicals for the pilot WSPs. He informed the members that the WSPs were expected to embrace the technology they acquired from the experts so that they will spread the knowledge to the rest of the WSPs in the country. He also acknowledged the efforts made by all the counterparts in ensuring that the project was running smoothly and also appreciated JICA Experts for creating a communication platform despite the pandemic.</p> <p>Mr. Taguchi further proposed to the members to endorse Mr. Karanja as the chairperson of the meeting on behalf of the ministry. Eng. Njeru concurred with the proposal.</p> <p><b><u>Confirmation of previous minutes (Annex 1)</u></b></p> <p>Mr. Karanja (JICA Experts team) informed members that the minutes were sent to members a week earlier as agreed in the previous meetings, and therefore the chair only needed to guide members in case there were matters arising. The minutes were proposed by Mr. Walter Moseki (KEWI) and seconded by Mr. Joseph Maina (EWASCO) and therefore confirmed as the true record of the meeting.</p> <p><b><i>Matters Arising from the Previous Minutes</i></b></p> <ul style="list-style-type: none"> <li>➤ Mr. Taguchi, informed members that since the previous PIC meeting was held in February it was hard to confirm each item in the minutes of previous meeting. However, there were pending matters agreed in the JCC meeting that were very crucial to the project like the formulation of a Working Group. He also informed that the Working Group was formulated and had their first sitting whereby they agreed to formulate the action plan and other activities.</li> </ul>
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- Mr. Taguchi also highlighted on some matters that were discussed by the participants in the previous meeting that members did not have a chance to implement/ work on them due to the pandemic but he considered them important for members to be reminded about them.

#### **4. Matters to be discussed**

Mr. Taguchi briefly took members through the various activities achieved by each counterpart as per the days' monitoring sheet. He then requested counterparts in charge of each output to give further explanations.

i) Progress of the project as per the reports from representatives of each CPs

##### **a) Activities of MWS&I NRW Unit**

Ms. Patricia (NRW Unit) reported that the NRW Unit was planning the thematic workshop which will be held by January 2021. She also reported that they were planning to have it virtually for 2 days, each day a 3 hours session. The topic will be on metering like was proposed in the last JCC meeting. She also encouraged the members to give areas on metering that they wanted to cover during the workshop. She said the focus of discussion will be meter classifications, installations, accuracies, pros and cons of smart meters, meter reading, billing analysis, meter theft and how to prevent errors during meter reading, . She also stated that they will welcome more proposals from the members.

She also reported that they were working on how to approach the county sensitization but welcomed the members to make comments regarding the same.

##### **b) Activities of WASREB (NRW Management Guidelines and Handbook)**

Eng. Ngugi reported that the next editorial committee meeting was slated for 22<sup>nd</sup> October 2020. He said that the committee was targeting to come into a consensus before subjecting the books to the stakeholders. After the meeting on 22<sup>nd</sup> the committee will be able to come up with a better plan for public consultation so that everybody will feel being part of the process. Eng. Ngugi reported that the first group of the stakeholders was expected to be consisting of the pilot WSPs since they are in the project then this can be disseminated to the rest of WSPs in the country. Mr. Karanja also reported that the committee had a successful meeting on 3<sup>rd</sup> September 2020 and he had incorporated the comments in the handbook and will be sharing it in due course but this would be after the meeting on 22<sup>nd</sup> October 2020. He also urged the editorial committee to continue going through the guideline so that they can give their comments on the forthcoming meeting.

##### **c) Project implementation policy (JICA representative)**

Mr. Gitau (JICA) reported that JICA had reached an agreement and signed the minutes of meeting and amended the Project Design Matrix (PDM) to increase the number of activities in Output 5, whereby they had agreed to support the WSPs with donation of

chemicals. This was done by dividing the WSPs into 3 groups and subsequently 3 phases of chemical supply. Phase 1 was for the WSPs which had completely depleted their chemicals and phase 2 was for the WSPs which were almost exhausting their chemicals and phase 3 the remaining WSPs so as to reach all the 9 WSPs. So far 7 WSPs had received their chemicals except Kisumu and Eldoret which will be receiving the chemicals by the coming week. He thanked the Ministry, the Experts and the WSPs for their cooperation.

**d) Rescheduling of the Project implementation**

Mr. Taguchi took the members through the rescheduling of the tentative plan of project activities considering the impact of the pandemic. He explained that the experts will assist the WSPs remotely for the coming 6 months until next year April when they expect to come back in the country and resume the normal activities. However, the period that the project will run after they resume the normal activities will be determined by JICA after their negotiations.

**e) Activities of output 4 in pilot WSPs to be summarized by project team**

Mr. Charles (JICA Experts team) reported that despite the pandemic the experts had been working with and supporting the WSPs virtually. He reported that they had been circulating the questionnaires and the purpose was to understand what was happening in the WSPs since it was not possible to travel to the WSPs because of the restrictions to curb the virus. He also reported that they were currently on questionnaire no. 6. Through the questionnaires, they were able to realize the financial challenges, that the WSPs were facing, in that they were unable to meet some of their needs like purchasing of chemicals, stopping their revenue decrease, etc. Through this, JICA came in to assist the WSPs in procurement of some of the chemicals being used in water treatment process. However, the circulation of the questionnaires was expected to continue until the experts resume in the country in the coming year. He also urged the WSPs to continue to cooperate in this so that the experts can understand their needs on Output 4 activities.

He also reported that they had assisted the WSPs in reviewing their NRW reduction annual plans for the financial year that ended in June 2020. He encouraged the WSPs to plan their new year's activities. After the planning they are expected to evaluate them quarterly. He also shared with the members a sample from one of the WSPs plan for them to better understand the use of the PDCA cycle which the experts had introduced to the WSPs. He further urged the WSPs to evaluate their plans quarterly and report the results to the JICA Experts. He also reported that the activities of Output 4 shared with the WSPs were transferred as good practices to the editorial committee of NRW Management Standards in order to enrich the guideline and the handbook. Mr. Mori requested to have a short meeting with the WSPs who had not completed their annual plans and any other WSP which needed the support of the experts after the meeting.

**f) Activities of KEWI (Implementation of NRW short course, etc)**



Mr. Moseti reported that they did a regular NRW short course training in March 2020 but after the classroom session was completed in the KEWI campus the pandemic broke out and the OJT session was suspended.

He also reported that KEWI received a new CEO, Prof. Hayombe, to whom he made a briefing on the project. He reported that the CEO appeared very interested in the project. Mr. Moseti also reported that the MWS&I had given KEWI Ksh. 3million for reconstructing the training platform and they had bought all the materials and were planning to start excavation work in the coming week in readiness to start the modification process. KEWI was also being involved in activities of the editorial committee of NRW management Standards.

**g) Activities of WASPA's program (Bi-monthly meeting, Seminar or forums, etc)**

Ms. Patricia Wanjeri reported that WASPA held their Benchmarking meeting on 15<sup>th</sup> April (?) 2020 virtually and JICA team participated. Next benchmark was planned for 15<sup>th</sup>-16<sup>th</sup> October 2020 at Nakuru and Mr. Charles will be taking the participants through the billing analysis. The bimonthly meeting was postponed from March to 24<sup>th</sup> – 25<sup>th</sup> September 2020. One of the best practices learnt from Japan was tree planting which they did at Arboretum in Eldoret. Annual general meeting will be held on 27<sup>th</sup> November 2020 in Mombasa. She further thanked JICA for the chemical donation and also the national government who did a funding and procurement process was done through the Water Sector Trust Fund (WSTF) and most of the WSPs got the chemicals by (whom?). She encouraged the pilot WSPs that were not participating in the upcoming benchmark.

**ii) Discussions on how to strike the Covid-19**

**a) Presentation of good examples from Pilot WSPs**

**➤ How to recover in revenue collection (KIMAWASCO)**

Mr. Mutai requested Mr. Charles to share a presentation with the members on the activities that KIMAWASCO has been undertaking in their WSPs since Covid-19 begun as below:

- Joint bulk meter reading with Coast Water Works Development Authority (CWWDA) this has helped them to ascertain accuracy in their billing.
- Meter replacement / servicing and testing
- Formed the unit with 11 members of staff
- 3 days sensitization to the community by public address
- Staff sensitization

This has led to increment in revenue.

**Challenges**

- Lack of enough fittings for meter replacement

- Inadequate repair kits
- Vandalism of pipes
- Lack of adequate transport
- Damage of service lines due to road works
- Lack of adequate members of staff

Mr. Mori enquired to know how they were dealing with replacement and servicing of customer meter; and balancing between the large and small consumer meters

Mr. Mutai responded that they prioritised the large meters and even if they replaced the small consumers, they were prioritizing them based on their consumption trends. Even when replacing or servicing, keenness was exercised especially on consumers whose consumption was high and undertook weekly monitoring and in case of anything happening the staff were always ready to attend to them very quickly. They had a team working on the NRW and monitoring with the assistance of area manager so that the team can make prompt and appropriate decisions and action.

➤ **Importance of collaboration with stakeholders (ELDOWAS)**

Mr. Alex gave the following report as the activities they have been undertaking;

No	Strategy	Activities	Impact	Remarks
1.	Consumer meter monitoring  (a) Large consumer meter monitoring.	<ul style="list-style-type: none"> <li>✓ Weekly meter reading</li> <li>✓ Meter resizing</li> <li>✓ Meter servicing</li> <li>✓ Meter relocation</li> <li>✓ Meter replacement</li> <li>✓ Provision of 10D,5D rule</li> </ul>	<ul style="list-style-type: none"> <li>✓ Increase in billing.</li> <li>✓ Reduction of customer complaints.</li> <li>✓ Reduction of illegal connections</li> </ul>	<ul style="list-style-type: none"> <li>✓ Annex 1</li> <li>✓ Replaced 20 in number large consumer meters with ultrasonic meters.</li> <li>✓ Awaiting supply of the 30 in number inline electromagnetic meters</li> </ul>
	(b) Domestic water meters	<ul style="list-style-type: none"> <li>✓ Replacement and servicing of stopped meters in anomaly sheet generated by the billing system</li> <li>✓ Analysis of category C3,C4 &amp; C5 resulted to discovery of zero billing almost 8000 accounts of which replacement and servicing ongoing</li> </ul>	<ul style="list-style-type: none"> <li>✓ Replaced all the meters in 8/1, 8/2 and 8/3.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Average NRW 3.82%</li> <li>✓ Replaced a total of 300 water meters category C3,C4 &amp; C5.</li> </ul>
2.	Permanent solutions to areas prone	<ul style="list-style-type: none"> <li>✓ Replacement of problematic</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reduction of physical losses-No</li> </ul>	<ul style="list-style-type: none"> <li>✓ 980M done.</li> </ul>

		to frequent leaks and bursts	<p>pipelines with HDPE pipes</p> <ul style="list-style-type: none"> <li>✓ Lowering of exposed sections.</li> <li>✓ Installation of isolation valves.</li> </ul>	<p>reported leakages on replaced sections.</p> <ul style="list-style-type: none"> <li>✓ Reduction of operational expenditure</li> </ul>	
3.	Dilapidated and aged pipeline replacement. (Projects)	<ul style="list-style-type: none"> <li>✓ Replacement of pipeline using HDPE pipes.</li> </ul>	<ul style="list-style-type: none"> <li>✓ No report on physical losses.</li> </ul>	<ul style="list-style-type: none"> <li>✓ 21km HDPE done.</li> </ul>	
4.	Replacement of deteriorated service connections.	<ul style="list-style-type: none"> <li>✓ Relocation and replacement of service connection using HDPE pipes.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reduction of physical losses-No reported leakages.</li> <li>✓ Elimination of illegal connections.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Relocated a total of 659 water meters with new service lines HDPE.</li> <li>✓ Work in progress for meter relocation at langas, CBD (West indies), chepkanga</li> </ul>	
5.	Leak detection	<ul style="list-style-type: none"> <li>✓ Line patrols</li> <li>✓ Underground leak detection using NRW equipment.</li> <li>✓ Leak detection at meter points using acoustic bars.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Leak detection at pioneer, asis and Elgon view.</li> <li>✓ It enabled the identification of pipeline for replacement.</li> <li>✓ Identification of leaking consumer</li> </ul>	<ul style="list-style-type: none"> <li>✓ Engaged 5 in number line patrollers</li> <li>✓ Leaking meters and gate valves -38 in number</li> <li>✓ 19 -surface leaks.</li> <li>✓ 6- underground leaks</li> <li>✓ Leakage after the meter 7 in number were discovered.</li> </ul>	

				connections.	
6.	Establishment of Sub-DMAS within the service areas	Kipkorgot Sub-DMA S.	<ul style="list-style-type: none"> <li>✓ Established 9 zones and routes with sub-Dmas to monitor inflows. NRW percentage calculated monthly</li> <li>✓ Installed 592 smart meters which are read remotely and cloud based.</li> </ul>	<ul style="list-style-type: none"> <li>✓ NRW below 5 percent</li> <li>✓ No leak repaired up to date.</li> <li>✓ Minimal customer complaints.</li> </ul>	
		Chepkanga Sub-DMA S	<ul style="list-style-type: none"> <li>• Minimum night flow measurement done using clamp on ultrasonic flow meter</li> <li>• Step test carried out and problematic lines established for replacement</li> </ul>	<ul style="list-style-type: none"> <li>• Problematic pipelines replaced using HDPE pipes</li> <li>• Elimination of illegal connection after relocation of customer meters.</li> </ul>	

			CBD Sub-DMA S <ul style="list-style-type: none"> <li>• Replacement of aged pipeline</li> <li>• Monitoring of daily inflows in comparison to meter readings</li> <li>• Relocation of customer meters as per the company policy</li> </ul>	<ul style="list-style-type: none"> <li>• Elimination of more than 100 illegal connections</li> <li>• No reported leaks and bursts</li> <li>• Daily monitoring of consumer meters.</li> </ul>	
		West Indies (Kok was)			Elimination of illegal connections and removal of spaghetti connections.
		Pioneer Sub DMA s			Replacement of aged pipeline and 100% replacement of customer meters a total of 150 water meters.
7.	Zoning of distribution system	Hydraulically zoning of service areas		Creation of hydraulically separated DMAS for each service area	Southern service area complete, created 7 in number DMAs
8.	Mapping of customer meters, problematic lines and leaks and bursts.	Establishment of geographical location of water meters and pipelines		Easy tracing and accessibility of consumer meters	Captured a total of pipeline. A total of consumer meters captured.
9.	Internal standardization of pipes, fittings, customer meters ,	Checking the quality of pipes and water meters supplied as per the specification		Quality control	

	production meters and quality control	Standardization of service connection.  Develop specification of water meters as per our water quality and pressure	Improved workmanship  Reduce leakages	
10.	Pressure management	Mapping of high pressure zones/areas  Installation of PRVS.	Reduction of pressures to manageable levels.	Identified areas for PRVS installation.  Procured PRVS and awaiting delivery from supplier
11.	Illegal water use	Surveillance  Arrest, prosecution and fine of illegal water users.  Develop procedure to curb illegal water use in progress.	Deterrence to illegal water use  Hefty fines to illegal water users	Few cases of illegal water use reported. Company to pay whistle blowers to motivate them  Need to amend the existing by-law  4 in number cases arrested in western service area and southern.
12.	Production meters	Replacement of production meters with EMM Insertion and inline meters for all the treatment works.	Accuracy of production volume	Replaced Chebara and kapsoya T works  Awaiting deliver of the remaining Sosiani, Naiberi and kesses.
<p><b>• Good Practices Implemented by ELDOWAS</b></p> <ol style="list-style-type: none"> <li>1. Standardisation of service connections (all connections done by the company using HDPE pipes)</li> <li>2. Smart metering of production, large consumers and domestic water meters</li> <li>3. Use of sub- DMAs approach in Non-revenue water monitoring i.e. town centre, pioneer municipal houses, Action estate.</li> <li>4. Work plans with targets for individual players in NRW reduction activities</li> </ol>				

5. Training of artisans on Pipe laying, good workmanship, Standard meter connection, metering policy, pipe repairs, integrity issues, Provision of 10d 5d rule, meter resizing, butt fusion and electro fusion.

• **Effects of Covid 19**

1. Increase in leaks and bursts
2. Reduction in billing mostly large consumers
3. Increase in illegal water consumption
4. Reduction of revenue collection
5. Reduction of company work force to 25%

Mr. Karanja requested the WSPs to share their best practices especially now in the pandemic so that they can be used in the enrichment of the Standards.

**b) Discussion by the participants**

Mr. Muthami enquired to know when the WSPs should expect to receive the equipment from the ministry. Ms. Patricia responded that this will be done in due course and plans were under way to ensure that the same was done.

Mr. Joseph, Nyahururu WSP, enquired to know if the MWS&I would help the WSPs to renew their networks since some were old and dilapidated.

Eng. Njeru responded that the responsibility on water services was devolved to the counties government and the improvement of the systems was also left to be done by the county. Though there were some activities being undertaken by Water Works Development Agencies (WWDA) which were not many. Therefore, the ministry had no budget for those activities.

Mr. Gitau enquired if all the equipment were bought. Ms. Patricia responded that the equipment that were not bought were carried forward to the 3<sup>rd</sup> phase and their procurement was expected to be complete by end of March 2021. The Unit was working on the specs currently.

**5. Schedule of the next JCC meeting**

Mr. Taguchi informed the members that the project was expected to hold the JCC meeting every 6 months which was subject to discussions and agreement between JICA and the Ministry. In the last JCC meeting it was proposed that the next (8<sup>th</sup>) meeting be held in August 2020 but this was not possible due to the pandemic. He therefore proposed to have the JCC meeting on 4<sup>th</sup> November 2020.

It was agreed that the next meeting will be a JCC instead of PIC.

**A.O.B.**

	<p>Ms. Sugimoto informed the members that 15<sup>th</sup> October 2020 was world hand washing day, she further shared 2 posters advocating for the day. She also informed the members that she will be sharing the posters with the WSPs so that they can customize them to fit their specific WSPs. She further requested the WSPs to share the posters on their face book pages.</p> <p>Ms. Patricia requested the members to share ideas on how to undertake the county sensitization and also input on the WSPs areas of concern on metering. Members agreed that Ms. Patricia send her request to the members via email for them to respond directly to her.</p> <p>Mr. Moseti suggested to members the OJT be held on 9<sup>th</sup> of November 2020</p> <p>Mr. Gitau (JICA) informed the members that Ms. Yoshii san was in the country but she was not able to attend the meeting since there was another meeting that she was attending. He also informed the members that JICA was committed to the project and wanted to recover the lost time during the pandemic by extending the project and the discussions were almost complete.</p> <p>There being no other business to be discussed, the meeting ended at 11:30am.</p>
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#### ATTENDANCE LIST

No.	Name	Institution
1.	ENG. VICTOR NJERU	HEAD OF NRW UNIT
2.	MS. PATRICIA MUTUA	NRW OFFICER, MWS&I
3.	MR. ANDERSON KIOI	NRW OFFICER, MWS&I
4.	MR. BONIFACE	NRW OFFICER, MWS&I
5.	MR. GEORGE	NRW OFFICER, MWS&I
6.	MR. GODFREY KIGWEI	NRW INTERN, MWS&I
7.	MR. JOHN GITAU	PROGRAM OFFICER, JICA KENYA
8.	MR. WALTER M. MOSETI	KEWI
9.	MS. PATRICIA WANJERI	WASPA
10.	MR. JESSE AMBUNDO	MAVOKO
11.	MR. LEONARD MUTAI	NAWASCO
12.	MR. PAUL MUTHAMI	NYAHUWASCO
13.	MR. JOSEPH I. MAINA	EWASCO
14.	MR. ALEX KEMBOI	ELDOWAS



15.	MR. C.K. MUTAI	KIMAWASCO
16.	MR. PASCAL NJIRA	KIMAWASCO
17.	MR. MARY MWANGI	RUJWASCO
18.	MR. JOB LIECH	KIWASCO
19.	MR. FRANKLINE THURANIRA	MEWASS
20.	MR. MASAYUKI TAGUCHI	CHIEF ADVISOR, JICA EXPERTS TEAM
21.	MS. HIROKO SUGIMOTO	JICA EXPERTS TEAM
22.	MR. NAOKI HARADA	JICA EXPERTS TEAM
23.	MR. SOZO MORI	JICA EXPERTS TEAM
24.	MR. NABORU SAITO	JICA EXPERTS TEAM
25.	MR. GEORGE KARANJA	JICA EXPERTS TEAM
26.	MR. CHARLES MAINGI	JICA EXPERTS TEAM
27.	MS. KELLYJOY GAKII	JICA EXPERTS TEAM

**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION  
MINUTES OF THE 24<sup>TH</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING**

Date:	2020/12/10 (Thursday)
Time:	9:30am – 12:00am
Venue	Virtual meeting
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction (5 min.)</li> <li>2. Communication from the Chairperson - Eng.Alima, MWS&amp;I (5 min.)</li> <li>3. Confirmation of MM of 24<sup>th</sup> PIC by JICA team (5 min.)</li> <li>4. Report about the activities and Notices to share (60 min.) <ol style="list-style-type: none"> <li>a) Project implementation Schedule by JICA team (10 min.)</li> <li>b) On Output 1 / Working Group by NRW Unit (15 min.)</li> <li>c) On Output 2 by WASREB (or Mr. Karanja, 10 min.)</li> <li>d) On Output 4 by JICA team (Mr. Charles, 10 min.)</li> <li>e) Other issues from KEWI, WASPA, others (5min. each)</li> </ol> </li> <li>5. Presentation of good examples from Pilot WSPs (60 min.) <ol style="list-style-type: none"> <li>a) Activities implemented in the 1<sup>st</sup> Quarter <ul style="list-style-type: none"> <li>• Best Practices to improve on revenue collection during Covid19 by Meru WSP (15 min.)</li> <li>• *)WURP MEETING by Embu WSP (15 min.)</li> </ul> </li> <li>b) Discussion or Requests, etc. by the participants (30 min.)</li> </ol> </li> <li>6. General comment by JICA Kenya office (5 min)</li> <li>7. A.O.B. <ul style="list-style-type: none"> <li>• Date of the Next PIC meeting in February 2021</li> <li>• Others</li> </ul> </li> </ol>

\*) WURP ; Water Utility Regional Partnership: Workshop on peer to peer learning among three water companies in Kenya, Rwanda, and Malawi.

Content	<ul style="list-style-type: none"> <li>• <b><u>Self-introductions</u></b></li> </ul> <p>All the members introduced themselves and their respective organizations.</p> <ul style="list-style-type: none"> <li>• <b><u>Communication from the Chairperson</u></b></li> </ul> <p>The meeting was called to order by Eng. Njeru who informed the members that he was standing in for Eng. Alima who he expected would join the meeting later and hence make his remarks.</p> <p><b><u>Confirmation of previous minutes (Annex 1)</u></b></p> <p>Mr. Charles (JICA Experts team) informed members that the minutes were sent to members a week earlier as agreed in the previous meetings, and therefore the chair only needed to guide members in case there were matters arising. The minutes were proposed by Mr. Walter Moseki (KEWI) and seconded by Mr. Paul Muthami (NYAHUWASCO) and therefore confirmed as the true record of the meeting.</p> <p><b><i>Matters Arising from the Previous Minutes</i></b></p> <p>There were no matters arising from the minutes of the previous meeting.</p> <p><b><u>4. Matters to be discussed</u></b></p> <p>Mr. Taguchi briefly took members through the various activities achieved by each counterpart as per the days' monitoring sheet. He further explained that PIC meeting was not held in November because the JCC meeting was held in the same month. He also echoed the proceedings of the JCC meeting and informed the members that both the experts and JICA were satisfied by the meeting. He enumerated the countermeasures that the experts had been employing during the half-year from March to August 2020 for the project not to stall due to the pandemic . These were the distribution of questionnaires, distribution of chemicals, sensitization tools for water use, procurement of equipment in Japan which are expected to be delivered by March 2021 and, finally, physical loss reduction exercise under Mr. Takahashi (the expert in charge, who was in the process of preparing a special program comprising of 20 questions on physical loss reduction technology). The program will soon commence, probably late this month or the following month. He then requested the counterparts in charge of each output to give further explanations.</p> <p><b>i) Progress of the project as per the reports from representatives of each CPs</b></p> <p><b>a) On Output 1 / Working Group by NRW Unit</b></p> <p>Ms. Patricia (NRW Unit) reported that the NRW Unit was still working on the publishing of the Annual NRW Report version 2. She also reported that the drafted table of content for version 3 was ready and were in the process of requesting for contents from the WSPs. She also reported that the unit had conducted inspection of</p>
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the procured NRW equipment ready for distribution to the WSPs in due course. Planning for the scheduled thematic workshop with the theme “customer meters” focusing on meter accuracies and smart meters was ongoing and they were currently soliciting for potential presenters for the same. She also reported that they were working on upscaling the project activities including dissemination of the NRW standards through the Working Group. She welcomed suggestions from members on how to approach county sensitization.

**b) Output 2 by WASREB**

Mr. Karanja represented Eng. Ngugi, (WASREB) and reported that the activity of editing the NRW Management standards (which consists of the NRW Guideline and the NRW Handbook) had been completed and shared with the editorial committee members despite the pandemic. The committee was now waiting for guidance on printing, stakeholder consultations and dissemination from the Working Group.

**c) Output 4 by JICA team**

Mr. Charles reported that output 4 activities were greatly affected by the Covid-19 situation. However, the expert team had been assisting the pilot WSPs virtually. He reported that they had assisted Ruiru-Juja and Kilifi-Mariakani so far; and were currently preparing to assist Eldoret after confirming the dates with them. He also reported that they had been supporting the WSPs to review the previous year’s annual plans.

The experts had realized that the WSPs had problems with the annual review table from their reports and after consulting with WASREB, they agreed to simplify it. They are currently training the WSPs on how to use the more simplified table. He reported that after the end of the previous financial year, all the WSPs were expected to formulate new annual and medium term plans for the current financial year. The experts realized that the WSPs had prepared the annual plans but left out the medium term plans. The experts had therefore been assisting the WSPs and had so far received feedback from 7 WSPs and were waiting the same from the other 2. Mr. Charles also reported that since the first quarter of this financial year was over, the experts were working with WSPs on reviewing it and hope to have reviewed the 2<sup>nd</sup> quarter by January 2021. They had received reviews from 5 WSPs so far and were following up on the remaining 4 WSPs.rest. He also thanked the WSPs for their cooperation in sending their feedbacks on the questionnaires that the experts had been distributing.

He further reported that the experts were also involved in the preparation of the 3 countries’ (Malawi, Rwanda and Kenya) regional workshop with Kenya being represented by EWASCO. The experts were also involved in the editing of the NRW Management Standards reported earlier by Mr. Karanja.

**d) Other issues from KEWI, WASPA and others**

Mr. Moseti reported that KEWI had conducted a classroom training in March 2020 but did not proceed with OJT due to the pandemic. They conducted another classroom

training in November 2020 during which the two classroom batches were combined for OJT training on 23<sup>rd</sup> -28<sup>th</sup> November 2020. KEWI has also been participating in the review of the NRW Standards and the in the Working Group meetings.

**5. Presentation of good examples from Pilot WSPs**

**a) Improvement on revenue collection during Covid-19 by Meru WSP**

Mr. Charles invited Mr. Frankline Thurania, Meru WSP, to make their presentation as attached.

**b) Introduction on WURP Meeting by Embu WSP**

Mr. Charles also invited Mr. Cyrus Mugendi to make their presentation as attached.

**c) Discussions or Requests, etc. by the participants**

Ms. Sugimoto enquired to know how many customers Meru WSP was able to approach via phone as reported in their presentation. Mr. Frankline responded that he did not have the actual numbers but he would be sending the data once he receives it from the customer care desk.

She also wanted to know from Embu WSP whether they had categorised the types of illegal connections reported on. Mr. Mugendi responded that the categories of illegal connections found were bypasses, meter tampering and a minimal number commercial use theft. He also clarified that the most popular illegal connections were bypasses especially in the rural areas due to khat (Miraa) farming

Another member enquired how both Embu and Meru dealt with the road contractors and the “Kazi kwa Vijana” (Employment for the Youth Programme) guys. Mr. Mugendi responded that this was a big challenge for EWASCO but they were able to follow up with the road contractors who offered compensation in monetary value or re-did the trenches and replaced the damaged pipelines. He gave an example of a road constructed by KENHA (Kenya National Highways Authority) in Gachoka that destroyed the pipes and disconnected around 800 customers. This was a big problem between them but with the help of the county commissioner, the contractor paid the damages and they were able to reconnect the customers. For the “Kazi kwa Vijana” he said it was difficult to follow up since it is a programme under the National Government and for this reason, the WSP just repairs the pipes whenever they are punched.

Mr. Frankline responded that they were experiencing the same challenges and he had seen some documents whereby MEWASS had been compensated for the damages caused by contractors and also an agreement whereby a contractor would relay the pipes under MEWASS’ supervision. For roads under Kenya Urban Roads Authority, they had always stated that they had Ksh. 200,000 budget for relaying damaged pipeline which is quite minimal even for the labour alone. For roads under the county government, he reported that contractors never pre-inform the WSP of their activities that could probably affect the water supply and it is up to the NRW section to notice a rise in water consumption in some areas and find the cause the following day. He requested the MWS&I to assist in this issue.

Mr. Taguchi also added on the background of the WURP workshop. He stated that his idea is to invite the pilot WSPs to participate in the WURP workshop to be held in Kenya next year.

Mr. Karanja also reminded members that the project will soon be ending and it is therefore important that the pilot WSPs start utilizing the new NRW reduction strategies this early so that they can be assisted by the experts in case of difficulties. This is very important since it is expected that the pilot WSPs are the ones to disseminate the ideas to the rest of the WSPs in the country after the project. A good example is to start utilizing the introduced universal NRW monitoring graph and segregating the effects of seasonal NRW fluctuations from those of the NRW reduction activities on the NRW Ratio. This will be more effective in NRW management unlike the current trend where WSPs just draw the simple NRW graph which does not really help to reduce NRW.

**6) General comment by JICA Kenya office**

JICA Kenya office was not present for the meeting.

**7). A.O.B.**

**• Date of the Next PIC meeting in February 2021**

Mr. Taguchi proposed that the PIC be held in February 2021 since Christmas is approaching and not much progress is expected over Christmas and early January 2021. The date will be communicated later after consultations with the experts and the MWS&I in January next year.

**• Others**

Mr. Mori informed that since he had some free time before Christmas, he will have an online meeting with the MWS&I NRW Unit so that he can understand what they want to learn from the WSPs and hoped that Mr. Charles or Mr. Karanja will be able to help the unit more effectively.

He also pointed out that regarding the help that the WSPs wanted from the experts on meter reading and billing data analysis, the experts can only help in analysing one or two months data instead of the whole year or larger data. Nevertheless, they will discuss with WSPs and give priority on need basis. He also encouraged the WSPs to send their requests to Mr. Charles in case they need a check on their data so that the experts can include them in their schedule.

Members agreed that Mr. Mori and Eng. Chemerir should agree on a date for the online meeting. Mr. Charles also insisted that the WSPs who had not sent their Quarter-1 plan review to do so before Christmas to enable them concentrate on Quarter-2 plan review in January 2021.

Mr. Taguchi also informed that he had already distributed the monthly questionnaire. In the questionnaire he requested the WSPs to respond on the remaining volume of chemicals donated by JICA. He reported that there is a possibility for JICA to provide another chemical donation hence he will send another questionnaire to obtain clear information in this regard.

Eng. Njeru thanked members for attending the meeting and their collaboration with the project. He said that he hoped for more cooperation so that the project can have more impact on the WSPs in the country. He also stated that the MWS&I was very committed to spread the knowledge gained from the project and keen to acquire more knowledge from the experts, and see the NRW ratio in the country go down.

There being no other business to be discussed, the meeting ended at 11:30am.

## ATTENDANCE LIST

No.	Name	Institution
1.	ENG. VICTOR NJERU	HEAD OF NRW UNIT
2.	MS. PATRICIA MUTUA	NRW OFFICER, MWS&I
3.	MR. BONIFACE	NRW OFFICER, MWS&I
4.	MR. GEORGE	NRW OFFICER, MWS&I
5.	MR. GODFREY KIGWEI	NRW INTERN, MWS&I
6.	MR. WALTER M. MOSETI	KEWI
7.	MR. JESSE AMBUNDO	MAVOKO
8.	MR. JOHN WACHIRA	NAWASCO
9.	MR. JOSEPH GITAU	NYAHUWASCO
10.	MR. PAUL MUTHAMI	NYAHUWASCO
11.	MR. CYRUS MUGENDI	EWASCO
12.	MR. C. K. MUTAI	KIMAWASCO
13.	MR. FRANKLINE THURANIRA	MEWASS
14.	MR. MASAYUKI TAGUCHI	CHIEF ADVISOR, JICA EXPERTS TEAM
15.	MS. HIROKO SUGIMOTO	JICA EXPERTS TEAM
16.	MR. SHOZO MORI	JICA EXPERTS TEAM
17.	MR. GEORGE KARANJA	JICA EXPERTS TEAM
18.	MR. CHARLES MAINGI	JICA EXPERTS TEAM
19.	MS. KELLYJOY GAKII	JICA EXPERTS TEAM

### Apologies

WASREB

ELDOWAS

### Absent without apology

KIWASCO

RUIRU-JUJA



**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION  
MINUTES OF THE 26<sup>TH</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING**

Date:	2021/02/12 (Friday)
Time:	9:30am – 12:00am
Venue	Virtual meeting
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson – Eng. Alima, MWS&amp;I</li> <li>3. Report about the activities during last 3 months and information to be shared</li> <li>4. <ol style="list-style-type: none"> <li>a) Project implementation Schedule by JICA team</li> <li>b) On Output 1 / Working Group by NRW Unit</li> <li>c) Other issues from KEWI, WASPA, others</li> </ol> </li> <li>5. Presentation of good examples from Pilot WSPs <ol style="list-style-type: none"> <li>a) Activities implemented in the 1<sup>st</sup> Quarter <ul style="list-style-type: none"> <li>• Summary and Feedback of activities of WSPs in the 1<sup>st</sup> Quarter from JICA team – Mr. Charles</li> <li>• Key contents of “NRW Management Guideline” from JICA team – Eng. Karanja</li> </ul> </li> <li>b) Discussion or Requests, etc. by the participants</li> </ol> </li> <li>6. General comment by JICA Kenya office</li> <li>7. A.O.B. <ul style="list-style-type: none"> <li>• Date of the Next PIC meeting in March 2021</li> <li>• Others</li> </ul> </li> </ol>

Content	<ul style="list-style-type: none"> <li>• <b><u>Self-introductions</u></b></li> </ul> <p>All the members introduced themselves and their respective organizations.</p> <ul style="list-style-type: none"> <li>• <b><u>Communication from the Chairperson</u></b></li> </ul> <p>The meeting was called to order by Eng. Njeru who informed the members that he was standing in for Eng. Alima who was unavailable because of other official duties.</p> <p><b><u>Confirmation of previous minutes (Annex 1)</u></b></p> <p>Mr. Charles (JICA Experts team) informed members that the minutes were sent to members a week earlier as agreed in the previous meetings, and therefore the chair only needed to guide members in case there were matters arising. The minutes were proposed by Mr. Walter Moseki (KEWI) and seconded by Mr. Paul Muthami (NYAHUWASCO) and therefore confirmed as the true record of the meeting.</p> <p><b><i>Matters Arising from the Previous Minutes</i></b></p> <p>There were no matters arising from the minutes of the previous meeting.</p> <p><b>3. Report about the activities during last 3 months and information to be shared</b></p> <p><b>4. a) Project implementation Schedule by JICA team</b></p> <p>Mr. Taguchi, JICA expert team, reported that he had come to Kenya in order to inspect the current situation of Kenya and the pilot WSPs and to grasp the need for the resumption of the project after the Covid-19 pandemic. He also informed that he will visit all the pilot WSPs to collect information on the real situation because the project period will be reviewed and extension decided based on the information he will have collected during his stay in Kenya.</p> <p><b>b) On Output 1 / Working Group by NRW Unit</b></p> <p>Ms. Patricia (NRW Unit) reported that the NRW Unit had received a draft copy of the 2<sup>nd</sup> version of the annual report from the printer and that they were proof-reading and giving corrections on the same. She also reported that the draft table of content for version 3 was ready and they were in the process of requesting for contents from the WSPs. She also reported that the unit was working on the scheduled stakeholders' meetings to be held in Nakuru and Machakos. The 2 meetings are aimed at obtaining comments from the stakeholders on the developed NRW standards. She also reported that the MWS&amp;I was preparing for the thematic workshop with the theme "Smart metering and Billing analysis". She also reported that the ministry was working on the school campaigns but with the ban of school activities, they were instead working on sensitization videos focusing on areas like water quality and water conservation. She also pointed out that the ministry will be contacting various WSPs for their comments on the same. Ms. Patricia also reported that the ministry was spearheading the working group activities on dissemination of the NRW standards and that they had prepared a budget and forwarded it to the PS for approval. She also reported that the ministry will be calling for a working group meeting in the coming week to prepare the workshop</p>
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program. Ms. Patricia also reported that the ministry was in the process of procuring the leak detection equipment and that she hoped the said equipment will be available in the shortest time possible.

**c) Output 4 by JICA team**

Mr. Charles reported on the following activities that had been carried out by the output 4 members during the reporting period.

All the pilot WSPs had prepared both their annual and midterm plans. He also reported that the WSPs were currently evaluating their quarter 2 plans and that he had received feedback from 4 WSPs and expecting to receive from the remaining 5 WSPs. Mr. Charles also reported that 7 of the 9 WSPs had sent their mid-term plans except from Eldoret and Kilifi-Mariakani who were still being assisted by the experts. He also reported that the WSPs were trying to undertake the NRW management activities which were manageable following the Covid-19 restrictions imposed by the government.

**d) Other issues from KEWI, WASPA and others**

**KEWI**

Mr. Moseti reported that KEWI had released a short course calendar and NRW training for the month of April 2021. He also reported that WASPA had organized a field training in Kakamega in March 2021 and KEWI will be participating. Mr. Moseti also informed the members that KEWI was looking into ways of conducting theory classes online.

**WASPA**

Ms. Patricia reported the WASPA calendar as follows:

- ✓ Bimonthly meeting on 12<sup>th</sup> March 2021 - venue to be communicated.
- ✓ Annual NRW field training from 23<sup>rd</sup> – 26<sup>th</sup> March 2021 in Kakamega
- ✓ Youth and women conference on 26<sup>th</sup> – 28<sup>th</sup> May in Naivasha
- ✓ Benchmarking meeting in April - date and venue to be set and communicated

**5. Presentation of good examples from Pilot WSPs**

**a) Activities implemented in the 1<sup>st</sup> Quarter**

**• Summary and feedback of activities of WSPs in the 1<sup>st</sup> Quarter**

Mr. Charles reported on the following activities that had been carried out by the output 4 members during the reporting period.

The experts through Mr. Mori had formulated a new form for bulk meter monitoring of abnormal flows which when inputted with the meter readings automatically computes the consumption and gives a coloured indicator whenever the consumption is above or below the normal daily flow. This will help in quick detection of bursts and leakages whenever they occur. He added that they are currently conducting a pilot on the use of the new form with Nyahururu WSP which if it works well will be spread out later to the other pilot WSPs.

They are also assisting Eldoret WSP virtually to improve on the distribution network zoning.

Regarding the regular NRW reduction meetings he informed the members that due to the current pandemic it was not possible for the WSPs to hold their regular meetings but do so virtually on need basis. Mr. Charles further shared a presentation with the members on the remote support the experts offered to the WSPs and thereafter invited Mr. Mori to make his presentation on the hydraulic zoning.

Mr. Mori also encouraged the WSPs to reach out to him and Mr. Charles in case they need their help.

**• Key contents of “NRW Management Guideline” from JICA team**

Mr. Karanja, JICA Experts team made a presentation on the need for the WSPs to be innovative. He also demonstrated to the WSPs the locally fabricated meter spanner and how it is used to easily open a meter for servicing without having to hit the meter, a very common trend with WSPs, which damages meters.

Mr. Mori echoed the presentation made by Mr. Karanja and encouraged WSPs to buy the idea of being innovative. He mentioned that the fabricated float valves in both Meru and Embu were working well and were less expensive compared to the ones installed in Meru by JICA. He encouraged them to also consider reusing the repaired water meters as this will reduce the cost of purchase.

Mr. Cyrus Mugendi, Embu WSPs gave a case scenario of what happens in Embu as follows: they take the customer meters to their workshop; repair and test it; and if it passes the accuracy test, return the same meter to the customer; if it fails, replace it with a new meter. Mr. Mori enquired whether Embu WSP repairs some parts of customer meters and interchange the repaired meters from one customer to another. Mr. Mugendi replied that they currently do not have meter spare parts so they take the whole meter from a customer in case a meter is broken.

Mr. Nyauma, Mavoko WSP reported that Mavoko allows the interchange customer meters from one customer to another in case a meter fails to work well due to some reasons for one customer and can work for another.

Mr. Karanja also encouraged the WSPs to be salvaging meter spare parts from the unserviceable meters in case they do not have meter spare parts. He also informed that Nairobi Ironmongers sell spare parts and WSPs can organize and procure where necessary.

Mr. Charles suggested that the likely hindrance to WSPs repairing or reusing repaired meters could be having meter casings with different serial.

Mr. Maina, Embu WSP gave the 3 reasons preventing repairing of meters as follows:

- ✓ Challenge in obtaining meters of the same class i.e., the damaged meter is class A while the supplier provides e.g., class B spare parts.
- ✓ Cost of spare parts is almost the same as cost of a new meter
- ✓ Duplication of serial numbers to more than one customer.

Mr. Maiyo, Eldoret WSP informed that they are replacing the mechanical meters with ultrasonic and electromagnetic meters which are not normally repairable. However, they do reuse meters for accounts that had been closed.

Mr. Muthami, Nyahururu WSP also informed that they do reused meters from the disconnected accounts by taking the last reading of the meter to be reused as the new reading for the new installation.

Mr. Mugendi, Embu WSP enquired the best class of electromagnetic flow meter since they were facing challenges with what they have. Mr. Mori sort for responses from other WSPs that use the same kind of meters on reuse of the same meters.

#### **6) General comment by JICA Kenya office**

Mr. Taguchi registered JICA Kenya office's apologies for leaving the meeting before its adjournment.

#### **7) . A.O.B.**

- **Date of the Next PIC meeting in March 2021**

Mr. Taguchi proposed that the next PIC be held on 12<sup>th</sup> March 2021. This was subject to further confirmation.

- **Others**

Mr. Charles requested the WSPs that had not completed the review of the 2<sup>nd</sup> quarter of their annual NRW reduction plans to do so and share with the experts. Also, the WSPs that had filled-in the questionnaire distributed by Mr. Takahashi to do so and share with the experts too.

Mr. Moseki expressed the need to have Mr. Takahashi's questionnaire and Mr. Karanja's presentation shared with for the purpose of capacity building.

Eng. Karanja appreciated members for their progress despite the pandemic. He gave credit to JICA Expert Team for their remote assistance despite the pandemic and further requested the WSPs to emulate the same from the experts. He also echoed the need to further the discussion on meters through a workshop that will be called by the ministry and requested members to try and participate in the workshop in large numbers.

There being no other business to be discussed, the meeting ended at 11:50am.

**ATTENDANCE LIST**

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1.	ENG. VICTOR NJERU	HEAD OF NRW UNIT
2.	MS. PATRICIA MUTUA	NRW OFFICER, MWS&I
3.	MR. BONIFACE	NRW OFFICER, MWS&I
4.	MR. GEORGE	NRW OFFICER, MWS&I
5.	MR. WALTER M. MOSETI	KEWI
6.	MR. JESSE AMBUNDO	MAVOKO
7.	MR. NYAMAI	MAVOKO
8.	MR. JOHN WACHIRA	NAWASCO
9.	MR. JOSEPH GITAU	NYAHUWASCO
10.	MR. PAUL MUTHAMI	NYAHUWASCO
11.	MR. CYRUS MUGENDI	EWASCO
12.	MR. JOSEPH IRUNGU	EWASCO
13.	MR. C. K. MUTAI	KIMAWASCO
14.	MR. FRANKLINE THURANIRA	MEWASS
15.	MR. MASAYUKI TAGUCHI	CHIEF ADVISOR, JICA EXPERTS TEAM
16.	MS. HIROKO SUGIMOTO	JICA EXPERTS TEAM
17.	MR. SHOZO MORI	JICA EXPERTS TEAM
18.	MR. GEORGE KARANJA	JICA EXPERTS TEAM
19.	MR. CHARLES MAINGI	JICA EXPERTS TEAM
20.	MS. KELLYJOY GAKII	JICA EXPERTS TEAM

**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION**

**MINUTES OF THE 27<sup>TH</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING**

Date:	2021/04/21 (Wednesday)
Time:	9:30am – 12:00pm
Venue	Virtual meeting
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction</li> <li>2. Communication from the Chairperson - Eng. Njeru, MWS&amp;I.</li> <li>3. Report/Information about the project activities after the last PIC on February 12, 2021             <ol style="list-style-type: none"> <li>a) Report from NRW Unit, MWS&amp;I</li> <li>b) Report from WASREB, KEWI, WASPA</li> </ol> </li> <li>4. Report/Feedback from the Expert team             <ol style="list-style-type: none"> <li>a) Report about visits to the Pilot WSPs implemented by JICA expert team - Mr. Taguchi</li> <li>b) Summary and Feedback of activities of WSPs - Mr. Charles</li> <li>c) Progress of editing of the NRW Standards - Eng. Karanja</li> </ol> </li> <li>5. Discussion, opinions or requests – All the participants</li> <li>6. General comment - JICA Kenya office</li> <li>7. A.O.B.             <ul style="list-style-type: none"> <li>• Date of the Next PIC meeting in May 2021</li> <li>• Others</li> </ul> </li> </ol>

Content	<p><b>1. Self-introductions</b></p> <p>All the members introduced themselves and their respective organizations.</p> <p><b>2. Communication from the Chairperson</b></p> <p>Eng. Njeru thanked the members for joining the meeting. He also pointed out that Kenya as a country had very strict guidelines in regard to meetings and travel due to Covid 19 thus the reason they could not hold a face-to-face meeting. He also assured the members that the day’s agenda will be managed effectively and conclusively. He informed the members that he was standing in for Eng. Alima who was unavailable because of other official duties.</p> <p><b>3. Report/Information about the project activities after the last PIC on February 12, 2021</b></p> <p><b>a) Report from NRW Unit, MWS&amp;I</b></p> <p>Ms. Patricia (NRW Unit) reported on the following:</p> <ul style="list-style-type: none"> <li>a) Production of the 2<sup>nd</sup> version of the NRW Annual report: - final proofreading was done and the document was returned to the printing company for the final printing.</li> <li>b) version 3 of the NRW annual report; the unit had sent official letters requesting for submission of the articles by the counterpart institutions. The unit was also working on their articles as they await for submissions from the counterparts.</li> <li>c) Sensitization on NRW: - since the school campaigns were suspended due to covid 19 the NRW unit together with Ms. Sugimoto embarked on an educational video touching on 4 themes namely: water treatment, water quality, water conservation and water use. She also reported that they held a meeting with a video producing company to discuss ways of improving the professional look of the video program before the shooting. Ms. Sugimoto also reported that they will be engaging Kisumu, Eldoret and Nakuru WSPs; and will also visit them when the cessation of movement is lifted.</li> <li>d) Thematic workshop: - it had been agreed on “<u>Sharing the best practices on use of smart metering and Ultrasonic flow meters</u>” as the theme for the next thematic workshop. She also reported that the workshop would be held virtually for at most 3 hours in May 2021 and will target the TMs, CMs and the heads NRW as the participants. She further informed that she will share the day’s draft program in due time.</li> <li>e) MWS&amp;I support to the WSPs; procurement of leak detection equipment by the ministry was underway to support target WSPs in the project.</li> <li>f) NRW Working group: - the working group was steering the upscaling of the project activities i.e. dissemination and promotion of NRW reduction activities among all the WSPs countrywide. The ministry had prepared a stakeholders consultation workshop on the revised draft standards which was to be held on 29<sup>th</sup> and 30<sup>th</sup> March 2021 in Nakuru. However, this was not possible due to the</li> </ul>
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presidential decree on cessation of movement in some counties and the ban on gatherings.

**b) Report from WASREB, KEWI, WASPA**

Mr. Moseti, KEWI, reported that the top management in KEWI had advised that any course that could be done online especially in the prevailing circumstances should be conducted as they await to undertake the practical bit later. Considering this they decided to revise their short course program and pushed the online classroom training towards the end of May so that they could incorporate more participants as they await to conduct the OJT in June 2021.

Ms. Patricia, (WASPA) reported that WASPA was at the beginning of their benchmarking cycle after having done the validation workshop. She also reported that all the 9 pilot WSPs had joined the membership for benchmarking, raising the number from 33 to 41. She also reported that the bimonthly meeting was held on 11<sup>th</sup> March 2021 while the water loss management conference was held in Kakamega on 23<sup>rd</sup> – 26<sup>th</sup> March. Participants were found to be interested in topics on culture change and data analysis; apart from the usual physical and technical water loss causes. She also reported that WASPA was planning to hold another training on MS Excel to enable them carry out billing and meter reading analysis. However, all physical meetings had been suspended due to covid 19 pandemic with the next benchmark meeting postponed to early June 2021.

**4. Report/Feedback from the Expert team**

**a) Report about visits to the Pilot WSPs implemented by JICA expert team - Mr. Taguchi**

Mr. Taguchi reported some points that he observed during his visit to the 9 WSPs in the month of February 2021. According to his assessment the covid 19 status was stabilizing and this led them to plan for restarting the experts' physical assistant works in May or June 2021. However, he 3<sup>rd</sup> wave of the pandemic hit and is currently on going.

He then presented some particular examples of interest gathered from Mavoko, Ruiru-Juja, Nakuru and Kisumu during his assessment of the WSPs and based on his report paper shared with the members in advance. He then welcomed Mr. Takahashi to make his comments on the on-going questionnaire exercise on water pressure and leakage detection.

Mr. Takahashi explained that in January to March 2021 he had come up with an online training schedule that included three main phases 1) questionnaire, 2) answers and description, and 3) methods of water network renewal planning. The target group was 26 members from the 9 pilot WSPs. He reported that he had sent the questionnaire in

January but was very disappointed since he had only received replies from only 2 out of the 26 members. He informed members that he hopes to train the WSPs on the same when he comes to Kenya in the month of June 2021.

Mr. Mori informed the members that on Friday 30<sup>th</sup> April 2021 he will virtually meet with Eldoret WSPs to discuss on zoning of their distribution system. He further welcomed the other pilot WSPs to the meeting. He did a presentation to explain what the WSPs should expect to learn during the meeting.

**b) Summary and Feedback of activities of WSPs - Mr. Charles**

Mr. Charles reported that despite the fact that the experts cannot visit the WSPs due to the pandemic they were still working with the WSPs and some of the activities they were undertaking are: follow up on NRW reduction plans. The experts had come up with a template for the NRW reduction plans and had shared the same with the WSPs. The WSPs were expected to review the former year, under take self-analysis of where they stand and then come up with the annual plans. After the self-analysis they were to come up with what they intend to do on the particular year (annual reduction plan) with a budget for the same and also extend the same to 5 years (mid-term planning). After planning they were expected to implement (PDCA Cycle). Currently they were in the 4<sup>th</sup> quarter which will end by June 2021. The pilot WSPs are now reviewing the progress from the quarter 3 plans. He also reported that he had received feedback from 4 out of the 9 WSPs these are Kilifi- Mariakani, Nyahururu, Kisumu and Ruiru-Juja. He further encouraged the rest to share their results and in case they had challenges the experts were ready to offer assistance.

He also reported that the WSPs had shown a lot of interest in the universal NRW monitoring sheet that was developed by the experts. He explained that the most important thing for the WSPs to learn out of this was the NRW trend over a long period of time, keep track on reasons for the NRW fluctuations hence they can get the way forward. This will help them in making their action plans may be monthly, quarterly or annual plans. The experts were involved in the review of the NRW management standards which was at the public participation stage.

They were also working with the WSPs on the meter reading and billing analysis. They were coming up with a procedure on how to carry out a simplified one month analysis and this will be shared with all the WSPs.

Mr. Mori also reported that he had received a report from Eldoret WSP with a graph from the universal NRW monitoring sheet. Their report showed an improvement on the average tariff. This is the total billed amount divided by the billed volume. He further informed the members that if WSPs target the large customers well, the average tariff increases which in turn may increase the total billing and hence reduce the NRW as is the case with Eldoret.

**c) Progress of editing of the NRW Standards - Mr. Karanja**

Mr. Karanja informed the members that the editorial committee had completed editing the standards and had shared the draft with the stakeholders and especially the 87 WSPs which are recognised under WASREB. He also reported that from the previous four volumes the editorial committee came up with two volumes namely the Draft NRW management Handbook and the Draft NRW management Guidelines. Mr. Karanja also informed members that the two drafts documents were shared with the stakeholders in order for them to give their views on the same. The MWS&I had planned to hold the first consultative workshop on 29<sup>th</sup> and 30<sup>th</sup> March 2021 in Nakuru but this did not happen due to the presidential announcement on the cessation of movement and banning of gatherings due to the 3<sup>rd</sup> wave of the Covid 19. He also pointed out that it was evident that only a few WSPs had read the Standards despite having been given adequate time to do so since December 2020. Mr. Karanja also gave several other challenges faced by the committee in regards to the workshop and possible recommendations for the same.

**5) Discussion, opinions or requests – All the participants**

The chairman welcomed the members to discuss the reasons behind the WSPs not sending their comments and their readiness to attend the stakeholder’s consultation meeting.

Ms. Sugimoto enquired why the editorial committee had not considered sending the document in an editable format rather than the PDF.

Mr. Mori suggested that the management of WSPs be involved so that the WSPs can commit some time and some staff to read through the standards.

Mr. Karanja pointed out that time allocated for the review was too short considering the WSPs had other matters to attend to.

Mr. Mori suggested that the WSP while giving their feedbacks should be critical about the material given including how it has been arranged in the document. Also, the presentations containing important information regarding the standards can be sent to the website for general knowledge of the WSPs.

Eng. Njaggah suggested that the WSPs be innovative and form dedicated teams to read and come up with comments. He also reported that WASREB is following up with WSPs to ensure that they have a functional NRW Units that is headed by a staff member in at least level 3 of the management as a licensing requirement. They are also embedding in the license the requirement that staff working under the NRW unit must have undertaken a KEWI NRW course.

Mr. Taguchi suggested to have a timeline for the submission of the feedback from the pilot WSPs. Members agreed to submit within 3 weeks.

Mr. Ambugo (WASPA CEO) suggested the following: - hold a virtual meeting with a summarized presentation on the key areas and agree on a timeline to make response. Sensitization on the existence of the standards and the areas that had been revised. WASPA to assist in bringing the WSPs together especially those not under the project.

**6) General comment by JICA Kenya office**

Mr. Gitau reported that JICA was aware that some project activities were delayed due to the pandemic and that 6 pilot WSPs had attained more than 60% of their planned activities despite the negative effect of the pandemic. In view of this JICA and the experts are in discussion to find a solution so that some of the activities are completed during the timeline of the project or if they agree, grant some extension to the project

**7) . A.O.B.**

**• Date of the Next PIC meeting in May 2021**

Mr. Taguchi proposed that the next PIC be held on 26<sup>th</sup> May 2021.

**Others**

Mr. Charles suggested to bring on board the management of WSPs to unlock the obstacle regarding the standards.

Mr. Taguchi thanked the members for the participation in the meeting. He further emphasized to the WSPs to send their comments before the next meeting.

Ms. Patricia thanked the counterparts and the WSPs for the cooperation and team work.

Eng. Njeru thanked all the participants for their participation in the meeting.

There being no other business to be discussed, the meeting ended at 12:00pm.

**ATTENDANCE LIST**

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1.	ENG. VICTOR NJERU	HEAD OF NRW UNIT, MWS&I
2.	MR. CHEMERIR CHEPYEGON	NRW OFFICER, MWS&I
3.	MS. PATRICIA MUTUA	NRW OFFICER, MWS&I
4.	MR. GEORGE BOKESIA	NRW OFFICER, MWS&I
5.	ENG. PETER NJAGGAH	WASREB
6.	MR. YATOR NEVILLIE	WASREB
7.	MR. WALTER M. MOSETI	KEWI
8.	MR. JESSE AMBUNDO	MAVOKO
9.	MR. JAMES NYAUMA	MAVOKO
10.	MR. LEONARD MUTAI	NAWASCO
11.	MR. PAUL MUTHAMI	NYAHUWASCO
12.	MR. JOSEPH MAIYO	ELDOWAS
13.	MR. CHUMBA	ELDOWAS
14.	MR. JOB LIECH	KIWASCO
15.	MR. CYRUS MUGENDI	EWASCO
16.	MR. JOSEPH IRUNGU	EWASCO
17.	MS. MARY	RUIRU JUJA
18.	MR. FRANKLINE THURANIRA	MEWASS
19.	MR. JOHN GITAU	PROGRAM OFFICER (JICA, KENYA)
20.	MR. MASAYUKI TAGUCHI	CHIEF ADVISOR, JICA EXPERTS TEAM
21.	MR. NABORU SAITO	JICA EXPERTS TEAM
22.	MR. JUNICHI TAKAHASHI	JICA EXPERTS TEAM
23.	MS. HIROKO SUGIMOTO	JICA EXPERTS TEAM
24.	MR. SHOZO MORI	JICA EXPERTS TEAM
25.	MR. GEORGE KARANJA	JICA EXPERTS TEAM
26.	MR. CHARLES MAINGI	JICA EXPERTS TEAM
27.	MS. KELLYJOY GAKII	JICA EXPERTS TEAM

**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION  
MINUTES OF THE 28<sup>TH</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING**

Date:	2021/06/11 (Friday)
Time:	9:30am – 11:40am
Venue	Virtual meeting
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction (5 min.)</li> <li>2. Communication from the Chairperson - Eng. Njeru, MWS&amp;I (5 min.)</li> <li>3. Report/Information about the project activities after the last PIC on 21 April, 2021 (25 min.) <ol style="list-style-type: none"> <li>a) Report from NRW Unit, MWS&amp;I (10 min.)</li> <li>b) Report from WASREB, KEWI, WASPA (15 min.)</li> </ol> </li> <li>4. Report/Feedback from the Expert team (65 min.) <ol style="list-style-type: none"> <li>a) Summary and feedback of a series of Questionnaire survey from the pilot WSPs conducted from April to December 2020 - Mr. Taguchi (15 min.)</li> <li>b) How Nakuru WSP coped with Covid-19 and acquired its new working style through the experience - Mr. Leonard Mutai, NAWASCO (25 min.)</li> <li>c) A good example for improving meter reader's performance using a smart phone application. – Ms. Mary Wachira, RUJWASCO (25 min.)</li> </ol> </li> <li>5. Discussion, opinions or requests – All the participants (30 min.)</li> <li>6. General comment - JICA Kenya office (5 min)</li> <li>7. A.O.B. (5 min.) <ul style="list-style-type: none"> <li>• Date of the Next PIC meeting in June, 2021</li> <li>• Others</li> </ul> </li> </ol>

Content	<p><b>1. Self-introductions</b></p> <p>All the members introduced themselves and their respective organizations.</p> <p><b>2. Communication from the Chairperson</b></p> <p>Eng. Njeru thanked the members for joining the meeting. He also informed the members that he expected their active participation during the meeting for its success.</p> <p><b>3. Report/Information about the project activities after the last PIC on February 12, 2021</b></p> <ul style="list-style-type: none"> <li>• <b>Report from NRW Unit, MWS&amp;I</b></li> </ul> <p>Ms. Patricia (NRW Unit) reported on the following:</p> <p><b>2<sup>nd</sup> version of NRW Annual Management report 2018/2019</b></p> <ul style="list-style-type: none"> <li>• Printing of the Report was accomplished and some copies were distributed to participants in Nakuru during the review of the NRW standards.</li> <li>• The report to be uploaded on the Ministry’s website by end of June 2021.</li> </ul> <p><b>3<sup>rd</sup> version of the NRW Annual Management Report (2019/2020)</b></p> <ul style="list-style-type: none"> <li>• NRW Unit is working on the articles awaiting submissions by other counterparts</li> <li>• Report to be made more appealing to the readers by featuring additional NRW related articles including highlights of WSPs’ activities.</li> <li>• NRW Unit is working on strategies to sustain production of NRW Annual report by MWSI even after the lapse of the JICA NRW management improvement project.</li> </ul> <p><b>School campaigns were halted at the onset of Covid -19 pandemic</b></p> <ul style="list-style-type: none"> <li>• Instead, an educational video is under development to educate school-going children on water use and conservation.</li> <li>• The video concept will have <b>4 themes:</b> <ul style="list-style-type: none"> <li>• Water Treatment</li> <li>• Water Quality</li> <li>• Water Conservation</li> <li>• Water use</li> </ul> </li> <li>• An online meeting was held with the producer &amp; Embu water staff and plans to film the video on water treatment by July 2021 finalized.</li> <li>• EWASCO MD agreed to host the filming</li> <li>• Remaining themes to be done in Eldoret, Kisumu and Nakuru respectfully subject to availability of funds.</li> <li>• The Ministry had procured phase 3 equipment’s for use by some pilot WSPs during FY 2020/2021.</li> <li>• The equipment are awaiting inspection.</li> </ul>
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- A team comprising of the MWSI, JICA Expert Team and NRW unit will be undertaking the inspection before the end of June.

#### **NRW Thematic Workshop**

- The workshop was held virtually on 8<sup>th</sup> June 2021 focusing on smart metering. The theme was: “is smart metering really smart?”
- The target participants were TM, CM and NRW staff of WSPs. 42 participants attended
- KIWASCO and ELDOWAS shared experiences, successes and challenges on use of the smart metering technology in NRW reduction
- JICA Experts Team gave an account of the progress made towards ongoing smart metering project in Japan
- Through the discussion, WSPs were able to share experiences, knowledge and ideas on smart metering
- The following thematic areas were proposed for consideration in future workshop discussions:
  - Water safety planning
  - Meter quality & standards (procurement guidelines)

#### **The Working Group**

The WG is gearing to upscale, disseminate and promote the NRW reduction activities to all WSPs countrywide through:

- Dissemination of NRW Standards to all WSPs countrywide via Output 2 activities
- Dissemination of best practices and emerging solutions
- Follow up (exchange) visits at WSP level (Visit WSPs most challenged with NRW reduction)
- Planned two stakeholders consultation workshop on the revised draft standards in Nakuru and Machakos
- Held its 1<sup>st</sup> stakeholder’s consultation workshop on the revised draft standards (Handbook & Guideline) in Nakuru town on 27<sup>th</sup> and 28<sup>th</sup> of May 2021. The workshop aimed at engaging stakeholders on the revised NRW standard drafts to gather comments for improvement before publishing. The turnout was 13 WSPs, 1 county water director and 1 NGO (VEI). The highlights of the standards were done and the WSPs were able to come up with positive input on the draft document regarding the relevant areas for addition, Irrelevant areas for deletion; interrogated the write up to see whether they address the specific topics and gave additional recommendations. WSPs were given until mid-June 2021 to forward any additional comments to MWI&S.

#### **b) Report from WASREB, KEWI, WASPA**

Mr. Yattor informed members that WASREB was also involved in the stakeholders meeting that was held in Nakuru and they are looking forward to having the documents integrated as standards for the NRW management.



Mr. Moseti (KEWI) reported that they also participated during the stakeholder's workshop in Nakuru. He also informed members that they were not able to hold the online joint training that was supposed to be held on 31<sup>st</sup> May to 4<sup>th</sup> June 2021 and will do so when it will be suitable for a physical meeting.

Ms. Patricia, (WASPA) reported that WASPA participated in the stakeholder's workshop that was held in Nakuru. However, they could not participate in the thematic workshop since she was on transit to Nanyuki on official duties. Ms. Patricia also reported that meter quality is under WASPAs procurement regulations and that could make a nice workshop topic like was proposed by NRW Unit in their presentation. She also pointed out that WASPA was in the process of reviewing their standards because they were done years back and needs to be updated. She also mentioned that they will be inviting the standards regulator (KEBS) and other stakeholders to make their contributions. Ms. Patricia also reported that their bimonthly meeting was running concurrently with the PIC meeting and some members of their staff were already in Mombasa for the same. The next bench marking meeting will be held by mid-July.

#### **4. Report/Feedback from the Expert team (65 min.)**

##### **a) Summary and feedback of a series of Questionnaire survey from the pilot WSPs conducted from April to December 2020 - Mr. Taguchi**

Mr. Taguchi made the presentation below on feedback of the monthly circulation of answers for questionnaire as a means of communication between the pilot WSPs and the JICA expert team.

Covid-19 broke out in Kenya in March 2020. Since it was gradually spreading out from January in Japan, JICA suspended the dispatch of experts to other countries. The 23<sup>rd</sup> Project Implementation Committee (PIC) meeting was held in Kenya in February 2021, while he was in Kenya in his 2<sup>nd</sup> dispatch period of the 3<sup>rd</sup> project term. However, no more PIC meetings were held thereafter. Since then, the experts tried to know the situation of the Pilot WSPs under the Covid-19 through communication with the local staff. But the volume and quality of the information were quite limited and it was difficult to grasp the real issues which the Pilot WSPs were facing. While the various restrictions that were being imposed against Covid-19 in the daily life of the citizens, the number of working staff of WSPs and the opportunity of meetings or discussion among them were restricted. The Project team lost proper measures for communication with the Pilot WSPs after the last PIC meeting held in February and it was imagined that all the staff of the Pilot WSPs were busy trying to manage the Covid-19 monster but unfortunately, we could not assist them. The situation led him to introduce interactive communication by circulating questionnaires and answers about conditions of each Pilot WSP, which might be able to enhance the sense of unity of the project members created in the monthly PIC meeting before by sharing among the members that they were dedicated to retaining sustainable water service delivery to the citizens though struggling with various difficulties in their respective WSPs. This was

to encourage the members of the Pilot WSPs to continue their everyday efforts. Based on the idea, the questionnaires generally consisted of the following items.

1. General Situation under Covid-19
  - a) Percentage of the staff coming to the office per total number of the WSP staff
  - b) Possibility of purchasing basic goods in the market.
  - c) Problems encountering for the daily life in the city
  - d) Is the public transportation system functioning or not?
2. Activities on NRW reduction
  - a) Is water supply service kept as usual?
  - b) What activities are prioritized in the NRW reduction field now?
  - c) Are the O&M staff prepared or able to handle emergencies cases like a pipe-burst on a main line?
3. What is urgently needed by the WSP such as goods, equipment, apparatus etc. regardless of the relation with the NRW reduction project,
4. What support is needed from the expert team after Covid-19 calms down
5. Opinions or suggestions for this questionnaire & answers circulation

The frequency of the circulation of answers for the questionnaire was monthly. And this continued for 9 times in total from April to December 2020 as shown in Table-1, although the last distribution was done in February 2021. The expert team made short comments for each Pilot WSP in every circulation as the feedback from the experts in consideration for increase of the interactive communication efficiency.

**Table-1 Progress of circulation of questionnaire and answers**

No .	Date of delivering Questionnaire/summary of the answers	Topics focused	“Performance of the month” award
1 <sup>st</sup>	Apr. 29/May 6, 2020	-	
2 <sup>nd</sup>	May 6/June 8, 2020	Some WSP requested financial support to JICA team	
3 <sup>rd</sup>	June 8/July 6, 2020	-	
4 <sup>th</sup>	July 6/August 7, 2020	This activity was presented among a workshop of JICA projects and given a high praise.	
5 <sup>th</sup>	Aug. 7/September 4, 2020	Signs were seen in recovering their financial situations. Monthly award was started.	Kiwasco, Nawasco
6 <sup>th</sup>	Sep. 4/October 14, 2020	Stronger Recovering trend was seen in some WSPs.	Rujuwasco, Eldowas, Mavowasco
7 <sup>th</sup>	Oct.14/November 18, 2020	All the pilot WSPs were used to cope properly with Covid-19.	Ewasco
8 <sup>th</sup>	Nov. 18/December 15, 2020	-	
9 <sup>th</sup>	Dec. 15, 2020/February 1, 2021	-	

Summary sheets of answers were distributed already to all the members. Observation of these summaries was very helpful for the experts to understand the difficulties that the WSPs were facing in executing their day-to-day activities and the relative increase or drop of their finances on a monthly basis. One of the remarkable achievements of this activity is that the information was quite useful and effective for JICA and they managed to support the Pilot WSPs by donating chemicals for water treatment with 3-month consumption volume last year. PIC meetings then resumed in October last year and are continuing on a monthly basis. This activity however stopped due to reduction of its efficiency of information sharing. One thing remaining is to award “Performance of the month” to the nominated Pilot WSPs as mentioned in the above table. This has not been achieved yet so please expect that I will prepare the award to the nominees before the completion of the Project in May 2022” said Mr. Taguchi. He then expressed his sincere thanks to all of the project members for their kind cooperation on the project activities.

**b)How Nakuru WSP coped with Covid-19 and acquired its new working style through the experience - Mr. Leonard Mutai, NAWASCO**

Mr. Charles reported that despite the pandemic and the working from home experience a lot has been happening in the WSPs. He further informed the members that the WSPs have been undertaking reviews for their plans, considering that the financial year was coming to an end and a new financial year starting in July. He said it was expected that the WSPs would do their final NRW reduction plans, fourth quarter review, and the annual reviews to check their performance (strengths and weaknesses), carry out self-assessment and have new plans for the coming financial year starting in July. He then encouraged the WSPs to contact him or other experts in case they have a need regarding the reviews or even the plans. He also reported that they were still continuing with the online training, for example, Mr. Mori was training Eldoret WSP on improving their GIS and mapping and; Mavoko WSPs to undertake their billing analysis. In the process, they are also learning new things which they will soon be sharing. He said that the Covid-19 pandemic had created a platform for each member to learn and even the WSPs have come up with new ways to cope with the pandemic.

He then welcomed Mr. Mutai and Mr. Erastus (GIS specialist in Nakuru) to make a presentation on how Nakuru overcame Covid-19 challenges and another on customer accounts field navigation.

**c) A good example for improving meter reader’s performance using a smart phone application**

Mr. Charles then invited Ms. Elizabeth from Ruiru Juja to make her presentation on GIS data collection and utilization procedures.

**5) Discussion, opinions or requests – All the participants**

Eng. Njeru welcomed members to give their opinion regarding the presentations and encouraged the WSPs to borrow a leaf from the presentations on use of the GIS since it is a free and easily available app in smart phones.

Mr. Mori informed members that he had been working with the WSPs on need basis and will be visiting Kenya soon so as to be more efficient. He pointed out that he had noted some challenges that the WSPs were experiencing especially on the use of the kobo collect, zoning and distribution system especially in Embu WSP. He also informed members that most of the soft-ware are free and can be downloaded from play store and are quite useful. He gave an example of SW Maps soft-ware that is free and quite efficient. He also informed members that he is available to offer assistance on these soft-wares so that WSPs can avoid unnecessary expenses while using other expensive soft-wares.

Ms. Patricia (WASPA) informed members that WASPA was very much interested in the meter reading and billing analysis which they were discussing during their benchmark meetings and were thinking of how utilities can be shown a simplified calculation using excel sheet, since one has to interrogate data in order to get the desired output. She also pointed out that they do not have estimated consumption in their KPIs but will include it as suggested by Mr. Mori.

Mr. Yator (WASREB) also pointed out that most WSPs had low metering ratio and were not able to estimate the water that goes to the customers. These utilities were encouraged to continue metering so as to get to a substantial metering ratio in order for them to undertake a meter reading and billing analysis to determine the accounts billed on estimation. However, all WSPs were encouraged to consider lowering the number of accounts billed on estimation immediately.

Mr. Taguchi appreciated the presentation made by Nakuru WSPs on the measures they undertook due to Covid-19 last year. He pointed out that other WSPs should learn from what Nakuru WSPs did since even after being directly affected by the pandemic they took measures to ensure that they did not lose revenue completely and at the same time they remained relevant to the community through supplying the most essential commodity that is water. Use of electronic system of paying bills and maintaining a vibrant communication platform between the customers and the company like was adopted by Nakuru WSP proved to be very effective and should be embraced by all.

**6) General comment by JICA Kenya office**

Mr. Gitau informed the members that they did not have comment for the members.

**7) . A.O.B.**

Mr. Taguchi informed members that in the month of July there shall be no PIC meeting but instead there shall be JCC meeting at a date to be confirmed later.

Ms. Patricia (WASPA) informed members that they were organizing a youth and women conference in Naivasha from 30<sup>th</sup> June to 2<sup>nd</sup> July and all are welcome.

• **Date of the Next PIC meeting**

To be communicated later.

Eng. Njeru thanked all the participants for their participation in the meeting.

There being no other business to be discussed, the meeting ended at 11:40am.

**ATTENDANCE LIST**

<b>No.</b>	<b>Name</b>	<b>Institution</b>
1.	ENG. VICTOR NJERU	HEAD OF NRW UNIT, MWI&S
2.	MS. PATRICIA MUTUA	NRW OFFICER, MWI&S
3.	MR. GEORGE BOKESIA	NRW OFFICER, MWI&S
4.	MR. YATOR NEVILLIE	WASREB
5.	MR. WALTER M. MOSETI	KEWI
6.	MR. JAMES NYAUMA	MAVOKO
7.	MR. LEONARD MUTAI	NAWASCO
8.	MR. ERASTUS MAINA	NAWASCO
9.	MR. PAUL MUTHAMI	NYAHUWASCO
10.	MR. JOSEPH MAIYO	ELDOWAS
11.	MR. ALEX KEMBOI	ELDOWAS
12.	MR. JOSEPH ORIA	EWASCO
13.	MS. MARY WACHIRA	RUIRU JUJA
14.	MS. ELIZABETH NDUTA	RUIRU-JUJA
15.	CORNELIUS MUTAI	KIMAWASCO
16.	MR. FRANKLINE THURANIRA	MEWASS
17.	MR. JOHN GITAU	PROGRAM OFFICER (JICA, KENYA)
18.	MR. MASAYUKI TAGUCHI	CHIEF ADVISOR, JICA EXPERTS TEAM
19.	MR. NABORU SAITO	JICA EXPERTS TEAM
20.	MS. HIROKO SUGIMOTO	JICA EXPERTS TEAM
21.	MR. SHOZO MORI	JICA EXPERTS TEAM
22.	MR. GEORGE KARANJA	JICA EXPERTS TEAM
23.	MR. CHARLES MAINGI	JICA EXPERTS TEAM
24.	MS. KELLYJOY GAKII	JICA EXPERTS TEAM

**THE PROJECT FOR STRENGTHENING CAPACITY IN  
NON-REVENUE WATER REDUCTION  
MINUTES OF THE 29<sup>TH</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING**

Date:	2021/09/22 (Wednesday)
Time:	9:30am – 11:40am
Venue	Virtual meeting
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction (5 min.)</li> <li>2. Communication from the Chairperson - Eng. Mary W. Wainaina, MWS&amp;I (5 min.)</li> <li>3. General Remarks - JICA Kenya office (5 min)</li> <li>4. Report/Information about the project activities after the last JCC on 9th July, 2021 (20 min.) <ol style="list-style-type: none"> <li>a) Report from NRW Unit, MWS&amp;I including WG activities (10 min.)</li> <li>b) Report from WASREB, (5 min.)</li> <li>c) Report from KEWI on the progress of formulation of new training courses (5 min.)</li> <li>d) Report from WASPA (5 min.)</li> </ol> </li> <li>5. Report/Feedback from the Expert team (55 min.) <ol style="list-style-type: none"> <li>a) Progress and way forward of editing the Guideline and Handbook of NRW managing Standards - Eng. George Karanja (15 min.)</li> <li>b) Challenges or way forward for the pilot WSPs to manage strengthening capacity in non-revenue reduction during the remaining period of the Project until May 2022. – Eng. Mori, JICA Expert (25 min.)</li> </ol> </li> <li>6. Discussion, opinions or requests – All the participants (20 min.)</li> <li>7. A.O.B. (5 min.) <ul style="list-style-type: none"> <li>• Date of the 30th PIC meeting in October, 2021</li> <li>• Others</li> </ul> </li> <li>8. Closing Remarks –Eng. Mary W. Wainaina, MWS&amp;I (5 min.)</li> </ol>

Content	<p><b>1. Self-introductions</b></p> <p>All the members introduced themselves and their respective organizations.</p> <p><b>2. Communication from the Chairperson</b></p> <p>Eng. Njeru thanked the members for joining the meeting. He also informed the members that Eng. Alima and Eng. Wamaita were out of Nairobi on official duties and therefore he was chairing the day’s meeting. He said the purpose of the PIC meeting was to review the progress of the project activities, achievement, constraints and everything pertaining to the project; the main mandate being to manage the NRW in the country. He said that the PIC is closely looking at what the WSPs are doing in their own areas. WSPs had by then done the analysis on their NRW in their facilities and they knew what plans they had put into place to be able to beat the NRW monster. WSPs are supposed to document their successes so that others can learn from them.</p> <p><b>3. General Remarks - JICA Kenya office</b></p> <p>Mr. Gitau, JICA Kenya office Representative informed the meeting that JICA had supplied 50% of the water treatment chemical stock they had promised to donate to the pilot WSPs. He said that it was expected that the exercise would end by the end of the month. He also encouraged the WSPs to report to JICA office in case of challenges.</p> <p>Mr. Taguchi also informed the members that Kilifi-Mariakani WSP had requested their donation to be form of customer meters instead of chemicals since they do not have a treatment plant. He said the the procurement process was ongoing and the meters would be delivered to the utility once procured.</p> <p>The Chair thanked JICA Kenya office for the chemical donations and requested them to provide the rest of the chemicals before the expected rainy season.</p> <p><b>4. Report/Information about the project activities after the last JCC on 9th July, 2021 (20 min.)</b></p> <p><b>a) Report from NRW Unit, MWS&amp;I including WG activities (10 min.)</b></p> <p><b>I. Report from NRW Unit, MWS&amp;I</b></p> <p>Ms. Patricia, Ministry’s NRW unit reported the following:</p> <p><b>a) Production of NRW Annual Management Report</b></p> <ul style="list-style-type: none"> <li>• Distribution of the printed copies for 2nd version of NRW Annual Management Report was ongoing.</li> <li>• The NRW Unit and the counterpart institutions were working on the draft contents of the 3rd version of the NRW report 2019/2020 and the draft would be ready by end of October 2021.</li> </ul> <p><b>b) Schools’ sensitization on NRW</b></p>
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- JICA had financed the production of short videos on NRW for school sensitization. Filming was complete and the videos were being edited. Video production was at 90% completion
- Physical activities had been suspended due to the COVID-19 pandemic.
- The main objective was to orientate the young ones so that they grow being responsible on how to use and conserve water.
- The concepts for the educational videos touched on 4 themes as below

S/No.	THEMES	FILMED AT/ SCHOOLS INVOLVED
	Water Use	Nyahururu WSP/ 91 Municipality Primary School
	Water Treatment	EWASCO/ Iveche Primary School
	Water Quality	ELDOWAS/ Sosiani Primary School
	Water Conservation	NAWASCO/ Mwariki Primary School

**c) Working Group (WG) Activities & Way Forward**

- The WG team comprises of the MWSI, WASREB, KEWI, WASPA, JICA Experts and the CoG
- The WG Activities include: Dissemination of the revised NRW standards and advocating for their use via output 2, and Dissemination of best practices and emerging solutions emanating from the NRW project via output 4.
- The most recent Achievement of the WG was the 2<sup>nd</sup> stakeholders' workshop held in Machakos on 29<sup>th</sup> – 30<sup>th</sup> July 2021.
- The workshop offered a good opportunity for the team to emphasize on the need for WSPs' to adopt the NRW standards in their day - to - day operations and receive valuable input from the stakeholders.
- A stakeholders' validation consultative meeting is planned to be held in Nakuru on 14th October, 2021.
- The invitees will be all the participants that participated in the review process of the standards so that can validate the incorporated comments gathered from Nakuru & Machakos workshops.

**II. Report from WASREB**

Mr. Yator reported on the following:

- WASREB being part of the working group participated in the NRW stakeholders meeting held in Machakos on 29<sup>th</sup> and 30<sup>th</sup> July 2021.

- Stakeholders' comments were collected and noted for integration into the NRW guideline and handbook.
- The team noted that the guideline and handbook were fairly good and should be put into use by WSPs as it is finalized and subsequently adopted.
- The WG has integrated all the comments and input from the WSPs collected in the Nakuru and Machakos into the guideline and handbook.
- A national validation workshop was planned for October 2021 to disseminate the two documents and highlight to the stakeholders the integration of the comments.
- The adoption and use of the guideline by the WSPs would greatly reduce the NRW and potential loss of national revenue amounting to Ksh. 11.61 billion annually.
- WASREB conducted a NRW performance review workshop post-Impact 13 released on the 28<sup>th</sup> of July 2021 in Machakos.
- WASREB invited a select 16 WSPs to attend the workshop whose theme was to publicize the release of NRW performance results.
- The target participants were the TM, CM and NRW head where 37 participants attended.
- The workshop highlighted the importance of NRW reduction and gave a presentation of the best practice on reduction of NRW.
- WASREB built capacity of the WSP on performance-based contracting on NRW management.
- A highlight of the lost potential revenue due the NRW was given and the WSPs urged to improve performance and tap this revenue in order to increase water coverage and level of service.
- WASREB promoted the use of NRW guideline and handbook to the WSPs attending the workshop.
- WASREB had planned a NRW performance review workshop post-Impact 13 release for the Western Region in October 2021.

### **III. Report from KEWI on the progress of formulation of new training courses**

Mr. Moseti informed members that KEWI is continuing in implementing the revised NRW course where the following is the progress to date.

1. KEWI conducted a NRW Classroom and OJT in July/August, 2021 respectively where 18 staff from Nairobi, Nakuru Rural and Githunguri WSPs participated
2. KEWI as a member of the Working Group participated in the Nakuru and Machakos stakeholder workshops on NRW Standards review and is continuing in supporting the process
3. From 19<sup>th</sup> to 23<sup>rd</sup> July, 2021, KEWI with other counterparts (MWS&I, WASREB) were trained by the JICA expert team on the proposed new high level NRW course that is intended to be included in the reviewed NRW Standards.

4. The already reviewed course run by KEWI is viewed as basic and suitable for NRW operators in the field. For decision makers, a high level one is necessary.

The areas proposed for this course are :-

- i. Annual NRW Planning template
- ii. Universal Monitoring Sheet
- iii. Billing and meter reading analysis
- iv. KOBO collect Tool Box

Thereafter, the course will be test-run with selected Water Service Providers to be identified in due course.

#### **5. Report/Feedback from the Expert team**

##### **a) *Progress and way forward of editing the Guideline and Handbook of NRW managing Standards - Eng. George Karanja***

- The way forward was highlighted regarding the draft Guideline and Handbook of NRW standards whereby the consolidated comments from Stakeholders' workshops held in Nakuru and Machakos had been integrated in the documents and shared with the Working Group members.
- The Working Group is scheduled to meet on **28<sup>th</sup> September 2021** for further review of the Standards to confirm the incorporation of all the comments.
- On **29<sup>th</sup> September 2021** the NRW standards will be dispatched to the stakeholders for review before the validation workshop to be held on **14<sup>th</sup> October 2021**.
- Final polishing up after the Validation Workshop is to be completed by **21<sup>st</sup> October 2021**.
- Publishing of the first manuscript is scheduled to be done by **28<sup>th</sup> October 2021**.

##### **b) *Challenges or way forward for the pilot WSPs to manage strengthening capacity in non-revenue reduction during the remaining period of the Project until May 2022.***

Presentation attached as annex 2

#### **6. Discussion, opinions or requests**

WSPs enquired how they could access the educational videos prepared by the ministry's NRW Unit. Ms. Patricia said that the videos would be uploaded in the Ministry's website once it is complete.

Other WSPs requested Mr. Mori to visit them for more interactive sessions especially regarding his presentation.

Mr. Moseti explained that the new training (high level training) was targeting the management level to help them in decision making as compared to the OJT that is meant for the technical group.

Mr. Taguchi also explained that the new training was also related to the new NRW standard especially on the new tools introduced to the WSPs by the output 4 of the project (e.g. NRW annual planning, universal analysis of NRW ratio, KOBO toolbox

and GIS). The tools are recommended to be in used as a licencing condition by WASREB for WSPs in the country.

Mr. Charles thanked the WSPs for forwarding the annual review. He stated that from the review, some WSPs had improved and others were abit behind. He encouraged them to raise their concerns during the experts' upcoming visits so that they can be assisted where necessary. He also mentioned that the WSPs had not submitted their annual plans except for Embu WSP and thus it was important for them to reach out to the experts for assistance in case they were facing challenges.

#### **7. A.O.B.**

Members agreed that the next PIC meeting be held on **27<sup>th</sup> October 2021**.

WSPs thanked JICA for the chemical donation.

Mr. Gitau requested the WSPs after receiving the chemical deliveries to mail by courier the hard copy of inspection certificate to JICA.

Ms. Mary Njoki wanted to know the position of the questionnaire they had responded to from Mr. Takahashi.

Eng. Njeru thanked members for availing themselves for the meeting and their contributions. He thanked JICA for the support to the project especially to the pilot WSPs with efficient materials and equipment that the WSPs were receiving. He encouraged the WSPs to make use of the equipment and to take challenge thrown to them since the project is coming to an end by May 2022.

There being no other business to be discussed, the meeting ended at 11:40am.

## ATTENDANCE LIST

No.	Name	Institution
1.	ENG. VICTOR NJERU	HEAD OF NRW UNIT, MWI&S
2.	MS. PATRICIA MUTUA	NRW OFFICER, MWI&S
3.	MR. GEORGE BOKESIA	NRW OFFICER, MWI&S
4.	MR. YATOR NEVILLIE	WASREB
5.	MR. WALTER M. MOSETI	KEWI
6.	MR. EDWIN NJUE	EWASCO
7.	MR. CYRUS MUGENDI	EWASCO
8.	MR. JOB LIECH	KIWASCO
9.	MR. JAMES NYAUMA	MAVOKO
10.	MR. LEONARD MUTAI	NAWASCO
11.	MR. ERASTUS MAINA	NAWASCO
12.	MR. PAUL MUTHAMI	NYAHUWASCO
13.	MR. JOSEPH GITAU	NYAHUWASCO
14.	MR. JOSEPH MAIYO	ELDOWAS
15.	MR. ALEX KEMBOI	ELDOWAS
16.	MS. MARY NJOKI	RUIRU JUJA
17.	MR. CORNELIUS MUTAI	KIMAWASCO
18.	MR. FRANKLINE THURANIRA	MEWASS
19.	MR. THURANIRA KINOTI	MEWASS
20.	MR. JOHN GITAU	PROGRAM OFFICER (JICA, KENYA)
21.	MR. MASAYUKI TAGUCHI	CHIEF ADVISOR, JICA EXPERTS TEAM
22.	MR. NABORU SAITO	JICA EXPERTS TEAM
23.	MS. HIROKO SUGIMOTO	JICA EXPERTS TEAM
24.	MR. NAOKI HARADA	JICA EXPERTS TEAM
25.	MR. SHOZO MORI	JICA EXPERTS TEAM
26.	MR. GEORGE KARANJA	JICA EXPERTS TEAM
27.	MR. CHARLES MAINGI	JICA EXPERTS TEAM
28.	MS. KELLYJOY GAKII	JICA EXPERTS TEAM

**Apologies**

WASPA

**THE PROJECT FOR STRENGTHENING CAPACITY INNON-REVENUE WATER  
REDUCTION**

**MINUTES OF THE 30<sup>TH</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING**

Date:	2022/03/23 (Wednesday)
Time:	9:00am – 11:30am
Venue	Virtual meeting
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction (5 min.)</li> <li>2. Communication from the Chairperson - Eng. Victor Njeru MWS&amp;I (5 min.)</li> <li>3. Report on the achievement of the project activities after the last JCC on 1<sup>st</sup> December, 2021 (40 min.) <ol style="list-style-type: none"> <li>a) NRW Unit, MWS&amp;I (10 min.)</li> <li>b) WASREB, especially on how to make the licensing condition (5 min.)</li> <li>c) KEWI, (5 min.)</li> <li>d) WASPA, on the activities for dissemination of NRW Reduction (5 min.)</li> <li>e) Feedback of the achievements based on the Indicators of the PDM (15 min.)- by Eng. Taguchi, JICA Expert</li> </ol> </li> <li>4. Feedback and suggestions on the activities done, Expert team (30 min.) Progress, challenges or way forwards on the activities done in the pilot WSPs towards the completion of the project. By Eng. Mori, JICA Expert</li> <li>5. Discussion, opinions or requests – All the participants (20 min.)</li> <li>6. A.O.B. (10 min.) <ul style="list-style-type: none"> <li>• Date of the 31th PIC meeting in April, 2022</li> <li>• Workshop of 3 countries water service companies to be held on May.</li> <li>• Others</li> </ul> </li> <li>7. Remarks or comments from JICA Kenya office (5 min.)</li> <li>8. Closing Remarks – Eng. Victor Njeru, MWS&amp;I (5 min.)</li> </ol>

Content	<p><b>1. Self-introductions</b></p> <p>All the members introduced themselves and their respective organizations.</p> <p><b>2. Communication from the Chairperson</b></p> <p>Eng. Njeru thanked the members for joining the meeting. He informed them that the project was coming to an end at the end of May 2022. In view of this, he advised that it is important to reflect on what the project has achieved this far regarding management of NRW. He also requested the WSPs to reflect on what they had gained from the project and, actualize the concepts learnt and fight to reduce the NRW even after the project.</p> <p>He pointed out that it is important the WSPs make use of the equipment procured by the Ministry and JICA and, continue sending their staff to KEWI for more training since this will help in sustaining the fight against NRW. He further urged member to continue making use of the NRW Guideline and Handbook since these are the tools to help in reducing the NRW. He stated that the main indicator that can demonstrate the effectiveness of the project is by providing the customers with water. He thanked the JICA Experts for their assistance this far.</p> <p><b>3. Report on the achievement of the project activities after the last JCC on 1<sup>st</sup> December, 2021 (40 min.)</b></p> <p><b>a) NRW Unit, MWS&amp;I (10 min.)</b></p> <p>Eng. Njeru reported the following:</p> <ul style="list-style-type: none"> <li>✓ The Ministry held a non-revenue water sensitization workshop in Kisumu on 10<sup>th</sup> February 2022 targeting 10No. western region counties governments of Kisumu, Kisii, Siaya, Migori, Homabay, Busia, Kakamega, Eldoret and Kericho together with their respective WSPs.</li> <li>✓ A second workshop was held in Mombasa on 24<sup>th</sup> February 2022 targeting the county in the eastern and coastal regions where 6 counties and 9 WSPs attended out of the 14 counties and 20 WSPs invited respectively.</li> <li>✓ Short videos were developed to replace the physical school campaigns during the COVID-19 pandemic period. A video on water treatment was shown during the Kisumu and Mombasa sensitization workshops to solicit views on its improvement.</li> <li>✓ Through exhibitions, the NRW Unit participated in the World Day for Water marked in Kitui on 22<sup>nd</sup> March 2022 and made video presentations on the efforts the WSPs are making to sustain good water services.</li> <li>✓ The zero draft of the 3<sup>rd</sup> version of the Annual NRW report is ready and the procurement of publication services is ongoing.</li> <li>✓ Equipment to assist in NRW reduction were purchased and distributed to the beneficiary WSPs.</li> <li>✓ Pre-printing verification of the NRW standards was in progress. The sensitization forums in Kisumu and Mombasa were also used to disseminate</li> </ul>
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the standards.

**b) Report from WASREB**

Mr. Yator reported as follows:

- ✓ WASREB was waiting for the finalization and publishing of the standards by the Ministry to kick-start their dissemination. The launching date will be communicated by the ministry.
- ✓ WASREB has been promoting the use of the revised NRW guidelines with four workshops being scheduled in the first week of April. The workshops will be region-based – Western, Central, Coast and the low performing WSPs. The workshops are scheduled to be done.

**c) Report from KEWI on the progress of formulation of new training courses**

Mr. Moseti informed members that KEWI is continuing in implementing the revised NRW course and the following is the progress to date.

- ✓ KEWI conducted NRW classroom training from 7<sup>th</sup> to 11<sup>th</sup> March 2022 and the OJT will follow on 4<sup>th</sup> to 9<sup>th</sup> April 2022.
- ✓ KEWI has organized to conduct a test course on the new formulated management level training to include 4 training areas. However, the test-run training session planned for 21<sup>st</sup> to 25<sup>th</sup> March, 2022 did not take off after the proposed WSP declined to share their meter reading and billing data with KEWI citing lack of an MoU. The MOU was not ready on time because it had to be approved by KEWI governing council. In this regard therefore, KEWI is discussing with a different WSP that can provide the required data for the course test-run in April, and thereafter conduct the 1<sup>st</sup> training course on the same before end of Project.

**d) WASPA, on the activities for dissemination of NRW Reduction (5 min.)**

Ms. Patricia reported that JICA team participated in WASPA's Bi-monthly meeting held in Kilifi in March during which WSPs MDs discuss and share on issues happening among the WSPs society. The JICA team had done a presentation on the new NRW Management Guideline and Hand book; and the project activities.

**e) Feedback of the achievements based on the Indicators of the PDM (15 min.)- by Eng. Taguchi, JICA Expert**

Mr. Charles, JICA Experts reported as follows:

All the 9 Pilot WSPs had formulated annual NRW reduction plans for Year 2021-22 (based on their capacity self-assessment and annual activity review of the previous year) and all of them had continuously updated their annual and medium-term NRW reduction plans for the last 5 years. The average completion ratio of planned activities among the 9 WSPs had improved from 55% in 2016-17 to 75% in 2020-21.



All the 9 Pilot WSPs had been implementing new activities by adopting various skills newly introduced with help of the expert team (including the prioritization of large customers for commercial loss reduction). All of the survey equipment procured by JICA and the Ministry for the pilot WSPs had been distributed. Although newly adopted night-time step tests had contributed to find major leaks in 8 pilot WSPs, the listening sticks should be used more regularly and extensively for house-to-house leak survey in most of the WSPs.

Taking the yearly universal NRW ratio for 2016-17, 2017-18 and 2018-19 as the baselines for Phase 1, Phase 2 and Phase 3 WSPs respectively ( apart from Ruiru-juja's 2018-19 figure due to unreliability of the previous year data and, Kilifi-Mariakani's 2019-20 figure due the delayed assistance from the project), their monthly universal NRW ratio has dropped by about **7%** (currently around 17%) in Meru, about **20%** (currently around 34%) in Ruiru-Juja, about **8%** (currently around 28%) in Kisumu, about **5%** (currently around 30%) in Nakuru, about **3%** (currently around 41%) in Eldoret, about **4%** (currently around 37%) in Mavoko and **7%** (currently around 41%) in Kilifi-Mariakani. Although the pandemic made the reduction of NRW more difficult, these WSP have successfully lowered their universal NRW ratio (e.g., by targeting large customers that are spread over their entire service areas, and the pipelines that have frequent bursts). However, Embu's universal NRW has been rather stagnant at around 40% for the last 12 months since the installation of the new bulk meters to accurately measure the production (the previously estimated universal NRW ratios of Embu were not credible).

Nyahururu has also become stagnant at around 40% although their yearly NRW ratio once went down from 42% to 37% before the pandemic. The main reason for stagnation in Embu and Nyahururu is the high NRW ratio (around 70%) in their large remote zones (i.e., Zone 2 and Marmanet respectively) due to widespread and abundant leaks and illegal water use. These large remote zones are being targeted for intensive activities such as pressure reduction, step tests and CIS while the other WSPs have been targeting multiple medium size areas for leak detection. Due to the Covid-19 pandemic, each Pilot WSP had to stop or reduce regular or routine inter-departmental meetings on NRW-related issues. Since the pandemic is currently subsiding, the pilot WSPs are gradually re-starting and making it a routine to hold such meetings to enhance their awareness and effective coordination for better NRW reduction activities.

**4. Feedback and suggestions on the activities done, Expert team (30 min.)  
Progress, challenges or way forwards on the activities done in the pilot WSPs  
towards the completion of the project. By Eng. Mori, JICA Expert**

Mr. Mori made a presentation on the progress, challenges and way forward on the activities done in the pilot WSPs. (Presentation attached as annex2)

**5. Discussion, opinions or requests – All the participants (20 min.)**

Mr. Karanja requested the WSPs to confirm the correctness of Eng. Mori's presentation especially with regard to the estimated revenue increase over the project period. All the WSPs agreed that the presentation was true and accurate since it was evident that a drop in NRW causes an increase in billing. Ms. Sugimoto suggested that as a way of spreading the knowledge acquired from the project, the

next annual report could focus on the activities undertaken during the project. That means that the NRW unit should work extra-hard and gather all the necessary information from the experts before the project period comes to an end. Eng. Njeru also informed members that the publishing of the NRW standard was to be done before the end of the project and that the unit will share the schedule in the coming week.

**6. A.O.B.**

Members agreed that the next PIC meeting be held on **27<sup>th</sup> April 2022**.

Workshop of 3 countries water service companies to be held on May.

Mr. Mugendi reported that the 3-country workshop will be held from 10<sup>th</sup> May 2022. He also informed the members that the plan is to start the program in KEWI and the participant thereafter proceed to Embu for the rest of the program.

**7. Remarks or comments from JICA Kenya office (5 min.)**

JICA Kenya office was not present during the meeting

**8. Closing Remarks – Eng. Victor Njeru, MWS&I (5 min.)**

Eng. Njeru thanked members for availing themselves for the meeting and their contributions. He also pointed out that the WSPs had made commendable progress in regards to the project activities but there was still a lot that needed to be done so as to achieve the original target. He also encouraged them to make routine use of the equipment that they had received during the project and also those that they had bought. He thanked the JICA Experts for their dedication to the project activities.

There being no other business to be discussed, the meeting ended at 11:30am.

## ATTENDANCE LIST

No.	Name	Institution
1.	ENG. VICTOR NJERU	HEAD OF NRW UNIT, MWI&S
2.	MR. GEORGE BOKESIA	NRW OFFICER, MWI&S
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24.	MS. KELLYJOY GAKII	JICA EXPERTS TEAM

### Apologies

WASPA

**THE PROJECT FOR STRENGTHENING CAPACITY IN NON-REVENUE WATER  
REDUCTION**

**MINUTES OF THE 31<sup>ST</sup> PROJECT IMPLEMENTATION COMMITTEE (PIC)  
MEETING**

Date:	2022/04/27 (Wednesday)
Time:	9:00am – 11:30am
Venue	Boardroom, Maji House
Agenda	<ol style="list-style-type: none"> <li>1. Self-introduction (5 min.)</li> <li>2. Communication from the Chairperson - Eng. S.A.O Alima MWS&amp;I (5 min.)</li> <li>3. Report on the achievement of the project activities after the last PIC on 23<sup>rd</sup> March, 2022(40 min.) <ol style="list-style-type: none"> <li>a) NRW Unit, MWS&amp;I (5 min.)</li> <li>b) WASREB, especially on how to make the licensing condition (5 min.)</li> <li>c) KEWI, especially on the formulation of the new training course coping with the above licensing condition (5 min.)</li> <li>d) WASPA, on the activities for dissemination of NRW Reduction (5 min.)</li> <li>e) Achievements of the Project based on the Indicators of the PDM (5 min.)- by Eng. Taguchi, JICA Expert</li> </ol> </li> <li>4. Pilot WSPs’ opinions based on their feedback of the activities (50 min.) On achievement, progress, challenges or way forward of the pilot WSPs towards the completion of the project. – 5min. per WSP</li> <li>5. Discussion– All the participants (15 min.)</li> <li>6. Training of Introduction on Q-Field Cloud as an alternative for Web GIS, Kobo Tool Box and Portable GIS. – By Eng. Mori, JICA Expert</li> <li>7. A.O.B. (5 min.) <ul style="list-style-type: none"> <li>• Proposal of the date of the 11<sup>th</sup> JCC meeting on 18<sup>th</sup> May, 2022</li> <li>• Workshop of 3 countries’ water companies to be held on 10-12<sup>th</sup> May.</li> </ul> </li> <li>8. Remarks or comments from JICA Kenya office (5 min.)</li> <li>8. Closing Remarks – Eng. Victor Njeru, MWS&amp;I (5 min.)</li> </ol>

Content	<p><b>1. Self-introductions</b></p> <p>All the members introduced themselves and their respective organizations.</p> <p><b>2. Communication from the Chairperson</b></p> <p>Eng. Alima thanked the members for joining the meeting and commended them for diligently attending meetings from the start even through the pandemic. He informed them that the project was coming to an end at the end of May 2022. In view of this, he advised that it was important to reflect on what the project has achieved this far regarding management of NRW and whether Performance Indicators have been met. He also requested the WSPs to reflect on what they had gained from the project, upscale and actualize the concepts learnt and fight to reduce the NRW even after the project.</p> <p>He urged members to continue making use of the NRW Guideline and Handbook since these are the tools to help in reducing the NRW. He thanked the JICA Experts for their assistance this far.</p> <p><b>3. Report on the achievement of the project activities after the last PIC on 23<sup>rd</sup> March, 2022 (25 min.)</b></p> <ul style="list-style-type: none"> <li>• <b>NRW Unit, MWS&amp;I (5 min.)</b></li> </ul> <p>Patricia reported the following:</p> <ul style="list-style-type: none"> <li>• The Ministry held 2 non-revenue water sensitization workshops: - in Kisumu on 10<sup>th</sup> February 2022 targeting 10No. western region county governments and; in Mombasa on 24<sup>th</sup> February 2022 participated by 6No. county governments in the eastern and coastal regions together with their respective WSPs.</li> <li>• Plans are underway to hold another sensitization workshop in Embu in early May and 17 WSPs are set to be invited.</li> <li>• The Ministry had targeted to hold 7 workshops and has held 5 of them so far.</li> <li>• Editing of the 4No. short videos developed to replace the physical school campaigns during the COVID-19 pandemic period is still ongoing. A video on water treatment was shown during the Kisumu and Mombasa sensitization workshops to solicit views on its improvement. Links to the videos will be shared on YouTube for country-wide accessibility once completed.</li> <li>• Version 3 of the Annual Report is in the Procurement process and scheduled to be publish within 4 weeks. Version 4 will be completed within the coming 3 months.</li> <li>• The NRW Guideline and Handbook are also set to be launched in two weeks as they are in the final stages of approval.</li> </ul>
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**c) Report from KEWI on the progress of formulation of new training courses - by Mr. Moseti**

KEWI is continuing in implementing the revised NRW course and the following is the progress to date:

- 14 courses had been done since the beginning of the project in KEWI.
- KEWI conducted NRW classroom training in March successfully.
- KEWI also conducted the test run for a new training course on the new four NRW reduction tools from 11<sup>th</sup> to 15<sup>th</sup> April, 2022, where 10 participants (including the Managing Director, Technical Manager, Commercial Manager and Billing Supervisor) from Oloolaiser WSP were trained.
- Plans are underway to conduct the 1st training course from 23<sup>rd</sup> to 27<sup>th</sup> May, 2022 for 5 WSPs to be selected by the Ministry, JICA Expert Team, KEWI and WASREB with financial support from the Ministry before the end of the project.
- KEWI contributed in the editing of the NRW Guidelines and Handbook.

**e) Feedback of the achievements based on the Indicators of the PDM (15 min.)- by Eng. Mori, JICA Experts:**

Most of the Pilot WSPs are now able to successfully identify the distribution pipe branches having significant amounts of leakages or illegal connections by conducting step tests and using listening sticks and other leak detection equipment. Although the Covid-19 pandemic made the reduction of NRW more difficult, the WSPs have successfully lowered their universal NRW ratio.

However, Nyahururu's and Embu's universal NRW have been rather stagnant at around 40% for the last 12 months but a gradual reduction is now being observed.

The main target area for Embu has been Mukangu distribution zone which has around 5500 customers, the main problems being illegal connections and abundant leaks.

As for Nyahururu, the target area has been Marmanet scheme which has 3000 connections and faces issues of widespread and abundant leaks and illegal water use as it is a rural zone. Gatero scheme is also part of the target area.

In regards to Output 4, regular departmental meetings should be held. Due to the Covid-19 pandemic, each Pilot WSP had to stop or reduce regular or routine inter-departmental meetings on NRW-related issues but since the pandemic is currently settling down, the pilot WSPs are gradually re-starting and making it a routine to hold such meetings to enhance their awareness and effective coordination for better NRW reduction activities.

All the 9 Pilot WSPs have been formulating and updating their annual and medium-term NRW reduction plans continuously for the last 5 years and are encouraged to keep updating them even after completion of the project.

**4. Pilot WSPs' opinions based on their feedback of the activities (50 min.)**

**On achievement, progress, challenges or way forward of the pilot WSPs towards the completion of the project. – 5min. per WSP**

**Kilifi Mariakani**

***Achievements:***

- Inter-departmental meetings were still being held especially after billing to ensure the analysis was done well.
- The equipment received from the Ministry are being used and have gone a long way in helping to identify leaks.
- The NRW unit has been given focus in the WSP as strategic plans on NRW reduction has been developed and is being funded.

***Challenges:***

- Intermittent water supply since water received twice a week hence supply is low.
- Vandalism and illegal water connections are rampant.

***Way forward:***

- Operationalization of DMAs is at 80% and expects to operationalize most of the remaining within a month.

**Mavoko**

***Achievements:***

- They have managed to map their piped network.
- Their NRW ratio has reduced to 36% and are hoping to drop to 32% by the end of the 4<sup>th</sup> quarter.
- The equipment received from the Ministry are being used and have made an impact as they've helped in identify leaks.
- Initiation of DMAs is ongoing.
- Inter-departmental meetings are been held monthly and they assist in planning.
- Some smart metres have been installed.
- Water supply has been low but is slowly improving.

***Challenges:***

- Customer meter tampering is a major issue.

**Embu:*****Achievements:***

- The NRW unit was well coordinated, established and funded.
- Use of HDPE pipes has been fully adopted.
- The equipment received from the Ministry are being utilized.
- The commercial and billing department is now being involved in NRW issues, mostly on meter readings.
- Use of new technology i.e., KOBO collect was embraced and is being utilized.
- Awareness is being raised in schools on matters concerning water conservation.

***Challenges:***

- Damage of service pipes by road construction leading to leakages.
- 60% of the customers are in the rural areas. during the dry season, there were issues of illegal connections due to irrigation water needs by customers.
- The digital metering implemented was to be used to relay data to the office and it took a huge investment but most of the meters ended up failing due to electrical short circuiting.

***Way forward:***

- Embu is working on phasing out all old meters.
- Large consumers are being monitored twice a month to ensure their meters were working properly.

**Nyahururu*****Achievements:***

- Customer Identification Surveys was done.
- The equipment received from the Ministry are being utilized.
- The GIS system is being used together with smartphones for meter reading and line patrols.
- The elevation differences have been identified within pressure zones so as to know which pipes to use during repairs due to the different pressure ratings so as to minimize recurrent bursts.
- Awareness creation through school campaigns is ongoing.
- Implementation of billing analysis has helped track losses especially in large consumers.
- The Abnormal Flow Monitoring Sheet has been used to help identifying abnormal flows in DMAs hence quick response time.



***Challenges:***

- Old pipelines and infrastructure still in use and a huge budget is needed to replace it.

***Way forward:***

- They are approaching the national government and other sponsors for funds to help in replacing the old infrastructure.

**Ruiru-Juja**

***Achievements:***

- There's a functional NRW Unit
- 19 DMAs have been established and have further been subdivided to assist in easier identification of anomalies.
- MNF measurement is being carried out frequently.
- Billing data is now monitored and evaluated critically.
- Use of equipment and KOBO collect have assisted greatly.
- 80% of the customers have been mapped through GIS.
- Replacement of old PVC pipes with HDPE is at 80% progress.

***Challenges:***

- Damage of service pipes by road constructions leading to leakages.
- Customers tampering with meters is rampant but installation of seals will be implemented for protection the same.
- Water shortage is still an issue in some DMAs.

**Kisumu**

***Achievements:***

- KOBO collect has assisted in quick bursts repairs.
- MNF measurement and Step tests have helped set priority areas.
- Staff have been trained on use of equipment which has helped in pressure management.
- The hand pumps are being used to identify illegal connections.

***Challenges:***

- Hydraulic zoning was difficult due to complexity of the network.
- Internal restructuring was an issue as NRW officers are moved to other departments hence losing the required trained and skill workforce.

## **Meru**

### ***Achievements:***

- HDPE pipes are in use and all service lines will be replaced by the end of the 4<sup>th</sup> quarter.
- Air valves have been installed in all storage tanks to increase bulk meter accuracy.
- Customer meters that have been in use for 8 years or more are set to be replaced.
- KOBO collect questionnaires have been incorporated.
- Quality data collection is now a practice and routes have been created to ensure efficiency.
- Customer meters have been sealed to ensure there is no tampering.

### ***Challenges:***

- 65 DMAs are set to be created which is quite expensive. Meru Water plans to begin operationalisation of 15 DMAs.
- Technicians keep losing their smart phones and it's expensive to keep getting them new ones.
- There's shortage of raw water for supply but boreholes are being considered as another source of water.

## **Eldoret**

### ***Achievements:***

- Over 250km of dilapidated pipelines have been replaced.
- 100 large consumer meters have been replaced with 20 remaining.
- MNF and step tests have helped in identifying lines with issues.
- Over 200km of HDPE Pipes have been installed.
- Pressure valves have also been installed.
- Mechanical production bulk meters have been replaced with electromagnetic ones.
- A legal framework has been set up to curb illegal water users.
- A reward system has been set up for whistle blowers which has assisted in reducing illegal connections.
- Awareness creation in the community on water conservation is ongoing under the #lindamajimtaani.
- Over 50 staff members have been trained on NRW management in KEWI.

### ***Challenges:***

- Lack of funds to replace the old lines
- Intermittent water supply
- Illegal connections are still an issue

- Interference by road constructions and fibre optic cable instalment projects.

### **5. Discussion, opinions or requests – All the participants (15 min)**

Mr. Karanja commended the WSPs on utilizing the new technologies and equipment. WSPs were urged to take Chapter 1 of the NRW Handbook seriously. On the issue of funding, WSPs were encouraged to be self-sustaining in that they should be able to finance their own projects seeing that Kenya's state changed to a middle-income country meaning accessing grant aid funding from JICA and other donors will be difficult. WSPs argued that the revised tariffs were not enough to finance huge infrastructural overhauls. They stated that is need for the National Government, the County Governments, the WWDAs and the WSPs to streamline their activities and have a definitive structure to ensure harmony in projects. They were informed that National Government is holding discussions on the infrastructure overhaul needed in the water sector.

Mr. Sekimoto advised the WSPs to do door-to-door patrols on service lines so as to easily detect leaks that would otherwise be overlooked by bike patrols.

WSPs were encouraged to form a relationship with their customers as most don't know that they can report illegal connections to the WSPs by either having clinics or forming WhatsApp groups.

Mr. Karanja commended the placement of air valves after bulk meters as it helps water flow fully in the pipes. He advised that bulk meters reading should be within a short timespace and synchronized with customer meter readings during NRW ration analysis.

To avoid loss of skills due to restructuring, it was agreed that all staff be trained on NRW as teamwork is important in fighting NRW.

### **6. Training of Introduction on Q- Field as an alternative for Web GIS, Kobo Tool Box and Portable GIS**

Mr. Mori's presentation is attached.

### **7. A.O.B.**

Mr. Cyrus Mugendi informed the members on the workshop of the 3 countries' water companies (Kenya, Malawi and Rwanda) planned for 10<sup>th</sup> to 12<sup>th</sup> May 2022 With South Africa attending as an observer. Kenya will be the host with EWASCO acting as the representative. The Pilot WSPs were also invited as it would be a good forum to learn from other countries and share ideas.

Mr. Moseti also invited the members for a NRW symposium that will be held in Mombasa on the 9-10<sup>th</sup> of May, 2022.

Ms. Sugimoto requested for opinions from members on a planned thematic workshop that will target the commercial departments and will help them

understand their role in curbing NRW. It will be a remote one and be a good chance for the Pilot WSPs to kickstart the training of the other WSPs.

**8. Remarks or comments from JICA Kenya office**

Mr. Yokota encouraged members to purpose to deliver more water to people by reducing NRW and to ensure that collaboration between the stakeholders are maintained even after completion of the project.

**9. Closing Remarks**

Eng. Njeru thanked members for availing themselves for the meeting and for their contributions. He also pointed out that the WSPs had made commendable progress in regards to the project activities. He also encouraged them to make routine use of the equipment that they had received during the project and also those that they had bought. He thanked the JICA Experts for their dedication to the project activities.

There being no other business to be discussed, the meeting ended at 11:30am.

## ATTENDANCE LIST

No.	Name	Institution
	ENG. SAO ALIMA	WATER SECRETARY
1.	ENG. VICTOR NJERU	HEAD OF NRW UNIT, MWI&S
2.	MR. GEORGE BOKESIA	NRW OFFICER, MWI&S
3.	MR. JOSEPH MWANGI	NRW OFFICER, MWI&S
4.	MS. MARY TURITU	MWSI, INTERN
5.	MR. WALTER M. MOSETI	KEWI
6.	MR. CYRUS MUGENDI	EWASCO
7.	MR. JOB LIECH	KIWASCO
8.	ENG. JESSEE AMBUNDO	MAVOKO
9.	MR. JAMES NYAUMA	MAVOKO
10.	MR. LEONARD MUTAI	NAWASCO
11.	MR. GILBERT MUTAI	NAWASCO
12.	MR. PAUL MUTHAMI	NYAHUWASCO
13.	MS. MARY NJOKI	RUIRU JUJA
14.	MR. PETERSON MURITHI	RUIRU JUJA
15.	MR. CORNELIUS MUTAI	KIMAWASCO
16.	MR. FRANKLINE THURANIRA	MEWASS
17.	MR. MASAYUKI TAGUCHI	CHIEF ADVISOR, JICA EXPERTS TEAM
18.	MS. HIROKO SUGIMOTO	JICA EXPERTS TEAM
19.	MR. NAOKI HARADA	JICA EXPERTS TEAM
20.	MR. SHOZO MORI	JICA EXPERTS TEAM
21.	MR. GEORGE KARANJA	JICA EXPERTS TEAM
22.	MR. CHARLES MAINGI	JICA EXPERTS TEAM
23.	MS. KELLYJOY GAKII	JICA EXPERTS TEAM

### Apologies

WASPA

**Attachment 9. Minutes of Editorial Committee to Review  
NRW Management Standards**



**REPUBLIC OF KENYA**  
**MINISTRY OF WATER AND SANITATION**

**MINUTES OF INCEPTION MEETING FOR EDITORIAL COMMITTEE TO REVIEW  
NON-REVENUE WATER MANAGEMENT STANDARDS HELD IN DIRECTOR  
WATER, SEWERAGE & SANITATION DEVELOPMENT OFFICE 6<sup>TH</sup> JUNE 2018 AT 7.30  
AM**

**Present**

- |                      |                                 |
|----------------------|---------------------------------|
| 1. Eng SAO Alima     | Ag Water Secretary (Chairman)   |
| 2. Masayuki Taguchi  | Chief Advisor, JICA Expert Team |
| 3. Daniel Ngugi      | WASREB                          |
| 4. Anderson N Kioi   | MW&SNRW Unit (Taking Minutes)   |
| 5. Walter Moseti     | KEWI                            |
| 6. Patricia Wanjeri  | WASPA                           |
| 7. Annpatliz Mwihaki | COG                             |

**Apology**

David Mabonga

**Agenda**

1. Preliminaries
2. Chairman address
3. Inception of the NRW Standards review editorial committee
4. Reaction from members
5. AOB

**Min 01/6/2018: Preliminaries**

The chairman called the meeting to order at 7.35am and welcomed and thanked all participants for keeping time. He informed the meeting that he had scheduled the meeting that early due to his busy days' schedule.

**Min 02/6/2018: Chairman's Address**

The chairman informed the meeting that he had seen it necessary to kick start the formulated editorial committee meetings to review the NRW Standards under output 2 of the project as

mandated to WASREB. He articulated the roles of WASREB as regulator and the current observations from the JICA Expert team regarding the usage of NRW standards. After explanation of his expectations of the NRW editorial committee and concerns to be addressed, he emphasized that he expected the editorial committee to have regular consultations with other WSPs apart from the current 9No pilot WSPs by JICA. On tracking the progress of the editorial committee, he expected the committee to be submitting monthly reports and the same reports to the PIC meetings.

**Min 03/6/2018:Inception of the NRW Standards Review Editorial Committee**

After inception of the committee, the chairman informed the meeting that the draft Terms of Reference presented by JICA Expert will act as guideline to kickoff the meeting and expected the editorial committee to refine this TOR and submit to him for approval. Draft TOR for editorial committee review of NRW Standards comprised of existing NRW standards produced in 2014 in four books thus guidelines, manuals, hand book and case studies.

In addition, other contents of the TOR comprise of content, membership, committee mission & responsibilities, timeline and printing including dissemination.

The JICA Expert also presented a model questionnaire to be used for sampling the usage of the current NRW Standards meant to supplement the current NRW audit being undertaken by WASREB. Members appreciated the effort but requested to be emailed the drafts for their input in order to enrich them.

After discussions, the meeting agreed to adhere to the proposed timeline of 15months and handle the activities accordingly.

**Min 04/6/Reaction from Members**

- Budget to implement the proposed activities
- Involvement of other stakeholders

**Min 05/6/2018: Budget for Editorial Committee’s Revision of NRW Standards**

The chairman informed the members to prepare and submit to him a reasonable working budget for the implementation of activities by the committee within the given timeline.

**AOB**

Members promised to work within the given timeline and to liaise with other stakeholders when revising the NRW Standards as appropriate. Members thanked the Chairman for taking time to officiate the editorial committee’s first meeting.

Having no other business to transact, the meeting ended at 9.00 am

Minutes drafted by: ANDERSON KIOI ..... Date: .....

**Secretary**

Minutes confirmed by: ENG. SAO ALIMA .....Date: .....

**Chairman**



## Terms of Reference

### **Project for Strengthening Capacity in Non-Revenue Water Reduction**

#### **Terms of Reference for Editorial Committee on Revision of Non-Revenue Water Management Standards**

##### **1. Context**

Non-Revenue Water Standards (hereafter referred to as “ NRW Standards”) is an important publication to be used for standardizing the NRW Management activities and outputs of Water Service Providers (WSPs) in Kenya. The current NRW Standards were developed in 2014 and consist of the following set of four documents;

1. NRW Standards Guideline
2. NRW Standards Manual
3. NRW Standards Handbook
4. NRW Standards Case Studies

Due to the ongoing restructuring of the water sector to conform to the Water Act 2016, some of the contents of the NRW Standards may not be suitable to the current Water Service sector situation in Kenya hence the need to revise them for a turn around to be realized in the NRW management.

To provide safe and adequate water to the Kenyan population, and in fulfilment of the progressive realization of the right to water as enshrined in the Constitution, the reduction of NRW is one of the key targets. The Government of Kenya set the target to reduce national NRW level to 25% in line with Vision 2030. However, the dissemination of NRW reduction skills and technologies is a pressing challenge among Water Service Providers and other stakeholders. Therefore, the revision of NRW Standards is included as one of the activities of JICA 's “ Project for Strengthening Capacity in Non-Revenue Water Reduction in Kenya ” (hereafter referred to as the “Project”).

The Editorial Committee (referred hereafter as the “ Committee ” ) as constituted by the Ministry of Water and Sanitation aims to provide revised NRW Standards that will guide NRW management day-to-day activities of WSPs to achieve the national goal. The Committee intends

to include in the revised NRW Standards the following concepts;

1. To correspond to the international standards on NRW management practices
2. To incorporate Kenyan's social economic and environmental conditions as the context
3. To provide user friendly contents by using appropriate tools (e.g. ample charts, photos etc) especially for technical guidance and instructions.
4. To incorporate the participation of consumers and stakeholders into NRW reduction activities WSPs and other stakeholders.
5. Continuously emerging issues

## **2. Objectives of the NRW Standards Editorial Committee**

The Committee is expected to undertake the following:

1. To review and evaluate the Key Findings of "NRW Audit of WSPs" conducted by WASREB.
2. To conduct supplementary survey by administering questionnaires to select WSPs and other key stakeholders.
3. To review the draft questionnaire for the WSPs based on the NRW Audit of WSPs by Wasreb
4. To review the current NRW Standards and identify its challenges and potential areas/items to be revised.
5. To review the guidelines and manuals established by WASPA and other organizations in order to facilitate their appropriate content inclusion in the new standards to assist WSPs in the NRW management activities.
6. To establish the components and the respective contents of the revised Standards.
7. To review achievements and/or results of activities implemented in the JICA's Project and/or other projects or activities by WSPs and identify to what extent they can be incorporated into the revised Standards.
8. To create draft revised Standards.
9. To carry out stakeholder consultations on the draft revised NRW Standards
10. To incorporate the comments of stakeholders to the extent possible in the revised NRW Standards to encourage usability
11. To carry out dissemination of the revised NRW Standards

12. To report the progress of the NRW Standards editorial committee's work to Project Implementation Committee (PIC) meetings every month.

### **3. Members of the NRW Standards Editorial Committee**

The Committee consist of members nominated by the organizations involved with NRW reduction activities of Kenya's water service sector under the JICA Project as approved and appointed by Ministry of Water and Sanitation. Additional members may be co-opted if those members are recommended by the committee and approved by the PIC and Ministry of Water and Sanitation.

### **4. Timeline of the NRW Standards Editorial Committee**

The Committee shall fulfill its objectives in approximately fifteen (15) months' time after kickoff meeting which was held on 6<sup>th</sup> June 2018. The proposed activities with timeliness shall be presented to the Project's PIC meeting for its acceptance and the final timeline and activities will be confirmed upon its acceptance.

### **5. Printing and dissemination of the new NRW Standards**

Printing and dissemination of the new NRW Standards will be implemented by the Ministry of Water and Sanitation with the other organizations as appropriate in accordance with the plan prepared by the Committee during the 3rd Phase of the Project.

### **6. Outputs**

The Committee is expected to give the following outputs;

- i. Acceptable TOR
- ii. Work Plan
- iii. Budget
- iv. Monthly Progress reports to PIC
- v. Draft revised NRW Standards
- vi. Final revised NRW Standards plus soft copy (ies)
- vii. 700 No copies of printed revised NRW Standards



**NRW Standards Editorial Committee Proposed Work Plan and Budget:**

<b>No</b>	<b>Objectives/Activities</b>	<b>Time frame</b>	<b>Responsible</b>	<b>From.....To</b>	<b>Budget Kshs</b>
1	To review and evaluate the results of NRW Audit of WSPs conducted by WASREB.	2 weeks	Committee	19 <sup>th</sup> Sept - 3 <sup>rd</sup> Oct 2018	Nil
2	To conduct supplementary survey by administering questionnaires to select WSPs and other key stakeholders.	1.5 months	Committee	19 <sup>th</sup> Sept - 25 <sup>th</sup> Oct 2018	Nil
3	To review the current NRW Standards and identify its challenges and potential areas/items to be revised.	2 months	Committee	19 <sup>th</sup> Sept - 30 <sup>th</sup> Nov 2018	1,070,000
4	To review the guidelines and manuals established by WASPA and other organizations in order to facilitate WSPs' activities effectively.	2 months	Committee	19 <sup>th</sup> Sept - 30 <sup>th</sup> Nov 2018	Jointly with 3 above
5	To establish the components and the respective contents of the revised Standards.	2 months	Committee	19 <sup>th</sup> Sept - 30 <sup>th</sup> Nov 2018	Jointly with 3 and 4 above
6	To review achievement and/or	6 months	Committee	April 2019	1,070,000

No	Objectives/Activities	Time frame	Responsible	From.....To	Budget Kshs
	results of activities implemented in the JICA 's Project and/or other projects or activities by WSP and identify if they can be incorporated into the revised Standards.				
7	To create draft revised Standards.	2 months	Committee	August 2019	2,190,000
8	To carry out stakeholder consultation on the draft revised NRW Standards	1 day	Committee	October 2019	1,000,000
9	Incorporation of stakeholders ' comments into the draft revised NRW Standards	1 month	Committee	November 2019	1,070,000
10	Printing of the newly revised and finalized version of the NRW Standards in readiness for launching and dissemination	1 month	Committee/MWS/WASRE B	December 2019	2,000,000
11	To carry out launching and dissemination of the revised NRW Standards	2 months	Committee/MWS/WASRE B	Project Phase III - January 2020	3,000,000

No	Objectives/Activities	Time frame	Responsible	From.....To	Budget Kshs
12	To report the progress of the edition of the standard to JICA 's Project Implementation Committee (PIC) which is held monthly.	15 months	Team	Monthly	150,000
	<b>Totals</b>	<b>15 Months</b>			<b>11,550,000</b>

Distribution of the Proposed Budget;

1. FY 2018/19 – Kshs 2,230,000
2. FY 2019/20 – Kshs 9,320,000

**Kshs 11,550,000**

## **PROPOSED WORK PLAN AND BUDGET WORKINGS**

1. To review and evaluate the results of “ NRW Audit of WSPs ” conducted by WASREB - 2 weeks.
2. To conduct supplementary survey by administering a questionnaire to select WSPs and other key stakeholders based on NRW Audit by Wasreb.
  - Sharing of draft questionnaire - COB by **Charles** (to get responses by Mon 5<sup>th</sup> Oct 2018) (Responses to **Kelly Joy** of JICA Experts Team)
  - Drafting of questionnaire for other stakeholders (WASPA, KEWI, GIZ, SNV, VEI, MWS, WASREB, COG) - by 5<sup>th</sup> Oct 2018 - (Responses to **Kelly Joy** of JICA Experts Team)
  - Validating of the questionnaires at a meeting on 8<sup>th</sup> Oct 2018
  - Administering the 2No sets of questionnaires – Send out by 10<sup>th</sup> Oct 2018 and expected responses to WASREB by 18<sup>th</sup> Oct 2018
  - Survey (s) analysis by Wasreb **Daniel**) – by 25<sup>th</sup> Oct 2018
3. To review the current NRW Standards and identify its challenges and potential areas/items to be revised;
  - Continuous desk review
  - Week long workshop:
    - Conference costs – 10No people @Ksh 4,000 per day for 5 days=**Kshs 200,000**
    - DSA Committee - 10No people @Ksh 10,000 per day for 6 days=**Kshs 600,000**
    - DSA support team - 4No people @Ksh 10,000 per day for 6 days=**Kshs 240,000**
    - Transport and Stationery – Lumpsum **Kshs 30,000**

**Sub Totaling to Kshs 1,70,000**
4. To review the guidelines and manuals established by WASPA and other organizations in order to facilitate WSPs' activities effectively together with 3 above



5. To establish the framework, components and the respective contents of the revised Standards in forward looking together with 3 and 4 above.

6. To review achievement and/or results of activities implemented in the JICA's Project and/or other projects or activities by WSPs and identify if they can be incorporated into the revised Standards.

➤ Continuous desk review

➤ Week long workshop:

Conference costs – 10No people @Ksh 4,000 per day for 5 days=

**Kshs 200,000**

DSA Committee - 10No people @Ksh 10,000 per day for 6 days=

**Kshs 600,000**

DSA support Team - 4No people @Ksh 10,000 per day for 6 days=

**Kshs 240,000**

Transport and Stationery – Lumpsum **Kshs 30,000**

**Sub Totaling Kshs 1,070,000**

7. To create draft revised NRW Standards.

➤ 2 Weeks long retreat:

Conference costs – 10No people @Ksh 4,000 per day for 12 days=

**Kshs 480,000**

DSA Committee - 10No people @Ksh 10,000 per day for 12 days=

**Kshs 1,200,000**

DSA support team - 4No people @Ksh 10,000 per day for 12 days=

**Kshs 480,000**

Transport and Stationery – Lumpsum **Kshs 30,000**

**Sub Totaling Kshs 2,190,000**

8. To carry out stakeholder consultation on the draft revised NRW Standards

A day workshop with conference packaging in Nairobi:

(47No Counties @2No officers + 88No WSPs @2No officers +25No.

Counter Parts officers - approx. 250No people @Kshs 4,000= **Kshs**

**1,000,000**



9. Incorporation of stakeholder comments into the draft revised NRW Standards

Conference costs – 10No people @Ksh 4,000 per day for 5 days= **Kshs 200,000**

DSA Committee - 10No people @Ksh 10,000 per day for 6 days= **Kshs 600,000**

DSA support team - 4No people @Ksh 10,000 per day for 6 days= **Kshs 240,000**

Transport and Stationery – Lumpsum **Kshs 30,000**

**Sub Totaling Kshs 1,070,000**

10. Printing of the newly revised and finalized version of the NRW Standards in readiness for launching and dissemination

(90No WSPs@5No copies each+ 30No Stakeholder organizations @3No copies each + 100No copies for adhoc distribution for visibility) = 640 copies, Say 700No copies to be printed @Kshs 2,000 each = Kshs 1,400,000,

Say **Kshs 2,000,000**

11. To carry out launching and regional disseminations of the revised NRW Standards

A day workshop with conference packaging in Nairobi: (47 Counties @2No + 88No WSPs @2No+25No. CP --- approx. 250No@4,000 + DSAs (DSA Committee - 10No people @Ksh 10,000 per day for 12 days  
DSA support team - 4No people @Ksh 10,000 per day for 12 days)

**= Kshs 1,000,000 + 1,200,000 + 480,000**

**= Kshs 2,680,000**

Say **Kshs 3,000,000**

12. To report the progress of the editorial committee 's work to Project Implementation Committee (PIC) meetings every month.

Tea and lunch for 10 No @ Kshs 1000 for 15 months= **Kshs 150,000**

## Workplan in Time-schedule

Year		2018																				2019
Month		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	
		Jun.	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	
1	Structuring of the Committee Members	Plan	■	■																		
	Actul.																					
2	To review and evaluate the results of NRW Audit of WSPs conducted by WASREB.	Plan			■																	
	Actul.																					
3	Conduct and Review Supplementary survey to WSPs and other stakeholders through questionnaires based on the results of the NRW Audit	Plan			■	■	■															
	Actul.																					
4	Reviewing Current NRW Standards and identify potential items/areas to be revised	Plan			■	■	■															
	Actul.																					
5	Reviewing of the guidelines and manuals established by WASPA and other organizations in order to facilitate WSPs' activities effectively	Plan			■	■	■															
	Actul.																					
6	To establish the components and the respective contents of the revised Standards.	Plan			■	■	■															
	Actul.																					
7	To review achievement and/or results of activities implemented in the JICA's Project and/or other projects or activities by WSP and identify if they can be incorporated into the revised Standards.	Plan										■										
	Actul.																					
8	Drafting Revised Standards	Plan														■						
	Actul.																					
9	To carry out stakeholder consultation on the draft revised NRW Standards	Plan																	■			
	Actul.																					
10	Printing of the newly revised and finalized version of the NRW Standards in readiness for launching and dissemination	Plan																			■	
	Actul.																					
11	To carry out launching and approximately six regional disseminations of the revised NRW Standards	Plan																			■	
	Actul.																					

## **MINUTES OF MEETING HELD IN KEWI BOARD ROOM**

**Project:** The project for Strengthening Capacity in Non-Revenue Reduction

**Subject:** Review of Non-Revenue Water Reduction Joint Training

**Date:** September 6<sup>th</sup> and 10<sup>th</sup> 2018

### ***Attendants Present:***

KEWI (Mr. W. M. Moseti)

KEWI (Mr. F. Muriithi)

KEWI (Mr. J. Kihara)

MWS (Mr. D. Mabonga)

MWS (Mr. A. Kioi)

JICA (Mr. S. Shibakazi)

JICA (Mr. M. Taguchi)

### **Meeting Agenda**

1. Reporting on the concluded joint trainings
2. Simple test analysis/ Comment survey questionnaires
3. Comments from 3<sup>rd</sup> party evaluators
4. Conclusions
5. Next joint training
6. AOB

The meetings commenced at 9:30am at KEWI boardroom.

### **Min 1. Reporting on the concluded joint trainings**

- ✓ Mr. Moseti informed the members that KEWI and leading WSPs have conducted so far 4No NRW Joint trainings
- ✓ Both trainings were conducted using the new structure of both classroom and On-Job Training at site
- ✓ 3<sup>rd</sup> NRW Joint training was conducted in April and June 2018
  - Participants for the training were invited from (MWS, Eldoret, Ruiru-Juja, Kisumu, Nakuru, and Kilifi-Mariakani as pilot WSPs in the project to join other WSPs that had applied for a regular NRW short course that was scheduled that time )
  - MWS, Eldoret and Kisumu participated both classroom and On-Job training sessions
  - Ruiru-Juja WSP participated classroom session only
  - Nakuru and Kilifi-Mariakani WSP did not participated in any sessions
  - Thika, Kirinyaga, Sijenta participated as independent sponsored WSPs in the training
- ✓ 4<sup>th</sup> NRW Joint training was conducted in August – September 2018
  - Participants for the training were invited from (Ruiru-Juja, Kisumu, Nakuru, and Kilifi-Mariakani as pilot WSPs in the project
  - The invited WSPs participated in the training apart from Kisumu who did not respond for the training
  - Ruiru-Juja, Nakuru and Kilifi-Mariakani WSPs attended both classroom and On-Job training at site

### **Min 2. Simple test analysis/ Comment survey questionnaires**

- ✓ Simple test is a true or false exam and comment survey questionnaires are administered to participants to test their awareness and understanding about Non-Revenue Water reduction and to get feedback from individuals, that is done before and after the training
- ✓ From the responds analysis of the participants the results were showing participants improvement, drop and in some cases no change to participants and we wanted to know why that was the trend instead of the expected improvement to all the participants.

It was pointed out that these may be the reasons for the trend:-



- Wrong nomination of the participants for the course by the WSPs
- Some questions may not be clear
- Some participants not working along NRW related activities
- Participant different levels of education back ground

**Min 3. Comments from 3<sup>rd</sup> party evaluators**

- ✓ Instructors had knowledge on the allocated subjects
- ✓ Time allocation to topics need to be reviewed
- ✓ Objectives needs to be more clear to the participants
- ✓ Improvement of the lesson plans needs to be enhanced
- ✓ Group discussions to be encouraged to participants
- ✓ Time allocation needs to be reviewed for the course
- ✓ ODK be included in the NRW training

**Min 4. Conclusions**

- ✓ The same revised simple test and comment survey questionnaires format to be used in the 5<sup>th</sup> Joint training without change
- ✓ Simple test and comment survey questionnaires format will be reviewed
- ✓ Ethic topic to be formulated and included in the next training
- ✓ The WASREB NRW standards topic to be included in the next training
- ✓ ODK tools to be included in the next training
- ✓ Commercial losses be reviewed in the next Joint training and incorporate ODK approach
- ✓ Next course to be advertised to WSPs in time (one month in advance)

**Min 5. Next joint training**

- ✓ The time of implementation of the next NRW Joint training should be decided in consideration of the progress of the following works
  - Review of the training materials and text materials
  - Evaluation report
  - Challenges are addressed in the next joint training and measures to be taken are shared among the P/Ps members
  - Disbursement of the training budget

**AOB**

- ✓ Mr. Moseti requested that the JICA expert on NRW equipments should help in activating the pressure data loggers that were supplied by the project for their effective use in the training
- ✓ Mr. Shibazaki asked the training Instructor to review the NRW text book, lesson plans and training materials before the next training
- ✓ Mr. Taguchi insisted that ODK approach to be included in the training materials
- ✓ Instructors be acquainted with output '4' activities to see what they can include in the training
- ✓ KEWI should be aware about idea of the revision of WASREB's NRW Reduction Standards being preceded and sensitize such information to the trainees through the Joint training course.

There being no other business the meeting comes to an end at 12:30pm

Prepared by  
W. M. Moseti (KEWI)

**MINUTES OF 3<sup>RD</sup> NON-REVENUE WATER STANDARDS REVIEW EDITORIAL COMMITTEE  
HELD AT WASREB ON 4<sup>TH</sup> FEBRUARY 2019**

<b>Organizations</b>	WASREB, MWS, KEWI, JICA Experts Team	<b>Action</b>
<b>Date &amp; Time</b>	Monday 4 <sup>th</sup> February 2019 at 10:00am – 4:30pm	
<b>Venue</b>	WASREB Boardroom	
<b>Participants</b>	Eng. Richard Cheruiyot – WASREB Eng. Daniel Ngugi – WASREB Mr. David Mabonga – Ministry of Water and Sanitation Mr. Anderson Kioi - Ministry of Water and Sanitation Mr. Walter Mosefi - KEWI Mr. Masayuki Taguchi – Chief Advisor JICA Expert Team Mr. Noboru Saito – JICA Experts Team Mr. George Karanja – JICA Experts Team Mr. Charles Maingi – JICA Experts Team Ms. Kellyjoy Gakii – JICA Experts	
<b>Agenda of the meeting</b>		
<ol style="list-style-type: none"> <li>1. Opening remarks</li> <li>2. Review of the minutes of the previous meeting</li> <li>3. Dissemination of the questionnaire</li> <li>4. Revision of the work plan</li> <li>5. AOB</li> </ol>		
<b>Opening Remarks</b>		
<p>The meeting was called to order by Eng. Ngugi. He welcomed members for the meeting and appreciated them for attending the meeting. He pointed out that it was long since we sat as the editorial committee but it was worth noting that there has been some progress in the work. He said the new standards were not a domain of anybody so what will be agreed on is what will be documented and introduced to the WSPs. He further invited members to introduce themselves and their respective organizations.</p> <p>Eng. Cheruiyot further informed the members that NRW standards are very key for WASREB and they are pushing hard to see to it that the current standards are revised. He said though NRW figures had improved, the WSPs still need to work harder so as to bring this monster down to acceptable levels.</p>		WASREB
<p><b>Minute 01/02/2019: Review of the minutes from the previous meeting</b></p> <p>The chairperson requested members to take 2 minutes to go through the previous minutes. He then sought to know from the ministry's side whether the TOR, workplan and the budget that were presented to the ministry were approved. Eng. Ngugi further informed the members that the</p>		MWS

<p>budget that was initially prepared by the committee members was scaled down to 5million. Mr. Mabonga responded by informing the members that the three documents were approved. The budget for the current financial year which was 1.4 million was approved and a memo was done and signed by the PS authorizing the money to be released to WASREB.</p>	
<p>Mr. Mabonga requested to know why it had taken so long for the committee to have their 3<sup>rd</sup> sitting. Eng. Ngugi responded by informing the members that like he had reported in the PIC meeting there were so many activities which made it impossible for the workplan to be effected but we should appreciate that work has been progressing well though the meeting did not take place.</p>	Wasreb
<p>The minutes were confirmed after being proposed by Mr. Anderson Kioi and seconded by Mr. Charles Maingi.</p>	
<p><b>Minute 02/02/2019: Dissemination of the Questionnaire</b>  Eng. Ngugi informed the members that he had only worked on the questionnaire for the WSPs since in his reasoning he felt that the counterparts were already represented as committee members and therefore they had a chance to give their views or comments during the meetings. He further reported that in the previous week he had prepared a letter to send to the WSPs that were participating in the survey. The letter was supposed to be sent together with the link to the questionnaire but as at the day of the meeting he had not yet confirmed with the IT department whether they had already sent the link. Eng. Ngugi informed the members that he had considered 53 WSPs from the very large, large and medium WSPs to participate in the survey. He also said it was worth noting that all the 9 pilot WSPs are also taking part in the survey. He informed the members that he had given the WSPs a deadline of 15<sup>th</sup> February 2019 within which they are expected to have sent back their feedback for analysis.  Members agreed that after the feedback was received from the WSPs and an analysis done, it would be important to involve other stakeholders. Organizations like Vitens Evides, SNV, World bank and GIZ (informally through Mr. Moseiti) will be invited for a wrap-up meeting so that together with the committee members they can give their comments on the survey's analysis.</p>	WASREB
<p><b>Minute 03/02/2019: Structure of the new NRW standards</b>  The chairman informed the members that the current NRW standard comprises of the Guideline, Manual, Hand-book and a case study.</p>	All

<p>Members agreed that it was important to separate the documents e.g. for the management and the rest of the operational group. They further agreed to merge the guidelines and the manual and have it for the management. They also agreed that the Case Study will not be part of the standards but will be used to back up the good practices independently. The case study will be produced and disseminated annually possibly together with the Impact Report.</p>	All
<p>Mr. Saito suggested to the members that the current Guideline and Manual were well composed generally in comparison with other countries' because they reflect Kenyan technological level and the background of the society. He also said "It was not necessary to revise drastically their component. Therefore, only wordings or descriptions which were not suitable to the present situation after the Water Act was enacted". All the members agreed basically to his opinion.</p>	
<p>Meter categorization has changed recently from the "A, B, ...and E" to "R- " by IWA. However, considering the present situation, the old category is still widely recognized in Kenya. So inter-relation between the two categories is recommended in the new standards for user's convenience. The issues on new tools such as the ODK form (Open Data Kit), template for NRW reduction planning and the analysis of meter-reading/billing-data, which are activities of Output 4, were agreed to be discussed in the subsequent meetings. The members agreed that smart meters will not be addressed in the new standards because their effectiveness is still unclear in Kenya.</p>	Wasreb
<p>Members further went through the guideline, the manual and the hand book and agreed on the parts that would either remain in the new standards, pulled out, merged to the guideline or will be improved to suit in the new standards. They also agreed to use the current results where applicable.</p>	All
<p>Members further shared out responsibilities and agreed that they should give feedback during the next meeting. The responsibilities were as shown below:</p>	
<p>Guideline: Has three chapters i.e. Self-assessment, Basic information and performance indicators. WASREB was tasked with working on the guideline.</p>	
<p>Manual: - has 12 chapters which were shared as below:  Chapter 1: Mr. Mabonga  Chapter 2: Mr. Charles  Chapter 3: Mr. Moseti  Chapter 4: Mr. Charles</p>	

Chapter 5: Mr. Karanja  
Chapter 6: Mr. Moseti  
Chapter 7: Mr. Moseti  
Chapter 8: Mr. Charles  
Chapter 9: Mr. Charles  
Chapter 10: Mr. Charles  
Chapter 11: Mr. Karanja  
Chapter 12: All the members

The handbook: has 8 chapters which were shared as below:

Chapter 1: Mr. Mabonga  
Chapter 2: Mr. Kioi  
Chapter 3: Mr. Charles  
Chapter 4: Mr. Moseti  
Chapter 5: Mr. Moseti  
Chapter 6: Mr. Moseti  
Chapter 7: Mr. Charles  
Chapter 8: Mr. Charles

**Min 04/02/2019: AOB**

Eng. Ngugi apologized to the members for lack of proper planning in the side of refreshments and promised that this would be looked into in future. He also requested the secretary to remind him to send the invitations for the next meeting on time.

Members agreed that the next meeting will be held on 13/03/2019 tentatively at 10:00am in WASREB boardroom.

There being no other business, the meeting was adjourned at 1630hrs.



**MINUTES OF 4<sup>TH</sup> NON-REVENUE WATER STANDARDS REVIEW EDITORIAL COMMITTEE HELD AT WASREB ON 13<sup>TH</sup>MARCH 2019**

<b>Organizations</b>	WASREB, MWS, COG, WASPA, JICA Experts Team and KEWI	<b>Action</b>
<b>Date &amp; Time</b>	Wednesday 13 <sup>th</sup> March 2019 at 10:00am – 12:30pm	
<b>Venue</b>	WASREB Boardroom	
<b>Participants</b>	<p>Eng. Daniel Ngugi – WASREB  Mr. David Mabonga – Ministry of Water and Sanitation  Mr. Anderson Kioi - Ministry of Water and Sanitation  Ms. Patricia Wanjeri – WASPA  Ms. Annpatliz Mwihaki – CoG  Ms. Zipporah Muthama – CoG  Eng. George Karanja – JICA Experts Team  Mr. Charles Maingi – JICA Experts Team  Ms. Kellyjoy Gakii – JICA Experts Team</p> <p><b>Absent with Apology</b>  Mr. Walter Mosefi - KEWI</p>	
<b>Agenda of the meeting</b>		
<ol style="list-style-type: none"> <li>1. Opening remarks</li> <li>2. Review of the minutes of the previous meeting</li> <li>3. Update on the survey for the usage of the NRW management standards</li> <li>4. Review of progress in drafting the chapters/contents of the new NRW Standards</li> <li>5. AOB</li> </ol>		
<b>Opening Remarks</b>		
<p>The meeting was called to order by Eng. Ngugi at 10.30am. He welcomed members for the meeting and appreciated them for attending the meeting. He pointed out that it was his expectation that the members will continually attend the meetings on monthly basis ahead of the PIC for reporting purposes. He further reiterated that was optimistic that all the members were able to get the documents that he shared with them in word version though not all and that the remaining which is the hand book was to be sent to them in the course of the day. However, he informed the members that the handbook was available in power point version which he felt was also helpful to the members.</p> <p><b>Minute 01/03/2019: Review of the minutes from the previous meeting</b>  The chairperson requested members to take 2 minutes to peruse through the previous minutes. Members agreed to be registering</p>		WASREB

<p>members absent with or without apologies in the minutes.</p> <p>Eng. Ngugi enquired to know if the ministry had released the money to WASREB. Mr. Mabonga responded by informing the members that he was not sure of the status but he would be enquiring from the accounts department. Regarding meter categorization that was marked for WASREB in the previous minutes Eng. Ngugi informed members that WASREB had no mandate to endorse a specific meter but can recommend use of specifications that have worked well for certain WSPs.</p> <p>Eng. Ngugi further recommended that since some of the members were not in during the previous meeting it would be advisable to redistribute the tasks so that everyone is involved in the editorial work. Members unanimously agreed noting that some members had been allocated a lot of work and it was wise to try and have equity. They also agreed that for record purposes the secretary should include the number and content on the allocation schedule.</p> <p>The minutes were confirmed after being proposed by Mr. Anderson Kioi and seconded by Mr. George Karanja.</p>	<p>WASREB &amp; MWS</p> <p>ALL</p>
<p><b>Minute 02/03/2019: Update on the survey for the usage of the NRW Management standard</b></p> <p>Eng. Ngugi informed members that he had administered the questionnaire to 66 WSPs but only 31 WSPs (about 47%) had sent their responses so far. He further said that they were currently analysing with the received responses though they had not closed receiving the responses from the rest of the WSPs. In his opinion he felt that the reason the WSPs never submitted the responses could be because they do not practice or use the standards. He also said that there were some few questions that were never answered by the respondent but they were working on them. Ms. Zipporah - CoG requested that WASREB do a continuous reminder to the WSPs who had not responded and see if they can get some to respond. Eng. Ngugi replied that they had constantly reminded the WSPs with no success. However, he said he will push it further himself and see if he can get at least 50% plus responses. He also informed members that he was hopeful that by the next meeting the analysis will be complete and that the results will be of use to the team doing the editing of the standards.</p> <p><b>Minute 03/03/2019: Review of the progress in drafting the chapters/ contents of the new NRW standards</b></p> <p>The chairman informed the members that like he had said earlier some members had too many chapters to work on and considering</p>	<p>WASREB</p>

<p>they too had other office work, it may end up being a burden to them. Members agreed that it was necessary to involve the members who were not present in the previous meeting by redistributing the work with each task being handled by at least two members for enrichment. The chairman also recommended to have the lead person per task without restricting contribution from either member to make the standards better.</p> <p>In view of this the work was subdivided as follow:</p> <p><b><u>GUIDELINES:</u></b>Members agreed that Eng. Ngugi will work on the guidelines</p>	
<p><b><u>MANUAL:-</u></b>has 12 chapters which were shared as below: (the 1<sup>st</sup> person allocated a chapter takes the lead)</p>	Eng. Ngugi
<p><b>Chapter 1:</b>Basic concept of NRW management - Mr. Mabonga, Ms. Annpatliz and Ms. Zipporah</p>	Mr. Mabonga
<p><b>Chapter 2:</b>Fundamental measures in NRW management - Mr. Charles and Ms. Patricia</p>	Mr. Charles
<p><b>Chapter 3:</b>Reduction of physical losses - Mr. Mose ti and Mr. Karanja</p>	Mr. Mose ti
<p><i>Chapter 4:</i>Reduction of commercial losses - Mr. Charles and Mr. Mose ti</p>	Mr. Charles
<p><b>Chapter 5:</b>Activities in pilot area - Mr. Karanja, Ms. Annpatriz, Ms. Zipporah and Mr. Mose ti (KEWI teaches this so Mr. Mose ti is very resourceful in this part)</p>	Mr. Mose ti
<p><b>Chapter 6:</b> Customer meter - Mr. Mose ti and Ms. Patricia</p>	Mr. Charles
<p><b>Chapter 7:</b>Leakage prevention in construction work - Mr. Mose ti and Ms. Patricia</p>	Mr. Karanja
<p><b>Chapter 8:</b> Concept of zoning -Mr. Charles and Mr. Karanja</p>	Mr. Mose ti
<p><b>Chapter 9:</b>Water pressure management - Mr. Charles, Mr. Mose ti and Mr. Kioi</p>	Mr. Mose ti
<p><b>Chapter 10:</b> Information management system (GiS) - Mr. Charles and Ms. Patricia</p>	Mr. Charles
<p><b>Chapter 11:</b> Cost benefit analysis -Mr. Karanja, Ms. Annpatriz and Ms. Zipporah</p>	Mr. Charles
<p><b>Chapter 12:</b>NRW Reduction plan - Eng. Ngugi, Ms. Annpatriz, Ms.</p>	Mr. Karanja

Zipporah and Ms. Patricia	
<b>HANDBOOK:</b> has 8 chapters which were shared as below: (the 1 <sup>st</sup> person takes the lead)	Eng. Ngugi
<b>Chapter 1:</b> What is non-revenue water - Mr. Mabonga and Ms. Patricia	
<b>Chapter 2:</b> Understanding the water flow - Mr. Kioi and Ms. Patricia	Mr. Magonga
<b>Chapter 3:</b> Mapping - Mr. Charles and Mr. Mosefi	Mr. Kioi
<b>Chapter 4:</b> Reduction of physical loss – Ms. Patricia and Mr. Mosefi	Mr. Charles
<b>Chapter 5:</b> Quantifying physical losses - Mr. Mosefi and Ms. Patricia	Ms. Patricia
<b>Chapter 6:</b> Construction method - Mr. Mosefi and Ms. Patricia	Mr. Mosefi
<b>Chapter 7:</b> Reduction of commercial losses – Mr. Karanja and Mr. Charles	Mr. Mosefi
<b>Chapter 8:</b> Water pressure management - Mr. Charles, Ms. Patricia and Mr. Kioi	Mr. Karanja
Mr. Charles Maingi JICA Experts Team office reported that most of the content in the current standards were well captured but a bit of changes and editing e.g. in grammar was necessary.	Mr. Charles
Eng. Ngugi also informed that he was aware that there were activities in the project that were very important (e.g. output four activities)and whose ideas should be incorporated in the standards.In this regard Mr. Charles was requested to give some information on meter reading and billing analysis and then members will discuss on how the information will be included in the standards.	
Mr. Kioi also reported that he had noted some repetition in the hand book and the manual which also needed to be removed.	
<b>Min 04/03/2019: AOB</b>	
The secretary was requested to prepare a new WhatsApp group for the members so that urgent matters can easily be discussed in the forum.	
Mr. Kioi suggested that the WASPA meetings and otherfora with WSPs should be used to encourage the WSPs to use the NRW standards.	
Ms. Zipporah requested that a timeline for the events be availed to the members for efficiency. Eng. Ngugi informed that a work plan was formulated during the initial meeting but it needed revision. Members	

agreed this will be included in the next meeting's agenda.

Members agreed that the next meeting will be held on 10/04/2019 tentatively at 10:00am in WASREB boardroom.

There being no other business, the meeting was adjourned at 12:30pm.

**MINUTES OF 5<sup>TH</sup> NON-REVENUE WATER STANDARDS REVIEW EDITORIAL COMMITTEE HELD AT WASREB ON 17<sup>TH</sup> APRIL 2019**

<b>Organizations</b>	WASREB, MWS, COG, WASPA, JICA Experts Team and KEWI	<b>Action</b>
<b>Date &amp; Time</b>	Wednesday 17 <sup>th</sup> April 2019 at 10:30am – 02:30pm	
<b>Venue</b>	WASREB Boardroom	
<b>Participants</b>	<p>Eng. Daniel Ngugi –WASREB, Chairman  Eng. Peter Njaggah - WASREB  Mr. Anderson Kioi - Ministry of Water and Sanitation  Ms. Annpatliz Mwihaki – CoG  Mr. Walter Mosefi - KEWI  Ms. Zipporah Muthama – CoG  Mr. Masayuki Taguchi – JICA Experts Team  Mr. Shozo Mori – JICA Experts Team  Mr. George Karanja – JICA Experts Team  Mr. Charles Maingi – JICA Experts Team  Ms. Kellyjoy Gakii –JICA Experts Team, Secretary</p> <p><b>Absent with Apology</b>  Ms. Patricia Wanjeri – WASPA  Mr. David Mabonga – Ministry of Water and Sanitation</p>	
<b>Agenda of the meeting</b>		
	<ol style="list-style-type: none"> <li>1. Opening remarks</li> <li>2. Review of the minutes of the previous meeting</li> <li>3. Report on the survey for the usage of the NRW Management standards</li> <li>4. Review of progress in drafting the chapters/contents of the new NRW Standards</li> <li>5. Review of the work plan</li> <li>6. AOB</li> </ol>	
<b>Opening Remarks</b>		
	<p>The meeting was called to order by Eng. Ngugi at 10.20am. He welcomed members for the meeting and appreciated them for attending the meeting. He also apologized for having to postpone the meeting in the previous week and stated that it was due to other assignments that came up urgently. He also welcomed Mr. Taguchi and Mr. Mori to the meeting since they were away during the previous meeting. He said that he had the survey results ready and he would be presenting it to the members and that according to the responses from the WSPs it was evident that what they needed was an easy and user-friendly guideline for their use.</p>	WASREB

<p><b>Minute 01/04/2019: Review of the minutes from the previous meeting</b></p> <p>The chairperson requested members to take 2 minutes to peruse through the previous minutes. Members agreed to be including the titles of the chairman and the secretary of the meeting in the minutes.</p> <p>Eng. Ngugi enquired to know if the Ministry had released the earlier on requested the NRW Standards review budgetary support to WASREB. Mr. Mabonga who was tasked with checking from the Ministry's accounts department was not in for the meeting to answer to this concern. However, members agreed that Mr. Kioi would follow up and give feedback in the next meeting. Members also agreed that if there was no budget facilitation the said activities would be a challenge to achieve especially now that they are looking forward to consolidating the various reviewed ideas and comments from all the members so as to have a draft for progression.</p> <p>Eng. Ngugi further informed the members that 10 more WSPs had sent their responses to the NRW Standards usage questionnaire. He also explained to Mr. Moseti who was not present during the previous meeting the reason as to why there was reallocation of chapters to all the members.</p> <p>Mr. Charles explained to the members what he meant when he reported that most of the content in the current standards were well captured but required a bit of changes and editing e.g. in grammar was in reference to chapter 2 and 4 of the Manual which he had gone through as at the time of that meeting.</p> <p>Mr. Mori further requested members to avoid making general comments but be very specific since the documents that were being worked on would be read by all in the country. He also enquired to know if members were in agreement to amalgamate both the Guideline and the Manual in the new NRW Standards. Eng. Ngugi responding to this stated that members were in agreement.</p> <p>In this context, Eng. Njaggah requested the members to name the amalgamated document as Guideline since this was very clear and it is the name that is used in the draft national water policy. He also pointed out that the WSPs needed simple and brief book for the operators which will be the Handbook which should be more pictorial than wordings.</p> <p>Mr. Moseti also suggested that the Handbook should have a clear introduction followed by the chapters instead of having it in the current form whereby a completely new person to the water sector cannot easily understand what is contained in the Handbook.</p>	<p>Eng. Ngugi</p>  <p>WASREB &amp; MWS</p>          <p>Eng. Njaggah</p>
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<p>The minutes were confirmed after being proposed by Mr. Anderson Kioi and seconded by MS. Zipporah Muthama.</p>	
<p><b>Minute 02/04/2019: Report on the survey of the usage of NRW Management standards</b></p>	
<p>Eng. Ngugi informed the members that WASREB had administered the questionnaire to 66 WSPs and so far 41 WSPs, which was an equivalent of 62% had responded which means an additional of 10 WSPs have also sent their responses from the previously reported 31 WSPs. He further made a presentation of the survey report to the members and promised to send it to the members immediately after the meeting.</p>	<p>Eng. Ngugi</p>
<p>From the survey report there were questions which were not responded and he explained that this was due to the IT structuring that made the WSPs unable to respond to the questions as was anticipated.</p>	
<p>Eng. Njaggah in his comments pointed out that it was important for members to think of the right things they can add or remove from the Guidelines so as to make them more effective for use. He gave the following examples that would be useful out of the responses received from the WSPs; governance in the utilities, implementation of NRW Programmes and also other innovative ways of NRW programmes.</p>	<p>Eng. Njaggah</p>
<p>Mr. Mosefi also informed the members that according to the survey done at KEWI after the 5<sup>th</sup> Joint training, there were some useful ideas that were realized from the WSPs and these can be amalgamated with the current survey to get more valuable ideas and way forward.</p>	<p>Mr. Mosefi</p>
<p>Mr. Mori suggested that it was important to use the basic approaches that are working in the output 4 of the project and incorporate these ideas to the new standards since they are already tested and confirmed to be true.</p>	<p>Mr. Mori</p>
<p>Eng. Ngugi reminded the members that like he had suggested there before, the committee is willing to embrace any workable ideas from any of the members as long as they are realistic and for the improvement of the standards.</p>	<p>Eng. Ngugi</p>
<p>Mr. Mori further presented to the members an example of the basic approach that could work and members agreed that he should prepare a proposal and present it to members for discussion.</p>	<p>Mr. Mori</p>
<p>In conclusion Mr. Taguchi JICA Experts team chief advisor suggested that members should consider incorporating all the good ideas</p>	<p>Mr. Taguchi</p>



shared so as to have the standards that are useful and beneficial to the WSPs. In this regard, he supported the suggestion made by both Mr. Mori and Eng. Njaggah and termed them as useful.

**Minute 03/04/2019: Review of progress in drafting the chapters/contents of the new NRW Standards**

The chairman went through the chapters as they were allocated to the members. From the response received from the members it was clear that they had progressively worked on the chapters they were allocated but they had not shared their comments with their respective team members. In this regard, members agreed to share the comments with their respective team members before the next meeting. That means during the next meeting the lead person in the various chapters will be reporting on the team comments.

Eng. Ngugi

**Minute 04/04/2019: Review of the work plan**

The members through the lead of the chairman went through the workplan and revised some areas as shown below:

Eng. Ngugi

- ❖ Reviewing Current NRW Standards and identify potential items/areas to be revised: Should be complete by May 2019
- ❖ Drafting of the revised standards: Should be done by 3<sup>rd</sup> week of the May 2019
- ❖ To carry out stakeholder consultation on the draft revised NRW Standards: Should be done by end of July 2019
- ❖ Printing of the newly revised and finalized version of the NRW Standards in readiness for launching and dissemination: Should be done by August 2019
- ❖ To carry out launching and approximately six regional disseminations of the revised NRW Standards: Should be done by September 2019

Mr. Charles Maingi of JICA Experts team was tasked with revising the workplan and sharing it with the members thereafter using the Gantt charts in excel sheets.

Mr. Charles

**Minute 05/04/2019: Any Other Business**

The chairman thanked all the members for attending the meeting and for their patience all through. He also stated that he hoped that the committee will be able to make a difference and be able to recover the time lost so far. He further reminded and requested the

Ministry to help the committee to progress especially by facilitation on the pending activities that require budgetary support.

Members agreed that the next meeting will be held tentatively on Wednesday 8<sup>th</sup> May 2019 at 10:00am in WASREB's boardroom.

There being no other business, the meeting was adjourned at 02:30pm with a word of prayer from Ms. Kellyjoy.

**MINUTES OF 6<sup>TH</sup> NON-REVENUE WATER STANDARDS REVIEW EDITORIAL COMMITTEE  
HELD AT WASREB ON 23<sup>RD</sup> MAY 2019**

<b>Organizations</b>	WASREB, MWS, COG, WASPA, JICA Experts Team and KEWI	<b>Action</b>
<b>Date &amp; Time</b>	Thursday 23 <sup>rd</sup> May 2019 at 10:30am – 03:30pm	
<b>Venue</b>	WASREB Boardroom	
<b>Participants</b>	<p>Eng. Daniel Ngugi –WASREB, Chairman            Mr. Anderson Kioi - Ministry of Water and Sanitation            Mr. David Mabonga – Ministry of Water and Sanitation            Ms. Patricia Wanjeri – WASPA            Mr. George Karanja – JICA Experts Team            Mr. Charles Maingi – JICA Experts Team            Ms. Kellyjoy Gakii –JICA Experts Team, Secretary</p> <p><b>Absent with Apology</b>            Ms. Annpatriz Mwhaki – COG            Ms. Zipporah Muthama – COG            Mr. Walter Moseki – KEWI</p>	
<b>Agenda of the meeting</b>		
	<ol style="list-style-type: none"> <li>1. Opening remarks</li> <li>2. Review of the minutes of the previous meeting</li> <li>3. Review of the proposed strategic approach to drafting of the revised NRW Standards</li> <li>4. Review of progress in drafting the chapters/contents of the revised NRW Standards</li> <li>5. AOB</li> </ol>	
<b>Opening Remarks</b>		
	<p>The meeting was called to order by Eng. Ngugi at 10.30am. He welcomed members for the meeting and appreciated them for attending the meeting. He also apologized for having to postpone the meeting twice and stated that it was due to other assignments that involved the members. However, he said that he was keen to make sure the meeting was held on 23<sup>rd</sup> May 2019 as the members had agreed to hold meetings on monthly basis.</p> <p><b>Minute 01/05/2019: Review of the minutes from the previous meeting</b>            The chairperson requested members to take 2 minutes to peruse through the previous minutes.</p>	<p>WASREB</p> <p>Eng. Ngugi</p>

<p>Eng. Ngugi informed the members that WASREB had not yet received the money from the Ministry. He therefore requested Mr. Mabonga to follow up on the same. Members agreed that even though the money was not yet released they should continue working on their part and be ready for the retreat as they await the funds for this activity.</p>	<p>WASREB &amp; MWS</p>
<p>Eng. Ngugi further requested members to use the survey report findings to enrich their revisions of documents where necessary. He also encouraged them to continue sharing their contents in various chapters with their team members so as to give each member a chance to understand and also to share their views.</p>	<p>Eng. Ngugi</p>
<p>The minutes were confirmed after being proposed by Mr. Charles Maingi and seconded by Mr. Anderson Kioi.</p>	
<p><b>Minute 02/05/2019: Review of the proposed strategic approach to drafting of the revised NRW Standards</b></p>	
<p>Mr. Charles JICA Experts team, shared with the members a copy of the table of content for the would-be guideline as shared to members by Mr. Mori. From the document members made the following comments:</p>	<p>Mr. Charles</p>
<ul style="list-style-type: none"> <li>❖ Instead of naming an activity as e.g. "stage 1 only, members resolved it should be "Stage 1: "<i>name of the stage</i>"".</li> </ul>	
<p>Mr. Charles also shared with the members an improved planning template for the WSPs for which they made the following comments:</p>	
<ul style="list-style-type: none"> <li>❖ The template to be locked so that it is not editable by the WSPs</li> <li>❖ The template to have a simplified version for a the base WSPs.</li> <li>❖ The template to have a manual for the WSPs to know how to use it.</li> <li>❖ The NRW Guideline and planning template to use the same terminologies e.g. "level" instead of "stage" so as to rhyme with the clustering guidelines on commercial viability criteria by WASREB.</li> <li>❖ Use simple and understandable English for all the users e.g. in fig 2.1</li> <li>❖ Use of the different patterns in figures instead of different colours in anticipation of printing and/or photocopying in black and white.</li> <li>❖ Eng. Ngugi requested members to review the points-award criteria to various activities so as to ensure balance.</li> <li>❖ Mr. Charles was also requested to clarify on the percentages of</li> </ul>	



<p>points award system from Mr. Mori</p> <ul style="list-style-type: none"> <li>❖ Members recommended to have a correlation between the achievements on the annual reporting and NRW levels of a WSP.</li> <li>❖ Members appreciated the work done by Mr. Mori and agreed to adopt the table of content he had shared with the corrections they suggested.</li> </ul> <p><b>Minute 03/05/2019: Review of progress in drafting the chapters/contents of the revised NRW Standards</b></p> <p>Eng. Ngugi shared with the members his part of the guideline. Members commended the work done by the chairman on the document. His completion rate was 85%</p> <p><b>Manual</b></p> <p>The rest of the members shared the work that they had done on their parts as follows:</p> <p>Chapter 2: Mr. Charles and Ms. Patricia – 80% completion rate  Chapter 3: Mr. Mosefi and Mr. Karanja – 80%  Chapter 4: Mr. Charles and Mr. Mosefi 80%  Chapter 5: Mr. Karanja, COG, Mr. Mosefi - 80% completion rate  Mr. Karanja also informed the members that he had also not shared his part with his team members  Chapter 6: Ms. Patricia and Mr. Mosefi – 60% completion rate. Ms. Patricia shared with the members what Mr. Mosefi had done and also informed the members that she will be working on her part and share with the members.  Chapter 7: Ms. Patricia and Mr. Mosefi – 75% completion rate. Members agreed that Mr. Kioi be included in this team.  Chapter 8: Mr. Charles and Mr. Karanja – 80% completion rate  Chapter 9: Mr. Charles and Mr. Mosefi – 70% completion rate  Chapter 10: Mr. Charles and Patricia – 60% completion rate  All the chapters shared by Mr. Charles were not shared with his team members except chapter 8 that was shared with Mr. Karanja.  Members agreed that they should amend on the chapters using “Track changes” and should not accept the changes but the entire committee will accept after going through the chapters together.</p> <p><b>Handbook</b></p> <p>Some members had worked on this document but in hard copy while others were still working on it. In view of this members agreed that they will give the handbook a priority during the next editorial committee meeting.</p>	<p>Eng. Ngugi</p> <p>All</p>
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<p><b>Minute 04/05/2019: Any Other Business</b></p> <ul style="list-style-type: none"> <li>• Members evaluated themselves as per the work done as 70% achievement.</li> <li>• Members agreed to adopt the table of content developed by Mr. Mori</li> <li>• Members agreed that Mr. Kioi and Mr. Mabonga should work together on their chapters</li> </ul> <p>The chairman thanked all the members for attending the meeting and for their patience all through. He also appreciated the members for the work they had done so far. However, he regretted that the work plan had to be adjusted once again due to the Ministry's delay in the releasing of the funds to WASREB and also because of the members who had not completed working on their parts.</p> <p>Members agreed that the next meeting will be held tentatively on Friday 14<sup>th</sup> June 2019 at 09:00am in WASREB's boardroom.</p> <p>There being no other business, the meeting was adjourned at 03:30pm</p>	<p>All</p> <p>Eng. Ngugi</p>
<p>Minutes Confirmed:</p> <p>.....</p> <p>Chairperson, <b>Daniel M. Ngugi</b> <b>Water Services Regulatory Board</b></p> <p>.....</p> <p>Secretary, <b>Anderson Kioi</b> <b>NRW Unit</b> <b>Ministry of Water and Sanitation</b></p>	<p>WASREB &amp; MWS</p>

**MINUTES OF 7<sup>TH</sup> NON-REVENUE WATER STANDARDS REVIEW EDITORIAL COMMITTEE MEETING HELD AT WASREB ON 14<sup>TH</sup> JUNE 2019 AT 10.30AM**

<b>Organizations</b>	WASREB, MWS, COG, WASPA, JICA Experts Team and KEWI	<b>Action</b>
<b>Date &amp; Time</b>	Friday 14 <sup>th</sup> June 2019 at 10:30am – 03:30pm	
<b>Venue</b>	WASREB Boardroom	
<b>Participants</b>	<p>Eng. Peter Njaggah – WASREB, Chairman  Eng. Daniel Ngugi – WASREB  Mr. James Origa – World Bank  Mr. Anderson Kioi - Ministry of Water and Sanitation  Mr. David Mabonga – Ministry of Water and Sanitation  Mr. Walter Moseki – KEWI  Ms. Patricia Wanjeri – WASPA  Mr. George Karanja – JICA Experts Team  Mr. Charles Maingi – JICA Experts Team  Mr. Shozo Mori – JICA Experts Team  Ms. Kellyjoy Gakii –JICA Experts Team, Secretary</p> <p><b>Absent without Apology</b>  Ms. Annpatliz Mwhaki – COG  Ms. Zipporah Muthama – COG</p>	
<b>Agenda of the meeting</b>		
	<ol style="list-style-type: none"> <li>1. Opening remarks</li> <li>2. Performance based contract (PBC) presentation</li> <li>3. Review of minutes of the 5<sup>th</sup> committee meeting</li> <li>4. Review of progress in drafting the chapters/contents of the revised NRW Standards; <ol style="list-style-type: none"> <li>a) Handbook</li> <li>b) Guideline/Manual</li> </ol> </li> <li>5. Review of the adopted table of content for the new NRW Standards</li> <li>6. Review of approach and procedure of the revision of the guideline</li> <li>7. AOB</li> </ol>	
<b>Opening Remarks</b>		
	<p>The meeting was called to order by Eng. Njaggah who introduced Mr. James Origa from World Bank to the members. He further informed the members that the World Bank together with WASREB were working with some WSPs in Kenya on the NRW management under 2030 Water Resources Group using the innovative approach known as Performance Based Contract (PBC). It was for this reason that he had invited Mr. James so that he could share a presentation with the members on what they are doing and also share success stories from the previous projects that have used the same approach in the globe.</p>	Eng. Njaggah

<p><b>Minutes 01/06/2019: Performance Based Contract (PBC) Presentation</b></p> <p>Mr. James, World bank, made a presentation on Performance Based Contracts (PBCs) for Non-Revenue Water Management. He also explained that the reason why they were using this approach was to maximize finance for development, turn around framework in utilities among other reasons. He however informed the members that this approach was used on the utilities who suits it based on the results of the analysis that they are undertaking before engaging a WSP.</p> <p>He further informed the members that only 6 out of 33 utilities qualified for the initial assessment process i.e. stage of the approach after their initial screening.</p> <p>Mr. Charles enquired to know if the said project was privatizing the NRW reduction activities in the WSPs to the contractors. Eng. Njaggah responded by informing the members that the contractors were to work together with the staff of the particular WSPs for some defined timeline.</p> <p>He further enquired to know if the country had the required expertise in the NRW management under PBCs. Mr. James responded by informing the members that they were currently working with some local experts in the country.</p> <p>Members agreed that will include the PBCs in the guideline as an option for the utilities to consider in addressing the continued NRW challenges.</p>	<p>Mr. James</p> <p>Mr. Charles</p>
<p><b>Minute 02/06/2019: Review of the minutes from the previous meeting</b></p> <p>Eng. Ngugi requested members to take 2 minutes to peruse through the minutes of the 6<sup>th</sup> Editorial committee meeting.</p> <p>Members highlighted on the issue of disbursement of funds from the Ministry of Water and Sanitation to WASREB that had repeatedly appeared as matters arising in the previous minutes. Mr. Mabonga however informed the members that the money would be transferred to WASREB before the end of June 2019 which is the last month of the government's financial year.</p> <p>Eng. Ngugi further enquired to know if the members that were tasked with checking on the awarding of points in the template for self-assessment that was prepared by Mr. Mori had checked on it. Mr. Charles confirmed that he had checked on it and was okay with the points allocated.</p> <p>The minutes were confirmed after being proposed by Mr. George Karanja and seconded by Mr. Anderson Kioi.</p>	<p>Eng. Ngugi</p> <p>WASREB &amp; MWS</p> <p>Eng. Ngugi</p>



<p><b>Minute 03/06/2019: Review of progress in drafting the chapters/contents of the revised NRW Standards;</b></p> <p><b>a) Handbook</b></p> <p><b>b) Guideline/Manual</b></p> <p>Members shared their comments as per the chapters shared during the 4<sup>th</sup> editorial committee meeting as follows:</p> <p><b>The Manual:</b></p> <p>Chapter 1: Basic concept of NRW management - Mr. Kioi</p> <p>Chapter 2: Fundamental measures in NRW management - Mr. Charles and Ms. Patricia</p> <p>Chapter 3: Reduction of physical losses - Mr. Mosefi and Mr. Karanja</p> <p>Chapter 4: Reduction of commercial losses - Mr. Charles and Mr. Mosefi</p> <p>Chapter 5: Activities in pilot area - Mr. Karanja,</p> <p>Chapter 6: Customer meter - Mr. Mosefi and Ms. Patricia</p> <p>Chapter 7: Leakage prevention in construction work - Mr. Mosefi and Ms. Patricia</p> <p>Chapter 8: Concept of zoning - Mr. Charles and Mr. Karanja</p> <p>Chapter 9: Water pressure management - Mr. Charles, Mr. Mosefi and Mr. Kioi</p> <p>Chapter 10: Information management system (GIS) - Mr. Charles and Ms. Patricia</p> <p>Chapter 11: Cost benefit analysis - Mr. Karanja</p> <p>Chapter 12: NRW Reduction plan - Eng. Ngugi shared his input on this together with the guideline.</p> <p><b>The handbook:</b></p> <p>Chapter 1: What is non-revenue water - Mr. Kioi</p> <p>Chapter 2: Understanding the water flow - Mr. Kioi and Ms. Patricia</p> <p>Chapter 3: Mapping - Mr. Charles and Mr. Mosefi</p>	<p>All</p> <p>Eng. Ngugi</p> <p>All</p>
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<p>Chapter 4: Reduction of physical loss – Ms. Patricia and Mr. Mosefi</p> <p>Chapter 5: Quantifying physical losses - Mr. Mosefi and Ms. Patricia</p> <p>Chapter 6: Construction method - Mr. Mosefi and Ms. Patricia</p> <p>Chapter 7: Reduction of commercial losses – Mr. Karanja and Mr. Charles</p> <p>Chapter 8: Water pressure management - Mr. Charles, Ms. Patricia and Mr. Kioi</p>	
<ul style="list-style-type: none"> <li>✓ After the presentation by all the members, they further engaged in more discussions on the key areas in the revision of the guidelines. Mr. Mori requested the members to ensure that the content they were giving the WSPs were clear and satisfactory. He also encouraged them to focus on the things that makes a lot of difference for the WSPs e.g. a good solution to avoid many leakages could be the use of the HDPE pipes.</li> <li>✓ He also pointed out that the guideline can change the reality of things in the WSPs</li> <li>✓ Mr. Mori also suggested that he could come up with a simpler version of the billing analysis for the WSPs.</li> <li>✓ Members further agreed that the use of standards and specifications in the WSPs had a huge gap and needed to be addressed in the new guidelines</li> <li>✓ Mr. Mosefi suggested that the handbook should give a clear highlight and steps to follow in doing various activities</li> <li>✓ Mr. Charles suggested that the members should embrace the use of the right procedures that are simple in doing various activities.</li> </ul>	<p>Mr. Mori</p>
<ul style="list-style-type: none"> <li>✓ After a lengthy deliberation among members, they all agreed that despite the effort they had put up so far, there was a gap in the expertise especially in the following areas; CIS, GIS, Pressure management and Billing analysis. They were therefore of the opinion, by consensus, that they needed more help of the JICA Experts to ensure that they deliver well on their task i.e. more time for a JICA Expert Team specialist to help put into a logical perspective the contents of the new guideline. Members were thus in agreement that this missing gap can be addressed by the PIC approving that request.</li> <li>✓ Members further agreed that the structure of the handbook needed to be redone with the right procedures and the pictures of various activities.</li> <li>✓ Mr. Mori also suggested that the members should try and check on the guidelines from various countries so as to get a better picture of what should be done though they vary from country to country depending on their situation.</li> </ul>	<p>WASREB</p>
	<p>All</p>

✓ Members further agreed that they had a difficulty working separately and therefore they needed to be together for further progress especially for consultation purposes on specific subject matters of the content of the new guideline.

**Minute 04/06/2019: Review of the adopted table of content for the new NRW Guideline**

Mr. Mori, JICA Experts team, shared with the members the edited version of the table of content for the would-be guideline having included the views that were made by the members during the 6<sup>th</sup> editorial committee meeting.

**Handbook**

Mr. Mori also took the members through the current handbook table of content for discussions. Members jointly proposed a typical table of content for the proposed new Handbook. They also agreed that Mr. Mori can further develop it from a wholistic approach in view of the discussion among members that gave indication as to the extent of the expected content for the designated caliber of officers expected to make use of it.

**Minute 05/06/2019: Review of the approach and procedure of the revision of the guideline**

Members were all in agreement that the approach to the new NRW guideline must be very different from that of the old NRW standards if there is expectation that the WSPs shall implement them effectively compared to the low uptake being experienced currently. Members were therefore called upon to critically think of the content being proposed for the new guideline in terms of adaptability and use by WSPs for results.

Members further agreed that Mr. Mori would share more information to inform the new adoptable approach and they would share their opinion and give comments for improvement or otherwise of the new guideline being proposed.

Members agreed that the developed/ revised content now required to be amalgamated into a single document that shall now become the first draft of the new NRW guideline. This consolidation shall be done by Mr. Karanja and Mr. Charles both from the JICA Experts team. Members were therefore requested to ensure they submit their individual contents to the duo as soon as was practicable.

It was agreed that the duo will consolidate these contents using the framework that was jointly agreed to be the table of content for the

All

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new guideline. It is from this consolidation that members shall then have a good idea of the need to streamline the contents in joint sittings in a workshop(s) may become a necessity.

**Minute 06/06/2019: Any Other Business**

Members agreed that the deadline for submitting their final drafts to Mr. Karanja was 18<sup>th</sup> June 2019.

Members agreed that the next meeting will be tentatively held on Wednesday 17<sup>th</sup> July 2019 at 09:00am in WASREB's boardroom.

There being no other business, the meeting was adjourned at 03:30pm

**MINUTES OF 8<sup>TH</sup> NON-REVENUE WATER STANDARDS REVIEW EDITORIAL COMMITTEE MEETING HELD AT WASREB ON 17<sup>TH</sup> JULY 2019 AT 09:00AM**

<b>Organizations</b>	WASREB, MWS, COG, WASPA, JICA Experts Team and KEWI	<b>Action</b>
<b>Date &amp; Time</b>	Wednesday 17 <sup>th</sup> July 2019 at 09:00am – 12:30pm	
<b>Venue</b>	WASREB Boardroom	
<b>Participants</b>	<p>Eng. Daniel Ngugi – WASREB, Chairman  Eng. V.C Njeru – Ministry of Water and Sanitation  Mr. Anderson Kioi - Ministry of Water and Sanitation  Mr. Walter Mosefi – KEWI  Mr. Masayuki Taguchi – JICA Experts Team  Mr. George Karanja – JICA Experts Team  Mr. Charles Maingi – JICA Experts Team  Ms. Kellyjoy Gakii –JICA Experts Team, Secretary</p> <p><b>Absent with Apology</b>  Patricia Wanjeri – WASPA  Ms. Annpatliz Mwihaki – COG  Ms. Zipporah Muthama – COG</p> <p><b>Absent with no Apology</b>  Mr. David Mabonga</p>	
<b>Agenda of the meeting</b>		
<ol style="list-style-type: none"> <li>1. Opening remarks</li> <li>2. Review of the minutes of the 7<sup>th</sup> editorial committee meeting</li> <li>3. Review of the consolidated content of the draft new guideline of the revised NRW Standards</li> <li>4. AOB</li> </ol>		
<b>Opening Remarks</b>		
<p>The meeting was called to order by Eng. Ngugi who further welcomed the members to the 8<sup>th</sup> editorial committee meeting. He pointed out that members have been careful to hold the meeting as it was planned from the beginning without missing out in any month. Eng. Ngugi further welcomed Eng. Njeru who is the head of the NRW Unit in the MWS. He also said that he hoped that Eng. Njeru would rise up to the occasion and be more vigor in his position so as to help the committee accomplish its mandate.</p> <p><b>Minute 01/07/2019: Review of the minutes of the 7<sup>th</sup> Editorial committee meeting</b>  Eng. Ngugi requested members to take 2 minutes to peruse through the</p>		Eng. Ngugi

<p>minutes of the 7<sup>th</sup> Editorial committee meeting.</p> <p>Members reviewed disbursement of funds from the Ministry of Water and Sanitation to WASREB which had repeatedly appeared as matters arising in the previous minutes. Eng. Ngugi took time to explain to Eng. Njeru the need for the budget facilitation since the members had got into a point where they needed to work on the document together. Eng. Njeru responded by informing the members that like he was requested by Eng. Alima during the PIC meeting, he was determined to take up the issue of the budget and see to it that the budget was funded soonest possible. Eng. Ngugi also requested Eng. Njeru to check through the budget and advice where need be.</p> <p>Eng. Ngugi also explained to Mr. Taguchi why the committee required the assistance of Mr. Mori in developing the standards. Mr. Taguchi responded by informing the members that he understood that Mr. Mori's assistance was important in developing the standards especially now that the project was introducing new concept to the WSPs. Members agreed that a meeting between the JICA Experts, WASREB and the MWS should be held soonest possible to discuss this matter before the JCC which will be held on 5<sup>th</sup> of August 2019 tentatively.</p> <p>Eng. Ngugi also encouraged members to be making comments on the different documents shared to them by various members e.g. Mr. Mori and also Ms. Kellyjoy – Minutes of meeting.</p> <p>The minutes were confirmed after being proposed by Mr. Anderson Kioi and seconded by Mr. Charles Maingi.</p>	<p>WASREB &amp; MWS</p> <p>WASREB &amp; Mr. Taguchi</p> <p>Eng. Ngugi</p>
<p><b>Minute 02/07/2019: Review of the consolidated content of the draft new guideline of the revised NRW Standards</b></p> <p>Mr. Karanja did a presentation on the consolidated content of the draft new guideline. He also stated that he and Mr. Charles were at 80% completion rate on the consolidation. He pointed out that the old guideline was missing as part of the table of content. This raised concern to the members and they agreed that was one of the reasons why they needed a rapporteur and also need to work on the document together in a workshop forum</p> <p>Mr. Karanja also informed the members that there were gaps in the table of content that needed to be worked on.</p> <p>Mr. Charles also explained to the members on how output 4 came up with the 33 aspects in the new planning template.</p> <p>Eng. Ngugi also informed the members that there was need to moderate the content so that the volume is not very huge. Members appreciated the work done by Mr. Mori so far in developing the table</p>	<p>Mr. Karanja</p>

<p>of content.</p> <p>Mr. Taguchi pointed out that it was important for the MWS to raise the issue on further engagement of Mr. Mori in the revision of the standards if necessary, during the JCC. He also stated that the committee members should have confidence to be able to analyze how suitable the newly proposed measures, which Output 4 team are implementing, to the staff of Kenyan WSPs. If these measures were a bit high to the staff of normal WSPs, the members should moderate the content to the level that was understandable by them.</p>	<p>Mr. Taguchi</p>
<p>Eng. Ngugi was tasked with calling the informal meeting after agreeing with his director.</p>	<p>Mr. Ngugi</p>
<p><b>Minute 03/07/2019: Review of the framework of the handbook based on the proposed content:</b></p> <p>Mr. Karanja further took the members through the handbook and gave justifications as to why it had to be changed. Main reason being to re-organize it so that it is useful to the person on the ground.</p>	<p>Mr. Karanja</p>
<p>Members had allocated task as follows during the 6<sup>th</sup> editorial committee meeting:</p> <p><b>1. Targets: All Staff of WSP</b></p> <p>a. Materials for staff sensitization on NRW (Mr. Mabonga)</p> <p><b>2. Targets: NRW Field Work Staff</b></p> <p>a. Procedure of Customer-to-Customer Leak Survey with Acoustic Bars (Mr. Karanja)</p> <p>b. Procedure of Leak Detection using UFM (Ms. Patricia)</p> <p>c. Procedure of Leak Detection using Electric Leak Detector (Mr. Mosefi)</p> <p>d. Procedure of Leak Detection using Leak Noise Correlator (Mr. Mosefi)</p> <p>e. Procedure of Step Test and MNF (Ms. Patricia)</p> <p>f. Procedure of Pressure Measurement (Mr. Charles)</p> <p><b>3. Targets: O&amp;M Staff</b></p> <p>a. Procedure of Pressure Test with Hand Pump (Mr. Charles)</p> <p>b. Installation of Customer Meters and Service Connections (Mr. Karanja)</p> <p><b>4. Targets: Meter Maintenance Staff</b></p> <p>a. Servicing and Meter Accuracy Test (Mr. Charles)</p>	<p>All</p>
<p>Members agreed that the deadline for circulation to all the members of their contents as assigned would be 2<sup>nd</sup> August 2019. On receipt members should add their comments on the content.</p>	<p>Eng. Njeru</p>
<p><b>Minute 04/07/2019: Any Other Business</b></p>	

<ul style="list-style-type: none"> <li>✓ Eng. Njeru commented that the committee was doing well but he has noted the challenge that they had in terms of capacity. Since some of the members did not have experience on what works well in the field, Eng. Njeru raised a concern on when or what time was right to have the WSPs come in and assist in the formulation of the guideline.</li> <li>✓ He also acknowledged the difficulty that the members were facing in their efforts to deliver on their part without the budget facilitation especially now that they need to work on the combined draft document together.</li> <li>✓ Eng. Ngugi responded by informing the members that WASPA being the umbrella of the WSPs was a part of the committee and also the project and it was expected that they will share what could have come from the WSPs to the committee.</li> <li>✓ The committee also had engaged the CoG and it was expected that they also represented the public since they are the owners of the WSPs. They also expected that they will be the best platform to engage the public for participation in making the document public. However, Eng. Ngugi pointed out that it was also important to have representatives of water companies one or two committee to be part of the committee to ventilate the document to the WSPs.</li> <li>✓ Eng. Njeru also informed the members that the thematic workshop would be held on 6<sup>th</sup> August 2019 tentatively, and the participants will be the 9 pilot WSPs together with other WSPs in the country and their MDs and also the counterparts. A communication on the same was expected to reach out to the members in the course of the week.</li> <li>✓ Eng. Ngugi raised a concern over the questionnaire survey results that Ms. Sugimoto had enquired on during the 20<sup>th</sup> PIC meeting. Mr. Taguchi said he would share the result with Ms. Sugimoto.</li> </ul>	<p>Eng. Ngugi</p> <p>Eng. Njeru</p> <p>Eng. Ngugi</p> <p>All</p>
<p>Members agreed that the next meeting will be tentatively held on Wednesday 14<sup>th</sup> August 2019 at 09:00am in WASREB's boardroom.</p>	
<p>There being no other business, the meeting was adjourned at 12:30pm</p>	



**MINUTES OF 9<sup>TH</sup> NON-REVENUE WATER STANDARDS REVIEW EDITORIAL COMMITTEE MEETING HELD AT WASREB ON 28<sup>TH</sup> AUGUST 2019 AT 09:00AM**

<b>Organizations</b>	WASREB, MWS, COG, WASPA, JICA Experts Team and KEWI	<b>Action</b>
<b>Date &amp; Time</b>	Wednesday 28 <sup>th</sup> August 2019 at 09:00am – 03:00pm	
<b>Venue</b>	WASREB Boardroom	
<b>Participants</b>	<p>Eng. Daniel Ngugi – WASREB, Chairman          Mr. David Mabonga – Ministry of Water and Sanitation          Mr. Anderson Kioi - Ministry of Water and Sanitation          Mr. Walter Mosefi – KEWI          Ms. Patricia Wanjeri – WASPA          Mr. Masayuki Taguchi – JICA Experts Team          Mr. Charles Maingi – JICA Experts Team          Ms. Kellyjoy Gakii –JICA Experts Team, Secretary</p> <p><b>Absent with Apology</b>          Ms. Annpatliz Mwihaki – COG</p> <p><b>Absent with no Apology</b>          Ms. Zipporah Muthama – COG</p>	
<b>Agenda of the meeting</b>		
	<ol style="list-style-type: none"> <li>1. Opening remarks</li> <li>2. Review of the minutes of the 8<sup>th</sup> editorial committee meeting</li> <li>3. Review of the consolidated content of the new draft NRW guideline based on discussions of the last meeting</li> <li>4. Review of the content developed for the new Handbook before consolidation based on the allocated tasks in the previous meeting</li> <li>5. AOB</li> </ol>	
<b>Opening Remarks</b>		
	<p>The meeting was called to order by Eng. Ngugi who further welcomed the members to the 9<sup>th</sup> editorial committee meeting. He apologized for having postponed the meeting twice and explained this was due to other official duties that he had to undertake. He further shared the day's agenda to the members and they confirmed the agenda right for the meeting.</p> <p><b>Minute 01/08/2019: Review of the minutes of the 8<sup>th</sup> Editorial committee meeting</b>          Eng. Ngugi requested members to take 5 minutes to peruse through the minutes of the 8<sup>th</sup> Editorial committee meeting.</p>	Eng. Ngugi

<p>Mr. Kioi explained to the members that the editorial committee budget was factored in the year's workplan and also in the procurement plan awaiting the approval by treasury. Eng. Ngugi emphasized on the need for the budget facilitation for further progress of the committee's mandate.</p>	<p>WASREB &amp; MWS</p>
<p>Eng. Ngugi also requested the members to be responding on the documents sent to them by the other members.</p>	<p>Eng. Ngugi</p>
<p>Mr. Taguchi informed the members that before the JCC he raised the need to have Mr. Mori allocated more time in order for him to assist the committee to Mr. Yokota who had been sent from JICA headquarters like the committee had requested in the previous meeting. Mr. Yokota could however not give the clear stand for JICA regarding the same Mr. Taguchi advised the members to have the draft document (Standards) ready and give it to him and he will request Mr. Mori to go through the document and then give the necessary support that the committee requires. He also assured the members that he will give the support that he can in his capacity to them. Mr. Mori can also continue to attend the meetings whenever he is around and also Mr. Charles and Mr. Karanja will continue to attend the meetings as members of output 4.</p>	<p>WASREB &amp; Mr. Taguchi</p>
<p>The minutes were confirmed after being proposed by Mr. Walter Moseki and seconded by Mr. Anderson Kioi.</p>	
<p><b>Minute 03/08/2019: Review of the consolidated content of the new draft NRW Guideline based on discussions of the last meeting</b> Members agreed that this minute could not be discussed since Mr. Karanja was not in for the meeting, and that like he had reported in the previous meeting him and Mr. Charles had not completed working on the remaining 20% of the Guideline and also the part that was missing in the table of content was still not complete. In this regard members tasked Mr. Charles, Mr. Karanja and Eng. Ngugi to consolidate the draft including the 20% and also incorporate the current guideline in the table of content and have it ready before the next meeting.</p>	<p>All</p>
<p>Mr. Charles was further requested to share the complete draft with the MWS for them to use it to show case the need to have the budget facilitation for the committee to the concerned.</p>	<p>Mr. Charles</p>
<p><b>Minute 04/08/2019: Review of the content developed for the new Handbook before consolidation based on the allocated tasks in the previous meeting</b> Mr. Charles and Mr. Karanja were tasked with the responsibility of preparing the table of content for the handbook keeping in mind what was in the guideline.</p>	<p>Mr.Charles</p>

<p>Each member further presented what he had worked on according to their allocation in the 6<sup>th</sup> Editorial committee meeting as shown below:</p>	<p>&amp;Mr. Karanja</p>
<p><b>1.Targets: All Staff of WSP</b></p> <p>a. Materials for staff sensitization on NRW (<u>Mr. Mabonga</u>)</p> <p><b>Comments from members</b></p> <p>Mr. Mabonga was requested to reorganize his chapter so that the content flows</p>	<p>Mr.Mabonga</p>
<p><b>2. Targets: NRW Field Work Staff</b></p> <p>a. Procedure of Customer-to-Customer Leak Survey with Acoustic Bars</p> <p>Since Mr. Karanja was absent during the meeting members agreed that he will present his part in the next meeting</p>	<p>Mr.Karanja in absence</p>
<p>b. Procedure of Leak Detection using UFM (<u>Ms. Patricia</u>)</p> <p><b>Comments from members</b></p> <ul style="list-style-type: none"> <li>• Enrich on the procedure</li> <li>• Use the set-up procedure and how to get the information from the UFM</li> </ul>	<p>Ms. Patricia</p>
<p>c. Procedure of Leak Detection using Electric Leak Detector (<u>Mr. Mosefi</u>)</p> <p><b>Comments from members</b></p> <ul style="list-style-type: none"> <li>• Reorganize the procedure in point form and use photographs taken where on the ground where applicable</li> <li>• Include an introduction to leaks</li> <li>• Differentiate on how to detect the simple leaks and the sophisticated leaks</li> <li>• Documents should have maximum of 3 pages</li> <li>• Include parameters/ variables to help calculate the estimated losses. In this regard Mr. Mosefi was requested to work with Mr. Charles</li> </ul>	<p>Mr. Mosefi</p>
<p>d. Procedure of Leak Detection using Leak Noise Correlator (<u>Mr. Mosefi</u>)</p> <p><b>Comments from members</b></p> <ul style="list-style-type: none"> <li>• Condense the introduction part</li> <li>• Have clear procedure answering: How to mount, what happens when you install, how to collect data and how to dismantle the correlator</li> <li>• Use photographs taken on the ground where applicable</li> </ul>	

<p>e. Procedure of Step Test and MNF (<u>Ms. Patricia</u>)</p> <p><b>Comments from members</b></p> <ul style="list-style-type: none"> <li>• Members agreed to reorganize the content during the workshop</li> <li>• Avoid abbreviations or give their full wording before using them</li> </ul>	<p>Ms. Patricia</p>
<p>f. Procedure of Pressure Measurement (<u>Mr. Charles</u>)</p> <p><b>Comments from members</b></p> <ul style="list-style-type: none"> <li>• Use clockwise and anticlockwise instead of below and above</li> <li>• Use a conversion table showing MPA/KPA/BAR and MH</li> <li>• Mention on the installation point</li> <li>• Diversify on gauges that are usable</li> <li>• Include the pressure loggers</li> </ul>	<p>Mr. Charles</p>
<p>g. Bulk meter accuracy testing using the UFM</p> <p>Members tasked Mr. Mosesti to take the lead but work with both Mr. Charles and Ms. Patricia on this.</p>	<p>Mr. Mosesti</p>
<p><b>3. Targets: O&amp;M Staff</b></p>	
<p>a. Procedure of Pressure Test with Hand Pump (<u>Mr. Charles</u>)</p> <p><b>Comments from members</b></p> <ul style="list-style-type: none"> <li>• Include the procedure for both the old and the new hand pumps</li> <li>• Give an introduction first</li> <li>• Have a general procedure then at the end give highlights on specific connections</li> <li>• Include a table on tolerance pressure drops, pipe sizes and number of pipes</li> </ul>	<p>Mr. Charles</p>
<p>b. Installation of Customer Meters and Service Connections (<u>Mr. Karanja</u>)</p> <p>This would be presented in the next meeting when Mr. Karanja comes back</p>	<p>Mr.Karanja in absence</p>
<p><b>4.Targets: Meter Maintenance Staff</b></p>	
<p>a. Servicing and Meter Accuracy Test (<u>Mr. Charles</u>)</p> <p><b>Comments from members</b></p> <ul style="list-style-type: none"> <li>• Include a definition and why we service meters</li> </ul>	<p>Mr. Charles</p>

<ul style="list-style-type: none"> <li>• Include sealing procedure</li> <li>•</li> <li>• Include the test bench and prefabricated test bench</li> <li>• Include a table</li> </ul> <p><b>Minute 05/08/2019: Any Other Business</b></p> <ul style="list-style-type: none"> <li>✓ Mr. Taguchi informed the members that the Experts both local and from Japan will not be working in the month of October 2019 as they have to secure a contract with JICA for phase 3 of the project which is expected to commence in November 2019. However, in the month of September Mr. Karanja and Mr. Charles will be working till the end of the month and they will prioritize on what will be more urgent in their work. In his part he said he was hopeful that the Experts will be back to work early in the month of November 2019.</li> <li>✓ Members agreed that Mr. Kioi should join in the meeting between Mr. Karanja, Mr. Charles and Eng. Ngugi.</li> <li>✓ Members agreed to revise the workplan in the next meeting so as to have the document ready by either October or November 2020.</li> </ul> <p>Members agreed that the next meeting will be held on Wednesday 25<sup>th</sup> September 2019 at 09:00am at WASREB's boardroom. There being no other business, the meeting was adjourned at 03:00pm</p>	<p>Mr. Taguchi</p> <p>Mr. Kioi</p> <p>All</p>
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**Attachment 10. Minutes of Working Group**

## **WORKING GROUP MINUTES OF MEETING (12<sup>TH</sup> August, 2021)**

### **Present members**

1. Eng. Victor Njeru
2. Eng. Chemerir Chepyegon
3. Eng. Joseph Mwangi
4. Ms. Patricia Mutua
5. Ms. Mary Turitu
6. Mr. Walter Moseti
7. Mr. Masayuki Taguchi
8. Mr. George Karanja
9. Mr. Charles Maingi
10. Ms. Kellyjoy Gakii

### **Apologies**

1. Ms. Patricia Wanjeri
2. Mr. Yator Neville

### **Agenda**

Planning of the work group activities

Eng. Njeru called the meeting to order and requested Ms. Patricia to open the meeting with a word of prayer. He then requested Ms. Patricia to present to the members the days agenda and the members sanctioned it for the meeting.

Members further agreed that they had 4 main activities to undertake before they complete on the editing work of the NRW standards. The activities were as shown below:

1. Incorporation of comments from the stakeholders' meetings – end of August 2021
  2. National validation workshop – mid September 2021
  3. Publishing – end of November 2021
  4. Launching of standard – before 12<sup>th</sup> December 2021
- ❖ Mr. Karanja was requested to share with the members the consolidated comments from the 3 meetings held earlier i.e., MDs meeting, 1<sup>st</sup> Stakeholders meeting and 2<sup>nd</sup> Stakeholder's meeting.
  - ❖ Members to hold a meeting on 17<sup>th</sup> August 2021, at the same venue starting from 9:00 am. They were expected to have gone through the comments so that in the meeting they will discuss the same.

- ❖ Members agreed to hold the next working meeting on 24<sup>th</sup> August 2021. In this meeting they would incorporate the comments received from the 2 stakeholders' meetings and the MDs meeting.
- ❖ NRW Unit members were expected on the same day to bring along the preface pages for the members to check and agree on them.
- ❖ The second working meeting would be held on 31<sup>st</sup> August 2021 in case the committee members will not have concluded the same on the meeting on 24<sup>th</sup> August 2021.
- ❖ Members agreed to pursue a physical national validation meeting to be held on 16<sup>th</sup> September 2021. In case a physical meeting was not possible Eng. Chemerir was requested to do further research on the possibility of an effective virtual validation workshop and give feedback during the meeting on 16<sup>th</sup> September 2021.
- ❖ After incorporation of the comments into the 2 documents members agreed that the two documents should be sent to the people who attended the stakeholders workshop with a cc to their MDs. The 2 documents should be sent by 31<sup>st</sup> August 2021.
- ❖ In case the validation meeting will be done virtually the participants will be expected to have sent their comments by 16<sup>th</sup> September 2021.
- ❖ In case the working group will be able to incorporate all the comments during the meeting on 24<sup>th</sup> August it is expected that they will receive the feedback from the validation workshop by 10<sup>th</sup> September 2021.
- ❖ After receiving the comments members agreed to take one week to polish up the document. In this view they expect to have the 1<sup>st</sup> Manuscript by 23<sup>rd</sup> September 2021. This document should be ready for printing.

## **AOB**

Members agreed to start discussion on dissemination after publishing which will be by the end of November 2021

Members agreed that the MWS&I NRW Unit should come up clearly on what they meant by follow up visit at the WSPs level for further discussion after the publishing of the standards



**MINUTES OF NRW WORKING GROUP ON 17<sup>TH</sup> AUGUST 2021 AT MINISTRY OF WATER,  
SANITATION AND IRRIGATION BOARD ROOM**

<b>Organizations</b>	WASREB, MWS, WASPA, JICA Experts Team and KEWI	<b>Action</b>
<b>Date &amp; Time</b>	Tuesday 17 <sup>th</sup> August 2021 at 09:30am–12:30pm	
<b>Venue</b>	MWS&I Boardroom	
<b>Participants</b>	<p>Eng. Joseph Mwangi  Ms. Patricia Mutua  Mr. George Bokesia  Ms. Mary Turitu  Ms. Patricia Wanjeri  Mr. Walter Mosefi  Mr. Kihara Kibuchi  Mr. Masayuki Taguchi  Mr. George Karanja  Mr. Charles Maingi  Ms. Kellyjoy Gakii –JICA Experts Team, Secretary</p> <p><b>Absent with Apology</b>  Eng. Victor Njeru  Eng. Chemerir Chepyegon</p>	
<b>Agenda of the meeting</b>		
	<ol style="list-style-type: none"> <li>1. Opening remarks</li> <li>2. Sharing the responsibilities</li> <li>3. AOB</li> </ol>	
<b>Opening Remarks</b>		
	<p>The meeting was called to order by Eng. Joseph Mwangi who further welcomed the members to the meeting.</p> <p>He then requested Mr. Charles to take the members through the minutes of the previous meeting.</p> <p>The minutes were confirmed by Ms. Patricia Mutua and seconded by Mr. Walter Mosefi.</p> <p><b>Minute 01/08/2021: Sharing of the responsibilities</b>  Members agreed to share the responsibility of incorporating the comments as follows:</p>	Eng. Joseph

Have Mr. Karanja leading in incorporating comments from the guidelines and Mr. Mosefi leading in incorporating comments from the handbook.

Below are members who will work together with Mr. Karanja:

Mr. Yator Neville

Ms. Patricia Mutua

Ms. Mary Turitu

Mr. Charles Maingi

Eng. Joseph Mwangi

Eng. Chemerir Chepyegon

Members who will work with Mr. Mosefi in the Handbook

Mr. Kihara Kibuchi

Mr. George Bokesia

Ms. Patricia Wanjeri

Eng. Victor Njeru

- ❖ Members agreed that both the lead persons will agree with their members on how they will work as a group.
- ❖ They should also consider using the track comment in the word document for easy tracking of the changes done on the documents.
- ❖ Members also allocated to each of the members a chapter to work on as shown below:

### **Guidelines**

Chapter 1 – Mr. Yator

Chapter 2 – Ms. Patricia Mutua

Chapter 3 – Mr. Karanja

Chapter 4 – Mr. Charles

Chapter 5 – Ms. Turitu

Chapter 6 – Mr. Charles

Chapter 7 – Mr. Karanja

Chapter 8 – Eng. Chemerir

Chapter 9 – Mr. Karanja

Chapter 10 – Mr. Charles

Chapter 11 – Eng. Joseph

Chapter 12 – Ms. Patricia Wanjeri

Chapter 13 – Mr. Charles

**Handbook**

Chapter 1 – Mr. Bokesia

Chapter 2 – Mr. Moseti

Chapter 3 – Mr. Moseti

Chapter 4 – Mr. Bokesia

Chapter 5 – Ms. Patricia Wanjeri

Chapter 6 – Eng. Njeru

Chapter 7 – Mr. Moseti / Mr. Kihara

Members agreed to try and make the book professional and more presentable and also try and use the most appropriate headings for the chapters and sub topics

**Min 02/08/2021: Any Other Business**

There being no other business, the meeting was adjourned at 12:30pm

**MINUTES OF NRW WORKING GROUP ON 23<sup>RD</sup> AUGUST 2021 AT MINISTRY OF  
WATER, SANITATION AND IRRIGATION BOARD ROOM**

<b>Organizations</b>	WASREB, MWS, WASPA, JICA Experts Team and KEWI	<b>Action</b>
<b>Date &amp; Time</b>	Tuesday 23 <sup>rd</sup> August 2021 at 09:30am–12:30pm	
<b>Venue</b>	MWS&I Boardroom	
<b>Participants</b>	<p>Eng. Joseph Mwangi  Ms. Patricia Mutua  Ms. Mary Turitu  Mr. George Karanja  Ms. Kellyjoy Gakii –JICA Experts Team, Secretary</p> <p><b>Absent with Apology</b>  Eng. Victor Njeru  Eng. Chemerir Chepyegon  Mr. George Bokesia  Ms. Patricia Wanjeri  Mr. Walter Mosefi  Mr. Charles Maingi</p>	
<b>Agenda of the meeting</b>		
<ol style="list-style-type: none"> <li>1. Opening remarks</li> <li>2. Report from the shared responsibilities</li> <li>3. AOB</li> </ol>		
<b>Opening Remarks</b>		
<p>The meeting was called to order by Eng. Joseph Mwangi who further welcomed the members to the meeting.</p> <p>He then requested Ms. Patricia to take the members through the minutes of the previous meeting.</p> <p>The minutes were confirmed by Mr. Yator Neville and seconded by Ms. Mary Turitu.</p> <p><b>Minute 01/08/2021: Reports from the shared responsibilities</b>  Mr. Karanja (JICA experts team) informed the members that he had received submissions from Mr. Yator, Ms. Turitu, Eng. Joseph and he had also worked on his part.</p>		Eng. Joseph

He further took the members through what had been done by the members who had submitted their chapters.

Members agreed that Mr. Karanja should share with the members all the comments and submissions from the members via the google drive.

Members agreed that due to the previous presidential decree the validation workshop should be held virtually.

Members who had not yet submitted their comments should do so soonest so as to beat the deadlines

Members should go through the document once it was uploaded in the google drive by so that they will give their comments on 31<sup>st</sup> August 2021

Have Mr. Karanja leading in incorporating comments from the guidelines and Mr. Mosefi leading in incorporating comments from the handbook.

NRW Unit members to submit the 1<sup>st</sup> pages of the documents in the next meeting to be held on 31<sup>st</sup> August 2021.

**Min 02/08/2021: Any Other Business**

Members agreed that the speed at which they were working was quite low having that they had set deadlines for the completion of work. In view of this the chairman was requested to follow up with the team leader who had not made his submission as of the day of the meeting.

There being no other business, the meeting was adjourned at 12:30pm

**MINUTES OF NRW WORKING GROUP ON 7<sup>TH</sup> SEPTEMBER 2021 AT MINISTRY OF  
WATER, SANITATION AND IRRIGATION BOARD ROOM**

<b>Organizations</b>	WASREB, MWS, WASPA, JICA Experts Team and KEWI	<b>Action</b>
<b>Date &amp; Time</b>	Tuesday 7 <sup>th</sup> September 2021 at 10:30am–12:00pm	
<b>Venue</b>	MWS&I Boardroom	
<b>Participants</b>	<p>Eng. Joseph Mwangi  Ms. Mary Turitu  Eng. Chemerir Chepyegon  Mr. George Bokesia  Mr. Neville Yator  Mr. George Karanja  Ms. Kellyjoy Gakii –JICA Experts Team, Secretary</p> <p><b>Absent with Apology</b>  Eng. Victor Njeru  Ms. Patricia Mutua  Ms. Patricia Wanjeri  Mr. Walter Mosefi  Mr. Charles Maingi</p>	
<b>Agenda of the meeting</b>		
	<ol style="list-style-type: none"> <li>1. Opening remarks</li> <li>2. Report from the shared responsibilities</li> <li>3. AOB</li> </ol>	
<b>Opening Remarks</b>		
	<p>The meeting was called to order by Eng. Joseph Mwangi who further welcomed the members to the meeting.</p> <p>He then requested Mr. George Bokesia to take the members through the minutes of the previous meeting.</p> <p>The minutes were confirmed by Mr. Yator Neville and seconded by Ms. Mary Turitu.</p> <p><b>Matters arising from the previous minutes of meeting</b>  Eng. Chemerir informed the members that hosting the validation workshop virtually appeared to have some challenges since it was impossible for the IT people around to host the same. The other person he targeted to assist was not a member of staff and that meant a</p>	Eng. Joseph

budget for the same was required. However, he suggested that he could approach the water secretary and see if the ministry would cater for the physical meeting. Members agreed on this matter and agreed to hold a virtual meeting on Friday 10<sup>th</sup> September 2021 to get feedback for the same.

In case the water secretary approves the physical meeting members agreed that the date for the validation workshop will be on 7<sup>th</sup> October 2021 at Nakuru, Bontana Hotel. They also agreed to target 100 participants for the same.

Ms. Kellyjoy was also tasked to send a link to all the members for the meeting on Friday the 10<sup>th</sup> of September 2021 at 9:30 am.

**Minute 01/08/2021: Reports from the shared responsibilities**

Members agreed that waiting for each one of them to work on the chapters they were given was taking a lot of time considering that they had their normal routine work and limited time to complete the editing work. In view of this they agreed to task Mr. Karanja to work on consolidating the two books in communication with Mr. Mosefi and give feedback on 21<sup>st</sup> September 2021.

**Min 02/08/2021: Any Other Business**

Members agreed that in case a physical meeting fails they would send the documents to the stakeholders via email and give them time for feedback after which they would hold a zoom meeting to finalize on the document with the stakeholders.

The members of the NRW Unit should send the preface pages to Mr. Karanja before 21<sup>st</sup> September 2021.

Next work group meeting will be on 21/09/2021.

There being no other business, the meeting was adjourned at 12:00pm

**MINUTES OF NRW WORKING GROUP ON 28<sup>TH</sup> SEPTEMBER 2021 AT MINISTRY OF  
WATER, SANITATION AND IRRIGATION BOARD ROOM**

<b>Organizations</b>	WASREB, MWS, WASPA, JICA Experts Team and KEWI	<b>Action</b>
<b>Date &amp; Time</b>	Tuesday 28 <sup>th</sup> September 2021 at 10:30am–12:00pm	
<b>Venue</b>	MWS&I Boardroom	
<b>Participants</b>	<p>Eng. Joseph Mwangi  Ms. Mary Turitu  Mr. Charles Maingi  Mr. George Bokesia  Mr. Neville Yator  Mr. George Karanja  Mr. Walter Mosefi  Ms. Kellyjoy Gakii –JICA Experts Team, Secretary</p> <p><b>Absent with Apology</b>  Eng. Victor Njeru  Ms. Patricia Mutua  Ms. Patricia Wanjeri  Eng. Chemerir Chepyegon  Mr. Kihara Kibichu</p>	
<b>Agenda of the meeting</b>		
<ol style="list-style-type: none"> <li>1. Opening remarks</li> <li>2. The Final drafts documents</li> <li>3. AOB</li> </ol>		
<b>Opening Remarks</b>		
<p>The meeting was called to order by Eng. Joseph Mwangi who further welcomed the members to the meeting.</p> <p>He then requested Mr. George Bokesia to take the members through the minutes of the previous meeting.</p> <p>The minutes were confirmed by Mr. George Bokesia and seconded by Mr. Yator Neville.</p> <p><b>Matters arising from the previous minutes of meeting</b>  Members confirmed that the planned virtual meeting took place on 10<sup>th</sup> September 2021, during which members agreed to postpone the meeting that was to be held on 21<sup>st</sup> September 2021 to 28<sup>th</sup> September</p>		Eng. Joseph



2021. The postponement meant that all other schedules were to be postponed by one week.

Physical validation workshop was approved by the water secretary. The members of the NRW unit were in the process of seeking approval for the same from the PS. After which the procurement process will begin.

Mr. Mosefi emphasized on the need to have the invitation to the validation directly done to the participants and cc to their MD so that they will have the members who attended the previous workshop attending the validation.

#### **4. Minute 01/09/2021: The Final drafts documents**

Eng. Karanja was requested to take the members through the consolidated documents.

Members further agreed on the following:

Mr. Mosefi and Eng. Karanja to prepare a schedule of comments for the 2 books and have them ready for sending to the stakeholders together with the documents on Monday the 4<sup>th</sup> October 2021.

That the MWS&I NRW unit should send to the participants the consolidated documents plus the comments for them to cross check the documents against the comments which were received during the 2 stakeholder meetings.

#### **Min 02/09/2021: Any Other Business**

Members agreed that during the workshop they will project the entire document chapter by chapter so as to give the participants a chance to see the comments incorporated in the document.

The members of the NRW Unit should check the previous standards and agree on how to formulate the preliminary pages.

The NRW Unit members were also to tasked to look for ways in which they can link the two manuals.

The NRW Unit members to ensure that they make follow up calls even after sending the invitations.

Mr. George to share the invitation letter with Mr. Karanja before it was signed.

Next work group meeting will be on 08/10/2021 .

There being no other business, the meeting was adjourned at 12:00pm

**MINUTES OF NRW WORKING GROUP ON 15<sup>TH</sup> NOVEMBER 2021 AT MINISTRY OF  
WATER, SANITATION AND IRRIGATION BOARD ROOM**

<b>Organizations</b>	WASREB, MWS, WASPA, JICA Experts Team and KEWI	<b>Action</b>
<b>Date &amp; Time</b>	Monday 15 <sup>th</sup> November 2021 at 10:30am–11:20am	
<b>Venue</b>	MWS&I Committee room	
<b>Participants</b>	<p>Eng. Victor Njeru  Eng. Joseph Mwangi  Ms. Mary Turitu  Ms. Patricia Mutua  Mr. George Bokesia  Mr. Masayuki Taguchi  Ms. Hiroko Sugimoto  Mr. Sekimoto  Mr. Neville Yator – Online Participant  Ms. Patricia Wanjeri  Mr. George Karanja  Ms. Kellyjoy Gakii –JICA Experts Team, Secretary</p> <p><b>Absent with Apology</b>  Eng. Chemerir Chepyegon</p>	
<b>Agenda of the meeting</b>		
<ol style="list-style-type: none"> <li>1. Opening remarks</li> <li>2. Validation workshop program</li> <li>3. AOB</li> </ol>		
<b>Opening Remarks</b>		
<p>The meeting was called to order by Eng. Njeru who further welcomed the members to the meeting.</p> <p><b>2. Minute 01/11/2021: Validation workshop program</b>  Eng. Njeru informed the members that the validation workshop had been approved. He further informed them that the workshop would be held in Nakuru on 25<sup>th</sup> November 2021 at a venue that would be communicated later. He then presented a draft program for the day to the members to discuss and agree on. Members agreed that the program needed to be adjusted so as to enable the committee to achieve the days target.</p> <p>Mr. Karanja further informed the members that Mr. Mori, JICA Experts, was revising the guideline. Members appointed three members</p>		Eng. Njeru

namely Mr. Karanja, Eng. Mwangi and Ms. Patricia to check through the revised documents before the documents were shared with the other stakeholders on or before the validation workshop.

Members agreed that the moderators of various sections of the day should meet and agree on key areas before the workshop.

Members also agreed to include a presentation on meter sizing in the day's program.

**Min 02/11/2021: Any Other Business**

Ms. Sugimoto informed the members that she together with the NRW Unit members were intending to undertake more county sensitization activities apart from the 2 that they had conducted earlier. She further informed the members that they were currently planning to hold one in January 2021. Members agreed unanimously to offer the necessary support for the success of these activities.

Ms. Patricia Mutua informed the members that the unit was working on the annual report and they were waiting to receive articles and interviews from the counterparts.

Mr. Taguchi informed the members that the 10<sup>th</sup> JCC meeting would be held on 1<sup>st</sup> December 2021 and that it would be a virtual meeting.

There being no other business, the meeting was adjourned at 11:20am

**Attachment 11. Baseline survey report**

**SUMMARY REPORT  
OF  
Baseline Study Results**

**The Project for Strengthening Capacity in Non-Revenue  
Water Reduction**

**July 2017**

**Ministry of Water and Irrigation  
Non-Revenue Water Unit**

## 1. Background of Study

To improve the situation of Non-Revenue Water (NRW), the Ministry of Water and Irrigation(MWI) with assistance from Japan International Cooperation Agency (JICA) launched the Project for Strengthening Capacity in Non-Revenue Water Reduction(the Project) in October 2016.

The Objective of the Project is to enhance NRW reduction activities among Urban WSPs<sup>1</sup> in Kenya by establishing the NRW reduction support mechanism and technical standards. The overall technical capacity of Counter Part (CP) organizations for NRW reduction is expected to improve during the five-year project period by achieving Project Outputs. Below is the project outline.

Item	Description
Overall Goal	Under NRW reduction support mechanism, Urban WSPs enhance NRW reduction activities.
Project Purpose	A NRW reduction support mechanism is established for Urban WSPs to implement NRW reduction activities.
OUTPUTS	1: Promotion and coordination of NRW reduction activities by MWI NRW Unit are strengthened.
	2: Use of NRW reduction standards by Urban WSPs is promoted by WASREB.
	3: NRW related training capacity of KEWI is strengthened.
	4: NRW planning and/or implementation capacity of pilot Urban WSPs is enhanced.
	5: Experience and knowledge of NRW reduction activities are shared among Urban WSPs.

After the commencement of the Project in October 2016, a Baseline Survey was conducted to assess capacity and current situation of organizations involved with the Project and establish an implementation structure and detailed activities.

## 2. Study Methodology

The Baseline Study was conducted from October 2016 to March 2017. Information was collected from:

1. Interviews with the management and relevant officers of WSPs on site as well as officers of relevant organizations, and
2. Website, reports and other existing documents.

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<sup>1</sup>For categories of Urban and Rural WSPs refer to Impact Report 7.

Table 1 Subjects and Survey/Analysis Methods

Subject	Survey/Analysis Method
Issues related to the NRW Unit	
<ul style="list-style-type: none"> <li>• The state of the services provided by the NRW Unit and its administrative capacity</li> <li>• The state of the activities of the COG (including the frequency of the meetings, attendance to the meetings and cost-sharing)</li> <li>• Awareness activities for the county governments provided by MWI (including those not in the water supply sector)</li> <li>• Awareness activities for the public by MWI (including the themes, frequency and budget of activities)</li> </ul>	<ul style="list-style-type: none"> <li>• Interviews with persons in charge of NRW reduction and collection of information (Purposes of establishing NRW Unit, personnel assignment plan, duties and job description, budget, outline of the action plan, outline and management of County Fund, water supply service strategy, implemented campaigns, etc.)</li> </ul>
Issues related to WASREB	
<ul style="list-style-type: none"> <li>• Level of the recognition of the NRW Standards</li> <li>• State of the use of the NRW Standards (frequency and cases of the use)</li> <li>• Evaluation of the NRW Standards by WSPs</li> </ul>	<ul style="list-style-type: none"> <li>• Interviews with persons in charge of NRW reduction and collection of information (Mission of organization, roles, personnel assignment plan, duties, outline of the regular field inspection and composition of the inspection team, latest Impact Report, financial statement, NRW reduction standards, etc.)</li> </ul>
Issues related to KEWI	
<ul style="list-style-type: none"> <li>• Contents of the medium-term strategic plan (2016-2020) and the role of the training courses related to NRW (the long-term training, short-term NRW course and GIS course)</li> <li>• Contents of the available reference materials of the NRW reduction courses (syllabuses, textbooks, etc.)</li> <li>• Contents of the available data on NRW reduction courses (numbers of the trainees, numbers of courses per year, regular or irregular courses, etc.)</li> <li>• State of equipment owned by KEWI, its usage and storage</li> <li>• Teaching methods used by the lecturers</li> <li>• Availability of follow-up studies</li> <li>• Confirmation of financial status, budget for the training on NRW</li> <li>• Degree of satisfaction and request for the improvement of the training contents</li> </ul>	<ul style="list-style-type: none"> <li>• Interview with persons in charge of NRW reduction and collection of information (Mission of organization, roles, strategic planning, organisational structure, personnel assignment plan, state of the implementation of training, budgetary process, equipment owned, facilities, collection of financial statements, etc.)</li> <li>• Evaluation of lectures by the lecturers in charge of the training</li> <li>• Interview with trainees</li> </ul>
Issues related to WSPs	
<ul style="list-style-type: none"> <li>• Organisational structures and personnel assignment in the candidate WSPs (backup structure of executives, internal information sharing, qualification of trainees, etc.)</li> <li>• Availability of medium- to long-term or annual NRW reduction plans</li> <li>• Customer management and management of drawings</li> <li>• State of the water meters (types of meters, level of deterioration, etc.) installed and need for the replacement of the meters</li> <li>• NRW reduction activities (availability of pre-set indicators of the plan, monitoring of the implementation of the plan, DMA management, water pressure control, experience in implementing awareness activities to the users)</li> <li>• State of the equipment for NRW reduction (equipment owned and its storage and use)</li> <li>• Capacity in the practical work of the staff in charge of NRW reduction</li> <li>• Survey on the satisfaction of the water users of the WSPs (including a survey on requests of the users to WSPs)</li> </ul>	<ul style="list-style-type: none"> <li>• Interview and questionnaire inquiry with the executives, field staff and engineers in charge of NRW reduction and collection of information (Population, the population in the service area, number of customers, water tariff, water production, amount of water sold, NRW ratio, number, duties and work experience of staff, state of internal information sharing, the level of awareness of the executives on NRW reduction, the use of the NRW Standards, etc.)</li> <li>• Collection of the record of repair of leaks, customer related data and map of the water supply systems</li> <li>• Field survey of the waterworks (site visits to water processing plants, water intakes, water transmission and distribution facilities, water kiosks, large-scale customers and sites of pipeline repair, etc.)</li> <li>• Survey of the satisfaction of the people to the water committees, etc.</li> </ul>
Issues related to WASPA	
<ul style="list-style-type: none"> <li>• State of activities at the regular meetings of WASPA and the NRW and GIS subcommittees (numbers of the participants, details of activities, meeting frequency, published documents, number of technical papers on NRW reduction, etc.)</li> <li>• The number of the members of WASPA (only Urban WSPs)</li> </ul>	<ul style="list-style-type: none"> <li>• Interview with persons in charge of NRW. (Objective, mission, structures, activities, members, support from donors, NRW related activities, annual plan, etc.)</li> </ul>



### 4.3 Results of the Baseline Study

A summary of results of the Baseline Study is presented below.

#### Output 1 (MWI NRW Unit)

Output 1: Promotion and coordination of NRW reduction activities by MWI NRW Unit are strengthened.

##### Target activities

1. Prepare annual plans and issue annual report on NRW activities
2. Coordinate and promote NRW activities with WASREB and KEWI
3. Promote and support for WSPs' NRW reduction activities
4. Plan and implement NRW related awareness-raising activities to the counties.
5. Plan and implement NRW reduction campaigns
6. Coordinate NRW activities with other relevant organizations

Target activities	1. Prepare annual plans and issue annual report on NRW activities.
Current Situation and identified challenges	Due to the lack of a clear and precise Annual Plan, activities by NRW Unit tends to be on an ad hoc basis (i.e. formulated on the go). A detailed and comprehensive annual report on NRW reduction activities has never been prepared.
Proposed actions and support	1) Support the MWI NRW Unit to prepare concrete Annual NRW Reduction by promoting understanding of NRW Reduction through the various activities in this Project. (Until September 2017) 2) Discuss the content of the annual report with relevant organizations, select the editing team for the report for this fiscal year, determine a concrete production plan for this fiscal year, and discuss the objectives of the annual report for later years. (Until September 2017)

Target activities	2. Coordinate and promote NRW activities with WASREB and KEWI.
Current Situation and identified challenges	1) The NRW Unit, WASREB and KEWI need to cooperate in order to promote the NRW reduction. Currently there is no established cooperation framework among these 3 organizations to implement NRW reduction activities.
Proposed actions and support	1) The three organizations to hold regular meetings in order to align budgets, ensuring budget allocation is decided based on the importance and urgency of activities. 2) Support the review of KEWI's NRW reduction course, WASREB's review of NRW reduction activities, etc. 3) Consider establishing a new implementation system including the Leading Pilot WSPs (Embu and Meru WSPs).

Target activities	3. Promote and support WSPs' NRW reduction activities
Current Situation and identified challenges	1) Since the NRW Unit was officially established recently, there is a lack of experience in supporting WSPs, and specific measures for supporting WSPS concerning of the promotion of NRW reduction activities by the WSPs.
Proposed actions and support	1) Securing budget to support activities of Pilot WSPs. Activities of Project in Output 4 support NRW reductions of the Leading and

	<p>Pilot WSPs and results of support and activities will be evaluated for its effectiveness.</p> <p>The NRW Unit is expected to be the main body to set up a forum for consultation with related organizations to establish a support system for WSPs, In order to promote WSP's NRW reduction activities, collaboration with relevant organizations for the planning of campaigns and implementation, encouraging for securing budget for promotion and support of NRW activities are necessary.</p>
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Target activities	4. Plan and implement NRW related awareness-raising activities for counties.
Current Situation and identified challenges	Consider the establishment of a strategic support system in cooperation with other organizations to sensitization activities for counties and their residents. It is necessary for the NRW Unit to independently formulate plans, secure budgets and implement the plans, but currently these activities have not been implemented. Also, involve Council of Governors for the sensitization and public relations activities to the counties.
Proposed actions and support	1) Support for planning of awareness creation activities and campaigns sponsored by MWI. Some sensitization activities targeting county government officials will be carried out nationwide by June 2017.

Target activities	5. Coordinate NRW activities with other relevant organizations for NRW reduction campaigns.
Current Situation and identified challenges	In order to establish a support system for WSP's NRW reduction activities, it is necessary to increase the number of meetings with related organizations and to strengthening the cooperation.
Proposed actions and support	1) Form a task force for awareness creation and public relations activities with other organizations including WASREB, KEWASNET, WASPA and other donors, with NRW Unit as the coordination body. 2) Short term training on public relations and awareness creation activities for WSPs will be considered.

## Output 2 (WASREB)

Output: Use of NRW reduction standards by Urban WSPs is promoted by WASREB

Target activities:

1. A survey on the current status of usage of NRW Reduction Standards will be conducted. Based on the survey results, items for the improvements will be identified. The revision process will be planned as an ongoing basis.
2. Revised NRW Standards will have more applicable/practical contents.
3. Distribution of revised NRW Standards, promote their utilization, and conduct monitoring and evaluation of their usages by WSPs.

Target Activities	1. A survey on the status of usages of NRW Standards will be conducted.
Current Situation and identified challenges	Current situation on the usage of NRW Standards by WSPs is not clear. WSPs seem to be aware and using the current NRW Standards, however the WSP's opinions about the contents and status of usage have not been investigated.

Proposed actions and support	WASREB conducts a survey on the status of usage of Standards with the support provided by SNV. (until August 2017)The Project will coordinate a survey with WASREB for the implementation. Part of the survey questions includes suggestions from the WSPs to improve the current NRW Standards.
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Target Activities	2. Revised NRW Standards will have more applicable/practical contents.
Current Situation and identified challenges	Current Standards lacks the consistency with other guidelines. WASPA, in cooperation with GIZ and bfZ, published technical guidelines on water meter management, water pipes, valves and pumps. When revising the Standards, it is necessary to consider the consistency with those guidelines. Since many WSPs are already using WASPA's NRW reduction roadmap and those guidelines, attention must be paid to the consistency with their contents.
Proposed actions and support	Confirm the consistency with existing guidelines prepared by other donors and provide assistance on how to proceed with the revision of the Standards. Since the discussions about the review of usages of the Standards will begin after August 2017, the process of revision will be implemented in the second phase of the project.

Target activities	2. Revised NRW Standards will have more applicable/practical contents: Incorporation of situation of medium and small WSPs.
Current Situation and identified challenges	It is not easy for small to medium-size WSPs to apply the content of the existing Standards, as the contents of Standards require the investments cost which is difficult to secure for smaller sized WSPs. The revision should consider the needs of such WSPs and it is necessary to introduce NRW reduction activities that can be implemented without huge capital investments.
Proposed actions and support	Based on the results of the survey, the project will support the revision of the Standards appreciable to different sizes of WSPs and their technical capacity instead of establishing a uniform criteria for NRW Reduction Standard. The project will make recommendations on the usage of the different publications (i.e. guidelines, manual, handbook, case studies),for example, the handbook will be made for the easier to use by small and medium WSPs.

Target activities	3. Distribution and promotion of revised NRW Standards and monitoring the usage of the revised Standards by WSPs.
Current Situation and identified challenges	Policies of WASREB to increase the awareness of WSP WASREB utilizes the tariff revision and licensing, includes a budgeting for NRW reduction activities and NRW reduction target as a condition and imposes penalties for its non-achievement of targets. This is a very effective policy to raise awareness and ownership of NRW targets amongst WSPs.
Proposed actions and support	The project will support the promotion of the NRW Standards nationwide.

### Output 3 (KEWI)

#### Output 3: NRW related training capacity of KEWI is strengthened.

1. Improve the content of NRW reduction trainings and implement the following activity items to strengthen implementation capacity.

- Review the content of the NRW training and improve teaching materials and teaching methods of instructors.
- A joint training program with the Leading WSPs will be established.
- Use the results of the Joint training program to improve NRW training content and teaching materials.
- The satisfaction level of the course participants is improved.
- A mechanism is established to implement continuous trace studies.

Target activities	1. Improvement of non-revenue reduction training courses: Review the content of the NRW training and improve teaching materials and teaching methods of instructors.
Current Situation and identified challenges	It is necessary to improve the training program in order to combine theory and fieldwork experiences
Proposed actions and support	The project will support a joint training program with KEWI and the Leading WSPs. Lessons learnt during this joint training will help improve KEWI's training in future. Improvement of teaching materials (June 2017) Support water meter installation technology, water meter reading method, repair method, small bore pipe construction technology, leak detection technology, leakage repair data recording form etc.

Target activities	1. Improvement of non-revenue reduction training courses: A joint training program with the Leading WSPs will be established.
Current Situation and identified challenges	Strengthening capacity of lecturers/Human resource development is necessary. Along with the improvement of the technical level of WSPs, developing human resources that can keep up with changes in the educational environment is an urgent task.
Proposed actions and support	The project will support a joint training program with KEWI and Leading WSPs. Lessons learnt during this joint training will help improve KEWI's training in future. 1) Review of contents and teaching method of Syllabus to suit what WSPs expect from KEWI 2) Utilization of audiovisual equipment. For large lecture halls, microphones and projectors will be used to show on-site training videos. The project has already provided the requested projector and other equipment.

Target activities	1. Improvement of non-revenue reduction training courses
Current Situation and identified challenges	There is no facility for students to experience basic education of NRW management by improving water leakage detection / water pipe detection / water meter quality control equipment. Improvement of the piping network practical ground is also necessary.
Proposed actions and support	1) Improve knowledge/practical experience on NRW reduction and the organization capacity of KEWI. 2) Joint meetings with Embu and Meru WSPs were held and agreed to carry out pilot joint training in May 2017. The planning for preparing the program (draft) is happening now. Securing the budget of MWI in the future and elucidating the implementation contents in further detail is ongoing. 3) Improvement of piping practice ground and effective utilization of leakage detection equipment (May 2018) by using NRW Unit's budget for the fiscal year of 2016-17 and promote effective utilization of KEWI's leakage detection

	equipment.
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Target activities	Improvement of non-revenue reduction training courses.
Current Situation and identified challenges	Improvement of the GIS training program is necessary.
Proposed actions and support	<p>1) Hydrological analysis training will be conducted in November 2017. KEWI lecturers cooperate in preparing material for training and as an assistant lecturer on the training day to gain knowledge of the subject. Participate and support the construction of a structure that can support KEWI lecturer's hydrological analysis etc. Conduct joint hydraulic analysis trainings for employees of Embu, Meru and Nyeri WSPs to be held in Embu WSP.</p> <p>2) GIS Joint Training Course between KEWI and Kericho WSP will be held in October 2017. Advising on layer configuration, taking into consideration of device improvement and usage for hydraulic analysis, as well as advising on review of attribute data, etc.</p> <p>3) Survey of trainees' satisfaction using trace studies (November 2017) We will conduct a survey on the satisfaction level of trainees who attend new NRW reduction courses and use them as indicators for improvement of KEWI's training course. Consider issuing training certificates.</p>

Target activities	Improvement of financial situation of KEWI
Current Situation and identified challenges	65% of KEWI's annual budget is covered by subsidies, and since most of its expenditures are spent for human resources, capitals for improvement of facilities is not available. It is important for the Director and other KEWI managements to actively explain to government officials about the need for improving the practical training equipment as well as actively publicize their courses to WSPs.
Proposed actions and support	<p>WSP creates a mechanism to actively use KEWI's non-revenue reduction short-term course (September 2019) Expenses related to the trainings could be included as part of WSPs' NRW reduction budget using the tariff revision and licensing of WASREB. By imposing clearly stipulated conditions on human resource development, WSPs could be required to include staff training at KEWI in the annual NRW reduction plan, as well as reporting on the implementation status of internal trainings. Such a mechanism would ensure that KEWI's new short term NRW course will collect numbers of participants from the WSP.</p>

#### **Output 4 (Pilot WSPs)**

#### **Output 4: NRW planning and/or implementation capacity of pilot Urban WSPs is enhanced.**

1. Each pilot WSP prepares an NRW Reduction Activity Report annually, identifies the pertinent problems independently, and updates the NRW reduction plan for the next fiscal year.
2. Each Pilot WSP to monitor NRW Reduction Report according to a cycle such as monthly, weekly etc. for different zones, systematically decide the activities according to the regional priority, prepare a plan according to the needs for each region, and implement the plan accordingly.

3. Each Pilot WSP to acquire new skills and improve practical skills to implement strategic and effective NRW reduction activities.

Target activities	1. Each pilot WSP prepares an NRW Reduction Activity Report annually, identifies the pertinent problems independently, and updates the NRW reduction plan for the next fiscal year.
Current Situation and identified challenges	1) The selected Pilot WSPs' Senior management have a good understandings of NRW reduction, and its potential as a leading WSP is high due to activities such as NRW reduction and GIS development. 2) The water supply area for WSPs is expanding or absorbing the small scale WSP in the surrounding area. It is necessary to take countermeasures to deal with problems such as unmetered connections, water theft (illegal connections), and connection to the existing weak water pipelines.
Proposed actions and support	Through activities in Pilot WSPs, expansion of water supply area will be discussed with various stakeholders and the countermeasures will be developed in consultation with the relevant organizations.

Target activities	1. Each pilot WSP prepares an NRW Reduction Activity Report annually, identifies the pertinent problems independently, and updates the NRW reduction plan for the next fiscal year.
Current Situation and identified challenges	NRW reduction activity reports have not been prepared and the WSPs cannot update the NRW reduction plans for the next fiscal year by identifying the pertinent problems independently. WSPs have not formulated a medium - term or annual NRW reduction plan, or if they have formulated it the implementation is delayed. It is necessary to strengthen the PDCA cycle.
Proposed actions and support	Making the management cycle a routine 1) The project will support NRW reduction activities and management cycles. Medium, annual, quarterly, monthly, weekly plans are to be formulated and implemented. Support the implementation and review of the annual NRW reduction plan, as well as utilization of monitoring implementation results of NRW in each distribution area or DMA every month. Participatory plan formulation 2) Support the introduction of participatory planning by using Google Drive and reference templates, review the proposed NRW reduction plan formulated by the pilot WSP in order to ensure formulation of realistic and effective plans. Using of the reference template will be considered as a good practice, and the project will ensure the content of templates to be improved so that plan become more realistic to the current situation. 3) Training budget Support the NRW reduction plan to incorporate a training budget for the staff to participate in NRW reduction training courses.

Target activities	2. Each Pilot WSP to monitor NRW Reduction Report according to a cycle such as monthly, weekly etc. for different zones, systematically decide the activities according to the regional priority, prepare a plan according to the needs for each region, and implement the plan accordingly.
Current Situation and identified challenges	Since the NRW Unit of WSPs concurrently holds work other than reduction of NRW, NRW reduction activities were often postponed or completely abandoned. NRW activities are only implemented temporarily whenever there

	<p>is a direct order from the Management Director or the Technical Manager. WSPs cannot plan activities according to regional priority based on the NRW monitoring results by zone, and the most suitable activities for each region WSPs with experience in NRW reduction activities in small scale DMA are increasing, but their experience has not led to implementation of a NRW activities for the entire water supply area. It is necessary to divide the entire water supply area by the larger water distribution system and to manage non-revenue water on that scale.</p> <p>WSPs cannot plan activities according to regional priority based on the NRW monitoring results by zone, and the most suitable activities for each region WSPs with experience in NRW reduction activities in small scale DMA are increasing, but their experience has not led to implementation of a NRW activities for the entire water supply area. It is necessary to divide the entire water supply area by the larger water distribution system and to manage non-revenue water on that scale.</p>
Proposed actions and support	<p>Zoning plan</p> <p>Divide the entire water supply area by zones using distribution systems and pressure reducing valves, and divide them into sub zones (DMA) based on zones with high non-revenue water rate or leakage rate (nighttime minimum flow rate).</p> <p>The project will recommend a strategic zoning plan and support the formulation of an easy and sustainable NRW monitoring system.</p>

Target activities	3. Each Pilot WSP to acquire new skills and improve practical skills to implement strategic and effective NRW reduction activities.
Current Situation and identified challenges	<p>There is a lack of practical skills to implement NRW reduction activities strategically and effectively.</p> <p>WSPs that are actively introducing GIS are increasing, and it is necessary to promote the use of GIS to counter NRW. Also, many WSPs require a model for zoning and water pressure management of distribution systems, but the necessary capability is lacking.</p>
Proposed actions and support	<p>1) Replacement of Pipeline and consideration of HDPE pipes</p> <p>Support replacement of the pipeline where leakage and ruptures occur frequently, and encourage introduction of HDPE pipes which are highly effective in preventing leakage and stealing, to be considered in the NRW reduction mid-term plan.</p> <p>2) Improvement of GIS Environment</p> <p>Encourage development and utilization of GIS through the use of resources and low-priced equipment, analyze customer information (such as meters and water usage), and use of GIS to analyze aged pipes etc.</p> <p>3) Water Pressure Distribution Status</p> <p>By conducting water pressure measurement survey using an analog type hydraulic pressure gauge capable of recording the highest water pressure and a pressure logger, it is possible to grasp the state of water pressure distribution in the water supply area.</p> <p>The water pressure distribution will be optimized by improving facilities and adjustment of existing pressure reducing valves, to improve the operation and maintenance of facilities by reducing rupture accidents and water leakage.</p>

Target activities	3. Each Pilot WSP to acquire new skills and improve practical skills to
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	implement strategic and effective NRW reduction activities.
Current Situation and identified challenges	Equipment and experience for detecting underground water leakage is not enough, and strategic underground water leakage countermeasures have not been taken.
Proposed actions and support	<p>1. Leakage detection technology (November 2017 - January 2021) In order to detect groundwater leakage strategically and efficiently, survey priority for each area will be established using a step test, and then the water leakage pipe narrowed down by using listening bars. At that time use of ultrasonic flow meters, electronic leak detectors, and correlators will be supported in accordance with the situation.</p> <p>2. Leakage detection using Listening Sticks Support daily water leakage survey to be established as a routine tasks by using a sound listener which is a basic and inexpensive tool. In Meru WSP, checking of dummy leakage sounds by water meter reader as they check the customer meter reading will be considered.</p> <p>3. Support the utilization of the MWI NRW unit's budget. (September 2017) Consider introduction of pressure tests using a hand pump in order to confirm whether there are construction errors of the water supply devices.</p>

Target activities	3. Each Pilot WSP to acquire new skills and improve practical skills to implement strategic and effective NRW reduction activities.
Current Situation and identified challenges	Water supply meter installation rates in the selected pilot WSP are high, they are very much interested in accuracy management and the smart meters, but the policy for updating/replacing the meters is unclear.
Proposed actions and support	Support clarification of policies and methods such as realistic inspection and exchange of customer meters to ensure that management of customer meters is properly done.

Target activities	3. Each Pilot WSP to acquire new skills and improve practical skills to implement strategic and effective NRW reduction activities.
Current Situation and identified challenges	There is a problem with accuracy of low quality meters provided from WSBs.
Proposed actions and support	Use this year's budget of NRW Unit to promote the achievement of 100% meter installation rate and replacement of defective meter to improve the monitoring system for Mavoko and Kilifi-Mariakani WSPs, which are the least developed pilot WSPs.

Target activities	3. Each Pilot WSP to acquire new skills and improve practical skills to implement strategic and effective NRW reduction activities.
Current Situation and identified challenges	Attempts have been made to improve meter reading rate and prevent water thefts by introducing highly accurate meters for large customers and installing meters outside the customer premises.
Proposed actions and support	<p>1. Intensive management for large customers Consider introduction of high-precision meters and smart meters (with data recording function, stolen water prevention function, remote meter reading function etc.) to large customers.</p> <p>2. Countermeasures against Illegal connection and thefts In order to improve measures against illegal connection and thefts, support the</p>



	<p>use of DPD reagents to check for the presence or absence of residual chlorine, and support investigation of illegal water using equipment such as pipe locators. However, due to security concerns, the expert team will not provide direct on-site assistance.</p> <p>3. For the pilot WSPs and counties, measures on the institutional side could be strengthened such as provision of penalties for illegal water in the county's regulations (including detention in prison) will be considered.</p>
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## Output 5

### Output5: Experience and knowledge of NRW reduction activities are shared among Urban WSPs.

- 1.NRW Unit will be able to utilize regular meetings and information dissemination tools to transmit knowledge on NRW reduction measures.
- 2.MWI and WASREB can compile and accumulate good practices of NRW reduction activities and share with many WSPs.

Target activities	1. NRW Unit will be able to utilize regular meetings and information dissemination tools to transmit knowledge on NRW reduction measures.
Current Situation and identified challenges	<p>Currently the NRW Unit has not set up a forum activity for disseminating knowledge.</p> <p>There was a forum for exchanging opinions between WSPs in cooperation with WASPA and supported by SNV, it was mainly for the management class. In order to promote for the NRW water reduction activities to WSPs, it is necessary to set thematic based approach targeting different sections of WSPs.</p> <p>In many WSPs, there is no forum for the management class to exchange opinions with their staff, so it is necessary to promote vertical connections within the organizations.</p> <p>In order to ensure sustainability, it is necessary for the NRW Unit to have a Memorandum of Understanding (MoU) with WASPA to secure the partnership.</p>
Proposed actions and support	Based on popular peer-to-peer learning among WSPs through WASPA's forum, additional plans for the workshops for public relation and communication tools for WSPs are considered.

Target activities	2. MWI and WASREB can compile and accumulate good practices of NRW reduction activities and share with many WSPs.
Current Situation and identified challenges	<p>Good practices of NRW reduction activities are not systematically compiled and shared.</p> <p>Very few WSPs have proper information management in place. For instance, staff are required to write reports about the workshops and seminars when they participate them. Those reports were circulated ad hoc and stored in the company files or individual computers. None of the WSPs use on-line document depository system. It is necessary to introduce tools and means for the sharing and utilization of knowledge and information within the WSP for effective information management.</p>
Proposed actions and support	<ol style="list-style-type: none"> <li>1. Dissemination of results and lessons from the Project (esp. Output 4 ) through WASPA's regular meetings (1st is scheduled for October 2017)</li> <li>2. Confirmation of the case study collection and confirmation of policies (October 2018)</li> </ol>

	<p>Consider the contents of document(s) summarizing the knowledge and good practices gathered in the project. However, since the NRW standards (including case studies) might be revised, it may be judged that preparation of a separate document is unnecessary.</p>
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