Minutes for the second RC3 Meeting scheduled on 17th August 2018

Members present

- Prof. Björn Pehrson– Chairman
- Ms. Mary Nsabagwa – Scribe
- Mr. Emmanuel Kondela
- Mr. Maximus Byamukama
- Dr. Julianne Sansa Otim

1. Opening of the meeting and selecting chairperson and scribe

   Prof. Björn and Ms. Nsabagwa offered to take on the chairperson and scribe roles respectively. The scribe promised to upload minutes on WIMEA-ICT website in two days. The chairperson encouraged members to test the quality of their calls in future before the meetings. During the meeting, members were encouraged to mute their speakers when not talking and to have a head sets for the next e-meetings. Mr. Maximus offered to start the calls for the next e-meetings
2. Issues arising from UNMA meeting.
   2.1 Diplomatic endorsement of weather stations

   Members were informed about the upcoming regional meeting in which UNMA will be participating. UNMA offered to give a diplomatic endorsement for WIMEA-ICT AWSs and the AWSs would be mentioned during the regional meeting for acceptability. Requirements for the diplomatic endorsement include
   - Benchmarking test results
   - Assembly instructions

Once the diplomatic endorsement is acquired, it shall accompany the consignment to Tanzania

   2.2 Mini agricultural weather station design
   Members agreed to provide a minimum set of required sensors for each station and later compute the cost. RC3 to work hand-in-hand with RC4 to get the requirements from farmer associations and individual farmers to derive requirements in order to determine the sensors
3. Status and plans for the Gen3 pilot sites
   Members agreed to keep the pilot sites running for benchmarking and educational purposes. Faulty components to be replaced.
   3.1 Makerere University
   The raspberry pi is accessible at wimea.mak.ac.ug:10004. The low-power gateway is working well. However, some plots are not generated. Ms. Mary to fix the plots.
   3.2 DIT and JNIA

   The two stations, one at wimea-ict.ditnet.ac.tz are not responding and that the problems should be fixed. Also, low-power gateway be installed at the two sites. Mr. Kondela to follow up on the work
   3.3 UoJ

wimea.amprnet.se:9999 is not responding. Mary to follow up with Khemis to ensure the AWS starts working

3.4 UiB

The raspberry pi at wimea-ict.gfi.uib.no is not responding. Raspberry pi to be replaced. Joachim and Andrew to follow up. Low-power gateway to be added for benchmarking

3.5 Stockholm

Raspberry pi working and waiting for instructions on how to add the low-power gateway

4.Status of the first batch of 25 stations being distributed

4.1 Documentation

The list of documentation produced to support the deployment, use and management of the AWSs include

- RSS2 node user manual from https://zenodo.org/record/1343888#.W27f7NIzaM8
- RSS2 noted technical manual https://zenodo.org/record/1343890#.W27hYNIzaM8
- Setting up the Low Power gateway
- Setting up WIMEA-ICT AWS https://zenodo.org/record/1343892#.W27iP9IzaM8
- Downloading RSS2 node Proprietary application firmware from http://radio-sensors.com/download/firmware/S2/AtMega256RFR2/
- Downloading RSS2 node bootloader from http://radio-sensors.com/download/firmware/S2/AtMega256RFR2/
- Downloading open-source RSS2 application firmware from https://github.com/wimea-ict/contiki/tree/master/platform/avr-rss2/apps/wimea-ict-rss2 (.hex file)
- Downloading contiki for RSS2 node https://github.com/wimea-ict/contiki/
- Low power gateway
- Assembly and deployment plan report

Other documentation to be provided:

1. Full user manual for the WIMEA-ICT AWS stating the specifications of all sensors and other components.
2. Benchmarking result (with the help of Isaac Mugume)

The preparation for deployment of the first batch of AWSs at the time was as below

Procurement	Done (Available equipment for 21 AWSs)
Training	Initiated but more expected
Site selection	All partners provided sites
Assembly	Done (Electrical connections to be finished when AWSs are received)
Testing	Not done
Dispatch	2 stations taken to UoJ,
AWS stands	Makerere University fabricated 9 stands, UoJ and DIT, not yet

4.2 Testing

Testing each assembled AWS to be done before and after shipment. Testing each assembled AWS to be done according to a standardized test procedure including archiving test results. Procedure to include 1) before shipment from Uganda, 2) After arrival to each partner and before handing over to deployment teams and 3) after deployment before handing over to custodians/operators/maintainers. Mr. Kondela to lead the process of creating a test plan and to indicate when he test plan shall be ready. Later, documentation to be produced on the test results
A draft test plan to be presented by the next meeting.

4.3 Spares

RC3 members to agree on which spares per component to buy based on budget. Later, procurement of the spares can be started. As members wait for budget details, we could start with identifying the components.

5. Deployment plans for the first 25 units to be installed in Uganda, Tanzania and South Sudan

Mr. Byamukama, Ms. Nsabagwa and Mr. Kondela to prepare lead documentation plans for deployment in Uganda, South Sudan and Tanzania respectively. The AWSs were tested during the assembling process. All three RC3 students to take part in the benchmarking, evaluation and maintenance of AWSs in the three countries. Ms. Nsabagwa to get a group of final year Bachelor of software engineering students to do a project in support for the AWS maintenance. The deployment plan document has already been drafted and to be populated by the three RC3 students. All activities supported by the Dr. Julianne. The AWSs to be tested after deployment. Each country to be present a test plan. The Makerere University team to share new AWS stand design specifications with the rest of the team especially changes that resulted from modifying the rain gauge design. Each country to provide deployment timelines. Ms. Mary to inform the team for concrete works of the changes in the design of the base of the stand. Documentation plans to be delivered by the next meeting. Deployment to begin in the next two weeks. All RC3 PhD students encouraged to ask for assistance where need be in order to successfully deploy in the three countries.

5.1 Uganda

Mr. Byamukama and Ms. Mary to take lead and to be assisted by the student interns and UNMA. Identification of UNMA observers at the sites is already in progress. To install alongside existing sites for benchmarking purposes. Uganda shall be ready to install in 14 days' time given the availability of funds.

5.2. Tanzania

To install alongside existing sites for benchmarking purposes. Mr. Kondela to take lead. Mr. Kondela expressed the need for a waiver to help finalize discussions on deployment

with TMA. It was agreed that someone comes for the equipment from Uganda. Mr. Kondela to follow up on who will transport the equipment

5.3 UoJ

Ms. Nsabagwa to take lead and to work with Mr. Khemis to establish contact with stakeholders.

6. Procurement of second batch of 45 stations

Procurement for batch 2 will follow the same procedure as for batch 1. Dr. Julianne to send out request for quotations by end of the week

6.1 Low power gateway

Mr. Byamukama was finalizing the documentation for the low-power gateway

6.2 Radio-Sensors sensor boards and daughter cards

The revised radio-sensor boards are welcome. However, the new boards might slow down the procurement process since a new quotation shall be required. It was recommended that old designs are procured for the second batch. Robert to provide a risk analysis which could result from taking on the new boards and when middlemen come in. Robert to send a proforma invoice as soon as possible in order to start the procurement process. All quotations expected two weeks from 17th August 2018. It was reported that procurement had been delayed since the money for a new financial year had not been released. However, a money was expected soon

6.3 Other equipment

While some 3D interior decoration may not be required for the next batch, the SHT25 sensor tubes and holder are required. Maximum to provide information on how the assembly is made without the interior decorations.

7. Potential publication

Members to propose publications resulting from the work

8 Agenda items for the 3rd e-meeting

Sustainability of the AWSs after deployment. Questions to be answered include: - Who are the stakeholders? What would they want to see sustainable? Do we have the required capacity?

Third e-meeting to be held on 6th Sept 2018.

Annual meeting to take place in the first week of November 2018 and since Prof. Bjorn will not be available. If desirable for him to be around, he can travel between 15th and 19th October 2018. To decide if this is desirable or not, a draft agenda should be discussed as soon as possible.

- Third e-meeting to be held on 6th Sept 2018, Max will make the call, everyone should use e