

## AfriWatSan Makerere Workshop, 10<sup>th</sup> to 15<sup>th</sup> July 2016

Sun 10 July	Activity @ CEDAT or Makerere Guest House (front lawn) or somewhere else?	Lead
AM/PM	AfriWatSan Team (from outside Uganda) arrives at Entebbe	Willy Kasule
5pm	AfriWatSan Team meets <ul style="list-style-type: none"> <li>• introductions &amp; welcome from our hosts</li> </ul>	Michael, Robinah & John
6pm	AfriWatSan Team Dinner	Robinah & Jacintha

Mon 11 July	Activity: AfriWatsan Inception Workshop (AM) @ CEDAT Conference Hall	Speakers
8:30-9:00am	<b>Workshop Registration</b>	
9:00-10:30	<b>Plenary Ceremony:</b> <ul style="list-style-type: none"> <li>• Welcome to all from hosts</li> <li>• Introductions</li> <li>• Overview of AfriWatSan &amp; the goals of the AfriWatSan Inception Workshop in Uganda – 20 mins</li> <li>• Research and training needs for improving the delivery of low-cost urban water supply &amp; sanitation services in Uganda: <i>a perspective from the Ministry of Water &amp; Environment (DWRM) and its Technical Support Units (TSUs) – 20 mins</i></li> </ul>	<b>Chair: Michael Owor Principal, CoNAS</b> Robinah Kulabako Richard Taylor Callist Tindimugaya (Comm., DWRM)
10:30-11:00	<i>Coffee/Tea break</i>	
11:00-12:00	<ul style="list-style-type: none"> <li>• Research and training needs for improving the delivery of low-cost urban water supply &amp; sanitation services in Uganda: <i>a perspective Bright Water Services, Lukaya – 20 mins</i></li> <li>• Research and training needs for improving the analysis and understanding of waterborne and water-related illness associated with low-cost urban water supply and sanitation services: <i>a perspective from MoH – 20 mins</i></li> </ul>	Denis Byamukama  Julian Kyomuhendo (Asst Comm, Env Health Div)
12:00-1:00pm	<b>Plenary Discussion &amp; Experience Sharing:</b> <ul style="list-style-type: none"> <li>• What experiences from Sénégal, Kenya and United Kingdom might inform research and training in Uganda to improve the delivery of low-cost urban water supply &amp; sanitation services?</li> <li>• What research and training needs should AfriWatSan prioritise?</li> <li>• What opportunities might AfriWatSan facilitate for experience sharing among stakeholders including private and public sectors?</li> </ul>	<b>Chair: Richard Taylor</b>
1:00-2:00	<i>Lunch with stakeholders</i>	
	Activity: AfriWatSan team meeting (PM) @ CEDAT Conference Hall	Speakers
2:00-3:30	<b>Plenary Session:</b> <ul style="list-style-type: none"> <li>• <i>Brief overview of the links among groundwater supply, sanitation, hygiene, and health including Faecal-Oral Paradigm, WHO Sanitary Risk Surveys &amp; Water Safety Plans (15 mins)</i></li> <li>• <i>Geometry, Hydrogeochemistry and Vulnerability of Aquifers to Pollution in Urban Setting: A Case study of Kisumu Aquifer (15 mins)</i></li> <li>• <i>Contribution of latrines and septic tanks to groundwater pollution and recharge in the Thiaroye urban aquifer in Dakar, Sénégal (15 mins)</i></li> <li>• <i>Transport of faecal contaminants in shallow groundwater systems in Lukaya Town Council, Uganda (15 mins)</i></li> </ul>	<b>Chair: Cheikh Gaye</b> Robinah Kulabako  Japhet Kanoti  Mor Talla Diaw  Jacintha Nayebare

3:30-4:00	<i>Coffee/Tea break</i>			
<b>Activity: AfriWatSan Break-out Sessions</b>				
4:00-6:00pm	<b>Groundwater: CEDAT Lecture Rm 1</b> <ul style="list-style-type: none"> <li>• How is groundwater used for low-cost water supplies in Lukaya/Dakar/Kisumu?</li> <li>• What groundwater data exist to explore the quantity and quality of groundwater-fed water supplies?</li> <li>• What monitoring infrastructure will be implemented to improve understanding of urban groundwater?</li> <li>• <b>Lead discussants:</b> Richard Taylor, Daniel Olago, Cheikh Gaye, Michael Owor</li> </ul>	<b>Sanitation: CEDAT Conference Hall</b> <ul style="list-style-type: none"> <li>• What on-site low-cost sanitation options are employed in Lukaya/Dakar/Kisumu and what is the evidence for this?</li> <li>• What opportunities are there to examine the efficacy of different interventions (<i>i.e.</i> comparative analyses of different sanitation options or management strategies)?</li> <li>• What monitoring infrastructure (<i>e.g.</i> waterpoint sampling, surveys) to assess sanitation performance?</li> <li>• <b>Lead discussants:</b> Luiza Campos, Seydou Niang, Robinah Kulabako, Simeon Dulo</li> </ul>	<b>Health: CEDAT Lecture Rm 2</b> <ul style="list-style-type: none"> <li>• What evidence is there of the health outcomes of inadequate access to sanitation, safe water and hygiene in Lukaya/Dakar/Kisumu?</li> <li>• What epidemiological data exist in Lukaya/Dakar/Kisumu that might be interrogated?</li> <li>• What field research (<i>e.g.</i> household surveys) might be conducted to assess health impacts/benefits?</li> <li>• <b>Lead discussants:</b> Ed Fottrell, Richard Ayah, Anta Tal Dia, John Ssempebwa</li> </ul>	
6:30pm	<i>AfriWatSan Team Dinner</i>			Robinah & Jacintha

<b>Tues 12 July</b>	<b>Activity: AfriWatSan field work</b>			<b>Leaders</b>
8:00am	<b>AfriWatSan field visit to Bwaise (Kampala) – 2 groups / locations</b> <ul style="list-style-type: none"> <li>• sampling and analysis of wells / springs for physico-chemical parameters &amp; microbiological analyses</li> <li>• conducting WHO Sanitary Risk Surveys</li> </ul>			Robinah Kulabako Michael Owor John Ssempebwa
1:00-2:00pm	<i>Lunch</i>			
<b>Break-out AfriWatSan Training Sessions (4)</b>				
2:00-5:00pm	<b>Groundwater: CEDAT Lecture Rm 1</b> <ul style="list-style-type: none"> <li>• What are the priority capacity-strengthening needs for groundwater research?</li> <li>• Piezometer siting and construction including drilling supervision, test pumping &amp; use of GPS</li> <li>• Measuring wellhead parameters, and groundwater sampling for</li> </ul>	<b>Laboratory training: CEDAT Laboratory</b> <ul style="list-style-type: none"> <li>• for selected team members, specific, hands-on training in laboratory methods analysing samples for TTCs, <i>E. Coli</i>, <i>Enterobacter</i>, and TCs using ChromoCult Coliform Agar collected in Bwaise in the morning</li> </ul>	<b>Sanitation: CEDAT Conference Hall</b> <ul style="list-style-type: none"> <li>• What are the priority capacity-strengthening needs for sanitation research?</li> <li>• Construction of on-site sanitation facilities (<i>i.e.</i> pit latrines, septic tanks, ECOSAN)</li> <li>• Management including desludging of pit latrines and septic tanks</li> </ul>	<b>Health: CEDAT Lecture Rm 2</b> <ul style="list-style-type: none"> <li>• What are the priority capacity-strengthening needs for health research?</li> <li>• Collection and analysis of health data: stratification of sample and measurement through community surveys,</li> </ul>
3:30-4:00 Coffee/Tea in CEDAT				

	<p>aqueous hydrochemistry, isotopic tracers and microbiological samples</p> <ul style="list-style-type: none"> <li>• Use of automated water-level/temperature/EC dataloggers</li> </ul>		<ul style="list-style-type: none"> <li>• Design and operation of faecal sludge treatment facilities</li> </ul>	<p>hospital record linkages, surveillance systems for different health outcomes (endemic, epidemic) such as incidence of diarrhoeal disease (e.g. chronic - stunting, epidemic - cholera outbreaks)</p>
6:30pm	AfriWatSanTeam Dinner			

Wed 13 July	Break-out AfriWatSan Training and Management Sessions (3)			Speakers
<p>9:00am-12pm</p> <p>10:30-11:00 Coffee/Tea in CEDAT</p>	<p><b>Project Management: Food Science Con Rm</b></p> <ul style="list-style-type: none"> <li>• new rules on PhD students and equipment expenditure</li> <li>• financial reporting</li> <li>• procurement pathways</li> <li>• dissemination</li> <li>• IAH Montpellier</li> </ul> <p><b>Participants:</b> Richard Taylor/Luiza Campos, Daniel Olago/Simeon Dulo, Cheikh Gaye/Seynabou Cissé Faye, Michael Owor/John Ssempebwa</p>	<p><b>PhD/MSc Training: CEDAT Lecture Rm 1</b></p> <ul style="list-style-type: none"> <li>• conducting literature searches and access to both online databases and manuscripts (Ed Fottrell)</li> <li>• writing: research proposals, papers &amp; dissertation (Anta Tal Dia)</li> <li>• writing: popular articles, social media (Richard Ayah)</li> </ul> <p><b>Participants:</b> PhD students &amp; technicians (not involved in lab training)</p>	<p><b>AfriWatSan Lab Training</b></p> <ul style="list-style-type: none"> <li>• continued training in laboratory methods (Robinah Kulabako)</li> </ul> <p><b>Participants:</b> To be determined</p>	
12:00-1:00pm	Lunch			
	<b>Break-out AfriWatSanSite Session (3)</b>			
1:00-3:00	<p><b>Dakar: Food Science Conf Rm</b></p> <ul style="list-style-type: none"> <li>• develop further the integration of groundwater, sanitation &amp; health research activities</li> </ul>	<p><b>Kisumu: CEDAT Lecture Rm 1</b></p> <ul style="list-style-type: none"> <li>• develop further the integration of groundwater, sanitation &amp; health research activities</li> </ul>	<p><b>Lukhaya: CEDAT Lecture Rm 2</b></p> <ul style="list-style-type: none"> <li>• develop further the integration of groundwater, sanitation &amp; health research activities</li> </ul>	
3:00-3:30pm	Coffee break			
3:30-5:30pm	<p><b>Plenary Session reviewing plans for integrated site research – identifying opportunities for project-wide research outcomes &amp; training goals: Zoology Conference Room</b></p> <p><i>Kisumu Case Study</i></p> <ul style="list-style-type: none"> <li>• review of Kisumu study area and proposed instrumentation and research</li> </ul> <p><i>Dakar Case Study</i></p>			<p><b>Chair: Luiza Campos</b></p> <p>Simeon Dulo</p> <p>Seydou Niang</p>

	<ul style="list-style-type: none"> <li>• review of Dakar/Thiaroye study area and proposed instrumentation and research <i>Lukhaya Case Study</i></li> <li>• review of Lukhaya and its water, sanitation and health conditions</li> <li>• proposed instrumentation and research</li> </ul>	Michael Owor
7:00pm	Free evening	

<b>Thurs 14 July</b>	<b>Activity: Field trip to Lukhaya</b>	<b>Leaders</b>
7AM	<ul style="list-style-type: none"> <li>• Travel to Lukaya and visit key sites in 2 groups (groundwater supplies: production borehole and handpump boreholes; sanitation: pit latrines; health centres/data)</li> </ul> Packed lunch	Michael Owor Robinah Kulabako John Ssempebwa
PM	<i>AfriWatSan team overnight in Masaka (Hotel Brovad)</i>	

<b>Fri 15 July</b>	<b>Activity: Field trip to Lukhaya</b>	<b>Leaders</b>
AM	<ul style="list-style-type: none"> <li>• continue field activities in Lukhaya</li> </ul> Packed lunch	Michael Owor Robinah Kulabako John Ssempebwa
PM	<ul style="list-style-type: none"> <li>• return to Kampala</li> <li>• UCL participants return home via Entebbe</li> </ul>	

<b>Sat 16 July</b>	<b>Activity: International participants return home</b>	<b>Leaders</b>
AM	<ul style="list-style-type: none"> <li>• International participants return home via Entebbe</li> </ul>	Willy Kasule