

# **African SNOWS Mapping Report**

## **EGERTON UNIVERSITY**

Dated: December, 2010.

Collected and presented by the Water and Sanitation group:

1. Edward W. Muchiri, Coordinator, African SNOWS –Egerton University
2. Dr. Benedict Mutua- Dean FET/Member, African SNOWS –Egerton University
3. Dr. David N. Kamau-COD CEEN/ Member, African SNOWS –Egerton University
4. Dr. Joseph Matofari – Member, African SNOWS –Egerton University
5. Dr. Steve Omondi- Member, African SNOWS –Egerton University
6. Eng. Paul Karogo- Member, African SNOWS –Egerton University

### **Introductory note by the Water and Sanitation group: Egerton University**

In April 2010, The African SNOWS coordinator, Egerton University invited 10 academic members of staff from different courses and/ or activities related to SNOWS to join African SNOWS group. Among the ten only five listed above responded and we have held two formal and several informal meetings since then. The needs assessment mapping survey was carried out by two members with support from the other members. Most of the information was sourced from the Director, graduate school, Deans of faculties, COD's and from the Division of research and extension (R&E). In September 2010, three senior members of SNOWS attended a workshop on PhD supervision and training in Blantyre, Malawi, which was very useful and the group decided to disseminate the knowledge to other members of the academic staff who are involved in supervision of PhD students. The SNOWS group organised workshop from 19<sup>th</sup> -21<sup>st</sup> December where a total of 13 staff members participated. During the workshop, the participants were introduced to African SNOWS and joined the Egerton University SNOW'S Water and Sanitation group.

## **1. Research Management**

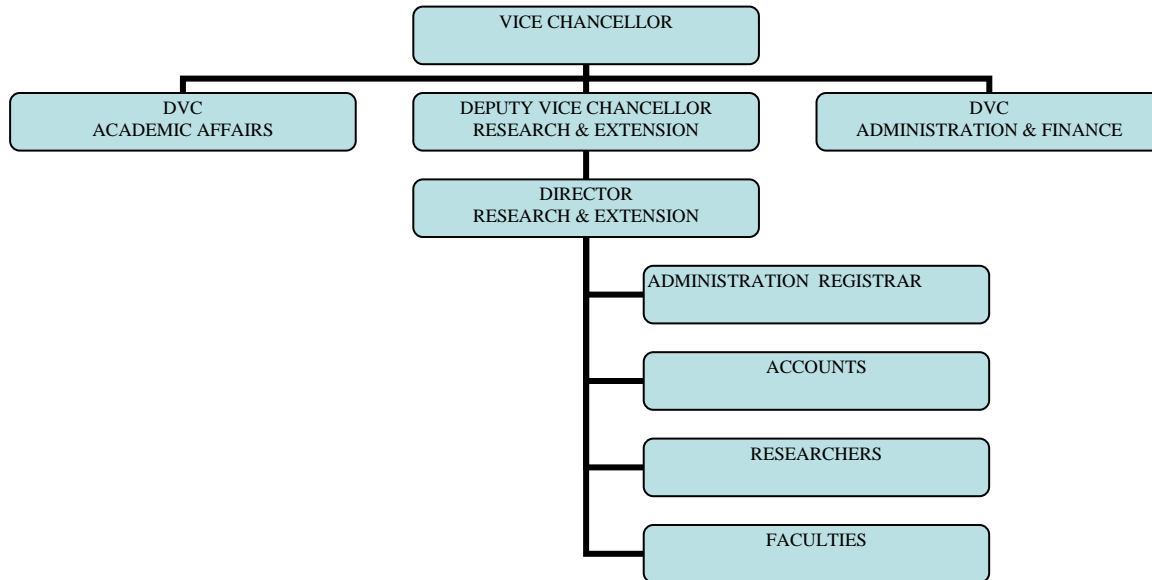
### **1.1. Organisation**

The University has a Division of Research and Extension that was established in 1987 and is headed by the Deputy Vice Chancellor (Research & Extension). The division's mandate is to manage, co-ordinate, promote and facilitate research and extension. Its other functions include managing research funds, consultancy services, vocational training, documentation, publication, and production of educational materials, seminars, workshops, conferences and symposia. It is through these activities that new knowledge is generated, packaged and disseminated to a wide variety of end-users in fulfillment of the primary objective of the University.

The goals of the division are:

- To engage in priority areas of research and consultancy.
- Disseminate research findings to the scientific and industrial communities.

- Develop appropriate technological innovations towards industrial development.
- Productively participate in priority extension and outreach activities.
- Promote and facilitate partnerships, networking, and collaborations with other institutions, industry and organizations.



### 1.1.1 Financial management of research funds

All research funds are administered by the Deputy Vice Chancellor (Research and Extension) DVC(R&E) in collaboration with the Principal Investigators. The administration and management of the funds follow the University's financial procurement procedures except where the donor has specified otherwise. The research funds are only disbursed for the activities of the project, with the approval of the Principal Investigator and the DVC (R&E), and no funds are disbursed if the researcher has not surrendered the previous imprest related to that particular project. In addition, the externally funded research is administered in conformity with the approved proposal, work plan, and budget and in accordance with the funder's approved procedure.

### 1.1.2 Research management capacity

The University has highly trained staff involved in research. In addition postgraduate students contribute significantly to the University's research efforts.

The Deputy Vice-Chancellor (R & E) is assisted by a Director (R & E) who handles the research activities with the help of a Senior Assistant Registrar and two Administrative Assistants. The University Industry Liaison Officer handles the extension, linkages, and collaboration. The Research Account section headed by a senior accountant is in charge of research funds in the Division.

The Division holds conferences, seminars and workshops for disseminating research findings. There has been trainings for different faculties in the Division. The Division organizes research and consultancy training for staff within and without the University and has held proposal writing workshops, seminars and conferences

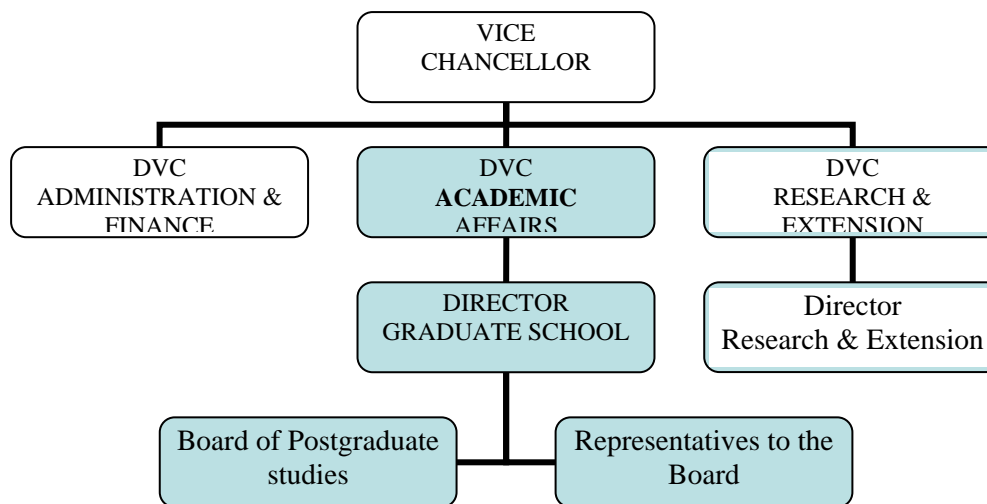
## 1.2. Resources for SNOWS

The names and contact addresses for the SNOWS action group are provided in Annex 2-A and their CV profile in Annex 4.

Some have ongoing research projects funded either internally or externally while other do not have a current research project. The members appreciated the workshop on PhD supervision and training and recommended that this should be taught to all postgraduate supervisors.

## 2. PhD Programme

### 2.1. Organisation



All academic programmes are under the Division of Academic Affairs headed by the Deputy Vice Chancellor (Academic Affairs). The Director, graduate school, is in charge of all post graduate programmes. The graduate school is managed by a board which is charged with the following responsibilities:

- coordination of graduate syllabi and regulations
- Admission of graduate students
- Administration of graduate scholarship
- Administration of graduate research grants
- Processing of graduate theses and research projects
- conduct supervision of graduate study programmes
- General welfare and discipline of graduate students.

The current Board of postgraduate studies is composed of 2 administrators and 15 members representing faculties, senate and other key stakeholders within the University as follows:

- Director BPGS

- Academic Registrar - Secretary
- 4 senate representatives
- Faculty of arts and Social Sciences Representatives
- Faculty of Agriculture Representative
- Faculty of Education And Human Resources
- Faculty of Science Representative
- University Librarian
- Faculty of Engineering and Technology
- Faculty of Environment and Natural Resource Representative
- Faculty of Education, Laikipia college campus Representative
- Ph.D Student Representative
- Master Students Representative
- Deputy Registrar, BPGS
- Assistant Registrar, BPGS

PhD programmes are organised in accordance to the statutes that stipulate clearly the organisation structure. The statutes (Under Egerton University establishment act 1987) provides the formation of a board of post graduate studies (BPGS), headed by a Director who is appointed by the Vice Chancellor.

Candidates wishing to pursue a Doctor of Philosophy (Ph.D) programme at Egerton University must meet the following requirements;

- a) Have appropriate preparatory academic training as evidenced by at least one of the following:
  - Be a holder of a Master's Degree of Egerton University
  - Be a holder of a Master's Degree or an equivalent academic qualification of any other recognized institution.
  - Be a candidate enrolled for a Master's Degree in Egerton University for at least one year who has to the satisfaction of the Senate shown exceptional progress in the Research Work to merit upgrading.
  - Be a holder of a Bachelor's Degree whom the Senate has specially exempted from the Master's programme.
- b) Fulfill specific requirements as maybe stipulated by respective Department, Faculty/School/Institute/Campus with regard to the field of study.
- c) PhD's completion period is 4 years

## **2.2. Training & Research environment / infrastructure**

Application and admission procedures for PhD programmes are as follows:

- a) Application forms may be obtained from the Director, Board of Graduate Studies upon payment of a prescribed Non-refundable fee and returned duly completed.
- b) Where a candidate is to pursue the programme by Research/thesis only, the candidate will be required to present a Research Proposal together with the application for registration.
- c) Where the candidate is to pursue the programme by Coursework, Examination and thesis, the candidate shall be required to submit a brief summary of the intended area of study together with the Application Forms. A full Research Proposal shall be submitted within three (3) months or registration.

- d) All applications for registration shall be processed in the first instance through the relevant Department in which registration is sought. The Department shall then forward all such applications with appropriate comments to the Faculty/School/Institute/Campus Board concerned for approval and onward transmission to the Board of Postgraduate Studies.
- e) Before recommending a candidate for registration, the Department and faculty/School /Institute/Campus Board concerned shall ensure that:
  - The proposed field of study is academically sound and can successfully be pursued and supervised.
  - There exist adequate facilities and resources for effective research
  - The appropriate fees have been paid.

### **3. Masters Programme- some as PhD**

*[This part should only be described if your university does not have PhD programmes. And would only cover the research part of the Masters programme, i.e. the thesis/dissertation part and research methodology courses of the Masters degree]*

*Describe the requirements for the Master thesis/dissertation. The description should also include information on research methodology courses and your framework for providing quality supervision, access to research infrastructure including labs, IT, libraries and other support infrastructure for Masters during their theses work.*

#### **Annexes**

Annex 1	SNOWS action group and resource persons -attached
Annex 2-A	SNOWS-relevant research projects- attached
Annex 2-B	Peer reviewed publications relevant to SNOWS - attached
Annex 3	List of Core Documents - attached
Annex 4	CV – scientific staff profile – 2 attached – others will be available when the university reopens on 7 <sup>th</sup> Jan. 2011
Annex 5	CV – PhD student profile – Will be available when the university re-opens on 7 <sup>th</sup> /1/2010





### Annex 1. SNOWS action group and resource persons

You may use the emails given to send survey questionnaires to the group members

Name	Position* Affiliation** Contact details	Main interest in SNOWS	Relevant research (key words)	CV attached y/n
<b>Category 1 – Individuals interested in SNOWS activities and with current relevant research activities</b>				
Edward W. Muchiri	Lecturer, Water & Sanitation, Civil & Environmental Engineering dept. Egerton <a href="mailto:edmuchiri@yahoo.com">edmuchiri@yahoo.com</a> +254722605569	Improving public health by management of ecological sanitation for beneficial use	Ecological sanitation, waste treatment, pathogen die-off, reuse.	n
Dr. Benedict M. Mutua	Dean/Snr. Lecturer, Faculty of Engineering & Technology, Egerton Uni <a href="mailto:bmmutua@yahoo.com">bmmutua@yahoo.com</a> +254735968699	Water and Sanitation		n
Eng. Paul Karogo	Snr. Lecturer Water resources Engineering Civil & Environmental Engineering dept. Egerton <a href="mailto:pnkarogo@yahoo.com">pnkarogo@yahoo.com</a> +254722445942	Water resources management		n
Dr. Ngugi Kamau	Lecturer, Civil & Environmental Engineering dept. Egerton <a href="mailto:dnkamau16076@yahoo.com">dnkamau16076@yahoo.com</a> +2547229735131			n



Dr. Joseph Matofari	Snr. Lecturer, Dairy and food technology department Egerton University <a href="mailto:matofarii@yahoo.com">matofarii@yahoo.com</a> +254671843	Milk processing- microbiology		
Dr. Steve Omondi	Lecturer, Biological Sciences Department, Egerton University <a href="mailto:oduorsomondi@yahoo.co.uk">oduorsomondi@yahoo.co.uk</a> +254721831059			y
Dr. Andrew W. Yasindi	Snr. Lecturer, Biological Sciences Department, Egerton University <a href="mailto:awyasindii@yahoo.com">awyasindii@yahoo.com</a> +254720253744			y
Dr. Wilkister Moturi	Snr Lecturer Department of Environmental Science Egerton University <a href="mailto:Moturi33@yahoo.com">Moturi33@yahoo.com</a> +254721566882			n
<b>Category 2 – Individuals with interest in actively engaging in SNOWS, can add value, but have no current research activities</b>				
Dr. Musa Njue Rugiri	Snr Lecturer Department of Agricultural Engineering Egerton University <a href="mailto:musanjue@yahoo.com">musanjue@yahoo.com</a> +254726128779		n.a	
Dr. Richard	Snr. Lecturer			

Mulwa	Crops, Horticulture and soils Department <a href="mailto:rmulwa@egerton.ac.ke">rmulwa@egerton.ac.ke</a> +254722557037			
Waweru Kihuha	Civil & Environmental Engineering Dept <i>Cell phone:</i> 0733723658, 0718080168 <a href="mailto:kihuhawaweru@yahoo.co.uk">kihuhawaweru@yahoo.co.uk</a>			
P.W. Murage	Civil & Environmental Engineering Dept			
Dr. George Ogendi	Lecturer Department of Environmental Science Egerton University <a href="mailto:gmorara@gmail.com">gmorara@gmail.com</a> +254729216735			
<b>Category 3 – Resource persons - Individuals doing relevant research but not currently actively engaging in SNOWS</b>				
DVC (R&E)		n.a		n.a
Dr. Elizabeth Kamau	Snr Lecturer Department of Human Nutrition Egerton University <a href="mailto:ekambu@yahoo.com">ekambu@yahoo.com</a> +254722395634			
<b>Category 4 – External stakeholders &amp; resource persons for SNOWS</b>				
Director, (R&E)				
Director, Graduate School				
Medical Officer, Egerton Medical Centre				
<b>Category 5 – Other resource persons relevant to SNOWS that can enable and support achievement of SNOWS objectives</b>				
Dr. Daniel	Snr Lecturer			

Tuitoek	Department of Civil & Environmental Engineering Egerton University <a href="mailto:tuitoekdk@yahoo.com">tuitoekdk@yahoo.com</a> +254729735131			
Public Health Officer, Njoro District				n.a
Medical Officer, Njoro Health centre				
Egerton University community				
Local primary and secondary schools				
Njoro county council				
Nakuru rural water and sanitation company (NARUWASCO)				

Attached find the letter of invitation to African SNOWS-Egerton University group

Annex 2-A  
SNOWS-related research projects  
Egerton University

The list includes larger research projects initiated, implemented or terminated in the period 2005-2010

<b>Project responsible party / Principal Investigator</b>	<b>Funding (USD)</b>	<b>External (yes: X)</b>	<b>Project title</b>	<b>Start year – end year</b>
Faculty of Engineering & Technology, Egerton University- <b>Dr. B.M. Mutua</b>	EU	X	Resources Oriented Sanitation in Peri-urban areas of Africa (ROSA)	2006-2010
Department of Civil and Environmental Engineering <b>Edward Muchiri</b>		X/internal	The influence of ash, moisture content and temperature on the rate of pathogen die off in faecal matter in urine diversion dry toilets chamber	2009-2011
Department of Civil and Environmental Engineering <b>Edward Muchiri</b>		X/	Strategic environmental and sanitation plan for Municipal council of Nakuru, Kenya	2009-2010
Department of Dairy and food technology <b>Dr. J.Matofari</b>			Genetic diversity of local starter cultures in milk processing	2010
Department of Biological Sciences <b>Dr. Steve Omondi</b>			Phytoplankton community relationship to environmental variables in three Kenyan Rift Valley saline-alkaline lakes.	2005-2008
Faculty of Engineering & Technology- <b>Prof. Chemelil</b>		<b>internal</b>	Water treatment using moringa orifera abstract	2004-2008
Department of Environmental Science			SUMAWA Sustainable watershed management	2003-2010
Faculty of Engineering & Technology <b>Dr. B.Mutua and J. Raude</b>			Greywater treatment using wetlands	2007-2011

More details on on going research related to SNOWS will be available during visit



Annex 2-B

**Egerton University**

*The list covers peer-reviewed publications SNOWS action group contribution within the period 2005–2010:.*

1. **Muchiri E.W.**, Muellegger E, Mutua B.M. (2010) Private sector involvement in operating urine diverting dry toilets in Nakuru, Sustainable sanitation practice Vol.2 <http://www.ecosan.at/ssp/issue-2-operation-maintenance/article-4/view>
2. **Muchiri E.W**, Mutua B.M. (2010) Pilot UDD toilets at a church and nursery school in Nakuru,  
Kenya. Sustainable Sanitation alliance (SUSANA) [http://www.susana.org/docs\\_ccbk/susana\\_download/2-127-en-cs-rosa-uddt-churchandnurseryschoolsusana.pdf](http://www.susana.org/docs_ccbk/susana_download/2-127-en-cs-rosa-uddt-churchandnurseryschoolsusana.pdf)
3. **Muchiri E.W**, Raude J.M, Mutua B.M. (2010) Pilot UDD toilets and grey water treatment systems at Crater view secondary school in Nakuru, Kenya. [http://www.susana.org/docs\\_ccbk/susana\\_download/2-125-en-cs-rosa-uddt-craterviewsecondaryschool-susana.pdf](http://www.susana.org/docs_ccbk/susana_download/2-125-en-cs-rosa-uddt-craterviewsecondaryschool-susana.pdf)
4. **Muchiri E.W**, Mutua B.M. (2010) Pilot UDD toilets at a residential plot in Nakuru, Kenya. Sustainable Sanitation alliance (SUSANA) [http://www.susana.org/docs\\_ccbk/susana\\_download/2-115-en-cs-rosa-uddt-residentialsusana.pdf](http://www.susana.org/docs_ccbk/susana_download/2-115-en-cs-rosa-uddt-residentialsusana.pdf)
5. **Muchiri E.W.**, Muellegger E (2009) Operation and maintenance strategies for resource-oriented sanitation systems in Nakuru, Kenya, 34<sup>th</sup> WEDC International conference, Addis Ababa, Ethiopia, 2009
6. Kimani, V.N., **S. O. Oduor**, J. Aguyo and W. O. Moturi (2009). Assessment of wastewater quality for use in crop production: Case studies of Egerton University and Nakuru wastewater stabilization ponds. A paper presented and published by the WEDC e-journals during *The 34th WEDC Conference in Addis Ababa Ethiopia*
7. Schagerl, M. & **S. O. Oduor**, (2008). Phytoplankton community relationship to environmental variables in three Kenyan Rift Valley saline-alkaline lakes. *Marine and Freshwater Research* 59: 125-136.
8. **Oduor, S. O.** & M. Schagerl,(2007). Phytoplankton photosynthetic characteristics in

three Kenyan Rift Valley saline-alkaline lakes. *J. Plankton Research* 29, 1041-1050.

9. **Oduor, S. O.** & Schagerl, M. (2007): Temporal Trends of Ion contents and Nutrients in three Kenyan Rift Valley Saline-Alkaline Lakes and their influence on Phytoplankton biomass. *Hydrobiologia* 584:59–68

A complete list of publications by the SNOWS group will be available during your visit

Annex 3

**List of Documents- these documents are in hand copies and will be available for your perusal during the visit.**

**- Mapping of Research Capacity African Partners of SNOWS**

	Insert the title of relevant documents in this column:  Insert more rows if needed	Insert the contact details (name, email) of the person from whom the document can be obtained.	Insert x if available as electronic document	Insert hyperlink if the document is available on the internet/ university website.
<b>1</b>	<b>Research Management</b>	<b>Egerton University Division of Research Research Policy 2010</b>		
1.1	<b>Organisation</b>	Egerton University DVC R&E	(X)	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
1.1.1	<i>Organisational structure</i>			
	Document 1...	DVC R&E Director Research dvcre@egerton.ac.ke	(x)	. <a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
	Document 2...			
	Add more rows if needed...			
1.1.2	<i>Policies and strategies</i>			
	Document 1...	-do-		
	Add more rows if needed...			



1.1.3	<b>Funding of Research</b>	-do-		
	Document 1...			
1.1.4	<b>Financial Management</b>			
	Document 1...	<i>do</i>		
1.2	<b>Resources</b>			
	Document 1...	<i>Government, Projects, eg ROSA Self sponsorship, internal funding</i>		
1.2.1	<b>Departments of relevance to SNOWS</b>	<i>CEEN,</i>		
	Document 1...			
1.2.2	<b>Staff strength</b>			
	Document 1...	20 Phd's		
1.2.3	<b>Continued professional development and staff mobility</b>			
	Document 1...	Short courses, workshops and seminars, staff exchange Relevant COD's and Dean's		
1.2.4	<b>The Research Infrastructure:</b>			
	Document 1...	Relevant laboratories COD's		
1.2.5	<b>Study Sites and External Networks</b>			
	Document 1...	Wetland areas, irrigation water supply schemes, lakes and river Relevant departments		
2	<b>PhD Programme</b>			
2.1	<b>Organisation</b>	Egerton University,		

2.1.1	<b>Organisational structure</b>			
	Document 1 Graduate school policy document	Statute XXI- Board of post graduate studies (BPGS) e-mail: dvcaa@egerton.ac.ke	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
2.1.2	<b>Policies and strategies</b>			
	Document 1 & 12	Statute XXI (2007) - Board of post graduate studies (BPGS) e-mail: <a href="mailto:dvcaa@egerton.ac.ke">dvcaa@egerton.ac.ke</a> , University research policy (2009), article 22.	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
2.1.3	<b>Rules and Regulations for the PhD programme</b>			
	Document 2 and 10 Rules and regulations of postgraduate programmes	Statute XXVII (2007)- Rules and Regulations for the post graduate degree and Diploma programmes.e-mail: dvcaa@egerton.ac.ke	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
2.1.4	<b>Funding of PhD Research</b>			
	Document 1 & 12	Statute XXI (2007)-paragraph 6 c, and 10 a & b. University research policy (2009), article 17.	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
2.1.5	<b>Monitoring and evaluation (Doc 1)</b>	Statute XXI-(2007)-paragraph 11&12	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
2.2	<b>Training &amp; Research environment / infrastructure</b>			
2.2.1	<b>Training – development of research and</b>			

	<i>other skills</i>			
	Document 1...	Students are taught research methods, proposal writing, literature search, Seminars, workshops & conferences (Egerton University catalogue 2008). Other subjects include statistics, maths, communication skills and IT. The students have a welfare body.	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
2.2.2	<b><i>Supervision of PhDs</i></b>			
	Document 1...	Statute XXI (2007)-paragraph 12 & statute XXVII sections 4.4, 4.5 and 4.6.	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
2.2.3	<b><i>Technical support staff/lab technicians / librarians /IT support</i></b>			
	Document 1...	Each Department has highly qualified technical support staff that help graduate students in their field and laboratory work (Departmental staff lists). Internet facility, libraries eg TEAL.	X	
2.2.4	<b><i>Administrative Staff Strength</i></b>			
	Document 7...	Admin staff at BPGS office	X	
2.3	<b>PhD fellows</b>			
2.3.1	<b><i>PhD Fellows in areas relevant to SNOWS</i></b>			
	Document 8...	Departmental	X	
2.3.2	<b><i>Mobility of PhD fellows</i></b>			

	Document 9...	Type of scholarship with provision of conferences and workshops	X	
2.3.3	<b>PhD admission</b>			
	Document 2...	Statute XXVII (2007), section 4.0	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
2.3.4	<b>Monitoring progress</b>			
	Document 2...	Statute XXVII (2007), section 4.4	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
2..3.5	<b>Research Budget</b>			
	Document 5...	Fee structure	X	
2.3.6	<b>Conflict resolution</b>			
	Document 4...	Statute XXVII (2007), section 5.0	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
2.3.7	<b>Assessment of the PhD fellow / dissertation and defence</b>			
	Document 2	Statute XXVII (2007), sections 4.5, 4.6 & 4.7	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
2.3.8	<b>Induction / support for young lecturers (PhD fellows required to teach/lecture)</b>			
	Document	Provision to use graduate students to help in teaching, part-time etc		
2.3.9	<b>Student Networks and Representation</b>			
	Document ...	Representation in senate, council, Alumni	X	
2.3.10	<b>PhD Newsletter or Bulletin</b>			
	Document	None		

3	<b>Post Graduate Programmes</b>			
3.1	<b>Organisation</b>			
3.1.1	<i>Organisational structure</i>			
	Document 1	Statute XXI (2007) - Board of post graduate studies (BPGS) e-mail: dvcaa@egerton.ac.ke	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
3.1.2	<i>Policies and strategies</i>			
	Document 1...	Statute XXI (2007) - Board of post graduate studies (BPGS) e-mail: dvcaa@egerton.ac.ke	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
3.1.3	<i>Rules and Regulations for the post graduate programme</i>			
	Document 9	Statute XXVI (2007)	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
3.1.4	<i>Funding of post graduate research</i>			
	Document 5	Statute XXI – 6c	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
3.1.5	<i>Monitoring and evaluation</i>			
	Document 1	Statute XXI-(2007)-paragraph 11&12	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
3.2	<b>Training &amp; Research environment / infrastructure</b>			
3.2.1	<i>Training – development of research and other skills</i>			
	Document 1...	Students are taught research methods, proposal writing,	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>

		literature search, Seminars, workshops & conferences (Egerton University catalogue 2008). Other subjects include statistics, maths, communication skills and IT. The students have a welfare body.		
3.2.2	<b><i>Tuition of post graduate students</i></b>			
	Document 5	Fee structure for Arts & Science based	X	
3.2.3	<b><i>Technical support staff/lab technicians / librarians /IT support</i></b>			
	Document 1...	Each Department has highly qualified technical support staff that help graduate students in their field and laboratory work (Departmental staff lists). Internet facility, libraries eg TEAL.	X	
3.2.4	<b><i>Administrative Staff Strength</i></b>			
	Document 7...	Admin staff at BPGS office	X	
3.3	<b>Post graduate students</b>			
3.3.1	<b><i>Post graduate students in areas relevant to SNOWS</i></b>			
	Document 11	Departmental	X	
3.3.2	<b><i>Mobility of Post Graduate students</i></b>			
	Document	Type of scholarship with provision of conferences and workshops	X	
3.3.3	<b><i>Post Graduate admission</i></b>			

	Document 10	Statute XXVII (2007), sections 1, 2 & 3	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
3.3.4	<b><i>Monitoring progress</i></b>			
	Document 10	Statute XXVII (2007), sections 3.5, 3.6 & 3.7	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
3.3.5	<b><i>Research Budget</i></b>			
	Document 5	Fee structure	X	
3.3.6	<b><i>Conflict resolution</i></b>			
	Document 4	Statute XXVII (2007), section 5.0	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
3.3.7	<b><i>Assessment of the Post Graduate students / thesis</i></b>			
	Document 10	Statute XXVII (2007), sections 1.3, 2.3, 3.6 & 3.7	X	<a href="http://www.egerton.ac.ke">www.egerton.ac.ke</a>
3.3.8	<b><i>Student Networks and Representation</i></b>			
	Document	Representation in senate, council, Alumni	X	
3.3.9	<b><i>Newsletter or Bulletin for Post Graduate students</i></b>			
	Document	None		

**Annex 4-1**  
**EGERTON UNIVERSITY**  
**SNOWS PROJECT**  
**Curriculum Vitae – Scientific Staff Profile**

**Name:** Dr. Steve Omondi Oduor

**Department:** Biological Sciences

**Working address:** Egerton University,  
**Biological Sciences Department**  
Box 536, 20115 Egerton  
KENYA

**Contact address:**

Email, main: oduorsomondi@yahoo.co.uk

Email, secondary: None                      Skype: None

Phone (Office):                                  Phone (Cell): +254 721-831 059

**Formal Education: Dr. rer. Nat. (Doctor of life Sciences)**

**Current position:** Lecturer in Department of Biological Sciences, Egerton University.

**Research area and expertise of relevance for SNOWS (max. 5 lines):**

Aquatic Ecology:

Wastewater management

Researcher in the ROSA (Resource Oriented Sanitation for peri-urban areas in Africa) project, focusing on wastewater quality analysis

**Current research project (s) relevant to SNOWS:**

1. Ecophysiology of *Arthrospira fusiformis* (Spirulina) in the Rift Valley lakes
2. *Arthrospira fusiformis* biomass dynamics in saline-alkaline Rift Valley Lakes (Kenya) – Are Viruses involved? One of the investigators.



3. Influence of water level fluctuations on the physico-chemical parameters and plankton communities' structure in Lake Nakuru: One of the supervisors.

**Courses at Postgraduate level, relevant to SNOWS:**

1. LIMN 720: Plankton Ecology
2. ES5L: Lake Ecology Module (International course offered by our department for the UNESCO-IHE, Water Institute of the Netherlands)

**Courses and seminars at Doctorate level relevant to SNOWS:**

None

**Other courses of relevance to SNOWS:**

1. UNESCO-IHE M.Sc programme in Environmental Sciences. Limnology and Wetlands.

**Number of postgraduate students tutored at present:**

4 MSc. Projects focusing on water and aquatic ecology

**Number of Ph.Ds supervised at present:**

2 on aquatic Ecology

**Number of Ph.D fellows supervised that are/were not enrolled at own department (last five years):**

**Number:** 2

**Enrolled at:**

1. At own department: 0
2. Elsewhere: 0

**Scientific production**

Number of peer-reviewed articles in international scientific journals: 5

Number of conference abstracts published in conference proceedings: 4

Number of articles in national journals: 0

Major reports: 0

**Distinctions**

- Winner of the Austrian Academy of Science Scholarship for MSc studies in Limnology in UNESCO-IHE between 1999 -2000.
- Winner of the Austrian Academic Exchange Programme Scholarship for Ph.D studies in Vienna University from 2002 to 2006.
- Winner of the Austrian Research Foundation Research grants for the Arthrospira Biomass Dynamics Research in the Kenyan Rift Valley Lakes.

**List max. 10 selected articles related to SNOWS**

- Kimani, V.N., **S. O. Oduor**, J. Aguyo and W. O. Moturi 2009. Assessment of wastewater quality for use in crop production: Case studies of Egerton University and Nakuru wastewater stabilization ponds. A paper presented and published by the WEDC e-journals during *The 34th WEDC Conference in Addis Ababa Ethiopia*
- Schagerl, M. & **S. O. Oduor**, 2008. Phytoplankton community relationship to environmental variables in three Kenyan Rift Valley saline-alkaline lakes. *Marine and Freshwater Research 59*: 125-136.
- **Oduor, S. O.** & M. Schagerl, 2007. Phytoplankton photosynthetic characteristics in three Kenyan Rift Valley saline-alkaline lakes. *J. Plankton Research 29*, 1041-1050.
- **Oduor, S. O.** & Schagerl, M. (2007): Temporal Trends of Ion contents and Nutrients in three Kenyan Rift Valley Saline-Alkaline Lakes and their influence on Phytoplankton biomass. *Hydrobiologia* 584:59–68
- **Oduor, S.O.**, Schagerl, M. & Mathooko, J. M., 2003. On the limnology of Lake Baringo (Kenya): I.Temporal physico-chemical dynamics. *Hydrobiologia*, 506-509: 121-127.
- Schagerl, M. & **Oduor, S.O.**, 2003. On the limnology of Lake Baringo (Kenya): II. Pelagic Primary Production and Algal Composition of Lake Baringo, Kenya. *Hydrobiologia*, 506-509: 297-303.

**Annex 4-2**  
**EGERTON UNIVERSITY**  
**SNOWS PROJECT**  
**Curriculum Vitae – Scientific Staff Profile**

**Name:** Edward W. Muchiri

**Department:** Civil & Environmental Engineering

**Working address:** Egerton University,  
Faculty of Engineering & Technology  
**Civil & Environmental Engineering Department**  
Box 536, 20115 Egerton  
KENYA

**Contact address:**

Email, main: edmuchiri@yahoo.com

Email, emuchiri@egerton.ac.ke                      Skype: None

Phone (Office):    Phone (Cell): +254722605569

**Formal Education: Master of Science (MSc Water and Waste Engineering)**

**Current position:** Lecturer in Department of Civil & Environmental Engineering, Egerton University.

**Research area and expertise of relevance for SNOWS (max. 5 lines):**

1. Water and wastewater treatment and management
2. Researcher in Resource Oriented Sanitation for peri-urban areas in Africa (ROSA) project, focusing on the operation and management of ecological sanitation systems and their health impact
3. Sanitation and Solidwaste management in the urban poor areas.

**Current research project (s) relevant to SNOWS:**

4. Management of faecal sludge from urine diversion dry toilets for agricultural use to grow crop
5. Design and implementation of ecological sanitation systems for schools and for the peri –urban areas
6. Domestic water treatment using bio-filter units
7. Development of efficient operation and maintenance strategies for urine diversion dry toilets
8. Developing policies and guidelines for use of ecological sanitation systems in urban areas.

**Courses at Postgraduate level, relevant to SNOWS: -proposed MSc in Public Health and Sanitation Engineering**

2. Water supply and sanitation
3. Water quality modeling
4. Wastewater treatment and management
5. Hygiene and epidemiology

**Courses and seminars at Doctorate level relevant to SNOWS:**

Postgraduate supervision and training workshop

**Other courses of relevance to SNOWS:**

2. Faculty of Engineering & Technology, Egerton University:  
M.Sc programme in Water resources management and MSc programme Soil and water Engineering.

**Number of postgraduate students tutored at present:**

none

**Number of Ph.Ds supervised at present:**

none

**Number of Ph.D fellows supervised that are/were not enrolled at own department (last five years):**

**Number:0**

**Enrolled at:**

3. At own department: 0
4. Elsewhere: 0

**Scientific production**

Number of peer-reviewed articles in international scientific journals: 1

Number of conference abstracts published in conference proceedings: 1

Number of articles in national journals: 5

Major reports: 7

**Distinctions**

1. Coordinator African SNOWS- Egerton University chapter
2. Research funding for ROSA
3. Technical Advisor:-Njoro community water project
4. Monitoring & Evaluation officer-Water resources management for small scale irrigation farmers, project by AICAD, JICA
5. Resources person- Gender. Poverty and development course offered by Institute of Gender & Women studies, Egerton University

**List max. 10 selected articles related to SNOWS**

1. **Muchiri E.W.** (2010) Strategic Environmental Sanitation Plan (SESP) for Municipal Council of Nakuru, Unpublished report for MCN.
2. **Muchiri E.W.**, Muellegger E, Mutua B.M. (2010) Private sector involvement in operating urine diverting dry toilets in Nakuru, Sustainable sanitation practice Vol.2 <http://www.ecosan.at/ssp/issue-2-operation-maintenance/article-4/view>
3. **Muchiri E.W**, Mutua B.M. (2010) Pilot UDD toilets at a church and nursery school in Nakuru, Kenya. Sustainable Sanitation alliance (SUSANA). [http://www.susana.org/docs\\_ccbk/susana\\_download/2-127-en-cs-rosa-uddt-churchandnurseryschoolsusana.pdf](http://www.susana.org/docs_ccbk/susana_download/2-127-en-cs-rosa-uddt-churchandnurseryschoolsusana.pdf)
4. **Muchiri E.W**, Raude J.M, Mutua B.M. (2010) Pilot UDD toilets and grey water treatment systems at Crater view secondary school in Nakuru, Kenya.

[http://www.susana.org/docs\\_ccbk/susana\\_download/2-125-en-cs-rosa-uddt-craterviewsecondaryschool-susana.pdf](http://www.susana.org/docs_ccbk/susana_download/2-125-en-cs-rosa-uddt-craterviewsecondaryschool-susana.pdf)

5. **Muchiri E.W.**, Mutua B.M. (2010) Pilot UDD toilets at a residential plot in Nakuru, Kenya. Sustainable Sanitation alliance (SUSANA).  
[http://www.susana.org/docs\\_ccbk/susana\\_download/2-115-en-cs-rosa-uddt-residentialsusana.pdf](http://www.susana.org/docs_ccbk/susana_download/2-115-en-cs-rosa-uddt-residentialsusana.pdf)
6. **Muchiri E.W.**, Muellegger E (2009) Operation and maintenance strategies for resource-oriented sanitation systems in Nakuru, Kenya, 34<sup>th</sup> WEDC International conference, Addis Ababa, Ethiopia, 2009
7. **Muchiri E.W.**, Mutua B.M, Chemelil M.C (2008) Gender and water supply: changing trends-paper presented at egerton University Research conference
8. **Muchiri E.W.**, Aguyoh, J (2007) Monitoring and evaluation of ITC farmers, Nakuru and Central zones, Technical report, AICAD
9. **Muchiri E.W.** (2003) Solid Waste Management in urban centers of Kenya, *Kenya Engineer, Journal of the Institution of Engineers of Kenya, Vol. 24 No. 6, Nov/Dec 2003*
10. **Muchiri E.W.** (2002) Status of Njoro Community Water Supply – Technical Report