



NEWSLETTER



Capacity Building to deliver competent human resources in integrated water resource management and aquaculture for equitable and sustainable livelihoods in Kenya's arid and semi-arid lands and beyond (NICHE/KEN/158).

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Introduction

By **Carel Jaspers - director Q-Point BV**



The project "Capacity Building to deliver competent human resources in

integrated water resource management and aquaculture for equitable and sustainable livelihoods in Kenya's arid and semi-arid lands and beyond (NICHE/KEN/158)" aims at delivering graduates, who can contribute effectively to solving the water scarcity problems in Kenya and to support and promote aquaculture.

To achieve this, the project will address the core functions of SEKU, involving enhancing its institutional, organizational, technical and training capacity. In this first newsletter you will be informed about the activities in the first year of implementation.

If you want to have more detailed information, you can always contact me. I hope you enjoy reading.
Carel Jaspers, director Q-Point BV

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Carel Jaspers visit Seuco and met Patricia Muendo, Fidelis Mutiso and Romulus Abila

Activities and achievements of 2013 from South Eastern Kenya University Niche Project

By **Romulus Abila - SEKU NICHE Project Coordinator**



Introduction

South Eastern Kenya University (SEKU) is a public university in Kenya established in 2008. The mandate of SEKU is specifically to spearhead socio economic development and transformation in Kenya's Arid and

Semi-Arid Lands (ASALs) through capacity development, research and extension in water resources management and development, dryland agriculture, mining and environmental conservation. Partnerships with the industry and the private sector are key to meeting these

objectives. Through the Netherlands Initiative for Capacity development in Higher Education (NICHE), the university is implementing a capacity building project to deliver competent human resources in integrated water resource management and aquaculture for equitable and sustainable livelihoods in Kenya's arid and semi-arid lands through establishing and strengthening partnerships with other institutions, communities, private sector and labour market stakeholders and formulating market driven courses.



Collection of rainwater for fish production.

The four year SEKU NICHE project began in January 2013 and is being implemented through three main objectives:

The first objective of the project is to enhance the Universities' institutional and organizational capacity. This will be achieved through capacity building in monitoring and evaluation, resource mobilization, access to emerging technologies and dissemination and gender mainstreaming. Organizational structures, policies, systems and capacity will be developed, strengthened and implemented. Staff members will acquire improved skills in leadership and governance, project and finance management and/or advocacy and lobbying and/or resource mobilization. Capacity building at this level will target

senior university management including deans and directors who will be trained as 'trainer of trainers'.

The second objective of the project focuses on improvement of existing School of Water Resources Science and Technology by developing market driven courses in IWRM and aquaculture with a focus on ASALs.

This will be achieved through:

- Regularly updating the new and existing curricula and incorporating labour market needs in IWRM and aquaculture in ASALs, gender and entrepreneurial skills mainstreaming into the curricula.
- Enhancing lecturing, didactic, pedagogical and course management skills of teaching staff.
- Training 4 staff members at MSc and 2 staff members at PhD levels in Kenya, The Netherlands and Belgium.
- Upgrading the training facilities of the School of Water Resources Sciences and Technology by equipping IWRM and aquaculture labs with modern laboratory equipment's and acquisition of modern aquaculture production facilities.

The third objective of the NICHE project is to enable the university to establish and strengthen partnerships with other institutions, communities, private sector and labour market stakeholders. Gender sensitive participatory research in IWRM and aquaculture will be undertaken and an outreach policy be formulated and implemented. An IWRM and aquaculture centre of excellence will be established to incorporate a regional centre for fingerling production, resource centre on IWRM and aquaculture and undertake publication and dissemination of knowledge on best practice on IWRM and aquaculture.

Activities and achievements of 2013

1. During the year 2013 activities were carried out that will form the basis of future project actions. These include:
 - Strategic leadership management training;
 - Gender assessment;
 - Assessment of the learning culture and M&E system;
 - Didactical training and pedagogical skills development;
 - Labour market needs assessment for IWRM and aquaculture;
 - Development of joint strategy for IWRM and aquaculture.

2. MSc Training: One female candidate was selected and is pursuing an MSc. in Aquaculture at Ghent University.
3. Acquisition of equipment: 31 desktop, 6 laptops, 3 printers and 3 LCD projectors were purchased during the year.

The project is progressing on schedule and in 2014 we shall embark on activities that will culminate in establishment of an aquaculture/IWRM demonstration centre at the University. This will be a more tangible achievement and will greatly contribute to meeting the expectations of the university concerning the NICHE Project. (www.seku.ac.ke)

Sandstorm dam store water for livestock

By Maurits Ertsen – senior lecturer at Delft University of Technology



The Water Resources Management group (Civil Engineering and Geosciences of Delft University of Technology, the Netherlands) works on three

main topics within the Nuffic-Niche cooperation:

1. It offers support and advice on the water education programs at SEKU, with a focus on - but not exclusive to - programs in Integrated Water Resources Management.
2. It supports strengthening the (research) capacity of SEKU and SEKU staff. Developing research activities by SEKU staff members and the associated research facilities is an important element.
3. WRM thinks with SEKU and Ghent colleagues on the integration of water management and aquaculture in SEKU and in semi-arid areas in general.

The first year of the Nuffic-Niche project has allowed the project members to get to know each other, explore the main issues of the project and discuss approaches, options and activities. Based on these

efforts, WRM sees excellent opportunities to bring its three main topics further in the second year. Educational issues will be further detailed, research activities will be intensified, and the crucial interrelations between water system and aquaculture issues and rhythms will be explored.



The sand-storage dam on the boundary of SEKU campus.

Building on its extensive experience in Kitui, resulting from its long-lasting cooperation with local NGO Sahelian Solutions (SASOL), WRM is excited to be back in the area. Given the temporal and spatial heterogeneity of water fluxes in the Kitui landscape, there is an urgent

need to develop new measurement and monitoring techniques that can deal with that heterogeneity. New ways to measure fluxes - point measurements, field measurements, remote sensing, etcetera - are a key topic for our group, and promise to be a great subject at SEKU. Linking the work to the TAHMO-project of WRM would be a logical step (see <http://tahmo.info>).

Another interesting line of research would be studying the link between hydrology and humans, within the framework of sociohydrology (part of the recent initiative Phanta Rei from the International Association of Hydrological Sciences (see <http://iahs.info/Commissions--W-Groups/Working-Groups/Panta-Rhei.do>). This second subject would focus on the sand-storage dams in the Kitui area, as hundreds of those dams (built by local communities with support from SASOL) store water for livestock, minor irrigation and domestic use.

A sand-storage dam is built in a seasonal river. The river flow in wet seasons can pass the dam, but the sand carried by the river will settle upstream of the dam; gradually the reservoir will fill up with sand. The sand bed is used to store water from the rainy season as groundwater.

A single flash flood may fully recharge a sand reservoir. Upon full saturation of the reservoir, water will start infiltrating into the river banks.

In subsurface dams evaporation losses are lower and risks of contamination of stored water is reduced as well as direct contact is minimized and parasites cannot breed underground. Submergence of land, associated with surface dams, is not present with groundwater dams. Given their possibilities for implementation in semi-arid area elsewhere, further study on this technology is most welcome.



Colleagues share a view of the sand-storage dam on the boundary of SEKU campus.

Workshop Labour Market Needs Assessment

By Olivia Ansenk – specialist on rural development and Gender Mainstreaming



Q-Point BV

In June 2013 I had the pleasure to work closely together with SEKU staff in Kitui to develop the Labour Market Need

Assessment (LMNA) approach. The overall aim of the LMNA was to identify the levels of existing skills, competences needed, employment trends, capacity gaps and challenges, and collaboration possibilities for future training, research and extension programmes. The LMNA was carried out as part of the design and

implementation process for the training, research and extension needs for the School of Water Resources, Science and Technology, SEKU. The assessment is considered a necessary starting point to ensure that SEKU programs offered in the school are grounded in the current needs and aspirations of the country's IWRM and aquaculture stakeholder demands of the labour markets.

The mission in June was used to develop questionnaires, protocols, stakeholders list, test the questionnaire and organize visits. IWRM and aquaculture staff were trained on how to handle the interviews against the backdrop of the objectives set on the surveys. We also did test runs in the field as a measure of building momentum and confidence.



Sand dam

The questionnaire design was critical in determining the quality of study in regard to time, financial and human resources in an efficient way of gathering data to help address the set queries. The "Keep It Short and Simple" philosophy proved to be a most ideal approach for the questionnaire making. An important goal was to construct clear, direct questions using the language that survey participants would understand. This was taken care of by the familiarity of the questions + knowledge of the objectives + knowledge of the kinds of information needed = RELEVANCY. Personal interviews were preferred, as it allows for making contacts for future collaborations, networks, linkages and gives an opportunity to dig deeper into the subject of the questionnaire. The envisaged disadvantage was that it would be more costly than other potential methods.

The questionnaire was conducted on representative corners of the country. The interviewed sample was constructed based on a list generated from various sources, grouped as government ministries and parastatals, community based organizations, none-governmental organizations and private companies.

A total of 28 IWRM stakeholders and 15 aquaculture stakeholders were visited and interviewed.



Dr. Patricia Muendo and Olivia Ansenk

A LMNA report of the details of the status and needs has been compiled and a workshop is scheduled in May 2014 with LMNA stakeholders to verify and present the results. In this workshop the focus mainly is on stakeholders who have not yet been interviewed.



Fish farmer

To meet current and emerging labour market demands, SEKU needs to review the current BSc Fisheries Management and Aquaculture Technology and Hydrology and Water Resources Management to align with the identified key competence demands. Also SEKU needs to utilize collaboration opportunities in training implementation, research projects and extension services to come to quality training programs. Stakeholders clearly stated that they want to cooperate with SEKU.

Results Labour Market Needs Assessment

By Victor Volkers - senior consultant Q-Point BV



For the Dutch financed Nuffic project the Kenyan team successfully organized a workshop for stakeholders of the school for Water Resource Management & Irrigation (WRMI) and Aquaculture. September last year Q-Point's consultant/specialist on rural development and Gender Mainstreaming Ir. Olivia Ansenk instructed the SEKU project team and other staff members of the school of water (short title of above mentioned full name) on the methodology of the assessment.

The SEKU project team consisting of dr. Romulus Abila project leader from Kenyan side, dr. Muendo, and dr. Moses Mwangi coordinated the staff performing the interviews. In total 50 stakeholder organizations in the WRMI and 28 in the aquaculture were visited for the assessment.



Participants of the workshop Labour Market Needs Assessment for water resource management, irrigation and aquaculture sector Kenya.

April this year the results were analyzed by Q-point and drafted in a report. Prior to publication the findings were presented by Victor Volkers, Moses Mwangi and Patricia Muendo during a workshop to a delegation of all stakeholders.



Presentation of the water management and irrigation group's recommendations.

The most eye-catching response from the stakeholders in the sectors is that the recent graduates lack exposure to the business and institutes. They are not practical enough, lack communication skills and the ability for hands-on behavior in practical situation. Also the understanding of local community issues, conflict handling and problem solving skills to find durable solutions, are not satisfying.

The most eye-catching response from the stakeholders in the sectors is that the recent graduates lack exposure to the business and institutes.

In two simultaneous sessions the aquaculture and WRMI group discussed the findings and made suggestions on how to improve the methodology and curriculum of the school of water. The groups also came with practical solutions for the issues raised in the report; f.i. to cooperate in students internships, guest lectures, exposure visits and suggestions for applied research.



WRMI group



The aquaculture sector stakeholder group

The remarks the stake holders had are being covered in the proceedings of the workshop and the final report. Publication in a leading education magazine is due for June. A few findings I can reveal already here derived from the overall conclusions made by the Dean dr. Johnson Kiga. The school should and will seek close cooperation with institutions in the water management sector and private sector as far as Aquaculture is concerned.

The practical stage should be prolonged the time now is just not enough to experience a proper exposure to the practice. Student centered approach and problem based learning (PBL) are methods to be implemented in the new curricula.

**SEKU's Motto:
"From Arid to Green".**

Experiences with this new curricula will be used to extend to the other courses and programs on the school of water and other faculties of SEKU.

Finally from this position I would like to thank and congratulate the organizers of the workshop for the achieved results. Can I say this without having seen anything happening in practice? Yes because an important milestone has already been achieved. During the workshop policymakers, the private sector and science have met, leading to creativity understanding and network contacts for an intensified cooperation which can only be helping the sector to prepare for a brighter future fulfilling the demands of the Kenya 2030 policy. To end with SEKU's Motto: "From Arid to Green".

Training of the staff

By Martine Rutten – lecturer at Delft University of Technology



My main tasks within this project are strengthening the didactical and pedagogical skills of the staff and advising upon the curriculum for Integrated Water

Resources Management (IWRM). So far my main contribution has been a training on didactical and pedagogical skills for the SEKU. Most staff has not had any didactical training and some staff is trained as high school teacher. In

addition, SEKU staff indicated in the inception phase of this program that (further) introduction of problem solving learning in the education programmes is very important to them.

The first week of November 2013, 11 staff from various schools attended a three day training on didactical and pedagogical skills. We discussed learning theory and approaches to actively engage students in

the learning process such as problem and project based learning. Staff practiced applying the theory in micro teaching and course design exercises.

The training triggered vivid discussions among staff around questions such as: Are we lecturers or teachers? To which extent are we responsible for the students learning process? Are these problem and project based learning methods suitable/feasible/desirable for SEKU?

Introduction of problem solving learning in the education programmes is very important to the staff.

The training provided an introduction to teaching approaches that were new to most staff. Problem and project based teaching approaches were new to most staff. In the coming years, we will seek to integrate these approaches more and more in the curricula.

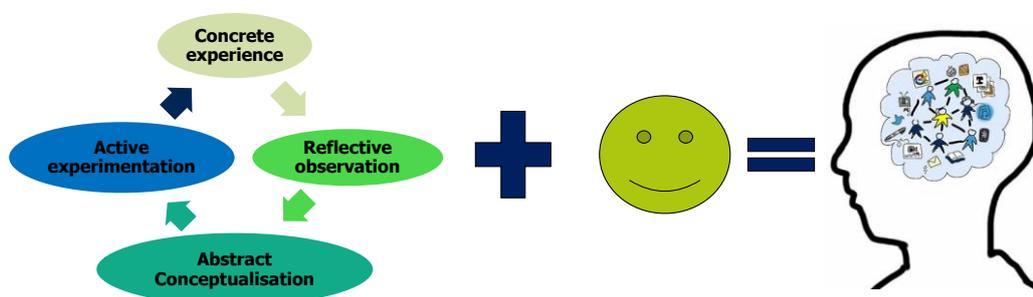


Figure: Sketch of a formula for effective learning activities illustrating how Kolb's learning cycle in combination with a positive emotion results in effective and long-term construction of knowledge by learners.

Gender equality and equal opportunities for women and men in Kenya

By Christine Verheijden - gender and water management expert Diversity4Change



For the first time in the history of Kenya, there is a Constitution (2010) that recognizes the rights of

women, so does the Government's vision 2030. Both legal frameworks address gender equality. Recognition of the equal rights of women and men as expressed in the Constitution is vital towards achieving full empowerment of women. The rights are vast and range from the areas of citizenship, equal rights to ownership of property including land, right to inheritance, leadership and governance positions. For example, the Bill of Rights in the Constitution affirms equal rights and non-discrimination, and the Constitution embeds affirmative action

aiming to improve equal participation in decision making.

Recognition of the equal rights of women and men as expressed in the Constitution is vital towards achieving full empowerment of women.

The Ministry of Gender, Children and Social Development has developed a Gender Policy for which the Constitution of Kenya is the guiding document. The overall goal of this Policy Framework is to mainstream gender concerns in the national development process in order to improve the social, legal/civic, economic

and cultural conditions of women, men, girls and boys in Kenya. Progress towards gender equality depends upon strategic and well-targeted interventions. The policy provides direction for setting priorities. An important priority is to ensure that all ministerial strategies and their performance frameworks integrate gender equality objectives and indicators and identify actions for tackling inequality. In addition, each program will develop integrated gender equality strategies at the initiative level in priority areas.



Female entrepreneur fish farming in front of one off the fish pounds.

Notwithstanding that gender equality is clearly recognized as key for development in Kenya, there are still considerable differences in the country between men and women's possibilities to control and benefit from economic, social and political resources and structures. There are signs showing that patriarchal attitudes and systems are fighting this process. For that reason the key work will be in the implementation phase, making the Constitution fully functioning so that gender equality and empowerment will win.

Influence of these legal frameworks at regional and local level

Following law, SEKU (South Eastern Kenyan University) has its own gender policy. However there are serious

problems with the implementation of this policy. Therefore the project is providing gender training in order to close existing gaps.



Students participating in the focal group discussion.

For instance, besides the gender policy SEKU has a gender committee, however this committee is lacking some essential requisites for being really effective. Among others the committee (members) does not have authority, it does not have financial means (budget) for implementation of the action plan, several of the members are not motivated on the subject (they have been appointed), there is lack of technical capacity on the issue of gender equality by the majority of the members of the committee.

In order to provide effective training on gender equality for mainstreaming through organizational policies, structures and curriculum first a gender assessment has been carried out. This assessment enables SEKU to identify the impact of gender relations on their own culture, processes, programs and organizational performance and vice versa. When the specific patterns of gender relations in SEKU are uncovered, it becomes possible to work within the institution to change the unequal patterns and to reinforce the equalizing ones, making SEKU more gender responsive.

A total of 30 people, between staff and students have participated in the gender assessment. A mixed group of staff members, male and female, and from different levels and with different positions (teaching and non-teaching staff) has been interviewed as also 2 students (male and female). Besides a focal group discussion with a mixed group of students had been carried out. The results of these interviews, as also of the focal group discussion, have been the input for the workshop that had the objective to deepen further on the existing situation regarding gender relations within SEKU. The participants in the workshop was also a mixed group.



Working with the Onion of Hofstede, uncovering the organizational culture.

Part of this workshop was also a field visit to have a closer look to the possibilities of female entrepreneurship and to discuss with her about opportunities and limitations being a women in this business.

The gender assessment has provided some useful outputs:

1. A reflection of the status of gender equality within the university.
2. A baseline for collective discussion and analysis.
3. A participatory process building ownership for gender equality initiatives and inputs for the development of an action planning process for moving forward.
4. Recommendations for how to improve institutionalization of gender at SEKU.

Due to circumstances, the work has stopped for a while. But now the work will be taken up again. Next on the agenda, very soon, is the development of an action plan on gender mainstreaming, followed by a gender training for the gender committee and SEKU management and sessions on gender awareness raising.

Entrepreneurship Aquaculture: total concept in Machacos county

By Victor Volkens - senior consultant Q-Point BV



I traveled together with our project partner dr. Patricia Muendo and we visit the farm of one of the participants of the workshop Labour Marked

Needs Assessment at the South Eastern Kenyan University near Kitui, Kenya.

Mr. Tony Ndetto is owner of the Kamuthanga Farm. He, originally is a marketer, saw a lot of opportunities for

the fish market sector and took the initiative to design a total new aquaculture farm. He and his team of practical experts were not afraid to try out state of the art methods and techniques, creating an aquaculture farm with the RASS-system and basins instead of ponds.

This is quite out of ordinary in Kenya. The RASS-system is making use of water recycling, filtering and oxygenation.



Clean tanks is a major must in the eyes of the owner. In this photo from left to right dr. Patricia Muendo, the deputy farm-manager and the owner mr Tony Ndetto.

Kamuthanga Farm now is able to re-use 80% of the water, meaning a water use of 20% only, compared to the traditional pond methods now commonly in use in inland Kenya.



Water collection prior to Bio-filtering.

Especially for arid and semi arid conditions this is a good achievement for the sustainable use of water resources. Finally the effluent water is used for droplet irrigation on the fruit and vegetable producing units of Kamathanga farm.



The production site for the concrete materials like drainage tubs and poles fencing.

What really struck me is that almost all necessary materials are produced on site but not only for their own purpose, also the local community of farmers are helped out, some examples:

The production of concrete to build the basins and the water system is done on site. In fact they produce more concrete parts than necessary for their own use, for instance concrete tubes and poles for fences, and now enabling them to supply the local community.



Creating top humus / compost for fertilization at the worm hatchery. Worms serve as protein additive for the commercial feed.

A production unit for helminthes is mastered by another very skillful employee. The worms are used as an additional protein source to the commercial fish feed. The soil and dung used for this worm breeding purpose, originates from the neighboring farmers, thus creating a nice sustainable dried compost that can be used again as fertilizer on the fields.

The fruit and vegetable farm, also run by a professional farm manager, also is the hatchery for seedlings of crops for the local community.

Tony has employed staff that has a proper attitude, skills and knowledge of aquaculture and farming. These folks are manning a hatchery, producing the Tilapia fingerlings for own production.

The hatchery system is clean, clever designed and making innovative use of simple low investment technological solutions. The experience, knowledge and methodology gained can be used to help other farmers to set up low investment solutions of their own. To achieve this Tony Ndetto offered to the project and SEKU university his cooperation in return for apprenticeships and applied research to be performed on his farm.



Hatchery; skilled people with strong hygiene regime.

We discussed during lunch the vision Tony has for the future of Kamuthanga Farm. Tony additionally has plans to add also a swimming pool and a Family hotel aiming to create the "(fish) Farm Experience" for local and international tourists.



Seedlings beds for neighboring farmers.

What gives me a good feeling for the future and the realization of the plans is that the Farm is cooperating with the Dutch company Syngenta.



Test field Syngenta.

For me it means that idealism and ideas are going hand in hand with a good commercial understanding. As I always think while working on our projects in Kenya: "the schools and universities should deliver entrepreneurs with ideas and the good attitude to take initiatives and create a strong local economy with local food supply thus creating food security, beside scientists that can find employment at Government (financed) organizations such as universities research and NGO's.



Tanks for the adults, Tilapia and Catfish.

Meeting Tony made me enthusiast and believe in future Kenyan entrepreneurs creating employment for the new generation of graduates. Graduates that are better skilled to fulfill the labour market demands.

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Partners



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Colophon

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