Utafiti News

A Newsletter of the Research Production and Extension Division

Issue No. 2 — Spearheading Research and Development — **March 2015**

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Vision

Towards excellence in research, innovation, and extension

Mission

To promote the discovery, application, and dissemination of knowledge through quality research and innovation

Core Values

- Freedom of thought and expression
- Innovativeness and creativity
- Team spirit and teamwork
- Professionalism
- Quality customer service
- Transparency and accountability
- Ethical practices

Message from the newsletter editor

What is the impact of your research to society? Research uptake is the key message in this issue of *Utafiti News*. The Vice-Chancellor's message is that the University of Nairobi will invest in research that has relevance in addressing the diverse problems we have in society. The Deputy Vice-Chancellor Research, Production and Extension, Prof. Lucy Irungu, emphasises that research uptake must be an important ingredient of any research undertaking. From industry to the informal settlements, our stories highlight how UON researchers are going out of their way in search of solutions to the societal challenges.

The bean canning story describes how the UON is about to bring to an end a 60-year dependence of the local bean canning industry on one bean variety whose production appears to be dwindling. We have described an innovation that could bring some order to the road transport sector and another one that could save fruit farmers from making huge losses by harvesting at the wrong time. In Wandiege, one of many informal settlements in Kenya, we see an example of how research can inform the development of effective solutions to problems of poverty and poor access to water and appropriate sanitation conditions. The impact of these activities are best realised through modern approaches to research extension and social work which have been described as well.

This issue also covers what appears to be a rapidly growing problem of the emergence of predatory publishers who are threatening to ruin the expanding arena of open-access publishing. Read about the ongoing efforts by the UON Library to train researchers and other members of the academic staff on avoidance and detection of plagiarism. In a related story, the important issue of copyright is explained in detail. We also have information about the various policies and procedures guiding the conduct of research at the University.

We have much more in this issue. Read on.

If you would you like us to highlight your research activities, you may get in touch with the Research, Production and Extension Division. Email dvcrpe@uonbi.ac.ke

Message from DVC-RPE

P romotion of research uptake will be an important element of our activities as we focus on projecting the research profile of the University of Nairobi. Enhanced research uptake will ensure that research from the University impacts the society through its application to addressing development challenges. High levels of research uptake will also be an indication that we are putting our research resources to good use.

The Research, Production and Extension (RPE) Division has been involved in a series of activities and discussions with like-minded institutions across the continent, stakeholders, and most importantly our own researchers to share knowledge and experiences that will support the development and sustenance of a research uptake culture in the University. The researcher is central to any successful research uptake endeavour. It is the researcher who engages with stakeholders to determine their research needs, incorporates research uptake in the research design to address these needs, and maintains the focus on uptake throughout the research process. Ultimately, the researcher should play a role in providing guidance on the use of research outputs for improved policy and decision-making.

Some key donors are emphasising the incorporation of a clear research uptake plan in the research design as a precondition for project funding. This condition can be fulfilled without necessarily taking away the academic freedom of the researcher.

The RPE Division recently initiated the development of the University of Nairobi Research Uptake Strategy, which was undertaken by members of the implementation team of the Development Research Uptake in Sub-Saharan Africa (DRUSSA). The Research Uptake Strategy will enhance the systematic management of uptake and utilisation of the University's research outputs with the objective of contributing to the knowledge base in our society and thus to national development. The strategy, which places research uptake within our institutional policy framework, will complement other University of Nairobi policies and strategies. The document is awaiting consideration by the University Management Board and Senate.

The RPE Division will continue to provide our researchers with the necessary support to strengthen research uptake by holding forums to discuss trends in research uptake, supporting research uptake training and communication activities, monitoring progress, and evaluating our achievements.

Prof. Lucy Irungu
Deputy Vice-Chancellor Research, Production & Extension

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Vice-Chancellor's commitment to promoting research

T he University of Nairobi has expressed a strong commitment to supporting relevant research interventions to address the myriad problems facing society. This was a key message by the Vice-Chancellor, Prof. P.M.F Mbithi during his installation as the University's 7th Vice-Chancellor. Prof. Mbithi outlined the plans of his administration to ensure achievement of this very important goal. He indicated that during his tenure, the university will "focus on enhancing the capacity of researchers, improve the management of research funds, enhance dissemination of research outputs to society, incubate research efforts and partner with industry to commercialize research outputs".

The Vice-Chancellor acknowledged the contribution of industry and other stakeholders in promoting research at the University of Nairobi and emphasised the importance of continued consultation. He revealed that the university is planning to "hold a conference for industry stakeholders in research to exchange views on how to grow research at the University". As an incentive to staff, the Vice-Chancellor pledged at least KSh 1 million in support, by the University, for any qualifying proposal.

Prof. P. M. F. Mbithi
Vice-Chancellor
University of Nairobi

Beware:
Predatory publishers could gobble up your research effort

> "Predatory publishers" refers to open-access journal publishers who deceptively entice unsuspecting researchers to publish with them.

A lmost on a daily basis, one researcher or another receives an invitation or "Call for Papers" to submit a paper for publishing. I followed up one such invitation and came across the following information about the journal:

Issue Number Vol 1, No.1 (2015)	
Issues published 1	
Items published 1	
Total submissions 1	
Peer reviewed 2	
• Accept-1 (100%)	
• Decline 0 (0%)	

This journal appears to have been established only recently and therefore has no other issues in the publisher's archives for an interested author to check the quality of work done.

If you have published a research article, then you are familiar with the rigorous decision process involved in selecting the right journal. Today, those considering open-access publishing have to perform extra due diligence to ensure they submit their papers to genuine publishers only. The proliferation of dubious journal publishers, commonly known as predatory publishers, is causing concern among the supporters of scholarly communication through the open-access movement.

"Predatory publishers" refers to open-access journal publishers who deceptively entice unsuspecting researchers to publish with them. The main interest of these publishers is to make profits rather than the promotion of scholarly communication. Predatory publishers are known for taking shortcuts with the papers they receive for publishing. For instance, they will claim to conduct peer review when in fact they have no peer reviewers and their editorial services are usually below par compared with well-established publishers. The hallmark of predatory publishers is to demand publication fees after the papers are published, yet this vital information is not contained in the call for papers.

On the contrary, charging of publication fees is not an unusual phenomenon in open-access publishing which is supported by authors and not the readers through subscriptions like in traditional journal publishing. The Public Library of Science (PLOS), which is known for publishing some of the most influential journals in science and medicine, for instance charges between $1350 and $2,900 per article published and uses this money for what the publisher refers to as "peer review management, journal production, and online hosting and archiving". In addition to making the charges known to potential authors, PLOS journals reflect quality of peer review and editorial input.

The latest "Beall's List of Predatory Publishers" released in January 2015 will give you an indication of the magnitude of this

aware of the existence of predatory publishers, but has not been a victim of these publishing fraudsters. "I choose my journals very carefully. I look at the impact factors of the journals I select", says Prof. Okoth who is an experienced author in both the traditional print and open-access publishing models. According to Agatha Kabugu, Deputy University Librarian, the UON Library is in the process of gathering information about this phenomenon.

Jeffery Beall is a name that is almost synonymous with the crusade against unethical practices in open-access publishing. Beall, a librarian at the University of Colorado, Denver, in the United States has dedicated a lot of time to studying and documenting malpractices in open access scholarly publishing. According to Beall, inexperienced researchers are most vulnerable to

the techniques used by predatory publishers to acquire articles. As a researcher, be wary of any publisher who solicits for manuscripts using spam email. Predatory publishers will not disclose beforehand that author fees are required; the researcher only receives an invoice after the paper is published. Quite uncharacteristically, these publishers make it mandatory for authors to transfer copyright of their work to the publisher at the time of manuscript submission making it difficult to retract the work. In a document called "Criteria for determining predatory open-access publishers, 3rd edition, Beall provides a list of factors used to identify predatory publishers.

How does being published in a predatory journal hurt your research work? To begin with, you will not be considered as having published in a "reputable peer-reviewed journal", which is an important qualification in the world of scholarly communication. Predatory journals do not qualify for listing in recognised searchable scholarly databases such as those prepared by the Web of Science. Secondly, you will have lost the opportunity to try another publisher with the same paper because it no longer belongs to you. It all boils down to having nothing to show for all your research effort. Although some researchers submit papers to predatory journals unknowingly, there are those who do so deliberately to obtain the extra paper required for promotion, grant application, and other purposes.

> " I choose my journals very carefully. I look at the impact factors of the journals I select says Prof. Okoth "

problem. The list contains 693 of the so-called predatory publishers from 241 the previous year. When the list was first published four years ago, only 18 publishers were classified as predatory. In a related list referred to as "Potential, possible, or predatory open-access journals", Beall has 507 candidates on his list compared to 303 in 2014. These statistics imply a rapid increase in questionable scholarly publishers and journals in the open-access model.

Although these figures may paint a bad image of open-access publishing, the number of genuine publishers on this platform exceeds that of the fraudsters by a large margin. Their existence, however, is a reminder for authors to exercise extra caution when selecting the right journal to publish their papers.

Professor Sheila Okoth of the School of Biological Sciences is

predatory publishers. At a time when the proliferation of online journals sees the establishment of a new journal every day, combined with heightened institutional pressure to publish, even experienced researchers may find themselves falling for the ploys of these dubious publishers.

Prof. Okoth agrees with this observation that some young researchers undertaking their postgraduate studies at the UON have had to submit their papers to predatory journal publishers because of the desire to fulfil the requirement of publishing at least two research articles before one is allowed to graduate. "Some students are paying to get published", she says.

In the article "Predatory publishers are corrupting open access" published in *Nature* on 13 September 2012, Beall describes

Of course, Beall's list is not perfect and has been criticised by some, but there may be no harm in consulting the latest list, if only to dispel some of your doubts about the credibility of a new journal you are considering. On the other hand, the controversy surrounding the publication of fabricated results by South Korean stem cell researcher, Hwang Woo Suk, indicates that even the most prestigious journals require scrutiny. Some have had to re-examine their peer review and editorial processes which are generally regarded highly.

Turnitin
Using plagiarism detection software to maintain academic standards

Each year, thousands of students obtain postgraduate qualification from the University of Nairobi leaving behind as many research reports. Research reports in the form of theses, dissertations, and other types of scholarly material are a treasure for institutions of higher learning because they represent a record of research activities by students. The University of Nairobi Library has digitised all postgraduate research reports and uploaded them to the institutional repository. In this format, the materials are not only preserved but also made more visible to the world. Indeed, the collection of scholarly materials in the digital repository has improved the University's webometrics rankings making the University of Nairobi the best institution in East and Central Africa. The University would like to maintain this leading position by improving the quality of research reporting through such measures as elimination of plagiarism.

It is for this reason that the University of Nairobi Plagiarism Policy 2013 was established as the

legal framework to curb plagiarism. With the policy in place, there was need to assist students, researchers, and other members of staff to conduct research without having to worry about incidental plagiarism. Consequently, in June 2014 the University obtained a donation of 100 Turnitin licences from the Consortium for Advanced Research Training in Africa (CARTA) to help in detecting plagiarism. The one-year licences are due to expire in May 2015 but the UON Library has moved with speed to ensure they are utilised before the expiry date.

The UON Library has been using the free licences to train staff on how to apply Turnitin software to their work. So far, the library has trained the ICT personnel at the Population Studies Research Institute (PSRI), top managers at the library, and the senior staff. The Library has also taken some members of staff through a training of trainers programme in order to spread the training to the rest of the University fraternity. Plans are underway to train postgraduate students and staff at the School of Computing and Informatics on 19th

March, 2015 before moving on to another college. It is anticipated that over 500 users will have been trained before expiry of the licences as the University plans to buy more. Meanwhile, with the assistance of library staff, the University Press has begun subjecting manuscripts to the plagiarism detection software as part of the editorial process of book publishing.

In addition to assisting in the detection of plagiarism, Turnitin is used as an online teaching tool to assess originality and grade students' work. Users may scan their work as many times as they wish during development to correct or remove plagiarised sections. It is expected that the software will go a long way in enhancing quality in research at the University of Nairobi. You are encouraged to read the University of Nairobi Plagiarism Policy available on the UON Intranet and to look out for the next training on the application of plagiarism detection software in your department.

Research-industry links

UON bean variety headed for the can

According to Prof. Kimani, Kenya Cheupe has been identified for immediate commercialisation. Canning factories have started to assess the candidate varieties for industrial canning.

Are you a consumer of canned beans? Well, be ready to welcome a new product on your table soon. Kenya Cheupe, a new bean variety developed by researchers from the University of Nairobi could bring to an end over 60 years of dominance by Mexican 142, a single white seeded bean variety, that the local bean canning industry is currently using.

The journey to developing Kenya Cheupe began in 2010 when key players in Kenya's food processing industry approached the University of Nairobi with a specific request: to provide a bean variety with similar or better characteristics than Mexican 142. The industry needed a bean variety with uniform cooking qualities, excellent water uptake, shorter cooking time, and sensory appeal. The producers of canned beans were finding it difficult to obtain sufficient quantities of harvested bean for canning.

According to Prof. P.M. Kimani of the Department of Plant Science and Crop Protection, who is also the project leader of the Plant Breeding and Biotechnology Programme that developed Kenya Cheupe, the request was way out of the department's research priorities. Prof. Kimani explains that before embarking on the canned bean project, the department's focus was the development of dry bean varieties for smallholder farmers. The University was known for producing the coloured large-seeded bean varieties whose canning potential was unknown, but the canning industry preferred the small-seeded white varieties.

Commenting on his department's unpreparedness for the new project, Prof. Kimani says, "Although the bean programme has genetically diverse materials which could be screened, and a pilot food processing plant at the College of Agriculture and Veterinary Sciences (CAVS), additional equipment was required and part of the plant such as steam production, retorts, can sealing and cooling systems had to be rehabilitated".

The new project also had limited experience and facilities for screening beans for the broad range of genetic, biochemical, physiological and physical criteria, which comprise canning quality. Despite the limitations, the University of Nairobi took up the challenge.

The project kicked off with financial support provided by Bioinnovate-ILRI, Swedish International Development Agency (SIDA) and Kilimo Trust (Uganda). The project also received support from Trufoods Limited, Njoro Canning Factory, farmers, technologists, University of Nairobi graduate students and regional partners.

The rigorous and painstaking breeding programme began as the researchers worked to achieve a single bean variety that would combine key features such as drought tolerance, disease resistance, more than 16 distinct traits that determine canning quality, and agronomic potential. In addition, the new variety being sought had to meet or exceed the characteristics of Mexican 142, the industry reference standard. Further, after development the new variety had to be independently validated by the Kenya Plant Health Inspectorate (KEPHIS) through countrywide, mandatory national performance trials (NPTs) and testing for distinctiveness, uniformity, and stability (DUS). The initial 500 breeding lines were progressively reduced as the beans were subjected to various combinations of tests.

The bean programme incorporated the element of participatory variety selection (PVS) to identify farmer and consumer preferences among bean farmers, processors, extension officers and other stakeholders at project sites in Mwea and at Kabete. Advanced yield trials were conducted in Thika, Meru, Mwea, Tigoni, Nakuru and Kabete. Prof. Kimani indicates that, "The lines were also evaluated for cooking time, water absorption and all key canning characteristics in research laboratories and the pilot food processing plant at Kabete. More than 20 candidate varieties met all criteria for processing and household consumption."

The research team submitted 12 new bean candidate varieties to KEPHIS for validation. During the procedure, the agronomic potential of the beans was determined alongside the identification of new varieties for release and commercialisation. This process took two seasons during which farmers were contracted to produce 300 kg of each variety for the final industrial testing for canning quality. Industrial test results showed that indeed these new varieties performed better than Mexican 142 in many ways including uniform cooking, excellent water uptake, shorter cooking time and sensory characteristics.

According to Prof. Kimani, Kenya Cheupe has been identified for immediate commercialisation. "Canning factories have started to assess the candidate varieties for industrial canning," he says. "In 2014, a model for prototype testing of the new varieties for up-scaling and commercialisation in partnership with seed companies, canning industry and contract farmers was developed and is being implemented with more than 30 farmers in bean growing regions of Kenya."

The primary beneficiaries of the novel innovation are farmers and consumers. Farmers will benefit from reduced losses due to diseases and drought, increased productivity, and better returns on labour. Communities will benefit from the bean project through employment and better incomes and livelihoods.

Seed companies will have new products to satisfy the market demand. Kenyan seed companies have not been producing certified seed for canning beans because of lack of improved varieties for this purpose. After nearly 60 years, it will be possible for food processing companies such as Trufoods, Njoro Canners, and others to have access to adequate and regular supplies of

Kenyan seed companies have not been producing certified seed for canning beans because of lack of improved varieties for this purpose.

grain for canning and certified seed for their contract farmers.

The new bean varieties will make it possible for the country to rely less on imported canning dry beans and save millions of dollars in imports. Kenya will also spend less on imported fungicides and her products will be more competitive in export destinations where they are facing fierce competition. Increased production will ensure food and nutritional security.

Field trials at Kabete Field Station

Intelligent traffic control system

There is no doubt that the University of Nairobi is playing an important role in providing incubation facilities for innovators.

I t is midday and I am in traffic in one of the busy streets in Nairobi. Ahead of me a traffic snarl up is beginning to build up; a matatu is blocking the way as the driver tries to weave his way between stationary vehicles. As the traffic builds up behind me, I begin to feel the frustration resulting from the careless action by the matatu driver. Then I remember my discussion the previous day with an innovator who is in the process of developing a gadget to assist in the enforcement of traffic laws.

Mr. John Kiama, the innovator, is being hosted at the C4D Lab at the School of Computing and Informatics, Chiromo Campus. Mr. Kiama's innovation, dubbed "intelligent traffic law enhancement machine", could be the solution to the indiscipline and recklessness observed on our roads. The equipment is designed to capture details of motorists who run away after causing accidents. The gadget, which can be mounted inside a vehicle, gathers data about the driver's location, issues a ticket in the event that one flouts traffic laws, and processes the fines levied.

According to Kiama, his innovation can be used to save lives because a motorist who breaks traffic rules is fined instantly by being issued with a bill in the form of a token from the machine. The driver is required to pay the fine indicated on the token issued. The gadget can also help to locate the scene of a traffic accident by medical and other personnel undertaking search and rescue missions. The time saved in the process will enhance the health and safety of accident victims.

Kiama first became intrigued by traffic law enforcement after he was involved in a traffic accident while in high school. The driver of the matatu Kiama was travelling in had tried to run away from the accident scene in the full glare of his passengers. This piece of information arouses my curiosity and I ask him to tell me more about himself. "I am an alumnus of the East African School of Aviation where I studied aeronautical engineering. I am being helped here at UON to incubate my ideas for traffic law enforcement," he says. Kiama has been working in the lab since April 2014 and feels that he has gained tremendously from the mentoring received, but more so from also serving as a mentor for students of the College of Biological and Physical Sciences. "I have seen the students grow from one stage to another by putting skills (not papers) into something useful. This is what industry wants to develop; a research mentality and then taking on the task at hand", Kiama declares.

When asked to describe his innovation, Kiama has this to say: "My equipment is a system comprising four parts". He further explains the functions of the components. One part is installed in the vehicle while a second part is installed on the road as a beacon. This second component also serves as storage for traffic data and is an interface between the road and the vehicles on the road. The third part of the system is a central position server for analysing data. This part is used in the management of traffic, especially controlling traffic jams and providing the necessary advice to the police, hospitals, and members of the public. The fourth element has communication capability and operates much like a mobile phone. Under the right policy framework, this equipment can help to reduce the time wasted by the traffic police in physically identifying and arresting reckless drivers and those whose vehicles are in poor condition.

The next step is for Kiama to develop a business model for making his innovation available for use.

The innovator estimates that a prototype may retail for USD 250 to 350 after which users pay a monthly subscription fee as they continue to enjoy the services. "What you see here for exploitation is a well-coordinated transport sector where we can predict traffic jams and accidents and report them", says Kiama. Once it is implemented, the device will make a difference in the establishment of comprehensive networks and coordinated control of road transport.

There is no doubt that the University of Nairobi is playing an important role in providing incubation facilities for innovators. According to Kiama, the incubation centre has been very useful. "I have a base to operate from, I receive professional help, and I interact with interns in a learning exchange", he observes about his use of the UON facility. The innovator has been trained in grant writing and also found the opportunity to meet with investors to discuss the possibility of establishing partnerships. Kiama, however, agrees that incubating an idea to finally come up with a tangible product is not an easy task. He advises that for an innovation to mature and see the light of day, an innovator requires to have time and passion for work. An innovator will often need to sacrifice social comforts and full-time work to devote time and energy to overcoming challenges in the application of an innovation.

What the equipment can do

1 A motorist who breaks traffic rules is fined instantly by being issued with a bill in the form of a token from the machine.

2 Helps to locate the scene of a traffic accident by medical and other personnel undertaking search and rescue missions.

3 Serves as storage for traffic data and is an interface between the road and the vehicles on the road.

4 Management of traffic, especially controlling traffic jams and providing the necessary advice to the police, hospitals, and members of the public.

5 Has communication capability and operates much like a mobile phone. This helps to reduce the time wasted by the traffic police in physically identifying and arresting reckless drivers and those whose vehicles are in poor condition.

No squ*ee*zing:
How ripe are your fruits?

Some of the fruits which the prototype can analyse for quality include mangoes, oranges, tomatoes, and avocadoes.

M.Sc. Student Daniel Karibe (extreme left) explains his innovation for analysing fruit quality during an exhibition

The common practice of squeezing fruit to check for ripeness may not be necessary for much longer. Daniel Karibe , an M.Sc . student at the Department of Physics is working on a prototype innovation for analysing fruit quality, checking for ripeness, and grading for freshness all of which are important determinants of fruit pricing.

Speaking to Utafiti News, Karibe explains that the prototype software uses remote sensing with a light-emitting diode (LED) beaming light through the skin of the fruit. The resulting light is then analysed to determine fruit quality.

Karibe's innovation, which was rolled out at a cost of Ksh 500,000 was funded by the University of Nairobi and the innovator's savings. When released into the market, the innovation will help producers of fresh fruit to determine the best time to harvest their fruits. With this innovation, fruit farmers will not suffer the frequent losses usually experienced due to fruit rotting and over-ripening.

Some of the fruits which the prototype can analyse for quality include mangoes, oranges, tomatoes, and avocadoes. Karibe's innovation underscores the need for industry and university research units to work together to realise uptake from research activities.

Promoting research uptake

The women and girls of Wandiege community in Kisumu County no longer have to carry jerry cans of water on their heads from the nearby River Auji.
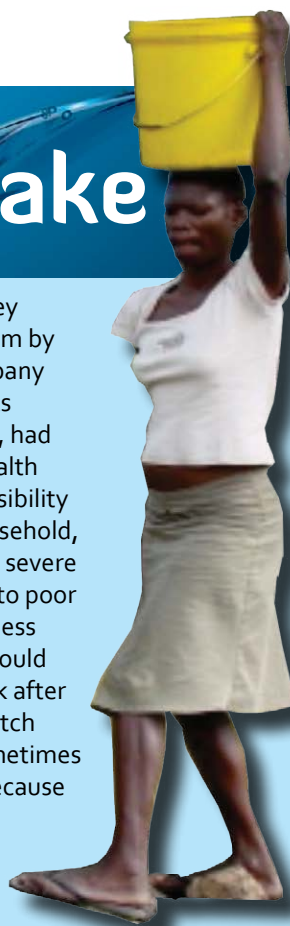
Life in Wandiege: Where research connects with the community
The women and girls of Wandiege community in Kisumu County no longer have to carry jerry cans of water on their heads from the nearby River Auji. Informed by findings of a research conducted by a researcher from the University of Nairobi, residents of this poor informal settlement on the outskirts of Kisumu town obtain safe, clean water from their own water company. The Wandiege Water and Sanitation Company Ltd is a unique project that other towns in Kenya are keen to replicate.

Critical health issues
Before establishment of the water project, residents of Wandiege or Manyatta B as the settlement is called, had no access to safe water. They were not connected to the supply system by the Kisumu Water and Sanitation Company (KIWASCO). Wandiege, whose residents suffered a general scarcity of resources, had poor sanitation conditions and poor health indicators. Because it was their responsibility to fetch water for use by the entire household, the women of Wandiege suffered more severe health impact resulting from exposure to poor sanitation conditions. The women had less time to attend to other activities and would be too tired to perform productive work after making countless trips to the river to fetch water. Girls in the community were sometimes forced to be late or even miss school because

of helping their mothers to fetch water.

The Wandiege community sought to address their situation by forming a self-help group with the initial aim of sensitising community members to the poor water and sanitation conditions in the area. They held sensitisation campaigns, solicited for community support, and sought technical advice from the non-governmental organisation, SANA International. These interventions led to the idea of establishing a water supply project.

Birth of a water project
The idea of a community water project was inspired by a programme focusing on health and development in Africa at the Wandiege Primary School in 2001. Through the programme, water and sanitation were identified

as major concerns which needed to be addressed so that every resident could enjoy clean water and adequate sanitation facilities. Dr. Samuel Owuor of the Department of Geography and Environmental Studies was involved in the project as a principle investigator in a project whose broader aim was to assess the impact of water sector reforms on livelihoods.

According to Dr. Owuor, the Wandiege project was also inspired by enactment of the Water Act, 2002 which allowed the entry of private water service providers into the water and sanitation sector.

When they started the water project, the community set out to achieve four main objectives:
o   Improve access to safe and clean water
o   Improve the health status of the residents through improved sanitation facilities

According to Dr. Owuor, the water project is a life-changer and has opened up further opportunities for life improvement and transformation in the community.

Prof. Lucy Irungu with administrators and Unit Heads of the RPE Division during a retreat

Participants of the AFRHINET international symposium at UNES headquarters

o   Improve potential household income
o   Ensure full ownership of the project by the community

Project impact

In 2006, the water project was completed and registered as the Wandiege Water and Sanitation Company Ltd (WASCO) one year later. The company had a borehole and two water storage tanks of 10,000 litres each to supply a 5 km pipeline system. The project had seven water kiosks and 60 private connections. By 2012, the company had expanded to cover an additional 3 km of pipeline, 24 water kiosks run by private individuals, and 148 metered connections all serving up to 15, 000 residents.

The company also supplies free and clean drinking water to Wandiege Primary School which has also benefited from electricity connection in one block of the school building. Through the project, the community members also constructed and now use eco-sanitation and sand-platform latrines as opposed to pit-latrines. Access to improved sanitation in Wandiege rose from 7 percent in 2008 to 43 percent in 2009.

As a result of the WASCO water connections, residents of Wandiege Community spend an average of seven minutes per day fetching water compared to the pre-connection thirty-one minute average. For the women and girls who are responsible for taking care of the household's water needs, the water project means decreased exposure to water-borne diseases and improved sanitation.

According to Dr. Owuor, the water project is a life-changer and has opened up further opportunities for life improvement and transformation in the community. Other towns such as Kisii, Homa Bay, and Nairobi have shown a lot of interest in replicating the Wandiege project.

Handing over ceremony of the Kenya Innovation Survey report. The RPE Division was involved in the development of the assessment tools used in the survey

copyright

[ˈkɒpiˌraɪt]

1. the exclusive right to make copies, license, and otherwise exploit a literary, musical, or artistic work, whether printed, audio, video, etc.

Understanding copyright

We hear a lot about copyright; players in the music industry complain of piracy while authors are up against the photocopying and distribution of their works without consent. How many of us understand the meaning of copyright well enough to know when we are infringing on the copyright of others? Equally important, would we be able to recognise when our rights as creators of works are infringed upon? As researchers involved in the development of material, it is important to have an understanding of the basic issues in copyright and what our duties and obligations entail.

Prof. Ben Sihanya, a scholar of Intellectual Property and Constitutional Democracy at University of Nairobi School of Law shares his views on copyright

Hearing an argument on copyright
In the last issue of issue of *Utafiti News,* I discussed intellectual property under the two broad categories of copyright and related rights and industrial property. In this issue, I will focus on the scope of copyright and what amounts to copyright infringement and plagiarism. Copyright is an important element in the Kenyan academy and political economy. It is a way of promoting the development and distribution of materials for education, entertainment, public administration, and governance. In Kenya, copyright is protected under articles 40(5) and 43 of the Constitution of Kenya 2010.

Copyright refers to exclusive rights granted to the author or creator of an original work. These rights include the right to reproduce, distribute, and adapt the work. Copyright does not protect ideas; only their expression or tangible fixation. This means that you cannot claim copyright to an idea that you have shared with a colleague who then proceeds to convert it into a tangible product.

Subsistence of copyright
In Kenya, copyright need not be registered. Instead, copyright subsists automatically upon fixation of primary works and related or derivative works. Primary works are works of original creativity such as literary, musical, and artistic works. Primary creative works include books, letters, reports, computer programmes, plays, lectures, addresses, sermons, and poems. Primary musical works cover songs and other works composed of musical accompaniments; while primary artistic works include paintings, drawings, works of sculpture, and woodcuts. Secondary works are derived from primary works and include audiovisual works like films as well as songs based on poems; sound recordings; and broadcasts.

Copyright confers two forms of rights known as economic and moral rights. Moral rights include the "paternity" right to be named as the author and the right to protect the work from being modified. Moral rights are not transferable. Economic rights, on the other hand, are an author's or entrepreneur's right to secure economic and financial benefits from investing in a work. Economic rights, for instance, protect a film producer or director or other entrepreneur from having their work reproduced, distributed, or exploited without permission or a contractual licence. Unlike moral rights, economic rights are transferable through assignment or license. They survive the author and benefit the originator's estate.

Dealing with copyright and duration
The owner of a copyright or related right may deal in the copyrighted material in at least four ways. First, the copyright owner may enjoy the copyright personally or directly by publishing or performing the poem or other work. Second, the owner of copyright may license, or assign the poem or other work to another party. Third, the holder of copyright can exclude others from exploiting the poem or work. And lastly, if the copyright owner so wishes he or she may "abuse" the work, for instance by tearing and throwing it into the dustbin as Zimbabwean Damondzo Marechera and some Kenyans have done. This action is, however, subject to the state's police powers on environmental governance.

The Kenya Copyright Act 2001 provides that copyright lasts for the life of the author and 50 years after death. The 50-year duration is computed from the end of the year in which the author dies. After expiry of the copyright, the work falls into the public domain and may be used freely without fear of infringement.

Ownership of copyright
A work may carry *more than one subject matter of copyright simultaneously* under sections 2, 27 and 30 of the Copyright Act and other provisions. For example, we can identify up to six copyrightable elements in a compact disc of popular music. In this case, copyright will subsist in the music for the songs as musical works and in the songs' lyrics as literary works. The disc itself will have copyright as a sound recording and there may be copyright both in the literary and artistic works making up the cover design and any written and pictorial material inserted in the case. Should the compact disc be broadcast, copyright will also arise in the broadcast.

A work may also give rise to different forms of copyright at different stages. This means that ownership of any single creative artefact and the work of authorship embedded in it can be divided among several people in a process referred to as fragmentation. For example in *Twelve years a slave*, there are rights in the book or script on which the movie is based; there are rights for the actors like Lupita Nyong'o; there are rights for the singer or composer of the song; and there are rights for the movie itself. Permission must be sought from all these rights holders before others can exploit the work.

In the case of a contract of service, for instance in employment, the author of a primary work (the employee) has the first right of ownership. However, if the work is done within the scope and in the course of the contract, copyright in the work is deemed to have been transferred to the person who commissioned the work. However, the author would have copyright to a creation in case the contract specifically reserved copyright to the originator. This is applicable where most of the authors of literary works are employed in public or private universities, colleges, secondary and primary schools, in government, non-governmental organisations (NGOs), private universities or colleges, private corporations, international bodies, or in secondary or primary schools. In the case of software, programmers write it in the context of private employment.

Copyright infringement and privacy
Infringement refers to dealing with copyrighted material in a manner that is inconsistent with the copyright owner's proprietary interests. It occurs where one does any of the activities protected or restricted by copyright without the right holder's licence. These acts include unauthorised reproduction (copying, printing, or scanning), distribution of unauthorized copies, and adaptation. In such cases of primary infringement, the infringing parties are liable even if they were unaware that their conduct amounted to copyright violation. Secondary infringement refers to dealing with copies which have been made without the copyright owner's permission. This usually occurs when a person imports, possesses, sells, or allows for hire infringing copies to an extent that prejudicially affects the copyright owner. Liability will only arise if one knew or had reason to believe that one was dealing with infringing copies.

The Copyright Act, however, contains general limitations and exceptions to the exclusive rights granted to copyright holders. Any action that does not fall within the limitations and exceptions constitutes lawful conduct and excludes liability from infringement. Under section 26-29 of the Copyright Act, copyright does not include the right to control the works for purposes of criticism, review, scientific research, private use, and reporting of current events for as long as the author is acknowledged as such. Second, copyright does not cover the inclusion of not more than two short passages of a copyright-protected work in a collection of literary or musical works that is for use by an educational institution for educational purposes.

Third, there is no copyright in reproduction under the direction or control of the Government or by public libraries, non-commercial documentation centres, and research institutions, "in the public interest", and where no income is derived from such reproduction.

Remedies in copyright
A number of remedies are available under Kenyan copyright laws in the event of infringement. These remedies include cease and desist under administrative justice; injunctions to stop further infringement; damages for compensation of the infringement; delivery of the infringing material; and seizure of the infringing material among others. These remedies are available to all right holders protected under the Copyright Act including performers.

How to obtain copyright – eligibility criteria and cost
Copyright subsists automatically, but the Kenya Copyright Board (KECOBO) facilitates voluntary registration of copyright works under musical, audio visual, literary and artistic categories. Only original works are eligible for copyright protection.

One must fulfil the following conditions in order to be registered as a copyright holder:

- The work must be of original authorship; this means it should not have been copied.
- The application must be presented on a prescribed form obtained from the Copyright Office or downloaded from the Kenya Copyright Board website.
- The applicant must submit two soft copies of the works, where applicable, to the application.
- The work must be in a tangible form including digital form, for example VCD, CD, DVCD, books, or music cassettes.
- A duly completed application form must be witnessed by a commissioner for oaths and accompanied by the required fees.
- The applicant must also provide details of the copyright work, the authorship or artist, and the production or publication information.
- Upon receipt of the application, the Copyright Office may, after making such enquiry as it may deem fit, enter the particulars of the works in a Copyright Register.
- The Copyright Office will then issue a certificate of registration within 7 days from the date of registration.
- A registration fee of Kshs. 1000 shall be deposited in the account of Kenya Copyright Board.

Visit the University's Intellectual Property Management Office for assistance in accessing the KECOBO services.

For enquiries or more information on copyright and related issues, you may contact:
Prof. Ben Sihanya
Email. sihanya@innovativelawyering.com or sihanya@sihanyamentoring.com

Making social work relevant

We can achieve more meaningful social work interventions through the combined effort of research, teaching, and community outreach activities.

This was the message by the Deputy Vice-Chancellor, Research, Production & Extension Division DVC (RPE) Professor Lucy Irungu during a social work symposium at the University of Nairobi on 4th February, 2015.

Prof. Irungu who gave the keynote speech at the symposium under the theme 'Transformative Social Work Education and Practice' called upon social work professionals to earnestly safeguard human dignity and wellbeing for a just society. She challenged them to ensure that social work promotes social change, empowerment and liberation of people in addition to being the power behind improvement of the welfare of individuals, families, groups, and communities.

The symposium was organised by the Department of Sociology and Social Work in collaboration with the office of the DVC (RPE). It was attended by social work educators, students, and library representatives from universities in Kenya and other institutions that offer social work training programmes and related disciplines. Social work practitioners also attended the forum whose objective was to bring together stakeholders in social work education and practice to deliberate on recent developments with a view to transforming the profession.

Four papers covering the development and evolution of social work research, training, and practice were presented during the symposium. In their presentations, Dr. Nungari Salim and Dr. Mumbi Machera interrogated trends in the training and practice of social work in Kenya. They emphasised the need to apply more transformative approaches in addressing the changing needs and concerns in society. Using evidence from empirical studies and outcomes of an actual social work project, Dr. Wairire

Prof. Lucy Irungu, DVC-RPE (centre) and Prof. Enos Njeru, Principal College of Humanities and Social Sciences during the symposium on social work

gave the status of professional social work in Kenya and highlighted impediments to effective practice of the profession. He identified the tangible measures required to achieve transformative social work education and practice. The social work project, known as "Promoting Professional Social Work in East Africa" (PROSOWO), was conducted through collaboration involving the University of Nairobi, Makerere University, University of Rwanda, Institute of Social work in Tanzania, and Carinthia University of Applied Sciences in Austria.

The Principal of the College of Humanities and Social Sciences (CHSS) Professor Enos Njeru ,who also attended the symposium, reiterated that professional social work had the potential to shape national development. He emphasised the need to evaluate the capacity to fulfil this responsibility by current social work programmes.

While recognising the importance of universities as centres of information creation for poverty reduction, Prof. Irungu emphasised

that these institutions must play a central role in generating a sound knowledge base to drive the process of social work. She pointed out the need for such knowledge to take into account the diversities and interests of all stakeholders. Prof. Irungu offered that the University of Nairobi was ready to support and facilitate joint research between social work academics and practitioners in the search for practical, results-based interventions for social work clients at the grassroots.

She emphasised the importance of preserving the documented outcomes of such initiatives and insisted that there should be no unjustified inhibitions to accessing this information. Prof. Irungu said it was the responsibility of universities to package and freely disseminate information that will contribute to development. Universities must be facilitators of knowledge sharing between communities and other stakeholders.

The DVC (RPE) stated that as a pioneer social work training institution in Kenya, the University

of Nairobi was willing to support the dissemination of research knowledge in social work education and practice through scholarly publications and symposiums. She called for the establishment of networks and regular forums for stakeholders in social work education and practice.

The symposium was also the forum for launching the book *Professional Social Work in East Africa: Towards Social Development, Poverty Reduction and Gender Equality,* edited by Helmut Spitzer, Janestic Twikirize and Gidraph Wairire. According to the editors, the book is an important contribution to filling the gap of lack of documentation about the origin, development, and current state of social work education and practice in East Africa. The library representatives of more than 15 institutions at the symposium received two free copies of the book each.

Impacting society through sustainable extension

> Today, extension has taken a different approach in the dissemination and uptake of research. In the new model, researchers are the focal point in a dedicated mentorship extension programme aimed at shortening the learning curves.

T raditionally, extension work was left to and carried out by extension officers. These officers were tasked with interpretation of research outputs, packaging of information, and making it available to the intended research consumers. In this model, the researchers are on one end and the consumers on the other with the extension officer in the middle. In some cases, this model worked while in others it did not. Research has shown that this model has created gaps in the process of dissemination and adoption of new technologies.

Essentially, extension aims at improving productivity. In Kenya, various methods have been applied to extension including Train and Visit (T & V) which was introduced in the country in 1982 by the World Bank. The Train and Visit programme focused on institutional development of extension services and sustained increase in agricultural productivity. An evaluation of the programme revealed that although extension services were in demand, limited progress had been made in institutional development. In addition, there was lack of focus on farmer empowerment and the traditional top-

down approach of delivery left little room for feedback from the farmers.

Today, extension has a different approach to the dissemination and uptake of research. In the new model, researchers are the focal point in a dedicated mentorship extension programme aimed at shortening the learning curve which is estimated to be ten years. In this process, any new research is packaged and transmitted in a dedicated manner which includes a commitment of resources, time, personnel, finances and equipment to achieve successful extension.

Adopting seamless and sustainable extension
Research approximates that it requires 10,000 hours for people to be trained and to take up new information. The learning can, however, be shortened through dedicated mentorship extension programmes led by the researcher. Researchers are considered to be more effective in this new approach because they would be best placed to package and disseminate their own research outputs in a way that will resonate with the learning culture of the people and still tailor the extension to fit within the learning curve.

How is this achievable?
This is achievable by setting up a dedicated mentorship programme of 3-8 hours a day. The researcher, who can be considered as a mentor, then trains the people to take up the knowledge. The research output is used to inform the process or the people that one is mentoring and then to train those who will consume the outputs through a three year dedicated process. For a sustainable and seamless extension, the people involved in the research must also be involved in its application and dissemination. Universities which have succeeded in the world are those which have their research and extension enjoined together.

The missing link in extension
A key discipline that has been conspicuously missing in extension is anthropology. So far, the focus has been on sociology, which looks at the social dynamics of a community. However, when implementing and disseminating research for uptake by a community, there is need to study the cultural norms and values of the people. An effective extension approach, therefore, should include scientists who have the

hardware (research); the sociologist to bring in the social element; the economist to take care of the business aspect because research is meant to uplift the livelihoods of the people; and the anthropologist to help understand the learning culture and thinking of the people.

By understanding the learning culture and thinking of a people, the researcher will appreciate the dynamics of the different communities where he or she would like to have the research implemented. For instance, when dealing with a pastoral community, the approach used will differ from that of an agro-based community or a fishing community because the learning processes of the three communities are totally different and so will their uptake levels.

Agro-communities, for example, tend to be managers as well as workers; they work on their own farms as they manage the process. Pastoralists, however, tend to display exclusively managerial characteristics: they will employ a herdsman to take care of their herd as they (manager) wait to do the selling. In the traditional agricultural context, the manager will be approached to take care of a specific issue like when the herd requires to be vaccinated. The manager is expected to digest the information and instruct the worker (herdsman) to implement. In the case of the agro-community, however, the skills are transmitted directly because the person making the decision is also directly involved in the work process. This scenario then emphasises that the approach to use when applying sustainable extension is to understand the different communities, their cultural orientation, and their thinking in order to make the people feel that they are not being forced to change or adopt new ways to which they may be resistant.

ORCID RESEARCH IDENTIFIER

Calling all researchers:

The ORCID research identifier is an application that connects research and researchers. Given the large number of people who share similar identities, it is important for researchers to acquire ''Researcher IDs'' that will assist them distinguish their research activi-ties from others with similar names. It provides a solution to the problem of author ambiguity within the scholarly research community.

Visit the site www.orcid.org to explore this innovation in research.

Appointments
in the RPE division

Prof. Lydia Wanjiru Njenga was recently appointed the Director, Board of Postgraduate Studies. Prof. Njenga joins the Board of Postgraduate Studies at a crucial time when the Unit is transitioning to a Graduate School. Prof. Njenga succeeds Prof. Eunice Mutitu whose term ended on January 02, 2015.

Dr. Richard Ayah was appointed the Acting Coordinator, Science and Technology Park and FABLAB. Dr. Ayah joins Science and Technology Park from the School of Public Health. His aim is to develop the foundation of STP towards creating an interactive space where researchers and industry innovate for mutual benefit in alignment with the research, mission and goals of the University of Nairobi.

Mr. John Mwangi Maina joins the Intellectual Property Management Office as the Intellectual Property Officer. Previously, he served at the Kenya Industrial Property Institute (KIPI). One of the major tasks outlined for Mr. Maina is to carry out an institutional audit of all intellectual property (IP) in the University for the purpose of IP Management.

Mr Douglas Mwaniki Mwaura, a driver by profession, joins the Office of the Deputy Vice-Chancellor (Research, Production and Extension) from Finance Office. He joined the University of Nairobi in 2008.

Research policies and procedures at UON

- University of Nairobi Research Policy 2013 (revised)
- University of Nairobi Intellectual Property Policy 2013 (revised)
- Open Access Policy
- Plagiarism Policy
- Extension and Outreach Policy
- Procedure for Research: ISO 9001:2008
- Procedure for Protection and commercialisation of Intellectual Property (except the Research Notebook)

Policies under Preparation
- Incubation Policy
- Internationalisation Policy

Other useful documents for researchers
- Individual Research Work Plan Form
- Research Notebooks
- Intellectual Property Policy Acceptance Agreement Form
- Non-disclosure Agreement Form

These documents are available on the UON Intranet. You may contact the relevant offices directly for assistance or seek guidance through the Registrar, Research, Production and Extension Division.

Graduate students association comes alive

G raduate students at the University of Nairobi can now breathe a sigh of relief following the registration and operationalisation of the Graduate Students Association (GSA).

The mandate of the association is chiefly research based. First, the association will focus on how students can access articles in peer-reviewed journals. Secondly, the group will explore how its members can find avenues through which to publish given the new requirement for graduate students to publish research articles before they graduate.

According to Dennis Chacha, Communication Secretary of the Association, the establishment of the association was long overdue. "We now have an association that can help us to create links and a relationship between students and industry. We can act as problem solver and fix problems in order to enhance Kenya's Vision 2030 by acting as a think tank", he observes.

The association's structure has a provision

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for an editorial board to assist in training students to publish research papers and news stories. Although it is not operational yet, the editorial board is what separates the ideals of the GSA from those of the general students' body, the Students' Organisation of Nairobi University (SONU).

Activities

One of the first activities of the association is to create a rapport with university management. The association is working closely with the Board of Postgraduate Studies to improve communication and the environment for graduate studies.

Through an external partner, Eng. Joseph Njoroge, of the MBA Chapter of the Alumni Association, the GSA is engaging on how to provide student placement, internship, and skills-based training.

The association is also exploring how best to utilise the diverse skills of its members in various corporate social responsibility activities away from the usual cleanups, shopping for groceries, and visiting homes and centres for the destitute. This decision may call for community engagement with the smaller settlements around Nairobi, but the association

is ready for this task.

According to Chacha, the association has approached some corporate bodies for funding of students' projects including thesis development. Already, the Research, Production and Extension (RPE) Division has introduced the students to the African Research Funding Platform to sensitise them on how to prepare research proposals and grants for funding and also how to access funds for theses preparation.

Chacha, who has benefited from a seminar on grant writing hosted by DAAD, believes that more students should be exposed to grant writing seminars. "We don't expect to be given money on a silver platter, but if we could get extra guidance and attention then perhaps we will not only finish our studies, but also begin to be more entrepreneurial by engaging in grant writing instead of rent seeking", he says.

The GSA website hosted on the University of Nairobi domain is proving to be a useful contact point

for the activities of the association. The association is planning to hold a fundraising conference with industrial partners soon. A fundraising conference is a concept that works like a meeting; a strategic planning session with negotiations on the side.

Challenges

One of the challenges facing the GSA is its position and relationship with SONU. Indeed, at the time of establishment the association had to answer a barrage of questions relating to the difference from SONU, with respect to the welfare of graduate students. To its credit, the association emphasises its academic mandate with research taking centre stage. The students' body, SONU, has a purely welfare mandate.

Another challenge for the graduate students' body is financing, but the association is in talks with the private sector to raise funds through contract

and development research. The association also lacks office space and is currently domiciled at the Board of Postgraduate Studies. Similarly, getting a critical mass of students to join the association has been a daunting task, but the interim officials have decided to seek the representation or chapter approach to boost its membership.

The future

The GSA is proud of the recognition received from the university management so far. There is hope that once the BPS transforms to a Graduate School, then the association will come out more boldly to engage with industry and alumni for enhanced visibility.

Internationalisation in higher education institutions

I nternationalisation, as applied to universities and other higher education institutions (HEIs), refers to the process of gradually incorporating international dimensions, experiences, and often "benchmarks", in the institutions' teaching, community engagement, research, and study or work experience. This practice has become an integral part of the strategic foci of HEIs across the world in an effort to overcome the challenges of globalisation resulting from such factors as rapid advancement in information technology and telecommunications. Expanding levels of cultural exchanges have also made it necessary for higher education institutions to adopt internationalisation programmes.These institutions are also required to respond to a dynamic economic landscape and proactively navigate the higher education arena.

As world economies continue to grow, more opportunities are becoming available for people from

Creating a strong international campus environment requires the commitment of all sections of the institution towards setting a common goal and working together.

diverse origins; this has made it essential to promote intercultural communication. Current labour markets are acknowledging the need for today's graduates to possess international exposure, foreign language proficiency, and inter-cultural skills in order to compete effectively at the global level. In response to this need, HEIs are elevating the significance of internationalisation through activities like student mobility, international research collaborations, and international academic networks.

In an attempt to borrow from other strong institutions, however, local universities must avoid internationalisation through the indiscriminate use of foreign institutions as yardsticks or points of comparison. Instead, the local institutions ought to apply shared experiences, where possible, in addition to emphasising the adoption of good practice according to their own contexts, priorities, and foci. Higher education institutions in Kenya need to set strategic goals that clearly specify where they picture themselves to be in the course of time.

Universities in Kenya, for instance, should embrace internationalisation by supporting postgraduate studies and the success of postgraduate students; promoting the international exchange of academic staff and students; developing international academic networks, and managing institutional partnerships. They should encourage collaboration by developing a friendly and effective process of identifying key partners, establishing partnerships, managing agreements, and improving existing networks.

Creating a strong international campus environment requires the commitment of all sections of the institution towards setting a common goal and working together. Universities must make international projection an institutional priority by rewarding the capabilities and international initiatives of students and staff. Some of the key areas that HEIs in Kenya should practice in support of a satisfactory international environment include establishing airport pick-up services, making accommodation for foreign students a priority, and working with the immigration office to ensure smooth and fast processing of the Kenya Pupil's Pass (KPP) for international students. Similarly, putting in place a clear and standardised grading and credit transfer system is of paramount importance. Providing language services to international students is also important as a means to facilitating international education.

Higher education institutions in Kenya need to develop an exchange student's guide, a mentorship programme, and international activities and events such as food fairs and travels. A unique orientation programme for international students is also vital and should encompass aspects like security briefings, free legal services, culture-shock therapy and training, and perhaps a welcoming dinner to provide the opportunity for international students to interact with one another.

Automation of information dissemination activities, outreach publications, and electronic payment systems are manifestations of a mature internationalisation process in any institution. Once a computerised system is in place, different sections across the institution will be able to work seamlessly in records and communication management. In effect, this will make it easy to access aggregated students' data instantly. Finally, outsourcing of various processes will help institutions to focus on providing crucial services only.

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FIRE ASSEMBLY POINT

Utafiti News
A Newsletter of the Research Production and Extension Division

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