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MISSION AND VISION STATEMENTS

MISSION

To provide quality higher education through teaching, research and advisory services to our customers with the view to produce productive and competitive human resources capable of driving public and private institutions towards a knowledge-based economy, economic growth and improved quality of life.

VISION

To be a beacon of excellence and innovation in teaching, research and extension services.
MESSAGE FROM THE VICE CHANCELLOR

UNAM’s research responsibility emanates from the University of Namibia Act (No.18 of 1992), which clearly stipulates that the university shall undertake research, advance and disseminate knowledge for the socio-economic development of our nation and beyond. Therefore, with the establishment of the Centre for Research and Publications more than three years ago, the University of Namibia has persistently demonstrated its commitment to produce and achieve quality research outputs by encouraging staff members to publish in high impact journals. Even with limited resources due to economic crisis experienced nationwide, our researchers have managed to exceed the targets set in our five-year UNAM Strategic Plan. Hence I want to applaud all UNAM staff members for the efforts they put in finding time to do research and to publish and I want to encourage them to continue doing more research especially those outputs that talk to the national priorities.

The celebration of the annual UNAM Research Day event that took place on the 8th October 2015 at Khomasdal campus was another milestone in making research outputs visible; not just to the UNAM community members but to other stakeholders also. The theme for this year “Education, Research and Innovation for Sustainable Development: 2015 and Beyond” was chosen to fit in with the Sustainable Development Goals (SDGs) in Africa, specifically with emphasis on looking what can be achieved beyond 2015.

Therefore, as we approach the end of 2015, I want to emphasize that the University will continue to support research related activities that enhance and promote UNAM ranking to make it visible not just nationally but globally as well. The establishment of the office of the Pro-Vice Chancellor of Research, Innovation and Development is one step ahead to illustrate our commitment in this regard. Last but not least, let me take this opportunity to all our partners, private and government institutions, national and international funders who have sustained our research and innovation activities over the past years. Thank you very much!
MESSAGE FROM THE PRO-VICE-CHANCELLOR: RESEARCH, INNOVATION AND DEVELOPMENT

Prof. Kenneth Matengu
Pro-Vice-Chancellor (Research, Innovation & Development)

In this 21st century when most higher education institutions strive to be centres of excellence, specifically in research, the University of Namibia is no exception. Over the past three years, a lot of diverse research activities had been conducted in the various fields of higher education. UNAM Faculties and Centres across the country excelled in their research drive and I want to commend them for making UNAM claim its share in the world of knowledge production.

During the year under review, UNAM produced 460 scholarly publications, about two-thirds of which were refereed journal articles.

The number of successful grant applications from external sources of funding continued to increase to 59 projects amounting to 9.7 million. Research and Publications Office facilitated applications for funding from the National Commission on Research Science and Technology (NCRST). Consequently, funding was obtained for 17 research projects under the Namibia/South Africa Collaborative Research Programme and a further 15 were funded under the NCRST’s to the tune of over N$ 8 million over a two-year period. This is a commendable achievement indeed. But more must be done in 2016. I therefore wish to urge all academic staff members to continue to engage in collaborative research locally and internationally so as to increase our research output and to promote internationalization, globalization and networking relationships with other institutions of higher learning. We need to strengthen the dissemination of our research outputs and make it more visible and applicable to our stakeholders.

Our society still continues to experience challenges such as poverty, unemployment, looming energy crisis, HIV and AIDS, malaria and other diseases, gender-based violence, food insecurity, environmental degradation, climate change, desertification, and many others. These challenges need innovative responses. Therefore, research, training, innovation and technology transfer are key aspects that can help in solving the above-mentioned challenges. In 2016, our efforts will be shifting from making research meaningful to making research outputs more usable and impactful.
Finally, I want to thank all our academic staff members, international funders and collaborators for working with us to grow from strength to strength. We look forward to consolidating our great partnerships in the coming years!
MESSAGE FROM THE RESEARCH AND PUBLICATIONS OFFICE

Dr Hileni Kapenda  
*Director Centre for Research and publications*

During the year under review The Research and Publications Office (RPO) continued to provide research support services to the UNAM community, under the leadership of Prof. Isaac Mapaure and Dr Hileni Kapenda.

The RPO together with the UNAM Press conducted a workshop on *Research Policies and Scholarly Communications* from 25-26 February 2015 at the Sam Nujoma Campus. The workshop was well attended and evoked several stimulating discussions during the group work sessions.

During April, the RPO conducted a workshop with selected six Taskforce UNAM staff members to further develop the guidelines and regulations for research ethics. The regulations are now in the final stages for approval by Senate.

In recognition of his contribution in research and innovation management, Prof. Mapaure received the SARIMA Award for Distinguished Contribution to the Research Management Profession. The award was sponsored by the Department of Science and Technology, South Africa.

Dr H. M. Kapenda received a Meritorious Award for ‘Best Academic Performance’ in recognition of outstanding service in the Faculty of Education (UNAM) for the year 2014.

As in previous years, the RPO spearheaded the Research and Innovation Day, which was held on 8 October this year at the Khomasdal Campus. The theme for this year was *Education, Research and Innovation for Sustainable Development: 2015 and Beyond*. The event was well attended by several dignitaries, staff members, students and the wider public.
The RPO will continue to carry out its mandate as stipulated in the UNAM key policies that guide it work. The year also ended its five-year term for the Office’s current leadership. As is the norm, next year will see a new cadre of leadership for the RPO.

1. ACTIVITIES OF FACULTIES

1.1 FACULTY OF AGRICULTURE AND NATURAL RESOURCES

DEAN’S STATEMENT

In addition to teaching, Faculty lecturers spend a significant amount of time (more than 40%) doing research on various management topics. I would like to emphasize how research informs the teaching aspect of the Faculty.

In addition to teaching, Faculty lecturers spend a significant amount of time (more than 40%) doing research on various management topics. I would like to emphasize how research informs the teaching aspect of the Faculty.

The Faculty invests in research to create and disseminate knowledge that benefits industry, government and society. Research findings are often adopted in industry practice – for example, rice and barley research. A lot of the research done by the Faculty is also used to advise government and influence public policy.
In the FANR, we place central importance on research. But how do students benefit from the research that the Faculty undertakes? In a nutshell, the quality of the research directly translates to the quality of teaching and learning in the classroom. Here are some of the ways that students can benefit: Given the rigour of the research, Faculty personnel exploring a certain area become experts on the matter and they share their insights with students. They are able to explain to students why things work the way they do. They help students understand the theory by illustrating it with examples from experience. Learning from the lecturers, who are deeply, intellectually involved with a subject, is in itself an experience as the depth of coverage of the subject is far superior.

While the Faculty is conducting research and publishing cases, it often works very closely with various organisations and companies, and has direct access to decision makers. Lecturers get an inside look at what transpired behind the scenes and are able to understand the context in which difficult decisions were taken. When Faculty personnel use their own cases and research as teaching aids, classroom discussions become immensely richer and more insightful, and students are able to uncover nuances that they cannot normally get from just following textbooks.

Dr Simon Angombe  
*Dean, Faculty of Agriculture and Natural Resources*

Tel: +264 (0) 61 206 3890  
E-mail: sangombe@unam.na  
University of Namibia  
Private Bag 13301  
Windhoek, Namibia  
Web: http://www.unam.edu.na
MESSAGE FROM THE ASSISTANT PRO-VICE-CHANCELLOR (APVC), NEUDAMM CAMPUS

During the year under review, the Neudamm Campus, as the host campus for the Dean, was responsible for the implementation of the research agenda of the Faculty of Agriculture and Natural Resources (FANR). The research agenda was broad, reflecting a diversity of specializations as represented by the different Departments comprising the faculty. We take cognizance that when taking into consideration the number of academic personnel at Neudamm Campus, the research output should be higher than is presently the case. We are in the process of analysing the situation to define the challenges that limit our research outputs but with emphasis on the opportunities that could allow us to increase our research outputs.

The new leadership at the Neudamm Campus provides many opportunities in terms of research. The Neudamm Campus is unique in that it has academic personnel to engage in research and farming facilities and personnel that can support research initiatives. This unique situation positions Neudamm Campus as an agricultural training and research centre of excellence.

In addition, we endeavour to position the Neudamm Campus as the research hub for the University of Namibia, academic personnel and students based at the Windhoek Campus, Health Sciences Campus and Khomasdal Campus. The vast tracks of farmland, biological diversity and close proximity to the other UNAM campuses in Windhoek present a great opportunity for research and teaching collaborations among colleagues at these campuses. I therefore invite Faculties at the Windhoek based-campuses to visit us, in order to explore research collaborations.

Neudamm Campus furthermore intends to strengthen the application of scientific knowledge for the upliftment of rural communities. We are confident that through extension and community services we will be able to make a difference in people’s lives.

Dr Alfons Mosimane  
APVC, Neudamm Campus

Tel: +264 (0) 61 206 4111  
E-mail: amosimane@unam.na  
University of Namibia  
Private Bag 13301, Windhoek, Namibia  
Web: http://www.unam.edu.na
VISION OF THE FACULTY OF AGRICULTURE AND NATURAL RESOURCES

To emerge as a centre of excellence in education and training that will contribute towards the promotion of sustainable agriculture and natural resource development in Namibia and the SADC region at large. Furthermore, the faculty will emerge as a centre of excellence in basic and applied research that is pertinent to national and regional agricultural and natural resource developmental issues.

MISSION OF THE FACULTY OF AGRICULTURE AND NATURAL RESOURCES

To promote sustainable agriculture and natural resources development and management in Namibia through teaching, research, and outreach services to communal and commercial farming communities.

RESEARCH OBJECTIVES OF THE FACULTY OF AGRICULTURE AND NATURAL RESOURCES

The Faculty is guided by the following key objectives:

- To provide education and training aimed at producing graduates in the fields of agriculture and natural resources who will be well equipped with knowledge, skills and attitudes that will help improve agricultural productivity and promote sustainable development, wise use of resources and increase Namibia’s food security;

- To conduct research aimed at extending the frontiers of knowledge relevant to Namibia’s environment, natural resources and agriculture;

- To provide advisory, consultancy and extension services on the proper and sustainable use of Namibia’s agriculture and natural resources to the communities;

- To catalyse increased production and productivity of Namibia’s natural resources;

- To help create meaningful employment in both the public and private sectors, including self-employment;

- To promote an environment that will enhance equity and access to education and training in agriculture and natural resources;

- To establish a self-sustaining management structure that will allow increased efficiency and productivity, as well as to encourage a spirit of teamwork in the Faculty.
RESEARCH STRATEGIC DIRECTION AND FOCUS AREAS

The Neudamm Campus Research and Publication Committee (RPC) was established by the Faculty Board in March 2013. Neudamm-based staff members expressed the need for the FANR to establish a RPC at the Campus, in order to have a functional body that can review research proposals earmarked for the UNAM Research and Publications Committee (URPC), and to oversee other research-related activities at Neudamm Campus. Each of the three Departments in the FANR (Agricultural Economics, Animal Science, Food Science and Technology) and two Departments in the School of Veterinary Medicine (Biomedical Sciences, Clinical Studies) have members representing their Departments in the committee. These are:

Agricultural Economics, FANR                         Prof. H Bello
Animal Science, FANR                                 Dr TO Itenge (Chairperson)
Food Science & Technology, FANR                       Dr KKM Nantanga
Biomedical Sciences, School of Vet Medicine          Dr E Kandiwa
Clinical Studies, School of Veterinary Medicine      Dr C Ntahonshikira

The Research Strategic Direction of the FANR at Neudamm Campus is diverse, and includes all the Neudamm-based Departments in the FANR: Agricultural Economics, Animal Science, Food Science and Technology and School of Veterinary Medicine. Through the applied research projects, the Campus is contributing not only to solving practical problems, but also to knowledge creation and capacity development at the University and to the nation at large. Each Department at the Neudamm Campus has research priorities. These are outlined below for each Department:

**Agricultural Economics Research Priorities**

- Contribute to improved crop and livestock production efficiency
- Strengthen efficiency of agro-marketing, farm finance, agribusiness management and extension
- Recognise the importance of economics of sustainable resource (land and water) management in agriculture
- Understanding factors affecting the demand for food and consumption as related to household food security. Aspiration to strengthening efficiency of Green Scheme projects, agribusiness management and agro-marketing.

**Animal Science Research Priorities**

- The Department seeks to contribute to the improvement in reproductive efficiencies, local feeds capacity and preferred genetic breeds of animals
- Molecular characterization of the Namibian indigenous livestock breeds
- Identification of genetic markers associated with traits of economic importance in the Namibian livestock breeds
- Characterization of indigenous forage legumes
- Identification of alternative feeds for livestock
- Genetic characterization of cattle with a focus on tick resistance

**Food Science and Technology Research Priorities**

- Developing value added products from indigenous natural resources
- Analysing functional ingredients with potential commercial value in indigenous fruits and vegetables and others
- Establishing interdisciplinary research on food nutrition and food safety in keeping with economic globalisation and international trade in food products
- Design of methods to control food-borne diseases in the food industry
- The microbiology of indigenous natural resources

**RESEARCH AND PUBLICATIONS**

**Refereed Journal Articles**


**Refereed Books**
None

**Chapters in Books**
None

**Conference Papers**


**Other Publications (Posters, seminars and workshops and UNAM Research Day)**


Patents
None

Innovation Outputs
None

Number of publications in internationally accredited journals
Seven.

Funded research projects


   a. Students supported: Ms. L. Haikukutu (MSc. Agriculture, Animal Science)
   b. Grant total: N$ 180,000
   c. Granting institution: National Commission on Research Science and Technology (NCRST) and National Research Foundation (NRF) project in collaboration with the University of Pretoria

   a. Students supported: Ms. Tjitjirotjoje Kapere and Mr. Ngujama Tjirora (4th Year Research Project students, BSc. Agriculture, Animal Science)
   b. Grant total: N$ 180,000
   c. Granting institution: National Commission on Research Science and Technology (NCRST)

   a. Students supported: Mr. L. T. Kaholongo (MSc. Agriculture, Animal Science) and Ms. D.N. Thamina (MSc. Agriculture, Animal Science)
   b. Grant total: US $ 60,000
   c. Granting institution: Regional University Forum for Capacity Building in Agriculture (RUFORUM)

   a. Students supported: Mrs. H. Shihepo (PhD)
   b. Grant total: N$ 200,000
c. Granting institution: NCRS

   a. Multi-country but Namibian Participants: T. Nauiseb, Dr P Petrus, M Hamunyela, Dr E Ndeunyema, E. Mulenga, W. Embashu, W. Akwaake, J. Esterhuizen
   b. Grant Total: N$663 600
   c. Granting Institution: EU

   a. Student supported: Mr S Emvula (PhD)
   b. Grant total: N$504,000
   c. Granting Institution: International Centre for genetic engineering and Biotechnology, Trieste, Italy (CRP - ICGEB Research Grants Programme)

   a. Students supported: Mr. D. Gregorius (MSc) and Ms. E. Shaningua (MSc)
   b. Grant total: N$ 315,000
   c. Granting institution: NCRST

   a. Student supported: D. Shetunyenga (MSc)
   b. Grant Total: N$ 200 000
   c. Granting Institution: Directorate of Science and Technology in the Ministry of Education and Culture of Namibia

**Total value of funded research projects**
N$ 3,082 600
SIGNIFICANT EVENTS, ACHIEVEMENTS AND MILESTONES

RUFORUM 2015 AGM

The Faculty of Agriculture and Natural Resources at the University of Namibia (UNAM) hosted the Regional Universities Forum of Capacity Building on Agriculture (RUFORUM) event that took place on 27 – 29 August 2015. RUFORUM consists of a consortium of more than 46 African universities in East, Central, West and Southern Africa. The mission of RUFORUM is to foster innovativeness and adaptive capacity of universities engaged in agricultural and rural development to train high quality graduates and engage in impact-oriented research. There are seven main governance organs, each with distinct responsibilities that are interlinked or feed into each other, which include Annual General Assembly, Board of Directors, Technical Committee, International Advisory Panel (IAP), Regional Coordinator and Secretariat (located at Makerere University in Kampala, Uganda), Deans Committee and National Forums or RUFORUM Chapter.

A local organizing committee was constituted to organize the event, which was a great success. The Minister of Agriculture, Water and Forestry, Hon. John Mutorwa, launched the 2016-2020 FANR Research Agenda at the Neudamm Campus. The Former Dean of the FANR, Prof. F. Mausse, chaired the Dean’s committee meeting that also took place at the Neudamm Campus during the prestigious event. The RUFORUM event was well attended by more than 46 Vice Chancellors and Deans of Agricultural Faculties of the RUFORUM universities, and other stakeholders.

Also worth noting, is that Dr Komeine Nantanga, a Senior Lecturer in the Department of Food Science and Technology, FANR, won the RUFORUM award for Outstanding Contribution to Scientific Advancement in Namibia. Two post-graduate students at Neudamm, Ms Lavinia Haikukutu and Ms Etuna Shaningua each won the Award for Outstanding Master of Science Student in Agricultural Related Field at UNAM, sponsored by the Office of the Vice Chancellor.

Participants of the RUFORUM Dean’s committee and stakeholders’ meetings at Neudamm Campus
DEAN’S STATEMENT

GENERAL FACULTY-WIDE OVERVIEW

The academic year 2015 witnessed the first graduation of students with a Bachelor of Education in Pre- and Lower Primary as well as Upper Primary since the merger of the Colleges of Education with the Faculty of Education at the University of Namibia. The graduation ceremonies across four campuses (Main Campus, Hifikepunye Pohamba Campus, Rundu and Katima Campuses) were attended by hundreds of proud parents and family members who saw their children graduate with a B.Ed (honours) degree in primary education for the first time in the existence of the Faculty of Education at UNAM. This momentous occasion was also attended by some of our international partners from the University of Eastern Finland as well as Florida State University in the USA.

2015 was also the year in which the Faculty introduced a Diploma in Junior Primary Education (DJPE) as per the request from the then Ministry of Education, Arts and Culture (MOEAC). The response for admission to the diploma was overwhelming, with thousands of applications received by the Office of the Registrar. However, uncertainty about the funding of the students as well as a lack of financial support by the MOEAC resulted in the campuses not being able to accommodate big numbers of entrants. This was also due to a shortage of staff and additional infrastructure. Notwithstanding all this, a campus like the Southern Campus increased its student intake from seven to 186. Although this placed severe strain on campus resources, the campus managed to successfully implement the first year of the DJPE. Campuses such as Rundu, Hifikepunye Pohamba, Katima Mulilo and Khomasdal faced similar challenges.

In another new development for 2015, the two newly created Ministries of Education requested the Faculty of Education to implement an upgrading programme for the large numbers of un- and underqualified teachers. A new In-service Diploma in Junior Primary Education, called DJPE (INSET), was developed. This diploma, which caters for pre-primary to grade 3 teachers, focuses on field-based implementation with a large group of circuit-based mentors who support the academic activities of the teachers on site. This programme is funded by the Ministry of Education, Arts and Culture and supported by the Ministry of Higher Education, Innovation and Training.

The year under review started with all departments hosting individual departmental workshops to address issues of teaching, learning, research and supervision as identified by external examiners as well as the Faculty audit report. The Department of Math, Science and Sport Education hosted their workshop on research and supervision of undergraduate research projects in Swakopmund. Experienced staff members from the department took their colleagues through a three-day workshop that addressed the major challenges highlighted in their external
examiner’s report. Similarly, the Department of Pre- and Lower Primary Education brought one of their external examiners back to address staff members on issues around assessment of learning that relates to higher order learning outcomes. A colleague from the University of West Sweden visited the department during February and March and hosted a workshop on environmental education for staff in the PP/LP department. One Faculty of Education staff member also visited the University of West Sweden for a month to teach English and to learn about the University’s implementation of their Junior Primary teacher education programme. This exchange was made possible through a Linnuas Palme grant we received from the European Union in collaboration with West Sweden.

Staff members in the Department of Curriculum, Instruction and Assessment Studies engaged their colleagues in upgrading their presentation skills using advanced PowerPoint applications. This was aimed at helping colleagues to reflect on their class teaching in order to make it more learner friendly and interesting for students. Many staff members also received training and are using EDMODO as a teaching and assessment tool in their classes.

Staff members continue to be challenged by large classes (up to 500 at a time) and to find the best ways to effectively teach their students. This is especially difficult in modules such as teaching methods of school subjects, project-based learning, sport education, arts, research projects and many other practice-based learning modules.

The need for more school-based activities is becoming more evident. This is being addressed in the curriculum of the newly introduced diploma in JPE where students are required to spend a full day once a week in a school for the three years duration of the diploma. However, there is a need to train school-based mentors on how to guide and support our students while they are in the schools. Finding good schools to place our students during their school-based studies is also becoming more challenging as student numbers increase. Many schools still see student teachers as an unnecessary nuisance and do not see the value of this internship in shaping future teachers. To address this matter, the Faculty organized a workshop in December for support teachers and school principals to discuss how we can go about to improve this situation. Many further consultations are needed, and funding to support this activity at school level must be sourced. This activity is vital in preparing our future teachers and must receive the necessary support from the MoEAC, especially school principals and the management of schools.

Finally, the Faculty of Education submitted the English Language Proficiency (ELP) programme as a distance-learning programme to UNAM’s Academic Programmes Committee. As per recommendation from APC, the University consulted with the NQA to submit the programme as Unit Standards for registration on the NQF. Feedback was given to APC and the Dean’s Committee on how this can be accomplished. The Faculty is now in the process to develop such ELP unit standards to be registered with the NQA.
RESEARCH STRATEGIC DIRECTION AND FOCUS AREAS

In 2012, the Faculty of Education developed its strategic research agenda. It was decided that the agenda would span a period of five years, starting in 2013. With a few amendments that have resulted from recent research activities, the Faculty of Education is still implementing the research agenda, which ends in 2017.

As we reported in 2014, research needs both funding and time off teaching activities. As was the case then, it is still our belief and hope that in the next few years funding and time off will be given to staff to carry out research that will inform their practice in various areas of specialization. The research being conducted by members of the Faculty continues to address various themes in education. These include teacher education, instruction (learning and teaching), teacher/class assessment strategies, child development, inclusive education, gender mainstreaming in education, Integrated Early Childhood Development and Education (IECDE), ICTs in education, school management, administration, community education and lifelong learning, language education, Mathematics, Science and Sport Education, Early learning, literacy and numeracy. To concretize the Faculty research agenda, below we outline again our research objectives as well as specific areas of research emphasis, Department by Department.

Objectives

The main objectives of research being conducted in the Faculty of Education are to:

- Carry out research that informs educational theory, policy and practice, teacher pre-and in-service training, curriculum development, educational innovation and alternative learning approaches;
- Carry out research that impacts community education, development and empowerment;
- Carry out joint educational research with colleagues within and outside the SADC region;
- Carry out research that promotes collaboration and partnership amongst various stakeholders in education in Namibia;
- Disseminate research findings, skills and knowledge through publications.

Specific areas of research foci by department

Department of Curriculum, Instruction and Assessment studies

- Instruction
- Teaching and learning
- ICT in education
- Teacher/learner assessment strategies

Department of Education Foundations and Management
• Educational Management and Leadership
• Teacher Education
• Teaching Practice
• Education Reform

Department of Educational Psychology and Inclusive education

• Inclusive Education
• Life skills
• Guidance and counselling
• Integrated Early Childhood Development and Education (IECDE), including childrearing practices and education
• Literacy and learning
• Child Development and learning in education
• Gender issues in education
• Comprehensive sexuality
• School violence and discipline
• Educational Psychology and Psychometric assessment

Department of Mathematics, Science and Sport Education

• Teaching and learning in Mathematics and Science Education
• ICT in Mathematics and Science Education
• Cognition
• Assessment
• Teacher education
• Gender and Science Education
• Sport Education
• Nutrition/Home Ecology

Pre- and Lower Primary Education

• School case studies on the teaching of numeracy and literacy in Namibian classrooms
• Development of indigenous languages for tertiary teaching and learning purposes

Department of Education in Languages, Humanities and Commerce

• Entrepreneurship instructional practices at secondary schools
• Medium of instruction studies
• Language and Education
• Language teaching in schools
To exemplify how research is conducted thematically, staff members in the Faculty have organized themselves into inter-departmental research teams as follows:

**Research 1:** UNESCO/Chinese Funds-in-Trust research on improving the capacity of teacher educators to train students and teachers in teaching literacy and numeracy in pre- and lower primary schools. We report below how work under this theme continued in 2015. Research Team: Dr C. Villet (Team Leader), several members of staff of the Faculty of Education from Main Campus, Khomasdal, HP, Rundu and Katima Mulilo Campuses.

**Research 2:** Gender parity in education. Research Team: Prof. R.F. Zimba (Team Leader), Prof. C. D. Kasanda, Dr C. Haihambo, Dr H. Kapenda, and Ms Faustina Neshila.

**Research 3:** Assessment. UNAM students’ perceptions of assessment. Research Team: Prof. C. D. Kasanda (Team Leader), Dr H. K. Mitonga, Prof. R. F. Zimba and Dr K. Veii.

**Research 4:** Tracer study of UNAM education students. Research Team: Prof. C. D. Kasanda (Team Leader), Dr C. Villet, Ms P. February.

**Research 5:** Sustainable development Education-based on the current sustainable development goals. Dr A. Kanyimba (Team Leader), Dr M. Hamunyela and Prof. C. D. Kasanda.

**Research 6:** IKS in Education. Dr H. Kapenda (Team Leader), Prof. C. D. Kasanda, Prof. R. F. Zimba and Dr C. K. Haihambo.

**Research 7:** Inclusive Education, Life Skills, Guidance and Counselling and Comprehensive Sexuality Education. Dr C. K. Haihambo (Team Leader), Mr. J. U. Hengari, Ms P. J. February, Prof. M. L. Mostert and Prof. A. D. Mowes. Examples of specific studies under this theme are:

1. Issues related to sexual orientation at the Main Campus of the University of Namibia. Action research.
3. Inclusion and Democracy Programmes in Teacher-Education in Botswana, Namibia, South Africa and Sweden.

**Research 8:** A tracer study of the challenges and needs experienced by teachers with visual impairment in the Northern Education Regions of Namibia. Mrs. L. Mbodo (Team Leader), Ms E. I. Tobias and Ms I. Patoko.

**Note:** It should be noted that other research teams for the Faculty of Education operate at the Southern, Khomasdal, HP, Rundu, and Katima Mulilo campuses. Directors of
these campuses have reported their 2015 research outputs directly to the Centre for Research and Publications.

RESEARCH ACTIVITIES AND PUBLICATIONS

The Faculty of Education continued to be involved in a number of research activities in 2015. Most notably was the follow-up on the action research under the Chinese-Funds-in-Trust project phase 2 of 2015. Teachers at the selected schools were supported using an educational toolkit that built capacity with regard to Classroom Management, Assessment and Reflection, Questioning Strategies, Mathematics education through effective use of instructional materials, and literacy development through story reading and good literature. Through this project, primary school teachers also received laptops and LCD projectors to further support their newly developed ICT skills in teaching literacy and numeracy. A second national report on the second phase of this action research project was launched at a national forum held in Windhoek during International Teachers Day on 5 October.

Staff members from our sister campuses as well as the main campus presented papers at international conferences such as, among others, the international conference for Comparative and International Education Society (CIES) in Washington DC; Oxford Round Table on Childhood Education and Issues in Oxford, England; the Distance Education and Teaching Association (DETA) conference in Mauritius; the Global Teacher Taskforce conference in Mozambique; ICT integration in teaching and learning conferences in Cameroon, Ethiopia and China.

Our Faculty’s fourth Educational Research Conference was conducted on the Katima Mulilo campus and boasted a number of international papers presented from countries such as Zambia, Zimbabwe, RSA and USA. Papers addressed themes around Quality Teaching and Learning for Diversity and Inclusion.

Journal Articles


**Books and Monographs**


*Chapters in Books*


**Conference Papers**


**Technical/Consultancy Reports**


CONCLUSION

Together with the Faculty of Education satellite campuses’ research reports that are submitted to the Centre for Research and Publications separately, this report captures our degree of research and publication productivity for 2015. From this record, we can conclude that the Faculty of Education did reasonably well under challenging circumstances. As reported last year, our aim is to build on this record and enhance our research and publication profile. This hope will be hollow if the heavy teaching loads remain as high as they are for several members of staff in the Faculty and if research funding remains scanty. On our part, we shall continue where possible to mobilize additional research funding from local and international donor communities.
1.3 FACULTY OF HUMANITIES AND SOCIAL SCIENCES

DEAN’S STATEMENT

As an academic family of six members, the Faculty of Humanities and Social Sciences was robustly involved in research and publications during the period under review. The six departments were Geography, History and Environmental Studies, Human Sciences, Information and Communication Studies, Language and Literature Studies, Sociology and Visual and Performing Arts. As of 2016, the Faculty has seven departments, Social Work now standing on its own as an offshoot of Human Sciences. Although some members of the Faculty were productive in terms of research and publications, we could have published more academic articles taking into account the big number of academics in the Faculty. The Faculty continued publishing its research flagship, the Journal for Studies in Humanities and Social Sciences, which entered its fourth year of existence. We are proud to announce the Faculty Journal was registered with the International Scientific Index (ISI), which is a milestone in boosting the status of the publication on the international scene. The Faculty appreciates the funding support that its members receive from the University Research and Publications Committee, which has enabled a number of colleagues to research and publish. However, we continue to lament the very limited funds for conference participation. We hope that in the years to come, more funds will be committed to funding conference participation to not only expose our staff to a wide scholarly network, but to also showcase to the world some of our research findings.

RESEARCH STRATEGY DIRECTION

The Faculty intends to promote research and publication activities in the Faculty by continued investment of resources in the Faculty Annual Research Conference and in the Faculty Journal. In 2016, the Faculty will review its research agenda to synchronise it with current trends in national and global priorities. While we celebrate the consistent number of publications by senior staff in the Faculty, we reflect on strategies to increase support to capacitate our junior staff with the necessary publication skills. Therefore, in a bid to promote scholarship in the Faculty, a seminar series platform will be held on a monthly basis to provide support to the not so senior staff of the faculty, through guided mentorships and peer reviews.

PUBLICATIONS

Refereed Journal Articles


 
36


**Refereed Books**


**Chapters in Books**


Mawere, M., & Mwanaka, T. R., (Eds.) *Democracy, Good Governance and Development in Africa* (pp. 1-44). Bamenda: Langaa RPCIG.


**Conference Papers**


**Innovative Inputs**

None
DEAN’S STATEMENT

The Faculty of Law consists of three departments, namely Commercial Law; Public Law and Jurisprudence; and Private and Procedural Law. In addition, two Centres fall under the Faculty, viz. the Human Rights and Documentation Centre (HRDC) and the Justice Training Centre (JTC). The Faculty also runs a Legal Aid Clinic, whose mandate and operations will be briefly outlined below.

During the year under review, a number of very positive developments took place in the Faculty. The Faculty has continued to build its capacity through staff development and the recruitment of highly qualified new staff. Dr K. Nuugwedha was awarded her PHD degree in Education Law by the North-West University (Potchefstroom Campus). Professor Nico Horn was also awarded his D’IUR degree by the Faculty of law of the University of Bremen. The Faculty’s teaching and research capacity was further strengthened when Dr D. Zongwe joined the staff from Canada. He holds LLM and JSD degrees from the School of Law of the University of Cornell in the USA. With the above positive developments and the prospect of more colleagues poised to obtain their doctoral qualifications in law, the Faculty will be in a stronger position to admit more postgraduate students at the masters and doctoral levels as its postgraduate supervising capacity will be substantially enhanced. Also, with this increased capacity, the Faculty will now realistically be in a position to launch various LLM programmes by course work coupled with a dissertation. These plans should come to fruition in 2017. It is hoped that all these efforts will result in more research activities in the Faculty of Law.

RESEARCH AND PUBLICATIONS

During the year under review, staff members in the Faculty were very actively engaged in important academic activities, such as the attendance and presentation of research papers at national, regional and international conferences.

Publications in refereed journals and chapters in books

During 2015, some members of staff published their research findings in academic law journals. These include the following:


7. Mnubi-Mchombu, C., Herbert, J. & Zongwe, D. Human rights education in Namibia, a report by the HRDC.


**Conference Presentations**

Some of the conference presentations made by colleagues in 2015 are the following:


CONCLUSION

The Faculty of Law continues to strive for excellence in the area of research and publications. In this regard, it faces many challenges, the major one being the shortage of qualified and experienced academic staff and the resulting teaching overload that colleagues have to inevitably bear. However, it is safe to say that on current performance, it is poised to break into many new areas of postgraduate legal studies as more resources are availed to it and as many of its staff complete their doctoral studies. I am confident that in the next few years the overall contribution of the Faculty in the area of research and publications will substantially improve.
DEAN’S STATEMENT

The Faculty of Science recognises the important role of the research and publication unit in the university’s socio-economic development and is active in the fields of research and development and in all areas of the sciences, as indicated in the list of publications. The Faculty, together with various stakeholders, have successfully developed a strategy to improve its research output by incentivizing its staff, which encourages them to publish more. Our research output is built around some of the strategic research topics in various departments and is aligned with the Government’s national development agenda, which is clearly outlined in the various key policy documents included in the Fourth National Development Plan (NDP4), the National Human Resources Plan and the Harambee Prospect Plan. In this regard, the Faculty’s research was founded around the following themes: IKS, microbiology, climate change, water, ecology, biodiversity and conservation, parasitology, food security, biotechnology, ICT applications, software development, astrophysics, nuclear physics, lasers and optics, renewable energies, statistics and health aspects, demography, topology, financial mathematics, technology etc. Research funding in the Faculty is still one of the major concerns and this has contributed to the low research output.

RESEARCH STRATEGIC DIRECTION

The Faculty of Science aims to promote and actively engage in both applied and theoretical research that is relevant and addresses the needs of the Namibian population. It is aligned to the goals of Vision 2030 and the National Development Plans (NDPs), the National Programme on Research, Science, Technology and Innovation (NPRSTI) as well as the Harambee Prosperity Plan. The research strategy of the Faculty complies with its mission to become a centre of excellence in research and innovation, to engage actively in quality research and to produce quality publications.

The Faculty’s research strategy is seen as being dynamic in order to facilitate development and to accommodate diversity within the Faculty regarding capacities and skills. The strategy involves the following actions to promote quality research and innovation:

- Increase the number of post-graduate students undertaking research to ensure more involvement in research by the various departments and PhD holders. This also ensures increased publication output by staff members who are heavily engaged in the teaching of undergraduate courses and have little time for research. Furthermore, it will build capacity for UNAM and Namibia.
- Encourage team research, i.e. research groups that involve several departments and Faculties to ensure that research is multi-disciplinary, in the modern world this being the key to solving complex societal and scientific problems.
- Encourage senior staff members to team up with junior staff members to write research proposals and conduct research in order to transfer research skills.
- Promote Faculty-based seminars and conferences to provide a platform for the presentation of research conducted in the Faculty.
- Publication of a Journal supported by the NCRST, which serves as a good platform to share research.
- Promote Faculty-based training for staff members to assist them in writing skills for proposals and scientific publications.
- Promote collaboration with other universities so as to have wider experience in research; this adds value to our multidisciplinary quest in scientific investigation.

FOCUS AREAS IN THE FACULTY OF SCIENCE

Life Sciences

Drug development

Most of this research is done within the Department of Biological Sciences and the Department of Chemistry and Biochemistry in collaboration with the School of Pharmacy. It involves using natural plant and mushroom extracts and testing their potential for drug development against diseases such as malaria, cancer, diabetes, hypertension and tuberculosis.

Current research entails chemical characterisation of natural products with particular emphasis on the identification of novel chemical entities of medicinal value. A project involving the Chemistry and Biochemistry department in collaboration with the Stellenbosch University is aimed at capacity development in Nuclear Magnetic Resonance (NMR) spectroscopy for molecular structure determination of plant extracts. Research efforts are also focused on the synthesis of natural products and the use of natural products as templates in the design and synthesis of an exploratory library of compounds, to be tested for activity in various disease models.

Another collaborative project between the Department of Chemistry and Stellenbosch University is geared towards identification of toxic compounds from plants responsible for livestock poisoning in Southern Africa, with the ultimate aim of providing an understanding of the mechanisms of action by which poisoning takes place so as to find better ways of treating affected animals and reducing stock losses. Other projects focus on the use of natural plant and mushroom extracts and testing their potential for drug development against diseases such as HIV, malaria, cancer, diabetes, hypertension and tuberculosis. The latest addition to this type of research is the isolation of actinomycetes from Namibian soils for drug development. This research theme also encompasses computer-based studies exploring quantitative structure-property relationships of compounds with medicinal values.
**Traditional Knowledge Systems**

This includes access to and use of research results: increasing community awareness and utilization of indigenous grains to improve nutrition security and livelihoods in Botswana and Namibia. It also involves the evaluation of medicinal plants used by traditional healers for their potential as complementary medicine for the treatment of malaria, cancer and tuberculosis. Currently a book produced by the Faculty is in publication and summarizes some traditional practices and knowledge systems that provide essential information regarding their potential in the treatment of these diseases.

**Medical Microbiology/Disease**

Research in the Faculty deals with understanding various diseases better and trying to come up with improved solutions for the prevention, treatment and management of these diseases. Much of this research is conducted as collaborations between the Department of Biological Sciences, Department of Chemistry and Biochemistry, the Multi-disciplinary Research Centre (MRC) and the Ministry of Health. Projects involve:

- HIV-1 biological activity and toxicity prospecting of ethnobotanicals of Namibia.
- The impact of nutritional status on clinical outcomes of malaria following ACT treatment in children under the age of five.
- The molecular surveillance for drug resistant *Plasmodium falciparum* malaria in Namibia.
- Epidemiology, Diagnostics, Pathogenesis and Vector Biology.

**Climate Change**

Colleagues from the Department of Biological Sciences and the Department of Geology are involved in a project regarding the combined use of groundwater, honeybees and soil in the assessment of climate change and adaptation strategies among communities of the Omusati, Ohangwena, Okavango and Caprivi Regions of Namibia. This project is also adding value to ascertain whether the bee colonies in the northern regions are in danger of disappearing or not. The influence of bees on crop pollination and tree pollination is a major aspect of the project. Changes in climate affect these bio-indicators of climate variability.

**Water**

Water is a scarce resource in arid Namibia and therefore this is one of the research focus areas in the Faculty of Science. It is multi-disciplinary in nature and involves Biology, Chemistry and Geology, with emphasis on the following aspects:

Evaluation of water quality in Namibia’s drinking water, including the occurrence of emergent pollutants such as endocrine disrupting chemicals in water sources, algal toxicity in eutrophic aquatic systems, bacteriological quality of water sources (mostly open and groundwater) in the vicinity of informal settlements in the city of Windhoek as well as in hand-dug wells in the north
of Namibia. Groundwater quality research currently focuses on regional nitrate and fluoride problems.

Management of water quantity by addressing problems of high evaporation from surface water, groundwater flow monitoring and obtaining water from alternative sources such as fog and rain harvesting, wastewater reclamation and water banking. It also involves the following ongoing projects: Determination of groundwater recharge and safe groundwater abstraction rates; Modelling of the Naukluft Groundwater aquifers.

Research is conducted by a team in collaboration with the Department of Biological Sciences, the Department of Chemistry and Biochemistry and the Department of Geology.

**Ecology, Biodiversity and Conservation**

This is a broad area of research and involves the following projects:

- Assessing the effect of herding on livestock performance in semi-arid communal rangelands in South Africa and Namibia.
- Population dynamics Moringa ovalifolia (Dinter & Berger): Population structure, recruitment and reproductive vigour in different habitats.
- Flora of Namibia Project: This is a collaborative research project with the National Herbarium of Namibia and is focused on the production of a comprehensive and description of English Flora of Namibian Plants. It involves collating and analysing data, existing and new, pertaining to the indigenous and naturalised plants of the country in order to promote knowledge and sustainable utilisation of this resource.
- Population dynamics of an endemic tree species, Moringa ovalifolia: Funded through the University of Namibia Research and Publication Office, in this collaborative research between UNAM, Etosha Ecological Institute, and the National Botanic Research Institute, we address questions around population structure, population dynamics, genetic diversity and reproductive ecology of populations occupying different habitats in the country.
- Assessment of the effects of variation in vegetation structure due to bush encroachment on the species’ composition and diversity of small mammals and ground-dwelling invertebrates at selected sites in the Omaheke Region.
- Seasonal changes in dietary preferences of the oryx and springbok in Damaraland. This study will be undertaken in collaboration with conservancies, e.g. Torra conservancy.
- Human wildlife conflict along the boundaries of the Park.
- Carbon turnover and nutrient cycling in shelf sediments off the Namibian coast.
- Dynamics of intertidal zone communities on the coast of Namibia.
- Limnology of lentic freshwater systems in Namibia.
- Landscape processes and biodiversity change along the Kwandu River in Caprivi, Namibia.
- Profiling, monitoring and conserving the rich microbial diversity along the Namibian coast.
The impact of different management practices on the range condition of Savanna ecosystems.

**Disturbance and Restoration Ecology**

Since many mines are closing down due to the non-renewable resources being exploited and reaching their limits, there is a need to rehabilitate and/or restore the natural habitats at such sites. Projects involve the understanding the dynamics of arid savanna ecosystems experiencing various disturbance regimes in highland biomes of central Namibia and also understanding the implications for local management of economics and conservation objectives. A project that was successfully completed and was a collaboration between the Department of Biological Sciences, NAMDEB and Gobabeb, is the restoration of the Sendelingsdrif mining site.

**Host-plant and host-animal interactions (Parasitology)**

Current projects being carried out in the Department of Biological Sciences in collaboration with the Ministry of Environment and Tourism, University of Bremen (Germany), partner universities in Africa and the EU (EU-funded project), among others, include:

- Plant-microorganism interaction with a focus on Plant Growth Promotion by Rhizospheric.
- Endophytic microorganisms associated with plants occurring in the Namibian Deserts.
- Rainfall and herbivory: characterizing the transmission route for anthrax in grazing wildlife, Etosha National Park.
- Parasites of rodents in South Africa and Namibia with a focus on emerging infectious diseases.
- Emerging viruses in West and Southern Africa: Molecular identification and characterization of rodent- and shrew-borne hantaviruses and assessment of their public health potential.
- Monitoring the effects of anthropogenic and environmental change on parasite diversity and communities and infectious diseases on small mammal communities along a climate gradient in Southern Africa.
- Stop Rat project (EU-funded).

**Food Security**

Research in this focus area includes plant breeding research, for example the development of Marama bean cultivars with desirable agronomic traits using mutation breeding. It also involves the domestication of the Marama bean: Agronomy and molecular genetic characterization for its improvement. Other research in this focus area include analysis of starch synthesis in the Marama bean to identify industrial uses for it; Cultivation of Tylosoema esculentum (Marama bean) Trials; Analysis of microbial nutrient cycling, GHG production, BNF and plant growth promotion for sustainable land use management, under the Future Okavango (TFO) project.

**Biotechnology**
Industrial Application: New Materials (Nanotechnology), Biotechnology, Polymer Science research and Petroleum Chemistry.

**Computational Sciences**

**Computer Sciences**

In the School of Computing, research groups focus on: (a) Rural Wireless Networking utilising Long-Term Evolution and Cloud Computing Technologies; (b) On Cloud Computing looking at billing and security aspects of applications in the Cloud environment; (c) “Namibianizing the Internet”, looking at innovative ways to expose the Namibian cultural norms and practices to the world. This research group is looking at various aspects, including indigenous knowledge systems and social networks applicable to the Namibian environment; (d) Design of ICT Applications for Intersection of Traditional and Indigenous Knowledge and Technology Design focus on research projects; Connecting Eenhana: Socio-technical issues in establishing a community Wi-Fi network; An Ethnographic Account of taxi practices in Namibia to Inform the Design of ICT Applications; (e) The School of Computing also houses the Centre of excellence in telecommunication that runs and implements research activities and publishes research results; (f) Establishment of the Software Development Centre (SDC) focuses on the development of projects in the areas of E-health, as well as E-Governance.

**Light and Energy**

**Astrophysics**

In the Astrophysics Research Unit of the Department of Physics, continuing research takes place in high-energy astrophysics as part of a highly successful international collaboration, operating the H.E.S.S. telescopes located in Namibia.

Concerning the successor observatory of H.E.S.S., the Cherenkov Telescope Array, the Department of Physics alongside the Ministry of Education and the National Commission on Research, Science and Technology are spearheading the efforts to attract the southern observatory of CTA to Namibia. This national effort is endorsed and supported by the Namibian government.

The Department of Physics is also involved with the Square Kilometre Array (SKA). Besides these astronomical mega-projects with more than 1000 scientists from over 30 countries involved, and with capital investments of billions of Namibian dollars, a small optical observatory, the Cuno Hoffmeister Memorial Observatory, is also being set up south of Windhoek. This initiative is in collaboration with the International Occultation Timing Association - European Section (IOTA-ES) and is supported by the International Astronomical Union Office of Astronomy for Development (IAU-OAD). Members of the Department also hold an active and oversight position in the Southern African Regional Office of Astronomy for Development (SAROAD).
**Nuclear physics**

The Radiation Physics Group continues to do research in the distribution and concentrations of natural radioisotopes in several locations in Namibia, using equipment provided by the International Atomic Energy Agency (IAEA) in a joint project with the Atomic Energy and Radiation Protection Authority of Namibia. This group successfully acquired some nuclear equipment from external sources and through Namibia CPF, and is setting up a nuclear science teaching and research laboratory.

**Lasers and optics**

Research is ongoing pertaining to vegetation fluorescence and optics as well as optic properties of surface water sources and development of methods to improve the measurement of absorption in water.

**Renewable Energies**

Research is being conducted in the field of solar cells, the efficiencies and their possible applications in Namibia.

**Statistics and Mathematics**

**Statistics addressing social aspects**


Women and Food Insecurity in the urban areas of Namibia. This is a case study in the informal settlements of Windhoek.


Explaining marriage patterns and trends in Namibia. This research is being undertaken toward the obtaining of a PhD degree.

Model fitting to home language in Windhoek primary schools.

**Statistics and Health Sector/Aspects**

An evaluation of the effect of maternal smoking on the health of infants in Namibia.

Small area estimation of health status/conditions and interventions. The focus currently is on malaria, but is easily expandable to other public health problems. With collaborators in Kenya,
the Kenya Medical Research Institute and University of Oxford, we are using cross-sectional Demographic and Health Survey (DHS) data obtained in various African countries to estimate i) health interventions coverage (long-lasting nets), ii) health status and conditions (malaria prevalence), iii) health promotion and disease prevention issues (prompt use of appropriate care).

Demography
Statistical methods in demography – this project essentially is using advanced regression methods to analyse and explain demographic processes. Census and DHS data are being used.

Pure Mathematics
The Department of Mathematics has been carrying out research in Categorical Topology. In this research, structured frames called nearness frames are utilized. The work involves applying category theory to topology.

Financial Mathematics
Semi-martingales are applied to finance. The focus is on the modelling of exchange rates, optimal harvest and default able securities. This work has played a part in strengthening the modelling of risk management in the banking industry. Stochastic dynamic models for banking items were developed, enabling one to analyse the interplay between the bank exposures and its regulatory capital to mitigate these.

Dynamical Systems
This involves the study of the dynamics of biological groups, represented by a system of nonlinear Partial Differential Equations. The study focuses on the well-posedness and regularity properties of the solutions to such systems of equations.

Perturbation Theory
This research in perturbation theory has wide applications in chemical reactors, lubrication, bending problems of thin plates and shells, DC motor analysis, quantum and fluid mechanics, elasticity, and other similar areas. It is clear that these applications are quite relevant to the development programs of Namibia, especially in the industrial sector.

Differential Equations and Numerical Methods
This work involves modelling of the spread of diseases using first and second order differential equations and numerical analysis techniques.

Earth Sciences
Most of the research in this focus area is conducted in the Department of Geology, but collaboration occurs with other international universities. The following research projects are ongoing:
• The Matchless Project: Geological Evolution and Metallogeny of the Matchless Belt, Namibia (Collaboration with Meeting Points Mining, Sweden and Uppsala University, Sweden).
• Sedimentology and hydrocarbon resources: Karoo basin evolution and associated coal and gas resources.
• Seismic Stratigraphy and Petroleum System Analysis of the Orange Basin.
• Neoproterozoic Petroleum Systems in Namibia (Collaboration with Royal Holloway, London)
• The Mining and Environment project under the auspices of the International Union of Geological Sciences (IUGS) and UNESCO/SIDA, Project Number 594. The Department is represented by Prof. B.S. Mapani and Prof. A.F. Kamona. Cooperating partners in this project are the Geological Survey of the Czech Republic, the University of Johannesburg, the University of Botswana, the University of Zambia, the University of Zimbabwe, Charles University, Prague, the University of Natural Sciences, Prague, the University of Lubumbashi, Medical Faculty, and the Central African Museum in Brussels, Belgium.

Geochronology of Southern Namibia

This project is a collaboration between the University of Namibia, Geology Department and the Gothenburg University in Sweden. The project aims to establish the exact age of the rocks in the Rehoboth inlier and Sinclair Suites in the Helmeringhausen area and Sinclair area. The ages of these formations will give us a direct result of the most fertile units with respect to mineral deposits.

PUBLICATIONS

Refereed journal articles


26. Grönenmeyer, J.L., Chimwamurombe, P., & Reinhold-Hurek, B. *Bradyrhizobium subterraneum* sp. nov., a symbiotic nitrogen-fixing bacterium from root nodules of


68. Seeburrun N., Alswaidan, I.A., Fun,H.-K., Archibong, E.F., & Ramasami. P. A comparative ab initio study to investigate the rich structural variety and electronic properties of GamTen (m=1,2 and n=1-4) with analogous oxides, sulfides and selenides. *Royal Society of Chemistry (RSC) Advances*, p. 68076. doi: 10.1039/c5ra07594g.


Chapter in Books


**Conference papers**


existentes en proyectos de software. Paper presented at the 10ma Peña tecnológica, Universidad de las Ciencias Informáticas, Habana, Cuba.


Biodiversity, Ecology and Conservation of Marine Ecosystems, University of Hong Kong.


on Methods for Studying Drug Metabolism and Transport, and African Traditional Medicines, Pretoria.


43. Kazembe, L.N. (2015). Time series model - particularly dynamic lag distributed models were outlined demonstrating the linkage between malaria, malnutrition and dysentery to changing temperature and rainfall patterns using data drawn from different countries. Paper presented at Climate Change and Health meeting in Lusaka and Pretoria.


89. Torres-Pérez, M., & Rodríguez-Puente, R. (2015). *A brief overview about models and methods to calculate the tilt angle and orientation of photovoltaic panels to maximize*
power generation. Paper presented at the Light Conference, University of Namibia, Windhoek.


106. Wilkens (2015, September). Finite p-groups whose subgroups are close to normal. Paper presented at TAAG 2015, North-West University, Mafikeng.


Other publications


Funded research projects

Euro 5000.00 (approximately N$87 200) towards the development of an implementation plan for the project by **R. Hans**: “Study on Namibian leafy vegetables and wild edible fungi as potential food supplement and complementary medicinal applications”.

N$ 500 000-00 was channelled towards the renewable energy research by EIF Namibia (**Daniel, L. and Uahengo, V**).

The United Nations Population Fund (UNFPA) in the form of monetary support to the tune N$93 471.45 sponsored our final year student projects as well as support for staff to attend international conferences and other related research activities (**Statistics and Population Studies Department**).


**Prof. Kazembe**: The W.K Kellogg Biological Station Long-term Ecological Research (KBS LTER) programme of Michigan State University (MSU) in partnership with the University of Malawi (UNIMA). Collaborators: Prof. Snapp (MSU), Mr. P. Mpeketula (UNIMA), Prof. J. Namangale (UNIMA). (2012-2015).

**Pazvakawambwa, L.** Short-Term Scholarship for Clinic on Dynamical Approaches to Infectious Disease Data (DAIDD), International Clinics on Infectious Disease and Data (ICI3D) Programme, supported by the National Institute of General Medical Science of the National Institutes of Health, R25GM102149. Emerging Pathogens Institute, University of Florida, Gainesville, Florida USA, 11- 22 December 2014.

**Adam, F-M.** NCRST Project N0.2ndC/1214/001 EnoSocsHealth Energy generation from urban waste.

Chemical Composition, Nutritional and Medicinal Value of Indigenous Edible Wild Fungi in Namibia: Termitomyces and Pleurotus mushrooms; Funded by UNAM-RPC.

Chemical analysis of cultivated mushrooms synthesis of chemosensors and their application to ionic detection in aqueous and organic media. Funded by UNAM-RPC.
Total value of funded research projects

Table 1. Value of funded research project

<table>
<thead>
<tr>
<th>Source</th>
<th>Internal</th>
<th>External</th>
<th>Total</th>
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<tr>
<td>Amount (N$)</td>
<td>680</td>
<td>671.45</td>
<td>680 671.45</td>
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</tbody>
</table>

Number of publications in internationally accredited journals

Table 2. Types and number of publication for the year 2015 in the Faculty of Science

<table>
<thead>
<tr>
<th>Type</th>
<th>Refereed Journals</th>
<th>Refereed Books</th>
<th>Chapters in Books</th>
<th>Conference papers</th>
<th>Other publications</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
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SIGNIFICANT EVENTS, ACHIEVEMENTS AND MILESTONES

Astrophysics Group

Members: R. Steenkamp, M. Backes & I.D. Davids

During 2015 the Astrophysics Group continued its involvement in the highly successful international collaboration, the High Energy Stereoscopic System (H.E.S.S.) located in Namibia, and sent a few students to work shifts there as part of their research projects. Three students were sent to the NWU in South Africa to learn the use of the H.E.S.S. data-analysis software. This group also continued its task in engaging the Ministry of Education and the National Commission on Research, Science and Technology (NCRST) to be appointed to host the southern observatory of the Cherenkov Telescope Array (CTA South) in Namibia.

Following the twinning of UNAM and NWU, this group was also instrumental in catalysing a proposal by the National Research Foundation and Department of Science and Technology of South Africa to jointly fund a bi-lateral Research Chair in Multi-Wavelength Astronomy. The other half should come from the NCRST and will be decided upon in 2016. Dr Michael Backes continued his phenomenally successful streak of funding applications and securing more grants and support for the Astrophysics research group and its students.

Nuclear Science and Energy Group

Members: J.A. Oyedele, S.A. Shimboyo & E.E. Taapopi

The Radiation Physics Group continued to do research on the distribution and concentrations of natural radioisotopes in several locations in Namibia, using equipment provided by the International Atomic Energy Agency (IAEA) in a joint project with the Atomic Energy and Radiation Protection Authority of Namibia. Several students were involved in this endeavour as part of their final year research project. The group successfully acquired some nuclear equipment.
from external sources and through Namibia CPF, and is setting up a nuclear science teaching and research laboratory.

The Nuclear Science Group together with a student, M. Kashiva, studied the distributions and concentrations of natural radioisotopes in the soils of the Ohorongo Cement Plant, Otavi, Namibia. The project was funded by the University of Namibia, and the nuclear equipment used was provided by the International Atomic Energy Agency (IAEA) through the government of Namibia.

The HPGe detector of the Nuclear Science Group malfunctioned and great efforts were made to repair this valuable piece of equipment at significant expense to the Department. The repaired instrument is expected back in the first half of 2016.

Laser Optics Group

Members: S. Singh & N. Shafudah

This group organised and lead the efforts for and International Conference on Light Science and Applications (ICLSA2015) that was very successful. Research was conducted in the field of optical properties of water samples as part of Mr Shafudah’s M.Sc. studies.

Private Bag 13301, 340 Mandume Ndemufayo, Ave. Pionierspark, Windhoek, Namibia
Tel: +264-61-206-3401, Fax: +264-61-206-3791, E-mail: ssingh@unam.na
Light for a Brighter Namibia

International Conference on Light Science and Applications (ICLSA)
26th – 28th of October 2015

Renewable Energy Group

Members: Daniel L.S, Uahengo V., Dobreva P.

The Society of Pure and Applied Coordination Chemistry (SPACC) symposium was initiated in Tokyo 21 years ago by the SPACC fellow, Prof. Yano, and has been held annually and consecutively ever since. It was our great pleasure to host this 22nd SPACC Symposium for the first time on the African continent. The conference aimed to foster and conduct collaborative interdisciplinary research in state-of-the-art methodologies and technologies within Chemistry,
Engineering, Biology, Materials Science, Geology and Applied Physics. The meeting attracted participants with different international backgrounds, mainly from Japan (13), Mauritius (1) and South Africa (1), to foster cross-pollination between different research fields, and to expose and discuss innovative theories, frameworks, methodologies, tools and applications.

Ms Dobreva continued research in this regard as part of her PhD. studies and another two final-year student projects were completed in this field. Two conference papers were presented, namely the SASEC 2015 (Southern African Solar Energy Conference) and SAIP 2015 (South African Institute of Physics) Conference. Ms Dobreva also successfully applied for Staff Development Leave for 2016 to work on her PhD studies.

Annual Science Research Conference

The Faculty of Science held its third Annual Science Research Conference on 18 and 19 November at the UNAM Library, Main Campus. Several members of the academic staff as well as undergraduate and post-graduate students presented their research.

Highlights of Research Activities conducted in 2015

- Phytochemical characterization of indigenous plants.
- Comparison of solid phase extraction (SPE) and solid phase micro extraction (SPME) for the analysis of pesticides in drinking water using Gas Chromatography (GC).
- The design and synthesis of Chalcone derivatives.
- QSQR study of favipirarivir, an experimental Ebola drug.
- Phytochemical and antimicrobial analysis of secondary metabolites from the chewing stick, Diospyros lyciodes and Euclea divinorum.
- Anti-HIV screening of selected plant species belonging to the Lamiaceae family.
- Determination of proteins in the sea foam from the coastal area of Namibia (Walvis Bay and Swakopmund).
- Isolation and structure elucidation of potentially, anti-infective agents from traditionally used medicinal plants.
- Phytochemical analysis of Namibian wild fruits to determine the antioxidant and antimicrobial activity.
• Validation and verification of the Expanded Table for Transition Metal Carbonyl and Main Group Elements.
• Evaluation of selected Namibian medicinal plants for anti-HIV properties.
• Phytochemical and nutritional profiling as well as biological activities of Kalahari tuber pfeili in Namibia.
• Nutrient content of Maxau and Âudaï, fermented beverages from //Karas Region, Namibia.
• Comparison of different local Namibian oils against commercial sunflower oil.
• Computational studies of Olaparib: A new drug for treating ovarian cancer
• Computational studies of Thiamine – Ca2+, Cd2+, Hg2+, Mg2+, and Zn2+ Complexes
• Evaluation of the antioxidant, anticancer and antimicrobial activity of selected Namibian indigenous vegetables and characterization of their phenolic compounds.
• Evaluation of the antitubercular, antimalarial and potential drug-drug interaction of bioactive compounds isolated from lead-like enhanced extracts from selected Namibian medicinal plants.
• Isolation and characterization of potential anti-HIV compounds from Maerua schinzii and Catophractes alexandri.
• Development of a liquid-liquid microextraction method for simultaneous determination of illicit psychoactive drugs in human blood.
• Isolation and characterisation of toxins from the Tumbleweed, Trachyandra laxa, responsible for livestock loss in Namibia.
• Isolation and characterisation of toxins from the Wild Everlasting, Helichrysum argyrosphaerum, responsible for livestock loss in Namibia.
• Chemical characterization of volatile constituents of the essential oil from Omumbiri, Commiphora wildii, resin.
• SASSCAL (Southern African Science Service Centre for Climate Change and Adaptive Land Use).
• OPTIMASS (Options for sustainable geo-biosphere feedback management in savanna systems under regional and global change).
• Geochemistry and Geophysics of basement rocks in Namibia.
• The regional study on the Naukluft Aquifer.
• SPACES: Climate archives.
• Hydraulic parameters of the Ohangwena Aquifers.
• Petrogenesis of Karibib picrites.

CONCLUSION

The Faculty of Science was highly productive in research activities and output during 2015 and managed to publish 83 articles in peer-reviewed journals, produce two books and eight book chapters and present 115 papers at national and international conferences. The funding for most
of these conferences was sourced from outside UNAM. Challenges faced by academic members of the faculty are high teaching loads; limited laboratory space to conduct research since all the laboratories are currently used for teaching; limited equipment; no budget for research activities, except the limited amount of funding from the Research and Publication Office. We are continuously striving to conduct quality research within these limitations.
ASSOCIATE DEAN’S STATEMENT

This research report reflects the achievements of both the School of Nursing and the School of Public Health for 2015. The School of Public Health only became a stand-alone School on 1 January 2016. The report reflects on the following: 1) Research strategic direction and the 2) Publications for 2015.

RESEARCH STRATEGIC DIRECTION

The research in the School of Nursing and Public Health was directed by:

a) Staff development research for Masters and PhD degrees
b) Post-graduate research directed by observation of trends in clinical practice
c) Presentation of research papers at conferences
d) Review of articles submitted for publication to accredited journals

PUBLICATIONS

Academic staff and postgraduate students continued to be prolific in research and publishing with regard to society, lifestyle and health.


**Conference Papers**


2. ACTIVITIES OF ACADEMIC CENTRES AND CAMPUSES

2.1 HIFIKEPUNYE POHAMBA CAMPUS

DIRECTOR’S REPORT

The Hifikepunye Pohamba Campus of the University of Namibia recognizes the value of applied research to education and development related issues in Namibia and beyond. Despite lack of educational research experiences, particularly at the new campus like ours, we manage to publish in various journals and present papers at conferences. This, in our opinion, is our humble contribution.

RESEARCH STRATEGIC DIRECTION AND FOCUS AREA

In its Management Strategic Plan for 2012, HP Campus puts an emphasis on motivating staff and students to engage in research activities for effective knowledge creation and application. As a result, the campus set its strategic objective of increasing and broadening research output to directly respond to the current low level of research output. The following are themes as they appeared in the Research Agenda.

Theme 1: Promoting the Enhancement and Improvement of the Teaching and Learning of Mathematics and Science for Sustainable Development in Namibia

The world economy has been fluctuating, yet rapid advances in science and technology create opportunities for Namibia, as recognized with the introduction of Vision 2030. This document spells out the country’s development programs and strategies to achieve the national objectives and goal for Namibia to become an industrialized, competitive and high-performing economy by 2030, offering high living standards to its citizens. In response to the goals and objectives of Vision 2030, the HP Campus is committed to addressing the various issues and challenges pertaining to the teaching and learning of Mathematics and Science.

Theme 2: Putting Theory into Practice for the Enhancement of Quality Teacher Education in Namibia

This theme seeks to investigate the relationships between practice and the theory. Theory informs the practices that ought to take place. The question of theory and practice is evident and can be detected in how learning content is exposed to learners in the first project, how a school's management team contributes to school performance, how an advisory teacher service unit assists teachers in schools to improve their teaching and how graduates feel they have been equipped with national professional standards to meet competencies expected of any professional teacher. In all projects the focus is thus more on how the practices that individual
educators partake in are informed by theoretical frameworks, and determining whether there is a deviation from the theoretical models.

**Theme 3: Providing Quality Education Through Improved Instruction and Assessment for Sustainable Development**

Projects under this theme will investigate the challenges that education stakeholders in Namibia face in implementing the curriculum and seek to inform the policymakers and curriculum developers for them to address those challenges.

**Theme 4: Enhancing and Promoting the Teaching and Learning of Arts, Languages and Social Sciences at all Levels of Education**

This theme focuses on issues pertaining to the teaching and learning of arts, languages and social sciences.

**Theme 5: Enhancing Teaching and Learning at the Pre–Lower Primary Phase**

The Pre-Lower Primary Phase is the foundation for later learning. As such, it is important to have ongoing research on the different aspects of the Pre-Lower Phase, such as curriculum development and implementation and practical aspects in the schools and community, in order to enhance teaching and learning in this phase of education.

**Theme 6: Providing Psychosocial Support to Ensure Effective Inclusive Education**

This theme aims to address the challenges related to discriminatory practices and attitudes that hinder the creation of welcoming environments, welcoming communities and inclusive societies, and achieving education for all. It also focuses on ascertaining the most effective means of embracing people with diverse needs.

**PUBLICATIONS**

**Journal Articles**


*Books and Monograms*


*Chapters in Books*

None

*Conference Papers or Proceedings*


*Other Publications*
None

**CONCLUSION**

It is our hope that we will be able to increase our research outputs for 2016, given that we are hosting the UNAM Annual Educational Conference at our campus in August 2016.
KATIMA MULILO CAMPUS

DIRECTOR’S REPORT

The UNAM: Katima Mulilo Campus continues to make significant improvements in its research and dissemination of research outputs. It gives me great pleasure to state here that apart from the satisfactory record of scholarly publications during the year under review, the campus also hosted two important research-related conferences, namely the UNAM Fourth Annual Education Conference (EDUCON 2015), 17 - 20 August 2015, and the Symposium on Border Regions in Southern Africa, 7 - 8 September 2015. Both events were well attended by national and international scholars, who presented quality research papers and shared ideas. It is also gratifying to note that our sustained efforts in encouraging research outputs have again seen Katima Mulilo Campus meeting 100% of its research output target for 2015, after a similar record in 2014. Our total research output recorded for 2015 stood at 48 articles, comprising 19 refereed journal articles, eight books, one book chapter, one monograph and 19 conference papers. This is very encouraging for us as a campus and we are looking forward to achieving the same record in the 2016 research year. The Katima Mulilo Campus management continues to encourage researchers by periodically updating them on the funds available to them in the research budget.

Considering the adverse effects of the current economic meltdown, which has also affected the university, we continue to encourage our researchers to explore external collaborations and research grants as a way of supplementing our lean research budget. During the 2015 research year this effort yielded two results: (1) A two years research grant awarded by the National Commission on Research, Science and Technology to the Department of Wildlife Management and Ecotourism to conduct research on the biodiversity and tourism potential of Impalila Island, Zambezi region; and (2) A one year collaborative funded research between the Department of Mathematics, Science and Sport Education and the Ministry of Agriculture, Water and Forestry to conduct research on the physicochemical properties and characterisation of the rice soil of the Kalimbeza Rice Research field, Zambezi region. Similar efforts are still ongoing to secure more research grants and funding collaborations. As we look forward to a fruitful 2016 research year, it is our hope that this direction will continue to yield positive results and further expand our research outreach.

RESEARCH STRATEGIC DIRECTION AND FOCUS AREAS

At the Katima Mulilo Campus, we are committed to encouraging and supporting publications of research findings in peer-reviewed journals, as well attending conferences/seminars where academics can present their research, interact with professional colleagues and update their subject knowledge. We have streamlined our research focus on the pursuance and
implementation of the campus’s five-year Research Agenda (2014 – 2018). The research agenda has three broad themes, bearing in mind the research expertise available at the Campus to effectively implement and seek collaborations in the various research projects. The three themes are:

i. Education and Quality Delivery
ii. Agriculture and Environment
iii. Wildlife and Ecotourism.

These broad areas are very strategic to our teaching, research and community engagements.

PUBLICATIONS

Journal Articles


(Lybidae) and non-resident Starlings (Sturnidae) in Lesotho. *Ornithologische Mitteilungen*, 66(9/10), 255-258.


Books


Chapters in Books


Monographs

Conference Papers


presented at the UNAM 4th Annual Education Conference (EDUCON), Katima Mulilo Campus.


17. Zulu, A., Kacelo, P., & Matakala, V. (2015, August). The perceptions and utilisation of Information and Communication Technologies (ICTS) among student teachers during school-based studies: narratives from student teachers at the University of Namibia’s
Funded projects

Katima Mulilo Campus received two externally funded grants for research projects in 2015. They are:

1. Two years research grant to conduct research on the biodiversity and tourism development of Impalila Island, Zambezi region.
   
   **Funder:** National Commission on Research, Science and Technology (NCRST)
   
   **Research fund:** N$430,000.00
   
   **Host department:** Department of Wildlife Management and Ecotourism

2. One year grant to conduct research on the physicochemical properties and characterisation of the rice soil of Kalimbeza Rice Research Station, Zambezi region.
   
   **Funder:** Jointly funded by the Ministry of Agriculture, Water and Forestry and UNAM Katima Mulilo Campus.
   
   **Research fund:** N$210,000.00
   
   **Host department:** Department of Mathematics, Science and Sport Education

Total value of funded research projects

The total value of the campus’s externally funded projects in 2015 stood at N$ 640,000.00.

SIGNIFICANT EVENTS, ACHIEVEMENTS AND MILESTONES

On 15 April 2015 the Katima Mulilo Campus officially launched its five-year Research Agenda document. The occasion was attended by the Vice Chancellor, Prof. L. Hangula, accompanied by the Pro-Vice-Chancellor: Academic Affairs, Prof. O.D. Mwandemele (then as Pro-Vice
Chancellor: Academic Affair and Research), Dr E. Namhila, Pro-Vice Chancellor: Administration, Finance and Resource Mobilization, (then as the university Librarian), and the university Public Relations Officer, among others. The research agenda has since served as the compass for our academics to focus their research activities on real educational and environmental issues that will have direct impact on the host community and the nation at large. In its resolve to ensure successful implementation of the research agenda, the campus management engaged researchers in a two-day consultative workshop on 21 and 22 September 2015 to discuss progress made in the various projects and to identify where the researchers may need support and advice. The workshop was a huge success as it has motivated several researchers to rethink research. This was evident from the high level of enthusiasm the researchers showed through active participation in the two conferences: UNAM 4th Annual Educational Conference and the Symposium on Border Regions in Southern Africa, hosted by the Campus in 2015. Considering that most colleagues at the Katima Mulilo Campus came from the former Colleges of Education where research culture was not too pronounced, we have also embarked on the identification of critical research skills needs for organising capacity-building workshops. The Campus also improved satisfactorily with the organisation of its chapter for the UNAM 2015 Research and Innovation Day, by involving student researchers to make presentations and present exhibitions of innovative products. We are confident that if the present tempo is sustained, there will be no less of a success story in our 2016 research report.

CONCLUSION

The Katima Mulilo Campus was very satisfied with its performance in the various research activities during the year under review. We know there is still room for improvement and we are committed to sustaining the present gains in the research-related activities if the campus is accorded the necessary financial support to implement its five-year research agenda.
DIRECTOR’S REPORT

Ideally situated at the heart of two former diverse worlds, the Khomasdal Campus is the beacon of hope for many aspirant teachers and educators. Its vision and aspirations are to contribute to education and to develop a centre of excellence for the education sector to produce educators who add value to the Namibian society, since education is the only weapon we have against social ills. The campus has identified five principle ideals that can help us achieve this: teamwork spirit, open-door policy, transparency and honesty, communication and respect of self, students, the environment and diversity (language, religion, culture, opinion). The campus’s many facilities are used by the UNAM community, for example The Science Foundation, Language Centre, Military School and the Faculty of Law and facilities for the larger community. such as the library, a gym, a hall, swimming pool, a cafeteria and sports fields. The staff on campus is just as diverse in skills and services and despite changes in management and staff, the campus still offers the required services. In its quest for excellence, the campus is, within means, constantly upgrading its facilities such as extending, renovating and making the buildings more accessible to people living with disabilities. It has undergone a space audit to assist in maximizing the use of the space available. The campus has since 2015 also become the site for the Faculty of Education’s vacation school and the English Language Proficiency Programme (ELPP), where some staff members assisted as trainers.

RESEARCH AND PUBLICATION

The campus has a research and publication committee with representatives from various departments, with the aim of engaging staff members and students in more research. Workshops were held to guide lecturers in not only supervising undergraduate students in Project-Based Learning (PBL) and research writing, but also in proposal writing. One of the challenges faced is encouraging or guiding staff members to attend conferences and deliver papers. The following is an indication of the research output of the Campus:

PUBLICATIONS

Refereed Journal Articles


Conference Papers


During 2015 Ms A. Alexander represented Namibia at the International Books for Young people (IBBY) conference in Rwanda. As Chairperson for Literature of the Namibian Children’s Book Forum (NCBF) she reported on its activities. She received a donation from IBBY and the NCBF.
EDUCON: 15 lecturers and six students attended this conference at Katima Mulilo, August 2015.

Other

a. Art Exhibitions


b. Numerous lecturers have developed and edited materials for the Centre for External Studies.
c. Möller, J. (2015). Teacher’s guide for action research in Mathematics Development for Pre-Primary and grade one on Number concept development and Problem-Solving.

Research Conference

UNAM Annual Research and Innovation Day

The UNAM Annual Research and Innovation Day was hosted and organized at the Khomasdal Campus on 8 October 2015. More than 200 people attended.
Welcome note: Prof. L. Hangula – UNAM Vice Chancellor
Keynote speaker: Hon. Dr Itah Kandjii-Murangi.
Acting Director, Dr Frindt, welcomes Vice Chancellor, Prof. L Hangula, to the UNAM Research day 2015

Other presentations

A professorial lecture on Mathematics education was held by Professor Kasanda on 6 August. Other highlights were the Vice Chancellor’s and the Registrar’s visit to the campus and a presentation on work ethics and workloads by Prof. E. Maass

CONCLUSION

The Khomasdal Campus continues to strive for excellence by engaging in various academic activities, in research and in community service. The campus has established itself as part of the community by offering various services and it is constantly improving its facilities to meet the ever-increasing demand for well qualified educators.
DIRECTOR’S REPORT

At the Ogongo Campus, we diligently pursue the ideals and mandates of UNAM, teaching research and community engagement. Added to this is the new emphasis on widening our revenue sources through the services we render to the public and private sectors, as well as consorted commercial production from the Ogongo farmlands. While we have been strong on community engagement, we endeavour to improve on research, as this will also enhance the quality of our teaching and community engagement. Some of the identified areas of improvement include the starting of postgraduate programmes for the departments that do not have them and enhancing the existing programmes. To this end teaching staff have been urged to form research teams and develop a culture of preparing research proposals and endeavouring to include training at postgraduate level in their proposals.

RESEARCH STRATEGIC DIRECTION

This report documents research activities and outputs from the Ogongo Campus of the Faculty of Agriculture and Natural Resources for the year 2015. It highlights momentous research-related
activities and events, accomplishments and milestones during the past twelve months. In so doing, the report charts the strategic research direction of the FANR in general and Ogongo Campus in particular, as epitomised by the main areas of focus by most of the main scientific studies undertaken at the Campus during the year under review.

Due to the strategic realignment of the satellite UNAM campuses in the ambit of the FANR, the Ogongo Campus has become the focal area of Crop Science, Agricultural Economics and Integrated Environmental Science. This has had a major influence on the strategic research direction and focus area of the Campus. The Campus also maintains a vibrant section of the Animal Science Department, which is mainly housed at the Neudamm Campus.

**RESEARCH STRATEGIC DIRECTION AND FOCUS AREAS**

The research agenda of the Faculty of Agriculture and Natural Resources (FANR) broadly reflects the diversity of disciplines and specialisations as represented by the various Departments comprised in the Faculty. The strategic position of the Ogongo Campus within the heartland of the densely populated Cuvelai basin predisposes it to focus on crop production, integrated natural resource management and agricultural economics. This is informed by the geographic locality of the Ogongo Campus in an area of the country where crop production forms the mainstay of local livelihoods as well as the relative competitive advantage the area has in terms of climate and weather over central and southern Namibia. To this end, the strategic research direction and focus areas at Ogongo are geared towards adaptive cropping systems within the flood-prone semi-arid north-central Namibian rangelands taking advantage of the erratic climatic conditions characterized by both flood and drought conditions. Prioritisation of thematic research areas by both the FANR and the Ogongo Campus is aligned with the National Programme on Research, Science, Technology and Innovation (NPRSTI).

The focal areas of research at Ogongo encompass the breeding, multiplication and introduction of hardy varieties of traditional and new crops as well as livestock into the annually flooded and drought-prone semi-arid north-central area of Namibia, which hosts the largest percentage of the national population; analyses of agro-economic factors and feasibility of value addition initiatives through local processing of indigenous and introduced horticultural crops and non-timber forest products; establishing the effects of environmental contamination and degradation, tourism and industrialisation as well as environmental policies on human health; agricultural productivity; inland freshwater fisheries; surface and groundwater and sustainable energy. The role of indigenous knowledge in preventing, adapting and mitigating environmental change (climate change, desertification, and deforestation) also form prioritised focal research areas. It is envisaged that results from research will ultimately contribute to sustainable and climatically resilient livelihoods, ecologically sound and resistant natural environments as well as the economic development of the Namibian people.
Ogongo focuses on researching ‘mixed cropping or intercropping’ of drought-adapted traditional crops with the flood-adapted rice cultivars in order to increase the preparedness of crop production systems for any extreme eventuality (drought or flood) and thus buffer local farmers against complete crop failures during alternating extreme climatic conditions. Pre-trial production of lucerne is also being researched at the Ogongo Campus with the aim of scaling it up to full production of irrigated pastures to supplement the dry season fodder supply for the animal production sector. Ogongo further focuses on drought resistant fodder millet for possible introduction into the Namibian agronomic production system. In addition, Ogongo is assuming ownership of a trial of fruit orchards in collaboration with the Ministry of Agriculture, Water and Forestry (MAWF), as trials and research focus will be on providing a scientific-based appraisal of the performance of fruit trees, thus creating the possibility of production in northern Namibia concomitant with methods of fruit processing for value addition. The cultivation and breeding of indigenous and non-invasive exotic tree and shrub species to be incorporated into the Namibian farming systems is an agroforestry focus research area of Ogongo. Furthermore, Ogongo has for long been engaged in the production of Brown Swiss dairy cattle and their cross-breeding with indigenous Nguni breeds as a means of ensuring improved milk production for local farmers. The hardy Brown Swiss has been selected because of its adaptability to the local rangeland conditions.

PUBLICATIONS

Refereed Journal Articles


Refereed Books
None
Chapters in Books


Conference Papers


Other Publications


Patents

None

Innovation Outputs

None
Funded research projects


2. Foxtail Trials Project

Total Value of Funded Research Projects
N$5 350 000.00

Total number of publications in internationally accredited journals
Two.

SIGNIFICANT EVENTS, ACHIEVEMENTS AND MILESTONES

At the Ogongo Campus we strive to uphold the three mandates of UNAM, teaching research and community engagement so as to positively and meaningfully contribute to local and national socio-economic improvement of the communities and the nation at large. It is in this spirit that we have played a key and instrumental role in the assessment of the feasibility of a tomato processing plant to not only contribute to value addition to the horticultural products at Epalela, create jobs and induce secondary industries in the region, but also to ensure the realisation of the Omusati regions chosen strategic development under the ‘one region one project’ initiative. The thoroughness of this study gave impetus to the construction of the tomato paste processing plant currently underway at Epalela, which will significantly lower national dependency on food imports from South Africa.

Another significant milestone was the hosting of the annual Rice Information Field Day on a successful female rice farmer’s field at Oshiteyatemo village. The harvesting of rice at Meme Rauna Kleophas field despite the prevailing drought conditions did not only demonstrate the success of the research and extension outreach of the project to its intended eventual beneficiaries, the local farmers, but also highlighted the capacity of a mixed cropping system to offer a buffer against total crop failures during extreme climatic conditions.
CONCLUSION

Only a small group of academic, mostly senior experienced researchers continues to contribute to the research outputs at Ogongo on an annual basis. This indicates that skills transfer is greatly
lacking and this needs to be seriously addressed. The academic departments at Ogongo were the only two departments in the Faculty to submit a postgraduate programme with supporting letters and although this programme is far from being ready, it is hoped that the launching thereof will significantly improve research and research outputs from the Campus.
DIRECTOR’S REPORT

In taking stock of what the UNAM Rundu campus has achieved in terms of research during the year under review, it is imperative to mention that notable achievements were registered in terms of academic research outputs. The campus achievements with regard to the specific UNAM strategic objective that relates to research output were commendable because they were complemented by the Five-Year Research Agenda (2014-2018). Within this guiding document, the Campus initiated several research projects of which some were implemented during the year under review.

While the effective implementation of the Campus Research Agenda required capacity building, training initiatives in research organized during the year under review yielded tangible results. More staff members undertook research and presented their papers at the University of Namibia Conferences hosted by the Faculty of Education and the Faculty of Economic and Management Science respectively, as well at an international conference in South Africa.

RESEARCH STRATEGIC DIRECTION

In line with the UNAM five-year strategic plan (2010-2015), the campus defined its mandate and research strategic direction. The focus during the year under review was the generation of relevant knowledge and skills through research to inform teaching and learning and address national development challenges. Underpinning this research strategic direction was the implementation of the planned research projects, as outlined in the Campus Research Agenda (2014 - 2018) in relation to the following broad research focus areas:

2.1 Enhancing the quality of curriculum instructions and assessment in education;
2.2 Enhancing the teaching and learning of science at lower primary phases;
2.3 Developing literacy and numeracy strategies at primary phases;
2.4 Providing leadership skills and knowledge on school leadership and management;
2.5 Improving pedagogical skills through School-Based Studies (SBS); and
2.6 Enhancing relationship and collaboration between the campus and industry in entrepreneurship and commerce-related areas.

PUBLICATIONS

Refereed Journal Articles


Refereed Chapters in Books


Conference Papers/Proceedings


Number of publications in internationally accredited journals

In order to improve the quality of the research output, staff members were encouraged to publish in internationally accredited journals. It is therefore worth noting that three of the four articles published, appeared in internationally accredited journals. This shows a significant improvement compared to previous years.

SIGNIFICANT EVENTS, ACHIEVEMENTS AND MILESTONES

The year under review witnessed the end of the UNAM Strategic Plan (2010-2015). Furthermore, the intensification of the capacity building training on research for academic staff registered significant progress in terms of research at the Rundu Campus. Significant to mention is the enthusiasm that academic staff members demonstrated in carrying out research relevant to addressing current challenges in Namibian society and beyond.
APVC/DIRECTOR’S REPORT

The Sam Nujoma Campus deservedly enjoys an enviable reputation for academic excellence. Its Sam Nujoma Marine and Coastal Resources Research Centre (SANUMARC), founded in 2004, is one of the University of Namibia’s pride academic centres.

The mission of SNC through its research arm SANUMARC is to undertake research and development activities that benefit UNAM by creating new data products, discovering new ways to use existing marine and coastal resources data, and suggesting improvements to existing data products and processes.

2015 has been an exciting year as our research and development activities continue to help SANUMARC meet its challenges in providing information about Namibia’s marine and coastal resources and its people. Over the coming year, we are looking forward to the further expansion of the research programme, continuing improvements to our existing research activities and expanding research efforts to better response to the needs of the nation in addressing issues relating to poverty eradication and solving community problems. SANUMARC remains committed to research as mandated by the entire Sam Nujoma Campus and the University of Namibia.

I would like to express my sincere gratitude to those who contributed generously of their time and intellect to make this report a reality. I thank the SANUMARC Board members for their active participation in the process over a lengthy gestation period. I also thank our partner marine and coastal resources science networks and consortia for their important contributions.

I extend my congratulations and thanks to all of our researchers, collaborators, funders, donors, and partners who contributed to making 2015 a year in which research at SANUMARC flourished. Your expertise, integrity, dedication, rigour and generosity make the University of Namibia, and in particular SANUMARC, the rich and distinctive intellectual Centre of Excellence that it is.

As one might expect, with change in leadership, there will always be continuities, discontinuities and adjustments. My promise is that I will use my leadership to further our shared objective of strengthening our university’s position as a distinct and distinctive institution providing outstanding education to young people of our country and beyond, generating and disseminating knowledge of high quality to advance human understanding and wisdom; knowledge that helps us build and sustain a better society and a better world.
RESEARCH STRATEGIC DIRECTION

Sam Nujoma Campus consists of the Sam Nujoma Marine and Coastal Resources Research Centre (SANUMARC) and the Department of Fisheries and Aquatic Sciences (DFAS). As a team, SANUMARC and DFAS contribute to knowledge creation and problem-solving through research and community engagement initiatives. SANUMARC’s existing research activities were revisited to accommodate the research activities of DFAS, which are enshrined in the Faculty of Agriculture and Natural Resources Research Agenda. The amalgamated research activities were synthesized to develop the third Five-Year Development Plan for SANUMARC, which gives a holistic approach to research in marine and coastal environments and sets the research strategic direction for the five-year period.

The third five-year development plan comprises all research programmes and activities undertaken at the Campus, including community development activities. The five-year development plan will serve as a road map to advance research, innovation and community activities that are well focused and address the country's needs, as contained in the National Development Plans and Vision 2030.

To this end, the research strategic direction and focus areas at the Sam Nujoma Campus are geared towards marine, coastal and arid land ecosystems, climate change, bioprospecting for novel natural products from the Benguela marine biota, and from desert and semi-desert systems. The ultimate goal is to develop the unique bio-resources of these ecosystems for human sustainable development, and to promote the application of science and technology for selected sites in Africa's deserts to bloom with useful biota, using the Zero Emissions Research Initiative (ZERI) principles and related approaches.

The Sam Nujoma Campus therefore strives to remain visible through research, innovation and development, and to become a Campus of Choice in science and technology research in marine and coastal resources, in order to contribute to global efforts to promote food security and eradicate poverty.

The major research focus areas are:

1. Aquaculture Research
2. Biogeochemistry Research
3. Fish and Fisheries
4. Algal Research
5. Mushroom Research
6. Coastal and Desert Agriculture
7. Renewable Energy
8. Water Resources
9. Community Outreach Programme
Aquaculture

The Campus has embarked on research programmes in marine science disciplines, including the biology, ecology and nutrition of both marine and freshwater animals and plants and the biogeochemistry dynamics of their environment.

Seaweed

This programme has assessed the seaweed resources in the area for sustainable harvesting, and future research will focus on developing culture techniques for economically important species and promoting the better utilization of seaweed and seaweed products.

Mushroom

The University has been spearheading the research and development of mushroom culture in Namibia and along the Namibian coast in particular. The cool, humid environment at the coast provides more favourable conditions for the growth of some species.

Coastal agriculture and plant biodiversity

The desert climate of the Namibian coast would seem to make it an unpromising location for agricultural activities, but there are areas of opportunity.

Renewable energy sources

The Campus has been involved in the development of inexpensive biogas technology at the Henties Bay Clay House Project, and will continue to examine the feasibility of harnessing new sources of renewable energy at the coast.

Water resources

The Centre is fortunate to be located over one of the coastal region’s major freshwater aquifers, but generally fresh water is a scarce resource. In contrast, the Atlantic Ocean provides an inexhaustible supply of seawater.

The coastal environment

The Namibian coast provides a unique and varied environment for research. Under this programme, meteorological data is being collected for the Henties Bay area from a weather station that has been erected at the Centre, for long-term evaluation of climate change.
Community outreach, in support of various community development and training activities in Henties Bay and beyond, was added as an eighth area.

PUBLICATIONS

Refereed journal articles


Refereed Books
None

Chapters in Books


**Conference Presentations**


**Other Publications**

**Audio-Visuals**


**Poster Presentations**

*Posters presented by RGNO participants at the NatMIRC 2015 Annual Research Meeting, 9 – 11 June 2015, Swakopmund, Namibia*


2. De Freitas, F.S. *What controls Reactivity of sedimentary organic matter across different depositional Settings?*

3. Follonier, S. *Isolation of Bioplastic-producing microbes from the Benguela upwelling system.*

4. Loureiro, C., & Littmann, S. *Microbiological diversity, primary production and nitrogen fixation in the Benguela upwelling ecosystem.*

5. Mänd, K. *Phosphatised microstructures in ancient and modern Phosphorites.*


7. Siedenberg, K. *The Application of Stable Isotopes to reveal the Sedimentary Sulfur Cycle.*

8. Ueitele, I, & Lagostina, L. *The Ocean as a Source of Antibiotics: Molecular and Morphological Screening for Fungi.*

9. Uusiku, E., & Namupala, H. *Heavy Metals (HM) & Paralytic Shellfish toxins (PST) along the Namibian Coast, quality assurance for a Baseline Study.*
Innovation output
None

Funded research projects

**NCRST funded projects**

Human health risk assessment of emerging phycotoxins affecting the Namibian mariculture industry (N$ 370 000 over 2 years).

Monitoring of ocean acidification along the Namibian continental shelve and its impact on Namibian Oyster Culture Industry (N$ 400 000 over two years).

**RPC funded projects**

Characterisation of the changes in biochemical compositions of hake (*M. capensis* and *M. paradoxus*) and horse mackerel (*T. capensis*) with Growth and Reproduction (N$ 147 400 over two years).

Total value of funded project
N$ 917 400

Number of publications in international accredited journals
Five papers.
## RESEARCH STRATEGIC DIRECTION

**PhD. Studies**

<table>
<thead>
<tr>
<th>Department</th>
<th>Title of research</th>
<th>Name of academic staff member</th>
<th>Commencement time</th>
<th>Projected completion time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Management Science</td>
<td>An investigation of consumer attitudes affecting the adoption of mobile marketing in the Namibian retail industry</td>
<td>Mr. Bernardus. F. Maseke</td>
<td>February 2013</td>
<td>2016</td>
</tr>
<tr>
<td>2. General Nursing Science</td>
<td>Nurse task shifting approach for mental health services in Namibia Primary Health Care services</td>
<td>Mr. Daniel O. Ashipala</td>
<td>February 2015</td>
<td>2019</td>
</tr>
<tr>
<td>3. Public Health</td>
<td>Assessment of effects of households’ food and security among HIV positive patients on ARV treatment in Oshana Region</td>
<td>Mrs. Olivia Tuhadeleni</td>
<td>Feb 2016</td>
<td>2019</td>
</tr>
</tbody>
</table>

### Other research related activities (Clinical and Nursing education)

<table>
<thead>
<tr>
<th>Department</th>
<th>Title of research</th>
<th>Name of academic staff member</th>
<th>Commencement time</th>
<th>Projected completion time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. General Nursing Science</td>
<td>Communication skills of Nurses caring for patients diagnosed with tuberculosis</td>
<td>Mr. Daniel O. Ashipala</td>
<td>April 2016</td>
<td>July 2016 Accepted for</td>
</tr>
<tr>
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</tr>
<tr>
<td>3.</td>
<td>General Nursing Science</td>
<td>A study on the knowledge, beliefs and practices of patients diagnosed with tuberculosis in Katutura, Khomas Region, Windhoek. – International Journal of advanced nursing studies</td>
<td>Mr. Daniel O. Ashipala</td>
<td>May 2016</td>
</tr>
<tr>
<td>4.</td>
<td>Public Health</td>
<td>The perceptions of HIV Positive patients (ART patients) on ART and Treatment Supporters with regard to their role towards ART adherence, at ART clinics in the Intermediate Hospital Oshakati, Namibia – European Journal of Pharmaceutical and Medical Research</td>
<td>Mrs. Olivia Tuhadeleni</td>
<td>May 2016</td>
</tr>
<tr>
<td>5.</td>
<td>General Nursing Science</td>
<td>An exploration of perceptions regarding the feasibility of implementation of kangaroo mother care in the maternity ward of Tsumeb district hospital, Namibia Namibia – Journal of Nursing Education and publication (JNEP)</td>
<td>Mrs. Vistolina Nuuyoma</td>
<td>April 2016</td>
</tr>
<tr>
<td>6.</td>
<td>General Nursing Science</td>
<td>Experiences of second year nursing students on placement in a rural health /Kharas Region, Namibia</td>
<td>Mrs. Vistolina Nuuyoma</td>
<td>June 2016</td>
</tr>
<tr>
<td>7.</td>
<td>General Nursing Science</td>
<td>Feedback in clinical settings: Perceptions of nursing students at a small district hospital in the southern part of Namibia</td>
<td>Mrs. Vistolina Nuuyoma</td>
<td>November 2015</td>
</tr>
<tr>
<td>#</td>
<td>Field</td>
<td>Title</td>
<td>Author</td>
<td>Start Date</td>
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<tr>
<td>10</td>
<td>General Nursing Science</td>
<td>Night duty as a clinical placement strategy: Reflection of second-year nursing students in an urban district hospital, Namibia</td>
<td>Mrs. Vistolina Nuuyoma</td>
<td>July 2016</td>
</tr>
<tr>
<td>11</td>
<td>General Nursing Science</td>
<td>Assessment of quality of patient care records in Keetmanshoop district Hospital</td>
<td>Mrs. Elizabeth Kangoya</td>
<td>March 2017</td>
</tr>
<tr>
<td>12</td>
<td>General Nursing Science</td>
<td>Experiences of nursing students on two weeks’ block teaching system at the University of Namibia: Student perspective.</td>
<td>Mr. Daniel O. Ashipala</td>
<td>March 2017</td>
</tr>
<tr>
<td>13</td>
<td>General Nursing Science</td>
<td>Assessment of Health Extension Workers Programme implementation in Keetmanshoop, //Kharas Region</td>
<td>Mrs. Fillipine Nakakuwa</td>
<td>March 2017</td>
</tr>
<tr>
<td>14</td>
<td>General Nursing Science</td>
<td>Factors motivating students to register for Nursing degree Programme at the University of Namibia.</td>
<td>Mrs. Vistolina Nuuyoma</td>
<td>March 2017</td>
</tr>
<tr>
<td>15</td>
<td>Midwifery Nursing Science</td>
<td>Assessment of factors associated with pre-term birth among pregnancy women in Keetmanshoop district.</td>
<td>Mrs. Helena Mhlope</td>
<td>February 2016</td>
</tr>
<tr>
<td>16</td>
<td>Management Science</td>
<td>Student absenteeism at the Southern campus</td>
<td>Mr. B. F. Maseke</td>
<td>May 2016</td>
</tr>
<tr>
<td>17</td>
<td>Management Science</td>
<td>Exploring ITC innovation divers and killers amongst rural youth in Namibia</td>
<td>Mr. B. F. Maseke</td>
<td>Sept 2015</td>
</tr>
<tr>
<td>18</td>
<td>Management Science</td>
<td>Sustainability through open innovation for local authorities in Namibia.</td>
<td>Mr. B. F. Maseke</td>
<td>Feb 2016</td>
</tr>
<tr>
<td>19</td>
<td>Management Science</td>
<td>Constraints of women entrepreneurs in the Kharas region</td>
<td>Mr. B. F. Maseke</td>
<td>Oct 2015</td>
</tr>
<tr>
<td>20</td>
<td>ECD/LP</td>
<td>Capacity Development for quality Pre- and Lower Primary Teacher Education in Namibia</td>
<td>Participating from USC: Mr F Sinalumbu, Ms CA Mostert, Ms P Pohamba</td>
<td>Feb 2014</td>
</tr>
</tbody>
</table>
Conference Proceedings and Symposium


Community Engagement

Community development: Research conducted in conjunction with Dr Barbara Rugen on the attitudes and behaviour towards work in the //Kharas region.

Some staff members were involved in the starting of a soup kitchen to provide soup to the cancer ward at the local hospital and to the old-age home on 11 April 2015; 13 June 2015; and 12 September 2015.

Establishment of the Southern Campus open innovation society (20 February 2015).

Other members are involved in the support group to promote breastfeeding practices at the Ileni settlement, //Kharas Region. This is ongoing, as well as the Clinical education forum.

Patents

None

Innovation outputs

None

Funded research projects

One for 2015


Proposal Approved

Total value of funded research projects

N 1450
DIRECTOR’S REPORT

Goals and Mandate

The mandate of the Language Centre is to serve as the centre for language learning, teaching and research. The key focus is the upgrading of competence in the use of English, offering a variety of foreign and Namibian languages and also providing translation and consultancy services by offering tailor-made courses to the wider public and business community in Windhoek, Oshakati, Ongwediva, Rundu and Katima Mulilo.

As a national centre of language excellence, the Language Centre endeavours to serve students, staff of the university, and the broader community.

“If communication is the life blood of human relationships and knowledge in every field of human thinking, reasoning and interaction…” as said by Littlewood, then the Language Centre can only be relevant if it engages in research that seeks to explore best practices in language teaching and learning.

The Language Centre Research Agenda

The research output of the Centre for the year under review has shown great improvement. The research strategic direction and focus areas as outlined in the Centre draft Research Agenda are presented below.

Language Teaching and Learning

Research under this theme will focus on issues pertaining to language testing, vocabulary acquisition, language for specific purposes, writing skills development, discourse and genre analysis, material development, evaluation, language teaching methods in large classes and those tailored to the need of Namibian students, etc.

Language Planning

Research will investigate language policy issues, the effect of English on Namibian languages, multilingualism, code switching, language development (e.g. dictionaries for minority languages) and maintenance, including indigenous languages, etc.

Language and Technology

This research will investigate the impact of language on organisational absorptive capacity enhancement, the role of language on social capital creation, language and knowledge networks, stories and knowledge transfer, the link between knowledge and language, etc.
Language Centre Core Capabilities

- Teaching the four language skills
- Teaching language-related special courses
- Text and discourse analysis
- Vocabulary development
- Code switching
- Language curriculum development

Other Language Centre Capabilities

- Organisational learning and development
- Technology transfer and innovation
- Workplace learning
- Ability to provide training and consultancy in our areas of specialisation

RESEARCH AND PUBLICATIONS

Refereed Books


Other Publications


Study Guides/Books


Articles in journals


**Conference Papers**


DIRECTOR’S REPORT

The MRC’s mandate is to conduct applied research directed at addressing social and challenges in national development priority areas; to coordinate multidisciplinary, collaborative research forming partnerships locally and internationally; to promote research, its outputs as well as raise awareness of its importance as a tool for developmental solutions, value addition and product development; and to carry out teaching and advisory services for the public. The year 2015 was an active year for the MRC where we made increased efforts to reach out to new research partners and disseminate our research findings to the broader community. Researchers at MRC have been actively involved in research activities of a diverse nature which were aligned to positively contribute to the achievements of the UNAM strategic objectives, the main research-related strategic objectives being to increase and broaden research output.

MRC as a research centre of the University of Namibia continues to strengthen research collaboration with UNAM faculties and stakeholders from public and private sectors as well as partners within the region and beyond. MRC recognizes the expertise within faculties and taps into it by including relevant faculties in research teams constituted for all research programmes. The current National Developmental Plan (NDP4, 2013-2017) and the Harambee Prosperity Plan address issues pertaining to economic development and poverty reduction, and the sectors and enablers on which a vibrant economy can be sustainably based. The MRC strengthened its research efforts in such priority areas and is currently implementing research programmes as outlined in the five-years (2015-2020) research agenda.

MRC’s research strategy is to provide relevant and accurate research information in various areas, health, education, biodiversity, climate change, socio-ecological systems, gender, and IKS, for policy decision-making and programme interventions. Many resources are committed to undertaking research projects and to make our work worth the efforts. Therefore, we call upon law makers, decision makers, programme implementers and the entire nation to acquaint themselves with our work so that we use this knowledge to move the nation forward. Knowledge is the fuel we need to realize goals as set in Vision 2030 and the Harambee Prosperity Plan.

ACADEMIC ACTIVITIES

Research Programmes

Various projects were implemented in 2015 in collaboration with partners from UNAM faculties within Namibia as well as with international partners within Southern Africa and beyond:
1. Socio-Ecological System
2. Community Adaptation to Change in Climate
3. Land Programme
4. Gender Programme
5. Disaster and Risk Management
6. Population Dynamics and Reproductive Health
7. Malaria Elimination Programme
8. Drug Discovery and Development Programme
9. Engineering Programme
10. Indigenous Knowledge Systems Technology (IKST) Food and Beverages Programme

**Research proposals for funding**

The MRC team has been proactive in developing research proposals for funding and the following research projects secured funding from various sources in the three divisions:

**Social Sciences**

Indigenous knowledge in Reproductive Practices and Health Care: an intergenerational comparative study of Namibian and South African women, in collaboration with the University of Johannesburg.

Maternal health study (with funding support from IntraHealth).

Stakeholders’ Perception of the Namibian Airports Company (with funding support from the Namibian Airports Company).

Development of a policy database for the National Planning Commission (with funding support from UNDP).

Green Schemes in Namibia.

Nationwide GBV study.

Teenage pregnancy in Namibia study.

**Life Sciences**

Nature-based tourism (with funding support from NSF-USA).

Human Wildlife Conflict (with funding support from WWF).

Water Management and Governance in Namibia Rural Communities in collaboration with HSRC and funding support from NCRST and NRF.
**Science, Technology and Innovation**

Ethnobotanical knowledge on medicinal plants used by traditional healers in the Kavango region, Namibia, in collaboration with the University of the Western Cape.

Development and optimisation of high throughput screens for drug discovery from natural products funded through the NCRST.

Development of a malaria risk assessment tool (MERFAT) in the Zambezi Region (in collaboration with UCSF and funding support from the Bill and Melinda Gates Foundation).

Targeted Malaria Parasite Elimination in the Zambezi region (in collaboration with UCSF and funding support from the Novartis Foundation).

Microflora identification and Characterization of Oshikundu (with funding support from NCRST).

Pilot of National Indigenous Knowledge Management System in the Kunene Region (with funding support from NCRST).

Development of a toothbrush sanitizer (with funding support from NCRST).

Olufuko Festival: Practices and Prospects for Development: (with funding support from the Outapi Town Council).

The Benguela Wind power demonstration project funded by the Finnish Foreign Ministry

**RESEARCH AND PUBLICATIONS**

The MRC successfully met and surpassed its research output targets in the categories of Technical/Commissioned reports, Conference Presentations, Books and Book Chapters. In the category of peer-reviewed research articles, the centre had a modest completion rate with 16 publications, falling short of the target set of 31 published peer-reviewed articles. The MRC Scorecard is shown in Figure 1 while the lists below catalogue the recorded MRC research outputs for 2015.
Figure 1. MRC Scorecard for 2015

PUBLICATIONS

Peer-reviewed articles


*Books*


**Technical Reports**


2. Indongo, N., & Mutorwa, K. *Indigenous knowledge on Sexual and Reproductive Health and its influence on Gender Based Violence*. MRC, UNAM.


Conference/ Workshop Presentations


**COMMUNITY SERVICE**

The MRC research team contributed to the scientific community through reviewing of manuscripts submitted to journals, giving advisory services through presenting training workshops or being board / committee / taskforce members in the public and private sector. The year 2015 saw MRC teams disseminating research outputs and popularising its work in Omusati, Oshana, Oshikoto, Omaheke, Karas, Kavango and Zambezi regions.
INTRODUCTION

The Centre for Open, Distance and eLearning (CODEL) is an academic centre at the University of Namibia. It was established through the merging of the Centre for External Studies (CES) and the Centre for eLearning and Interactive Multimedia (CeLIM) in 2016. The aim of CODEL is to serve as a hub for learning material development and for eLearning so as to ensure greater access to higher education and equity for students with diverse educational backgrounds. CODEL comprises two main sections, namely ODL on the one hand and eLearning on the other. ODL deals with supporting distance students in collaboration with Faculties; Instructional Design of print-based materials and their delivery through CODEL stores and the Student Administration that resorts under the Registrar’s office, with a dotted line reporting to CODEL. The eLearning section deals with Instructional Design of eLearning materials, Learning Management System, Digital Media Production, Video Conferencing, support of lecturers, students and clients as well as the management of eLearning projects. This report focuses on the research activities of staff members of the two Centres and the reports of the Director for 2015.

DIRECTOR’S REPORT

CES Director

The Centre for External Studies (CES) at the University of Namibia is an academic centre, established with the aim to increase access to higher education through Open and Distance Learning (ODL) mode.

CES is one of the leading service providers of ODL in Namibia. It is committed to ensuring that Education for All is indeed accessible to all, and for all students to reach their full potential and take their place in Namibia. As an Open and Distance Learning Centre, we are committed to quality education that would contribute to the optimal development of individuals as well as the socio-economic growth of Namibia. Through the research unit within CES our aim is to ensure best practice in the areas of learning materials development and production, student support and technologies. This will, in the long run, contribute towards the objectives of our country’s Vision 2030.

Although CES mainly conducts research in the area of Open and Distance Education, it also has research links with the various Faculties within the University of Namibia. The vast majority of staff has expertise in diverse areas of Education, Nursing, Psychology, HIV and AIDS, Communication and Science, among others. Against this background CES established research links with UNESCO, the Ministry of Health and Social Services, the Working Group of Indigenous Minorities in Southern Africa (WIMSA) and many more governmental and non-governmental organisations. Staff members belong to various research bodies, such as the
Distance Education Association of Southern Africa (DEASA), Namibian Educational Research Association (NERA), Namibia Open Learning Network Trust (NOLNeT) and the Southern African Society for Education (SASE). CES participates in collaborative activities with other national and international Open and Distance Learning (ODL) institutions through NOLNeT and other organisations within the Southern African Development Community (SADC) region, through its participation in DEASA, NERA, SASE, the Namibia Educational Research Association Executive Committee; the Southern African Association of Research in Mathematics, Science and Technology Education, the Distance Learning Task Force (I-TECH) and the Commonwealth Institution of Open Learning.

Ms Agathe Lewin served as a member of the UNAM Scholarly Communications Coordinating Committee (SCCC). The main duty of this committee is to oversee the management and implementation of the Scholarly Communications Policy and foster cooperation and collaboration between Faculties and academic centres and units, the ILRC and the computer centre, in order to increase access to information, knowledge, research, and artistic and creative works. The SCCC is also responsible for the promotion and support of the UNAM Scholarly Repository.

The Centre for External Studies was industrious with regard to research activities during the year under review and motivated staff to take their research activities very seriously.

**CeLIM Director**

The Centre for eLearning and Interactive Multimedia (CeLIM) was established and officially launched in 2015. The aim of CeLIM is to serve as a hub for the production of eLearning materials for the University of Namibia and as a vehicle to drive the University’s initiative to move “e” by adopting blended learning. Blended learning refers to a strategic and systematic approach to combining times and modes of learning, and integrating the best aspects of face-to-face and online interactions for each University course through the use of appropriate ICTs.

CeLIM consists of five main sections, namely Instructional Design, Project Management, Digital Media, Learning Management System and Video Conferencing, all of which provide eLearning support services and classroom equipment support to the University. Instructional Design maps out processes and develops course templates and storyboards to support lecturers in the process of creating online courses. Project Management deals with logistical facilitation of all the moving “e” activities of the Centre, while the Digital Media section is the creative hub that focuses on, among others, the creation of graphics and templates needed for eLearning content development. The Learning Management System section offers the platform (Moodle) for learning content, instructional and learning activities, and supports lecturers and students on the use of the platform. The Video Conferencing section plays a vital role in supporting inter-campus communication at the University as well as communication with the outside world through video conferencing facilities.
RESEARCH STRATEGIC DIRECTION

Focus Areas for CES

Apart from striving to produce quality research and publications, CES staff members also have to conduct research as one of their major roles and responsibilities as university academics. The Centre therefore derives its research mandate from the UNAM strategic objective, which reads: *Increase and broaden research output in ODL.*

The Centre had a low research output for 2015 due to the challenges of publication as a process, as well as the heavy workloads of academic staff members. The Centre has the following specific research objectives:

- Improve quality service to distance education students through research
- Explore how technology could be used to improve student support
- Collect empirical evidence to strengthen policy and practice in distance education
- Establish inter-research activities with other faculties within the University and ODL institutions
- Conduct research activities to develop as academics.

Focus Areas for CeLIM

CeLIM was in its inception year and focus was more on establishing the Centre, drafting and getting its policies approved, creating its management plan, hence the research focus and outputs were extremely low. While CeLIM is an academic support centre for our Faculties/Campuses/Centres, its staff compliment is administrative, with the exception of the Director. However, CeLIM regards research as a crucial component in that many of the support functions and services that we render and would like to render are research-driven and require in-depth research to stay abreast with latest trends. CeLIM has considered engaging in collaborative research with Faculty members. Below are some of the research focus areas:

- Mobile Learning (m-Learning)
- Technology enhanced Learning
- Computer Supported Collaborative Learning (CSCL)
- Virtual Personal Learning Environments
- Social Media and Networked Learning
- Instructional Design in Distance Education
- Flipped Classroom
- Project Management
- Gamification
- Learning Analytics and Big Data
PUBLICATIONS

Research and Publications from CES

Journal articles


Chapters in Books


Conference Papers / Proceedings


**Workshops and conferences attended**

1. Martha Niitembu and Murangi Godwin attended a DEASA Conference in Manzini, Swaziland on 17 - 20 September 2015.

2. Lewin Agathe, Regina Shikongo and Godwin Murangi attended a workshop on Ethics in Research, arranged by NOLNet at the Gateway Conference Centre, on 9 – 10 June 2015.

3. Lewin Agathe and Haaveshe Nekongo-Nielsen attended a workshop on Institutional Research Evaluation (IRE) by the Southern African Research and Innovation Management Association (SARIMA) at NIPAM, Windhoek on 03 - 04 December 2015. Their attendance was made possible by the Special Programme for Research and Training in Tropical Diseases at the World Health Organisation (WHO).

4. Josaphat Shilongo and Agathe Lewin attended a workshop on Upscaling Digital Learning at UNAM, facilitated by GIZ, Windhoek, on 19 October 2015.

5. Josaphat Shilongo attended a workshop on OER (Open Educational Resources) Policy Development/formulation for NOLNet, organized by the NOLNet e-Learning Committee, on 16 - 17 November 2015.

6. Lewin Agathe served as a CES Representative on the UNAM Research and Publications Committee (URPC), and the UNAM Scholarly Communications Coordinating Committee (SCCC) of the URPC.

7. Niitembu Martha attended a course on “Designing, doing and publishing case studies” offered by the African Doctoral Academy of University of Stellenbosch, South Africa, on 29 June – 3 July 2015.
Research and Publications from CeLIM

Research and Publications

Journal Articles


Conference Papers / Proceedings/Podcasts


Workshops and Conferences attended

<table>
<thead>
<tr>
<th>Workshops</th>
<th>Staff Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Strategic Planning workshop</td>
<td>All CeLIM staff</td>
</tr>
<tr>
<td>On-line Instructional Design Facilitation</td>
<td>Mr Japhet Kazavanga</td>
</tr>
<tr>
<td>eLearning Africa (eLA) Conference, 20 –22 May, Addis Ababa, Ethiopia</td>
<td>Mr Gerhold Kooper, Ms Anneliese Groenewald, Dr Maggy Beukes-Amiss, Mr Japhet Kazavanga and Mr Alfons Kahuokee</td>
</tr>
<tr>
<td>Upscaling Digital Learning at UNAM, GIZ one-day workshop</td>
<td>All CeLIM Staff members and pilot group members</td>
</tr>
<tr>
<td>Moodle Front End Training</td>
<td>All CeLIM Staff members and pilot group members</td>
</tr>
<tr>
<td>Scopia Skills Training</td>
<td>Mr Johannes Nambili and Mr Gerhold Kooper</td>
</tr>
<tr>
<td>Online MOOCs Training</td>
<td>Mr Gerhold Kooper</td>
</tr>
<tr>
<td>China Benchmarking Trip on eEducation and Video Conferencing</td>
<td>Mr Gerhold Kooper, Mr Johannes Nambili, Ms Groenewald and Dr Maggy Beukes-Amiss</td>
</tr>
<tr>
<td>Leadership and Supervisory Training</td>
<td>Ms Ilena Peter, Mr Johannes Nambili, Mr Andre Joubert and Mr Japhet Kazavanga</td>
</tr>
<tr>
<td>BSC/Strategic Management Training</td>
<td>Ms Anneliese Groenewald and Ms Ilena Peter</td>
</tr>
</tbody>
</table>
**SIGNIFICANT ACHIEVEMENTS AND MILESTONES**

The key achievements in the two Centres were not necessarily related to research activities but had implications thereof.

**CES**

The Centre envisioned that all academics tutoring distance students should practise the open and distance learning (ODL) conceptual framework. In order to achieve this, the Department of Student Support organised an academic orientation for tutors and students, vacation schools, telephone tutoring, video conferencing, SMS messaging and by means of e-mail and portal tutoring. The Department of Student Support also provided Saturday tutorials at most of the University campuses and CES regional centres, specifically in challenging subject areas such as Science, Economics and Accounting. Furthermore, the Department submitted reviewed curricula for qualification registration and accreditation, and mobilized the usage of the multi-media technologies in distance teaching.

The strong relationship with University faculties was maintained through conducting joint meetings on materials development and student support services. CES continued to participate in collective activities with national and international Open and Distance Learning (ODL) institutions through the Namibia Open Learning Network (NOLNeT), Distance Education Association of Southern Africa (DEASA) and Southern African Society for Education (SASE).

Resulting from the retreat that was held at Heja Lodge (3-5 April 2014), focusing on re-envisioning of CODeL activities for the next five years (2015 – 2020), an Ad Hoc Committee was designated to look at the Centre structure and functions and suggest the best model for Distance Education at UNAM. Some of the resolutions made were incorporated in the CES strategic plan, though the best model for distance education was not fully implemented in 2015.

Going forward, the initiatives reported above need to be informed by research and benchmarking exercises to ensure that key decisions are evidence-based and informed by current practices in the field.

**CeLIM**

Similarly, the key milestones for CeLIM were not necessarily research-focused, but have implications for it.
Staff of CeLIM travelled to satellite campuses to deliver and install state of the art teaching and learning equipment. They also offered staff development support to academic staff in the use of the Learning Management System (Moodle) and other teaching and learning equipment, including the use of a flexible desktop video conferencing solution called Scopia.

One of the main activities in CeLIM for 2015 was the initiation of the pilot project in moving “e”. This was enabled through consultation with Deans and Directors who were requested to nominate staff members to participate in this pilot initiative (moving “e”) involving the video recording of lecturers and other interested academics at Main Campus as well as other campuses (Rundu and Northern Campuses). The Digital Media section then created a guide for lecturers on how to prepare for recording sessions. In further supporting the pilot group, Instructional Designers also coached participating lecturers on how to design online courses. Other activities carried out in support of the pilot group were:

- Recording of 28 lecturers’ classes/topics, of which 40 videos were recorded and edited
- Uploading of recorded videos of lectures/lessons on Moodle
- Linking lecturers to their courses on Moodle
- Creating user accounts for students and lecturers and linking students to their registered courses
- Creation of Mahara ePortfolio tool in Moodle for creation of personal learning environment, reflective learning and collaboration
- Facilitation of e-assessment training (by Dr Boer)

As part of the process of laying down a foundation to move “e”, the eLearning instructional designers collaborated with the Open and Distance colleagues at CES to identify courses and materials for online learning. They then developed learning scenarios, course creation templates, storyboards and digital interactive materials for online courses. The Centre (CeLIM) facilitated video conferencing classes for Master Education students. The Video Conferencing section provided technical assistance at video conferenced lectures, conferences, public lectures and various functions as per requests received from various Faculties and units.

Some visuals regarding milestones and strategic visits are presented below.
CeLIM current achievements:

- Development of Learning Scenarios
- Course Creation Templates
- Process Mapping of Instructional Design process
- Development of story board/course structure
- Development of Interactive materials
- Collaboration with CES to identify courses and materials for online learning

Project Management Section

- Facilitation of Pilot group consultation, follow-ups,
- Asset control of all equipment ordered by CeLIM
- CeLIM Budget
- Facilitation of Campus visits
- Facilitation of Assessment Training
- Facilitation for setting up the consultation room
- General Administration Duties

Digital Media Section

- Recording of 28 Lecturers classes/topics
- 40 Flipped classroom videos recorded and edited to date
- Creation of Advertisement for CeLIM Pull Banners, Images
- Creation of templates for CeLIM letterhead
- Creation of recording guide for lecturers
- Creation of Images for Instructional Design
- Recording of CeLIM trainings/workshops
- Creation of CeLIM roadmap
- Assisting of Moodle interface coloring in collaboration with LMS
- Recordings as part of the Namibian History Project

LMS Section

- Installation of Moodle
- Customisation of Moodle
- Creations of CeLIM ticketing system
- Upgrading of Moodle
- Research on suggested/compatible system for CeLIM e.g. Unam Portal to have single sign on with Moodle
- Uploading of recorded videos of lectures/lessons on Moodle
- Linking lecturers to their courses on Moodle
- Creating user accounts for students/Lecturers
- Linking of students to their registered courses
- Creating content/journal in Mahara
- Creating of CeLIM group in Mahara

Video Conferencing Section

- Placement of 40 projectors, screens and sound systems in identified venues at Unam
- Overseeing activities of the 2 student technicians
- Overseeing problems/faults reported in classrooms regarding AV equipment
- Liaising of video conferencing meetings/conferences with other technicians at different campuses
- Providing technical assistance at public lectures
- Recordings as part of the Namibian History Project
- Providing assistance with installation of AV equipment at 11 campuses
- Training on Video Conferencing desktop solution (Scopio)

Instructional Design Section

- Draft Strategic Plan and Management Plan
- AV equipment installed – 11 campuses
- Pilot group invited
- Podcasts/interview on the potential of eLearning: Cardiff University event
- Appointment of new staff members and development of ITS for all CeLIM staff
- Officially launched the “moving e” initiative
- Team travelled to 4 Northern campuses to video record pilot group members from satellite campuses and any other interested academics
- GSE one day workshop on “mainstreaming digital learning” within Unam
- Moodle Front End training for pilot group and CeLIM staff
- Participated in evaluation of collaboration with Cardiff University
- Creating and maintaining CeLIM’s social media presence (Facebook, YouTube)
- Drafting of Unam Forum Articles on CeLIM activities and progress
- Implementing staff learning log/ journals and section monthly reports
CeLIM team members visiting SANUMARC, Henties Bay
DIRECTOR’S REPORT

The Centre for Quality Assurance and Management (CEQUAM) did not place much focus on research during the year 2015 due to financial constraints. However, there is a need to increase research output in quality assurance as this area is seldom or not researched in Namibia, as evidenced by the unavailability of published literature on quality assurance in the Namibian context.

RESEARCH STRATEGIC DIRECTION

The Centre for Quality Assurance and Management, in its quest for excellence, sporadically conducts research to ensure that the delivery and maintenance of excellence in instruction, learning, acquisition, research, academic and administrative/support services, student welfare, governance and community service are realised at UNAM’s main and satellite campuses. Quality Assurance coordinators are encouraged to jointly conduct research with fellow colleagues to continuously improve the above-mentioned aspects of UNAM. The Centre also seeks to increase research output in the area of Quality Assurance in Higher Education from 2016 going forward. Finally, by virtue of conducting rigorous institutional and faculty audits annually, the centre envisages publishing audit reports for public consumption.

PUBLICATIONS

Refereed journal articles


Refereed books
None

Chapters in books
None
Conference papers


Other publications
None

Patents
None

Innovation outputs
None

Funded research projects
None

Total value of funded research projects
None

Number of publications in internationally accredited journals
None

SIGNIFICANT EVENTS, ACHIEVEMENTS AND MILESTONES

During 2015, the University of Namibia, through CEQUAM, was awarded the International Diamond Prize for Excellence in Quality by the European Society for Quality Research in Vienna, Austria.
CONCLUSION

CEQUAM endeavours to constantly monitor university-wide quality tenets, such as fitness for/of purpose, providing value for money, institutional audits, facilitation of benchmarks and accreditation activities against national and international best practices. It is therefore imperative that the Centre devises strategies to capacitate its personnel to conduct more research on aspects that enhance or inhibit quality in higher education institutions of Namibia, including the University of Namibia.