

---

Report on the 2017 AAUN Conference  
CTICC 2 Cape Town, South Africa, Sunday 3 December 2017

---

## 1. BACKGROUND

Over the five-year existence of the Australia Africa Universities Network (AAUN), it has become customary to host two face-to-face AAUN Forum meetings per year – one in Australia and one in Africa. This year's AAUN Forum meeting in Africa was hosted in Cape Town on 3 December 2017. This date was chosen as it was on the eve of the Third International Conference on Global Food Security (GFS). The conference programme was structured so as to focus on issues related to the AAUN thematic focus area of food security, thereby unlocking synergies with the GFS conference programme and attendance.

## 2. PROGRAMME

The conference programme appears as Annexure A hereto.

## 3. ATTENDANCE

The attendance list is attached as Annexure B.

## 4. FINANCIAL SUPPORT

The AAUN gratefully acknowledges the financial support received from the National Research Foundation (NRF) of South Africa and FANRPAN (The Food, Agriculture and Natural Resources Policy Analysis Network) for hosting the Forum.

## 5. SUMMARY OF PROCEEDINGS

### 5.1 Welcome from AAUN Co-Chairs

Delegates were welcomed by [Prof. Frans Swanepoel \(Co-Chair AAUN and Professor, Future Africa, University of Pretoria, South Africa\)](#) on behalf of Prof. Cheryl de la Rey and the African wing of the AAUN; and by [Prof. John Hearn \(Co-Chair AAUN; Executive Director WUN; Member of the Advisory Group on Australia Africa Relations, Australia\)](#). Of the 20 AAUN member institutions, five Australian and nine African universities were represented on the day.

Over the five years of its existence, the AAUN has succeeded in raising funds for joint research projects for research and mobilization. Collaboration on these projects extends beyond the AAUN member institutions. It is important to now consider how the AAUN should position itself to be responsive, flexible, and focused on high quality research, mobility, and influence on policy over the next five years. The objective of the meeting was therefore to arrive at clear strategic pointers in this regard.

### 5.2 Keynote Address

[Prof. Voster Muchenje \(SARChI Chairholder in Meat Science and Research Professor in Food Security at the University of Fort Hare, South Africa; founder member of the Academy of Young Scientists of South Africa\)](#) delivered the keynote address on *The Complex Nature of Food and Nutrition Security*.

Food and food security are topical issues globally about which there are vastly different perspectives. Social, religious, and cultural aspects impact on food security in addition to physical aspects.

Food consumption patterns vary considerably from country to country. In addition, global diet trends are changing.

Dialogues that take a holistic view of food issues as they relate to the South African National Development Plan Vision 2030 and the UN Sustainable Development Goals (SDGs) should be encouraged.

There are vast opportunities for increased research collaboration between Africa and Australia around different aspects of food and nutrition security.

Prof. Muchenje's address was followed by vigorous debate during which the following issues, among others, were raised:

- Sustainability of research initiatives.
- Insects as a sustainable source of food, feed, and fertilizer.
- The notion of "consumer acceptability" (e.g. of new food sources).
- Food as a means to improve health and well-being.
- The relationship between urbanisation, ruralism, capitalism, and issues of food security.
- The role played by political factors (e.g. geo-politics) in the accessibility, price, and distribution of food.

### 5.3 AAUN-funded Research Projects

**Prof. Wallace Cowling (Associate Director, the UWA Institute of Agriculture, University of Western Australia, Australia)** moderated a session during which the principal investigators of the 2017 AAUN research projects funded by the PRDF (Partnership & Research Development Fund) presented their projects.

#### **Food composition data for animal-source foods in sub-Saharan Africa**

*Prof. Hettie Schonfeldt, University of Pretoria, South Africa*

The project entails collecting and analysing open-source data (analytical values only) on animal-source foods. Data will be presented in a format complying with the latest European regulations. The value of the research is that it can improve decision making for policy makers.

Differences were found in the composition of animal-source foods from different regions.

Work has been done in the area of analysing wildlife nutrient compositions, but the available data does not comply with the requirement to cook the meat up to an internal temperature of 70 °C. As wildlife carries zoonotic diseases and there is the risk of carry-over of disease from the meat, there is legislation that governs the harvesting process.

West African food composition tables (a second update after the Mali and Gambia data were collected) were recently published as part of the FAO (Food and Agriculture Organisation) project.

The data will be hosted on a platform that can be updated by all partners, and will not be the intellectual property of a specific institution. Data is published on species and subspecies level, and average values are given.

#### **Mobile-based information system for nutrition-driven agriculture**

*Prof. Willis Oluoch Kosura, University of Nairobi, Kenya*

This project is still in the formative stage. The objective is to develop a mobile application to collect information that could be used to address hidden hunger and assess the impact of interventions in this regard. In the long run, the app holds the potential to incorporate climate data and disseminate information on crop choice, food storage, and food preparation.

A short video on the project prepared by team members at the University of Pretoria was shown.

#### **Future legumes – linking climate change and nutritional needs to agriculture**

*Prof. Janet Bornman, Curtin University, Australia*

The AAUN Future Legumes Research Training Programme (FLoRET) aims to link climate change and nutritional needs to agriculture. The project seeks to develop a model for interdisciplinary research and training that will support sustainable, climate-resilient agriculture that is responsive to human nutritional needs. Legumes have been chosen as an initial example of a staple food due to their high nutrient and protein content.

The FLoRet model is that a cohort of doctoral students works together as team (starting more or less at the same time). At the beginning of their training students are given book-end skills so that they have an even level of knowledge. Towards the end of the training, PhD students will be up-skilled and made career-ready with training workshops on skills in leadership, project management, and research management.

**Minimising waste through value addition and preservation of fresh produce in Nigeria and Kenya**

*Prof. Florence Olubayo, University of Nairobi, Kenya*

Mango and tomato farmers in Nigeria and Kenya were surveyed to determine the extent of post-harvest crop losses. Questionnaires, focus-group discussions, and workshops held during visits to the farmers were used to gather information and identify solutions collaboratively.

It was concluded that post-harvest losses were high in both countries as a result of a lack of structured marketing channels for both products, poor transportation, and a lack of storage facilities. Pests, drought, and poor availability of water sources were also identified as problems.

Going forward, mango and tomato value chain innovation platforms will be established by stakeholders to seek solutions to the identified problems, and ways to attract investment.

**Food security and antibiotic resistance in the chicken-processing industry in Australia and Africa**

*Prof. Elna Buys, University of Pretoria, South Africa*

The project consisted of a desktop review and comparative study in different countries. Each partner completed a questionnaire and looked at food safety management systems in different abattoirs in their respective countries. Variances in poultry-processing abattoirs were noted. External food safety assessments are not done in all the participating countries. While all the countries have good legislation, the application thereof is variable. Additional project funding was raised and several research outputs (postgraduate studies and publications) have been achieved.

**An analysis of the value chain for indigenous edible insects and their potential role in mother and child nutrition in Eastern and Southern Africa: focus on Mopani**

*Prof. Phillip Nkunika and Dr Nyambe Lisulo Mkandawire, University of Zambia, Zambia*

Members noted the presentation by Dr Mkandawire – compositional analyses of Mopani.

Nutritional values of fire-treated Mopani worms from two districts in Zambia were analysed with a view to determining the potential of Mopani worms as a food source for children and for pregnant and lactating women. The research was prompted by the fact that Mopani worms are consumed by communities in most parts of Zambia and are considered an affordable food source, especially in rural areas. Undernourishment of women and children in Zambia is common, with the rate of stunting in children as high as 40%. The study sought to consider increased consumption of Mopani worms as a solution to these problems. It was found that Mopani worms contain adequate protein, lipids, and energy,

as well as the minerals iron and zinc, to be considered a good food source for children and pregnant and lactating women. The Mopani worms were not found to be significantly high in calcium, amino acids, or fatty acids. Analysis of Mopani worms processed using different methods (e.g. fresh or boiled, as opposed to fire-treated) could be a topic for future research.

Prof. Cowling closed the session by sharing information on an **AAUN workshop on new plant breeding methods for sustainable use of genetic resources and security of food production to be held at the University of Mauritius from 29 to 31 January 2018**. The goal of the workshop will be to evaluate new methods of animal breeding for sustainable genetic improvement in important food crops for AAUN partner countries. These methods, such as optimal contributions selection and genomic selection, are designed to enhance long-term crop improvement from a diverse genetic base. The workshop will evaluate the ability of these new methods to improve adaptation of crops to changing climates, and thereby improve future food security.

#### **5.4 Panel Discussion: Making Young African Graduates Job-Ready – Entrepreneurship and Capacity Building**

**Moderator: Prof. Christian Acemah (Executive Director, Uganda National Academy of Sciences, Uganda)**

**Dr Thandi Mgwebi, Deputy Vice-Chancellor: Research, Innovation and Engagement, Tshwane University of Technology (TUT)**, presented statistics on the African youth bulge, migration trends, and the ageing population in the global north. Social shifts in relation to how work will be conducted in the future, technological advancements, and environmental issues were also highlighted. In order to produce graduates who would be able to deal with these challenges, system-level changes and new ways of teaching are required. Students in STEAM (Science, Technology, Engineering and Mathematics [STEM] plus Arts) programmes with a focus on specific skills should be produced. The question is: what kind of teaching and what business environment will be conducive to producing the graduates of the future?

**Ms Caroline Mutepfa, Knowledge Management Advisor, ATVET Project (Agricultural Technical Vocational Education and Training), Deutsche Gesellschaft fuer Internationale Zusammenarbeit (GIZ), Germany**, presented on the work she does with GIZ on a project called ATVET, which is aimed at addressing youth unemployment. Thousands of students who have gone through TVET (technical vocational education and training) are unemployed and left with irrelevant skills. ATVET works with ministries and state departments, as well as private sector role players, in different countries to determine what the value chains are that have the highest potential for youth employment. This information guides the revision or development of curricula. A modular approach to training is taken with a view to enable students to become employed. For instance, in a dairy farming area, a module on dairy processing or yoghurt making can enable someone to find a job. The training offered is recognized by government. In some Francophone countries in West Africa, universities send graduates to ATVET colleges to gain skills not taught at university, such as entrepreneurship.

**Prof. Mammo Muchie, DST-NRF SARCHI Chair in Innovation Studies, Tshwane University of Technology, South Africa**, talked on the challenge of making young people in Africa game changers and change makers. He presented his work to promote entrepreneurship among the youth, which included hosting workshops in different African countries, establishing the Africa Talent Hub (consisting of incubation space, support in accessing seed funding, and business advice), and teaching a master's programme focused on entrepreneurship at the Tshwane University of Technology (TUT) in South Africa. Students in this programme have won the African Entrepreneurship Award. Prof. Muchie presented the work of one of his students on the topic of *bridging the innovation chasm*.

The discussion, which included questions to the panel members, included the following:

- In training students we must create employment creators rather than job seekers. The new generation of students wants greater flexibility, for instance by enrolling at multiple institutions and even pursuing multiple qualifications at once. How do we enable that and how will it be governed and monitored?
- How do African countries and Australia collaborate around entrepreneurship, especially given the different structure of business studies programmes on the two continents?
- Currently there is a lengthy progression through programmes at one institution, after which a student may not even be employable. There is a “post-harvest loss” in graduates much like that which is experienced in crop production.
- International funders (such as GIZ) not only share knowledge and expertise with their African counterparts, but also learn from the rich indigenous knowledge of African communities.
- Students in science and engineering should be taught entrepreneurship by business experts. This should not only happen at the postgraduate level, but should be introduced in undergraduate programmes. University business (e.g. taking photographs at functions) should be given to students. However, the aim should not be to merely produce small businesses, but to encourage disruptive innovations that will create employment and solve social problems (i.e. social entrepreneurship).
- It is important to involve the private sector in the creation of youth employment opportunities. The question is how to create real partnerships and real social responsibility. In order to engage the private sector in youth employment, it has to be ascertained what aspect of their value chain can be improved. They will be willing to support the creation of skills related to that.
- Policy changes are required at universities – for instance, researchers should be rewarded for the social impact of their research. How do we measure that?

## 5.5 Panel Discussion: Cooperation between University Networks on the Continent and Beyond

**The Moderator, Prof. Prem Ramburuth (School of Management, University of New South Wales Business School, Australia)** highlighted the importance of networks for identifying common interests, for exerting influence, creating reputation, leveraging numbers to have a stronger voice, and for representing the aggregation and diversity of extensive knowledge, expertise, and skills. Networks can be inclusive or exclusive. If well managed, they foster collaboration, motivation, and impact. Some examples of global networks were noted. Prof. Ramburuth concluded by stating that the Sustainable Development Goals are in reach if African universities work together.

**Prof. Cheryl de la Rey, Vice-Chancellor, University of Pretoria, South Africa; Co-Chair, AAUN; Steering Committee Member, Council of the Association of Commonwealth Universities** presented a comprehensive picture of the diverse and complex networking landscape applicable to universities, particularly in as far as research is concerned. The purpose of networks varies from general to focused. Their functions also differ, with some focusing mostly on advocacy and lobbying (e.g. defending the turf of research universities) and others on capacity development. Sometimes this focus is broad and sometimes it is on a specific knowledge domain, e.g. RUFORUM (Regional Universities Forum for Capacity Building in Agriculture). Furthermore, some networks are about enhancing competitiveness and impact (e.g. the Plus Alliance). In the past, many university partnerships and collaborations followed political historical trends and cultural linkages, e.g. networks of West and East African Universities, with the majority of co-authorships with the former colonial authority. Now there is a shift to greater multi-polarity within a changed geography of science. Governments see universities as important for national development, but also recognize that science and universities can serve as a platform for international diplomacy. Foreign policy manifests in support for different types of networks, e.g. BRICS. Prof. De la Rey does not view the proliferation of networks as cause for concern. Networks need to be dynamic and responsive – relevance, rather than longevity, should be the objective.

**Dr Aldo Stroebel, Executive Director, Strategic Partnerships; Strategy, Planning and Partnerships, National Research Foundation, South Africa**, spoke about the role of science councils, with specific reference to the National Research Foundation (NRF) of South Africa. Science councils have moved beyond the notion of being only funders or grantors. Instead, they are taking an active role in leading certain conceptual ideas within the research framework. They provide knowledge leadership and act as knowledge brokers. This approach has significantly increased the impact of the NRF over the past five years. While it is acknowledged that research happens at and between individual institutions, the NRF tries to find the most strategic intersections where small amounts of funding or interventions can have a significant impact. The NRF awards grants on a competitive basis on the principle that inclusivity and excellence are mutually inclusive. Innovation is emerging as a strong consideration. The NRF has proven expertise in facilitating and developing partnerships, including collaboration between existing networks. Networks/partnerships must be purposefully planned so as to add value in terms of the co-design and implementation of research solutions. A successful network is worth more than the sum of its part(ner)s.

**Prof. John Hearn, Co-Chair AAUN; Executive Director WUN; Member of Advisory Group on Australia Africa Relations, Australia** stated that return on investment and added value are vital considerations in deciding to join a network. He identified several criteria for successful networks, which include professional management, strong leadership, and excellent people (a committed team). Also important for individual member universities are aspects of institutional match (institutional objectives aligned with the network's objectives) and institutional support (e.g. the Vice-Chancellor and senior executive team committing to support a network for a specific number of years). The best networks are distinct (focusing on a specific niche area) and sustainable. Networks that waste members' time, are poorly governed, and have poor communication are doomed to failure. The AAUN has funded 35 collaborative research projects in the five years of its existence. It is now time to build on that experience and consider what we want to achieve in the next five years. Areas of expanded focus could include obtaining mobility funding, and implementing programmes of student and staff exchange among member institutions. Success criteria for the future include government involvement and support, and alignment with the global policy framework (e.g. the Sustainable Development Goals and Africa 2063). Programmes have to be fit for purpose and a proven track record of delivery is essential for instilling funder confidence. Smart alliances between different networks will leverage the unique strengths of each network. So, for instance, AAUN does not need to develop capacity building as a key activity, but can collaborate with networks such as RUFORUM that have proven strength in capacity building.

Robust discussion followed the presentations by the panellists. The following points, among others, were raised:

- The traditional dominance of north-north networks and partnerships has made way for multi-polar partnerships, yet there is still much untapped potential for collaboration between African universities.
- New trends such as open science and big data hold many opportunities. Work is being done to reach an agreement regarding open data in Africa (an Africa Open Data Platform). There is a disconnect between the promise of open science and the reality – for instance, in respect of access to journals. Networks present an opportunity to enhance the leverage of universities with the large publishing houses.
- Networks should harness the enhanced connectivity that new technologies bring.
- Peer review is one of the fundamental roles of a collaborative science network. This is an important mechanism for ensuring the research competitiveness of all partners.
- Institutional support (from within a member university) and access to funding (e.g. the NRF) are essential factors for the success of a partnership.
- Partnerships are ultimately about the community of scholars who participate in them.

## 5.6 Closing Remarks: The Way Forward

**Prof. Cheryl de la Rey (Vice-Chancellor, University of Pretoria, South Africa)** thanked all the participants and expressed appreciation, in particular for attendees who travelled from Australia. She thanked Prof. Hearn, Prof. Swanepoel, Dr Muchenje, speakers, panellists, and the secretariat. The AAUN is now in its fifth year since its launch and the speakers have shown the network's achievements: a stable membership of around 20 partners and frequent enquiries from others about joining the network; an active community of scholars; successful annual workshops hosted in Africa and Australia; focused engagement (especially around agriculture and food security); and the opportunity for scholars from African member universities to participate in AAUN-funded projects as equal partners with their Australian peers. The AAUN has relevance and impact.

Looking ahead there is opportunity both for expanding membership and enhanced collaboration between the AAUN and other networks. The AAUN already has an existing relationship with the World Universities Network (WUN), but there is also scope for collaboration around China's Belt and Road initiative. China is the biggest trading partner of Africa as a whole. Seeing that Australian institutions have long had productive relations with Chinese institutions, there is an overlapping of interests.

**Prof. John Hearn (Co-Chair AAUN; Executive Director WUN; Member of Advisory Group on Australia Africa Relations, Australia)** remarked that he does not see the AAUN growing much bigger in size (i.e. beyond 25 members). He confirmed that the next call for projects to be considered for PRDF grants will go out in February 2018. He is working to negotiate a three-year commitment from AAUN funders. Having listened to the speakers on the day, he suggested an expansion of the AAUN thematic areas to include aspects of climate and environment, and of conservation biology, in the food security and agriculture theme. There is also scope to investigate the link between nutrition and non-communicable diseases. The education theme can expand to focus on employment, jobs and skills, entrepreneurship, and advancement of women in the academy. He referred to the project that is under way to map Australian/African education collaborations, the findings of which will be published shortly. Other areas for expansion that should be included in the revised AAUN strategic plan are joint degrees, mobility, short courses, training, and capacity strengthening, which could be achieved through collaboration with other networks.

Prof. Hearn closed by thanking Professors De la Rey and Swanepoel and the secretariats in Africa and Australia for the Forum arrangements.

The conference closed with a cocktail reception hosted in collaboration with the opening of the 3<sup>rd</sup> International Conference on Global Food Security.