

# AquaFish Newsletter

## *Four Years Down The Road*

### INSIDE THIS ISSUE:

Setting the Pace: AquaFish Becomes the First ACE to Attain International Accreditation

No More Business as Usual! AquaFish Geared to Roll Out Postgraduate Tracking System

The Beacon of Hope: AquaFish Changes The Face of LUANAR Research Facilities

Unlocking Potential: AquaFish Commits to Building Its Stakeholder's Capacity



## FOREWORD



Established in August 2016, the Africa Centre of Excellence in Aquaculture and Fisheries Science (AquaFish) endeavours to deliver on its vision “To be a world-class centre of excellence in Aquaculture and Fisheries” which is in line with the Lilongwe University of Agriculture and Natural Resources (LUANAR) vision. LUANAR’s vision is to become a world-class University. AquaFish brings out-of-the-box thinking and excellence through quality programmes at postgraduate level for the African Region. Thanks to the World Bank-financed initiative which is helping LUANAR to move towards making a global mark.

Among key highlights, attaining AQAS international accreditation gives the centre a milestone international recognition. Addition of the AquaFish, DAAD, IUCEA, Ich Liebe Fisch and Government of Zambia scholarship opportunities for postgraduate students has resulted in improvements in student yearly enrolment.

AquaFish collaborates with international and local partners and continues

to leverage public, private partnerships including peer universities. The partnership with the Soybean Innovation Lab based at the University of Illinois has seen AquaFish develop short courses while the partnership with Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) has provided a regional platform for staff and students to present their research work and access information on available research grants and scholarship opportunities.

Regionally, AquaFish has continued to support LUANAR’s exceptional training and research capacity. The aim is to produce fit-for-purpose human resources to grow the Eastern and South Africa (ESA) region. The PhD alone boasts 83% of regional representation while MSc records show that over 90% are nationals while 10% are regional. Research has also been outstanding as evidenced by publishing in aquaculture, fisheries and fish value chain with over 51 journal articles in three years with about 40% regional collaboration. This speaks volumes about prolific research works at AquaFish. Action research with projects such as the German financed Ich Liebe Fisch (I love Fish) project has seen the Aquaponics technology taken to communities of entrepreneurs in Lilongwe and beyond.

The prospects for the future are enormous. The Centre has engaged University Management towards institutionalizing it. The Centre’s growing influence in the region will increasingly be a beacon of excellence and will impact positively to the region’s food security and socio-economic growth.

**Professor George Kanyama Phiri**  
**Vice Chancellor – LUANAR**

# THE AQUAFISH CORE TEAM



**Prof. Emmanuel Kaunda**  
**DIRECTOR**



**Prof. Daud Kassam**  
**DEPUTY DIRECTOR & PRINCIPAL**  
**INVESTIGATOR**



**Prof. Jeremiah Kang'ombe**  
**COORDINATOR - RESOURCE**  
**MOBILISATION**



**Dr. Horace Phiri**  
**COORDINATOR - QUALITY ASSURANCE**



**Dr. Wilson Jere**  
**COORDINATOR - RESEARCH &**  
**SCHOLARSHIPS**



**Dr. Joseph Dzanja**  
**COORDINATOR - M&E**

# THE AQUAFISH SECRETARIAT



**Yamikani Ngongonda**  
**PROJECT OFFICER**



**Madalo Chamanza**  
**SECRETARY**



**Kondwani Kapaula**  
**MARKETING INTERN**



# AQUAFISH THE GAME CHANGER

The coming in of the Africa Centre of Excellence in Aquaculture and Fisheries Science at the Lilongwe University of Agriculture and Natural Resources (LUANAR) has improved international students' enrolment and quality of postgraduate programmes through support of curricula reviews. As LUANAR strives to achieve excellence, AquaFish supported a LUANAR-wide postgraduate tracer study which included an employer-survey for the years 2007-2016.

It is in recognition of this support that LUANAR's Vice-Chancellor, Professor George Kanyama Phiri, commended AquaFish for the initiative saying the tracer study has created a forum for discourse between LUANAR, its alumni and the corporate world for improving the nature, scope and the relevance of LUANAR's academic programmes.

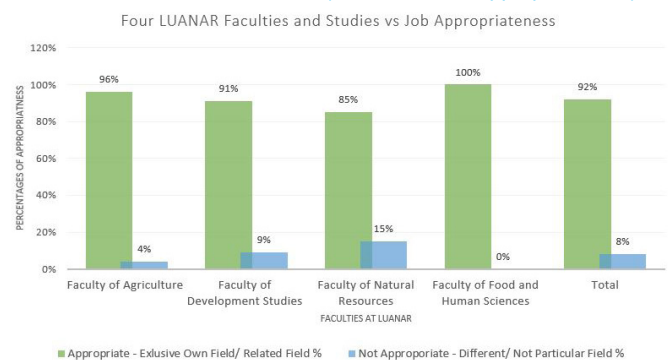
For sustainability purposes, AquaFish facilitated capacity building trainings of LUANAR staff in conducting tracer studies. This was done with funding from NCHE with technical support from a German-based tracer study Consultant, Dr Harald Schomburg. With these trainings, LUANAR should be able in future to effectively and independently conduct tracer studies and produce quality timely reports.

In terms of key findings, the study established that there were great employment opportunities for LUANAR MSc and PhD graduates with 87% on salaried employment while only 1% were still in search of jobs at the time of the survey and

46% getting jobs in less than one month. The rest of the graduates (11%) were either on occasional jobs or self-employment.

The study also showed that 92% of postgraduates mentioned that their field of study was appropriate for their current jobs (62% in their field and 30% exclusively in their field). The study, therefore, proved that this was a very high horizontal match between the field of study and current jobs comparative to similar studies and findings at the international level. This trend is consistent across all LUANAR faculties.

*Chart 1 – Four LUANAR Faculties (Studies vs Job Appropriateness)*



Source: LUANAR Postgraduate (PhD and MSc) Tracer Studies 2007 – 2016

As an extended output of AquaFish, from August 2019, LUANAR embarked on a curriculum review process informed by the outputs and recommendations from the tracer study and employer surveys. To enhance production of timely demand responsive programmes, AquaFish also funded the curricular review process for programs under the five departments that the Centre directly supports.





Some of the AquaFish students pose with the Aquaculture and Fisheries Department Postgraduate Coordinator

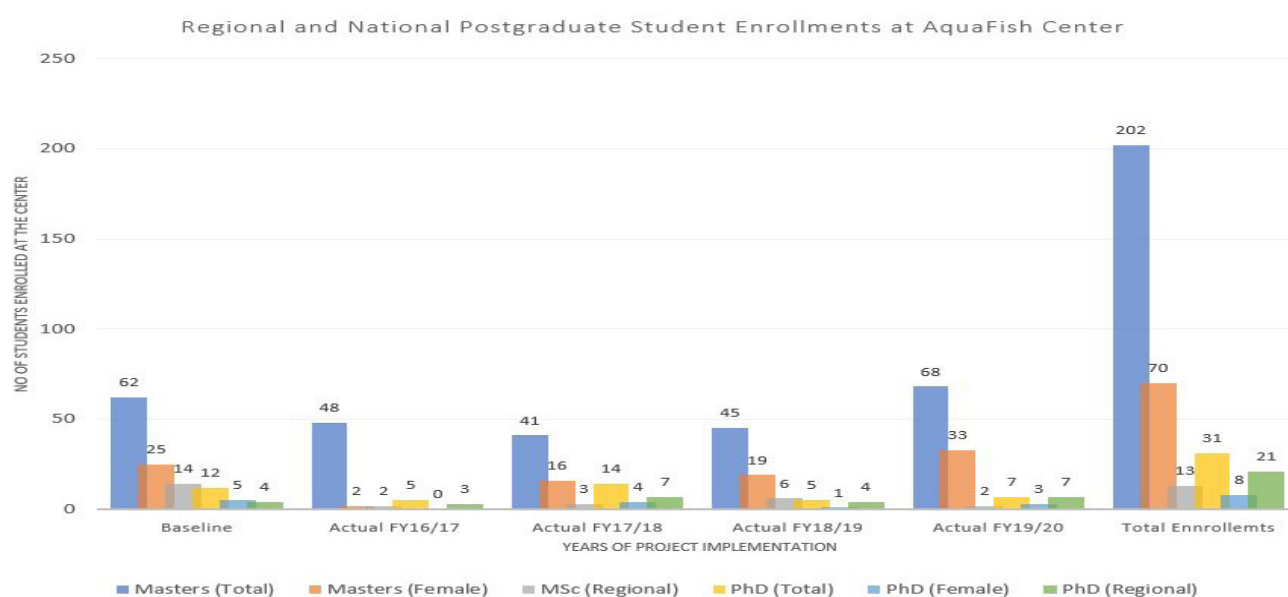
## BRIDGING THE GAP IN POSTGRADUATE ENROLMENT

The Africa Centre of Excellence in Aquaculture and Fisheries Science has over the past four years recorded an increase in student enrolment. The centre has seen a growing number of students being enrolled from Malawi and the region with Masters' students totalling to 202 and PhD students to 31. Regional enrolments have vastly improved for PhD with 21 out of 31 total enrolments from the Africa Region. The average female student proportion has also grown from 4 percent to above the 43 percent thereby meeting the targeted representation of female student at the Centre.

In sum, these successes can be linked to the efforts AquaFish is making to improve the teaching and learning environment at LUANAR. It is not surprising, therefore, that AquaFish and its departments have won several scholarships which have greatly improved enrolment figures at the centre.

The AquaFish Director, Professor Emmanuel Kaunda, has acknowledged that the improvement in student enrolment has partly been through scholarships which have been secured by the Centre and its departments.

Chart 2 – Postgraduate Students at AquaFish Centre

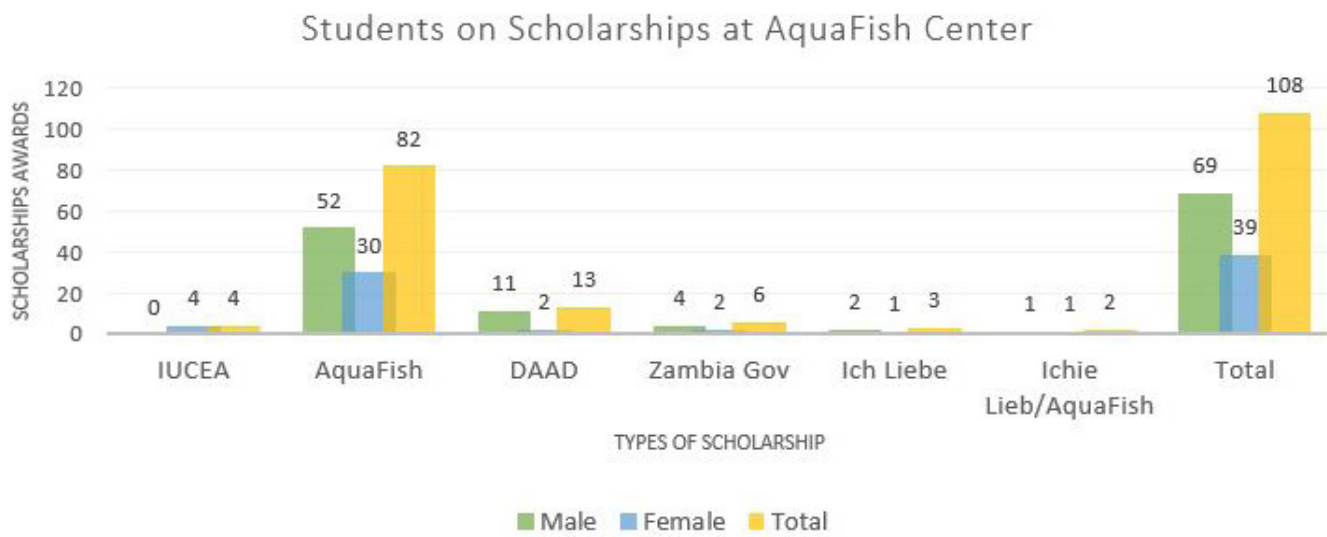




“As a centre, we are securing scholarships which are helping needy students who cannot afford funding their studies. So far, the centre alone has supported 82 students and some of the students are being sponsored

by our partners to study here especially students from Zambia. This is a good development as we can see that our partnerships with other institutions are also bearing fruits,” Professor Kaunda said.

Chart 3 – Students on Scholarships at AquaFish



AquaFish students during a field visit to the Bunda Fish Farm



## SETTING THE PACE! AQUAFISH BECOMES THE FIRST ACE TO ATTAIN INTERNATIONAL ACCREDITATION



*The AQAS team touring the State of Art Solar Powered Hatchery during the on-site evaluation*

The Africa Centre of Excellence in Aquaculture and Fisheries Science has made history by becoming the first Africa Centre of Excellence among the 24 ACEII centres to get international accreditation for its programmes. The accreditation was approved by the Agency for Quality Assurance (AQAS), a German-based institution. The accredited programmes are Master of Science in Aquaculture and PhD in Aquaculture and Fisheries Science.

The AquaFish Deputy Director, Professor Daud Kassam, said besides achieving this as one of the Disbursement Linked Indicators, AquaFish is excited since this accreditation has put LUANAR on the world map, being the first public University in Malawi getting such International Accreditation.

**“LUANAR now has two accredited programs that have met European Standards and this can boost student enrolment in such programmes. This achievement only proves AquaFish’s commitment to turn LUANAR into a world-class centre of excellence through offering programmes that meet the international standards,” said Professor Kassam.**

According to Mebba Pojana, a Zambian student doing a PhD in Aquaculture and Fisheries Science at LUANAR, the International Accreditation is a great achievement for LUANAR at large saying he is proud to be one of them

“The accreditation puts confidence in us that we are at a good institution which is offering degrees of international standard,” said Pojana.



*Elysee Nzohabonayo presenting his PhD research project to the AQAS team during the on-site evaluation*





*AquaFish students during the Postgraduate Tracking System Orientation Session*

## NO MORE BUSINESS AS USUAL! AQUAFISH GEARED TO ROLL OUT THE LUANAR POSTGRADUATE TRACKING SYSTEM

For a long time, it has not been unusual to see a postgraduate student studying a particular program for more than the stipulated number of years. This has not spared LUANAR which has experienced an increase in cases of delayed student research completion. With the coming in of AquaFish, this will be history as the Centre is eager to improve the monitoring of student and supervisor interaction at LUANAR.

According to the AquaFish Deputy Director, Professor Daud Kassam, mostly the delay is due to student's lack of commitment to the programme

and also lack of supervisory support from staff. He said AquaFish in collaboration with the LUANAR ICT department has developed a postgraduate tracking system for LUANAR.

"The system is online-based and will help create a platform for interaction between the student and the supervisor. Students and their supervisors will have an opportunity to schedule meetings, share notes as well check the research progress through a dashboard which shall alert the student and the supervisor on the progress," he said.

Besides, the system will allow the Dean of Postgraduate Students, the Academic Registrar and heads of departments to follow up on the students' progress. Dean of Postgraduate Studies, Dr MacDonald Mwinjilo commended AquaFish for coming up with the initiative saying this will improve the research environment at LUANAR.

"Firstly, let me thank AquaFish for their effort to help reduce the challenges we have with students' research completion. Over the years, we have had issues. It has been a blame game

between students and staff. At the moment, many candidates have exceeded their time. So, this system will help us address challenges of not meeting deadlines,” Dr Mwinjilo said.

The Centre is piloting the tracking system with staff and students from the AquaFish departments and will be rolled out to the rest of the university in the near future.

**Supervision**

Home Dashboard

Search ...

**Welcome!** This system has been developed to enable students be able to track their progress easily. If you face any challenges please contact the ICT office.

**Milestone To Do List for Week 11 Semester 2 - 2019/2020 Year**

**Major Milestones for this week**

Milestone	Deadline
Proposal Development	2020-10-31

**Minor Milestones To Be Completed This Week**

**Major Milestones Students Progress**

Milestone Name	Year	Semester	Weeks	Completed	Overall Progress
Year 1 Semester 1 Registration	1	1	1 - 2	Yes	
Concept Note	1	1	3 - 5	No	
Supervisor Allocation	1	1	5 - 8	Yes	
Research Seminar I (Proposal Presentation)	1	1	9 - 13	No	

*A section of the LUANAR PG Tracking System*

## PROMOTING CAPACITY BUILDING THROUGH STAFF EXCHANGE PROGRAM

As it is commonly said that experience is the best teacher, the staff exchange program is very important in the academia as it expands and deepens staff members' knowledge about each other's universities and build up professional networks. This is why AquaFish, in collaboration with peer institutions, is implementing a staff exchange program.

The program is been implemented to improve the quality of products and outcomes of academic programmes from LUANAR and its partners. The program also gives a platform for staff to go to peer universities where they are engaged in different activities including teaching, serving as external examiners, participating in seminars and in collaborative research.

In the four-year implementation of the project, AquaFish collaborated with RUFORUM to bring nine visiting senior scholars to the Centre. The visiting team, who stayed from 8<sup>th</sup> to 19<sup>th</sup> January 2018, comprised of Dr Olajide Philip Sobukola, Dr Addanna Henri-Ukoha, Dr Brilliant Agaviezor, Dr Nene Amabere Jamabo, Prof. Olufemi Martins Adesope, Dr Ekunwe and Dr Peter Ayodeji, all from Nigeria; Dr Jamal Kussaga from Tanzania; Dr Bernerd Fulanda from Kenya; and Dr Ahmed Mirghani Abdel Rahman Bereir from Sudan.

During their two-week stay, the scholars, among other things, delivered lectures to postgraduate students and conducted several seminars including "Proposal writing" by Dr Olajide Philip Sobukola and "Trusting the



messenger, believing the message: a change agent's perspective in agricultural extension service delivery" by Prof. Olufemi Adesope.

Recently, the Centre hosted Dr James Barasa, a visiting professor from the University of Eldoret in Kenya. Dr Barasa was teaching Fish Genetics and Biotechnology, and Molecular Biology and Genetics courses to MSc and PhD students, respectively, at the Aquaculture and Fisheries Science Department. During his two-week stay, Dr Barasa also conducted a seminar on "Genetic biodiversity, population structure and their influence of life-history traits in African Catfish *Clarias Gariepinus* in Kenya"

Speaking during his visit, Dr Barasa said the staff exchange program was a great experience for him.

"It was a great experience, and full of excitement for me, as I interacted with the enthusiastic students in understanding key principles of Genetics in Aquaculture and Fisheries Science. Furthermore, this experience was more

interesting as the students came from several African countries, and it was, therefore, easy to learn what was happening in the fisheries sub-sector of the different African countries represented in the class" he said.

Further, three research experts from German Institutions supported fish-focused project known as Ich Liebe Fisch or I love Fish which is housed in the Centre. These three researchers are Dr Marina Gebert, Dr Bernd Ueberschaer and Dr Sebastian Rakers. Besides project activities, the three researchers were also involved in teaching postgraduate students as well as taking them through some practicals in Biotechnology.

Previously the Centre also sent its staff to other institutions on the staff exchange program to do research as well as teach. Some notable institutions that have hosted AquaFish staff include Kobe University (Japan), Kansas State University (USA), South African Institute of Aquatic Biodiversity (South Africa) and Galilee Institute of Management (Israel).



Dr. Barasa teaching the MSc in Aquaculture class during his two weeks stay at LUANAR

# UNLOCKING POTENTIAL: AQUAFISH COMMITTS TO BUILDING ITS STAKEHOLDER'S CAPACITY

**A**s LUANAR is working towards becoming a world-class university, The Africa Centre of Excellence in Aquaculture and Fisheries Science (AquaFish) continues to support the University's mission by improving the learning and teaching excellence at the University. The Centre has committed to building the capacity of LUANAR's staff, students and other relevant stakeholders.

For instance, AquaFish is offering short courses that target both staffs, students and other stakeholders. Some of the short courses the Centre offered include:

## i) **Postgraduate Research Retooling Short Course:**

This course targeted the AquaFish masters and PhD students. Sixty-five students attended the five-day training which started on 6<sup>th</sup> August and ended on 10<sup>th</sup> August 2018. The training equipped the students with knowledge and skills in proposal development, use of SPSS, STATA and R for data analysis.

ii) **Postgraduate Training in R Statistical Software:** The short course was aimed at training the AquaFish students on how to use R for data analysis. The five-day training was conducted in November 2018. The course was attended by eleven postgraduate students at LUANAR.

iii) **Fish Processing:** The short course was conducted in Zambia in collaboration with Mzuzu University (MZUNI), WorldFish and MALDECO. The short course targeted fish farmers from the region. The farmers were trained on how to process their fish to reduce post-harvest losses and on value addition. The training took place in February 2018.

iv) **Innovations in Teaching and Learning:** The short course was conducted in collaboration with the Association of African Universities (AAU). The training aimed at equipping faculty with modern methods in teaching and learning towards strengthening the delivery of postgraduate education in African universities. The course took place from 4<sup>th</sup> to 8<sup>th</sup> February 2019 at Golden Peacock Hotel in Lilongwe, Malawi. Lecturers from various African countries including Ghana, Nigeria, Zimbabwe and Malawi attended the training.

v) **Aquaponics Training:** AquaFish in collaboration with the I Love Fish Project, which also introduced the Aquaponics system at LUANAR and IFFNT, conducted the Aquaponics training. The training targeted aspiring farmers, practicing farmers, extension workers and government officials. The short



Participants during the Innovations in Teaching and Learning Workshop at The Lilongwe Golden Peacock



course equipped the participants with knowledge in aquaponics, which is a new technology being implemented at LUANAR.

vi) **Transformation of Aquaculture, Fish Processing and Value Addition in The SADC Region – Aquatrans I, II & III:** These courses were offered by AquaFish with support from the New Partnership for Africa Development – Southern Africa Network for Biosciences (NEPAD-SANBio) and BioFISA II Programme (a Finnish-Southern African Partnership Programme). The courses aimed at providing a platform of knowledge and skills sharing among

stakeholders for strengthened capacity in aquaculture technologies and thus contributing to sustainable aquaculture expertise in the region. The topics covered included Critical success factors for Aquaculture business, Development of Bankable Business Plan for Aquaculture business, Operational of Medium-large scale Aquaculture business, Suc-

cessful marketing, processing and value addition of fish and fish products, and Field Visits to medium and large-scale aquaculture ventures. The courses drew participants from Lesotho, Malawi, South Africa, Zambia, Zimbabwe, Botswana, and Namibia.

vii) **Business Innovation and Incubation Management:** The four-day first-level training which ran from 12<sup>th</sup> to 16<sup>th</sup> August 2019 intended to enhance the capacity of enterprise support organisations and relevant stakeholders on how to establish and manage business incubation centres in Malawi. The workshop, which was conducted by the Agribusiness Department with funding from African Development Bank (ADB) and The Africa Centre of Excellence in Aquaculture and Fisheries Science (AquaFish) at LUANAR, was attended by specialists and aspiring specialists in business incubation and innovation management; government officials, private sector and the academia among others. The participants underwent mentorship on how to become entrepreneurs.

## THE BEACON OF HOPE: AQUAFISH CHANGES THE FACE OF LUANAR RESEARCH FACILITIES



*An Aerial view of Research facilities at the Bunda Fish Farm*

Having good infrastructure is one of the criteria used in university ranking. This is why AquaFish is in the forefront renovating and constructing research facilities at LUANAR. The Centre realises that having a vibrant academic environment not only plays a big part in getting world-class research outputs but also attracts high-quality staff, creative and productive students. Further, a good learning and research infrastructure can strengthen successful research collaborations with other universities, industry and other partners.

It is in the above realisation that AquaFish has renovated the research facilities at the Centre. Some of the areas which have been renovated include fish ponds, fish tanks and the hatchery. This has been done

to enhance the Centre's access to key research facilities that improve research activities for students and staff. AquaFish is also in a process of procuring other lab equipment. To maintain security around the fish farm, AquaFish has built a fence around the fish ponds.

With funding from the Germany government through Ich Liebe Fisch (I Love Fish) project, LUANAR has received a lot of technologies that are changing the face of LUANAR's research facilities. The University has received a state of art solar powered hatchery. The hatchery has been constructed at the Bunda Fish Farm and its main focus is on the production of fingerlings of *Oreochromis Karongae* (Chambo). The project has also installed an Aquaponics unit which is the first of its kind to be installed at the University. Aquaponics technology is used to grow vegetables and raise fish simultaneously. Through the same Ich Liebe Fisch Project, a Biotech lab has been installed at the Aquaculture and Fisheries Science Department for research and learning.



*An MSc student, Apatsa Chelewani conducting research at the Aquaculture and Fisheries Science Biotech Lab*



## ENCOURAGING EXCELLENCE THROUGH VIBRANT RESEARCH SKILLS



In a quest to strengthen the research outputs at LUANAR, AquaFish has made efforts to create a favourable environment for staff and students to conduct research. The Centre strives to create a wide range of research opportunities by nurturing creativity and innovative ideas. It is for this reason that AquaFish supports its students so that they excel in their research. The following seven episodes highlight some of the research conducted by AquaFish students.

My name is Peace Mnelemba and I am studying an MSc in Aquaculture. My research focused on BarrelPonics which is a system that allows the growing of vegetables and rearing fish simultaneously. The research was assessing the economic and technical performance of the system so that it can be scaled down to smallholder farmers in Malawi.

In Aquaculture, there is a challenge of Ammonia which is harmful to fish. So, with Barrelponics, the Ammonia which is produced by the fish is converted into usable food for plants by beneficial bacteria. This helps to clean the water for the fish while growing the vegetables organically. The research has shown that Barrelponics is a good system both economically and technically. We have now scaled it down to fish farmers with funding from I love Fish project which also funded my research project. We have set up a technology transfer node in Nkhotakota where farmers are being trained on how they can make their own Barrelponics system. With the same I Love Fish project, we have also built the first aquaponics system at Bunda Fish Farm which is used for teaching the students.



**Peace Mnelemba**  
MSc in Science in Aquaculture

My name is Francis Jiva and I am doing a Master of Science in Agribusiness Management. My research was on consumer analysis of caged tilapia in Malawi. Production of caged tilapia is new in Malawi and is being implemented by the Malawi Foods Company (MALDECO) which is one of AquaFish's key partners. The research wanted to get feedback from the consumers in terms of preference concerning caged tilapia.

The research was supposed to inform policy as the research was tackling the dwindling supply of tilapia. First of all, the study looked at how consumers can be served better to make aquaculture a demand-driven production. From the findings, people prefer fish that is not caged and so perhaps those doing the production of caged tilapia might have to go back to the drawing board to see how they can satisfy such customers.



**Francis Jiva**  
MSc in Agribusiness Management

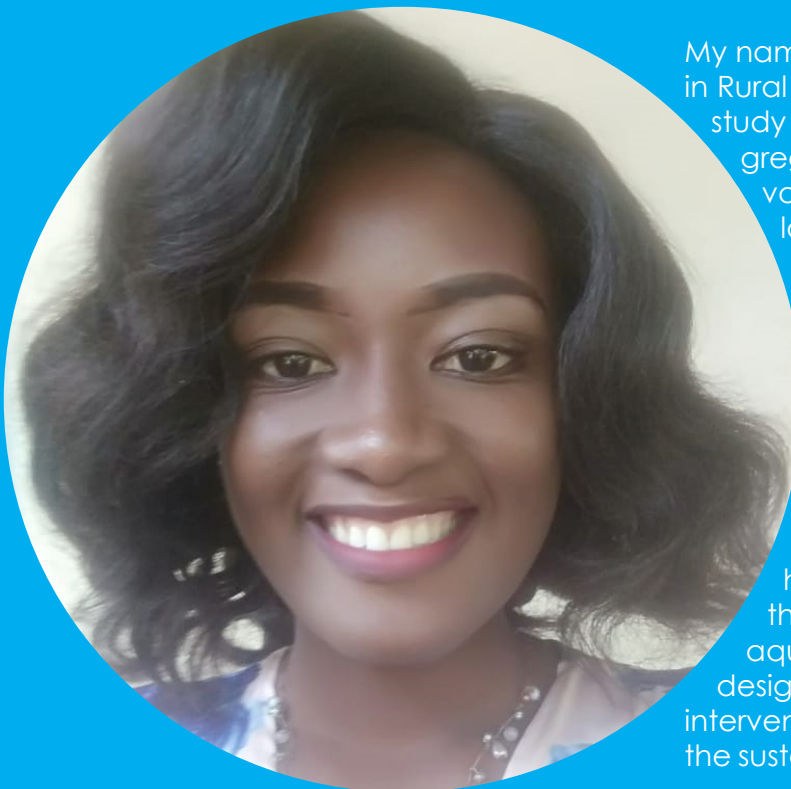


**Dorothy Banda**

MSc in Food Science and Technology

My name is Dorothy Banda and I am studying an MSc. in Food Science and Technology. My research is on the evaluation of nutritional quality, along the value chain of open sun-dried and solar tent dried *Engraulicypris sardella* (Usipa) fish of Lake Malawi. The study will assess the effects of solar tent drying and open sun drying on the quality of *Engraulicypris sardella* (Usipa) in an effort of addressing post-harvest losses in the fish value chain of the pelagic fishery of Malawi.

The results from this study will help in developing science-based guidance for a safe procedure of handling dried fish products aiming at strengthening the value chain and reducing post-harvest losses in Malawi. Furthermore, the study will have a direct contribution to the Agriculture Sector Wide Approach which aims at creating avenues for consumers to access quality and nutritious food while increasing the contribution of agro-processing for the country's economic growth.



**Esther Ngwira**

MSc in Rural Development & Extension

My name is Esther Ngwira. I am studying an MSc in Rural Development and Extension Studies. My study was carried out to generate sex-disaggregated data for uncovering women's involvement and understanding about the local social dynamics of women involvement in aquaculture. the study aimed at understanding how gender norms and power relations constrain women from involvement, accessing resources and benefiting from aquaculture.

The significance of the results generated from this study rests in providing: helpful detailed recommendations on how women should be integrated into the design and implementation stages in aquaculture projects and guiding on the design of extension messages, activities and interventions to help improve food security and the sustenance of fish supply in the communities.



My name is Dyna Mvula. I am a second-year student doing an MSc in Agricultural and Applied Economics. My research is analysing the impact of public policy on the use of sustainable practices in captures fisheries. The main aim is to analyse the effect of macroeconomic and fisheries policies on fishing technologies and practice that have been used by fishermen. The study will provide evidence on the performance of previous policies throughout their use to avoid re-inventing the wheel as further policy formulation will be based on success and failure of the policies that have been in use. The Government of Malawi through the Department of Fisheries will in 2021 review policy that was Implemented towards achieving sustainable resource utilization hence the study might inform the policy review process.



**Dyna Mvula**

MSc in Agricultural and Applied Economics

My name is Gladys Chigamba. I am studying a PhD in Aquaculture and Fisheries Science. My research is titled "Economic Valuation of Aquatic Resources from Linthipe River in Salima District, Central Malawi."

The research has been designed to quantify the Total Economic Value (Use value + Non-use value) of the aquatic resources from Linthipe River. The study will assess communities' willingness-to-pay (WTP), pay-out level and their influencing factors while using contingent valuation (CV) techniques. Multiple data collection techniques will be employed including focus group discussions, key informant interviews, field observation, monitory value and CV survey. The use of various methods will help to increase the robustness of the research study. The study will target the lower section of Linthipe River reaching out to 420 households that benefit from the river in one way or the other. The data collection will be conducted in two phases - dry season and rainy season. The total economic value (TEV) of aquatic resources derived from Linthipe River will be determined by using cost-benefit analysis method. Contingent Valuation Method (CVM) will be applied to estimate household willingness to pay to improve the status of fisheries resource at Linthipe River.



**Gladys Chigamba**

PhD in Aquaculture and Fisheries Science



**Christopher Chikowi**

MSc in Agricultural and Applied Economics

My name is Christopher Chikowi. I am studying a Master of Science in Agricultural and Applied Economics. My research analysed consumer choices and demand for processed and unprocessed *Oreochromis (Nyasalapia)* and *Oreochromis shiranus* products using primary data collected from 584 consumers in Blantyre and Lilongwe cities.

The study found complementarity and trade-off among various products. In addition, correlates of choices were not the same as correlates of demand for the products in terms of direction and magnitude/extent as explained by heterogeneous consumer profiles, market conditions, and tilapia trait descriptors. Using the study findings, the following recommendations were drawn; promote cost minimization strategies along the value chain, tilapia production, tilapia processing, ensure availability of the produced products on the market and promote or advertise the products that are made available on the market. Meeting these recommendations shall not only ensure the availability of the products, but also bringing awareness about their availability among the consumers. Eventually, there shall be increased intake of the nutritious fish products.

## BRINGING KNOWLEDGE AT THE DOORSTEP

Realizing that the key to great research is innovation, AquaFish encourages innovativeness among the staff and students through networking with other innovative researchers in the world. The AquaFish Centre continues sponsoring staff and students to attend conferences. A good number of staff and students have been attending conferences with support from AquaFish.

Some of the conferences include the sixth International Conference of the Pan African Fish and Fisheries Association (PAFFA), held in Malawi which also brought delegates across the continent including young people. The students also attended the RUFORUM Biennial Conference, which was held in Kenya, the conference attracted about 530 students. The RUFORUM Conference recommended enhanced sharing of knowledge, lessons and experiences. Furthermore, in 2018 the students also attended the Fish Forum Conference in Mangochi.

Commenting on a conference she attended in September 2018, Prosperina Kamkwamba, one of the students, thanked AquaFish for exposing her to a world of researchers in the aquaculture and fisheries sector.



*Prosperina during the PAFFA 6 Conference at Sun and Sand Hotel in Mangochi*

**"The PAFFA 6 conference was a great event and I am extremely glad to have participated in this global conference. It has exposed me to various international researchers from whom I have learnt a lot," she said.**

At the conference, the Centre Director, Professor Emmanuel Kaunda was also elected as President for the PAFFA.



# AQUAFISH THROUGH THE LENS



*Khalid Abdul Ghaffar, the Minister of Higher Education and Scientific Research (Egypt) visiting AquaFish's Pavilion with Prof. Dzimbiri, the LUANAR's DVC during the AU-C10 Heads of State & Government on Education Science, Technology & Innovation Summit at BICC, Lilongwe, Malawi.*



*Professor Robert J. Jones, Chancellor of University of Illinois with the Aquaculture and Fisheries Science Head of department during the VC's visit to Malawi*



*Mohammed Ahmed (Sudan), a PhD student presenting his research project to the IUCEA team*



*Participants conducting water quality test during the Solar Hatchery Operation training which was organised by the Ich Liebe Fisch Project*



*Griffin Miracle during his graduation in 2018*



*Lilongwe City Council officials monitoring LUANAR's waste disposal systems*



*Participants conducting discussions during the Innovations in Teaching and Learning workshop at Golden Peacock*



*Participants during the Postgraduate Research Retooling workshop*



# SUCCESS THROUGH COLLABORATIVE RESEARCH



*AquaFish PhD students conducting research at the Lab*



*A section of the Solar Powered Fish Hatchery at LUANAR*

Capitalizing on the partnerships the Centre has made, through AquaFish, academic staff at LUANAR have conducted several collaborative researches with other researchers from partner institutions. Through the Centre, over 51 papers have been published. Approximately 40 percent of these are collaborations with both regional and international researchers

in the aquaculture and fisheries value chain. With a baseline of 10 papers in 2015, the Centre has averaged 13 papers per year since August 2016. Research publication subjects have ranged from fish biology, genetics, nutrition, marketing, extension and rural development, climate-smart technologies, farmer organization and fisheries ecology.

## BUILDING PARTNERSHIPS FOR MEANINGFUL RESULTS

The AquaFish Centre is building functional partnerships with players in the industry nationally and regionally. The Centre is working with peer universities, industry and communities in the aquaculture and fisheries sector. The aim of these partnerships is to effectively build innovations that will meet 21<sup>st</sup> century challenges and harness opportunities. Through its partnerships, the Centre has managed to conduct short courses, workshops and staff exchange visits.

The Centre's partners include MALDECO, Soybean Innovation Lab (SIL), Regional Universities Forum for Agricultural Development (RUFORUM), University of Eldoret (UoE), WorldFish, Freshwater Fisheries Research Centre (FFRC) of Chinese Academy of Fishery Science (CAFS), Catholic University of Mozambique (CUM), Mzuzu University (MZUNI), College of Medicine – ACEPHEM, Addis Ababa University – Africa Centre of Excellence for Water Management, Malawi University of Science and Technology (MUST).

Over the years, the centre has collaborated with the Soybean Innovation Lab on different activities. For instance, in 2019, AquaFish and SIL col-



*The Bunda Fish Farm Manager, Mr Sifo Mofolo presenting during the Aquafeed workshop*

laborated on a workshop to come up with short courses in Aquafeed. SIL works to reduce global poverty and hunger by accelerating growth in the agriculture sector through improvements in agricultural productivity among smallholder farmers. The workshop also attracted other partners and key players in the aquaculture and fisheries industry of Malawi including Chonona Aquaculture and MALDECO.

AquaFish is also working closely with MALDECO towards building the capacity of MALDECO's staff and also LUANAR students and staff. The two institutions have a long and beneficial relationship which has seen AquaFish send its students to research at MALDECO. Two master's students have so far conducted their research at the institution. The partnership has also seen MALDECO send its staff to AquaFish to conduct their studies.





*Participants of the Solar Powered Hatchery operation training conducting water quality tests at the fish pond*



*Participants having group discussions during the SPAITS workshop*

Currently, two MALDECO staff members are studying Masters degrees at AquaFish.

Similarly, the centre's partnership with RUFORUM has helped in building LUANAR's capacity to mobilize faculty from peer institutions to come and teach at LUANAR. In 2018, AquaFish hosted nine visiting professors who came through the partnership with RUFORUM for two weeks. Apart from teaching, the visiting professors also conducted seminars with staff and students at LUANAR. This type of partnership is helping LUANAR to improve the teaching and research outputs as the visiting professors bring in new methods and ideas that help the staff and students improve in their specific areas. The partnership has also helped LUANAR staff and students get access to conferences like the RUFORUM Biannual Conference that was held in Nairobi in 2018.

AquaFish's partnership with the WorldFish has

also been very beneficial to both institutions. The two institutions have jointly worked on a project named "Scaling Systems and Partnerships for Accelerating the Adoption of Improved Tilapia Strains by Small-Scale Fish Farmers (SPAITS)." The project aims at enhancing the degree to which dissemination systems increase the access to and adoption of improved seed by poor women. In addition, some of the World Fish Centre staff members are also supervising AquaFish students in various research areas.

In addition, AquaFish's partnership with the University of Eldoret continues to bear fruits. The partnership has seen two staff from the university visit AquaFish to teach for two weeks each. The Centre has also supported two staff members from the University of Eldoret to attend the Pan African Fish and Fisheries Association Conference which was held in Malawi.



# ATTRACTING STUDENTS FROM ALL ANGLES

AquaFish continues to attract students in the region to study at LUANAR. Several students within the region are doing their masters and PhDs at LUANAR, thanks to AquaFish for promoting international student enrolment. This following account highlights the experiences of some international students currently studying at LUANAR.



**Mohammed Ahmed**  
Sudan

My name is Mohammed Ahmed and I am from Sudan. I am doing a PhD in Aquaculture and Fisheries Science. As an international student, I am comfortable here. Most of the facilities are available to us. All resources needed for our development in terms of labs, classrooms, internet and accommodation are available. The people are also very nice and helpful. Before I came here in 2013, I did not know how to speak English because in Sudan we speak Arabic. But when I came the people helped me very well and they considered my challenge that I did not speak English. They taught me how to speak English in class and through interaction. If anyone has doubts about coming to Malawi, please be assured that you are going to love it here.



**Mebbah Pojana**  
Zambia

My name is Mebbah Pojana from Zambia. I am doing a PhD in Aquaculture and Fisheries Science. My experience as an international student has been excellent. Coming from a non-fisheries background, I found course work very beneficial. The class meeting, study tours and practicals are well designed to benefit a student from any background. The experience with the Lecturers is just amazing. Being an international student, I feel at home. The support staff are also excellent. I cannot resist recommending anybody to come and study at LUANAR.



**Cynthia Vugutsa**  
Kenya

My name is Cynthia Vugutsa, from Kenya. I am currently in my first-year pursuing a Master's degree in Rural Development and Extension. My experience as an international student has overall been positive. The lecturers are very helpful, understanding, and competent. Their interactive way of teaching has made me develop more passion in my programme and I hope to graduate with outstanding results within the stipulated time of two years if accorded maximum support by my supervisors on my research project.



## Josephine Mambwe Zambia

My name is Josephine Mambwe from Zambia. I am studying an MSc. in Aquaculture. Having been selected to study at LUANAR, I was nervous before travelling because I did not know what to expect in a foreign land. However, my fears were put to rest when I arrived with my country colleagues because we received a very warm welcome. The school officials were very helpful and supportive and they helped us to adjust comfortably. Everyone I encountered and that I have encountered so far has been very kind and tremendously helpful. The culture shock was not very bad too because there are a lot of similarities between my home country and Malawi. I still have a challenge with the main local language but communicating is not a big problem as I can get bits and pieces of the language and I can also communicate and I am understood. Overall, my experience has been great in the warm heart of Africa and at LUANAR to be specific.



## Abraham Accullo Uganda

My name Abraham Accullo and I am from Uganda. I am studying an MSc in Rural Development and Extension. My experience has been awesome. I have enjoyed everything here at LUANAR. The people are so wonderful and caring. Like they say Malawi is the warm heart of Africa even LUANAR is like the warm heart for all international students. I have also met other students coming from different countries across Africa. LUANAR is a great place and I encourage other students to come to Malawi and study at LUANAR.



# PROSPECTS FOR THE FUTURE AS AQUAFISH FORGES AHEAD

The future for AquaFish remains bright as the centre keeps growing. In the four years it has existed, AquaFish has shown that it is on track to complete most of the set project milestones. The centre has achieved almost sixty two percent of its milestones.

Despite registering this success, the centre has faced many challenges which have slowed down implementation of some activities. Some of the challenges include delayed disbursement of first and second funding which stalled implementation progress including major procurements. This was due to late recruitment of third-party verifier.

The centre has also registered lower enrolment figures for female students with MSc students averaging at 31.8 percent while PhD students is at 23.5 percent. It is for this reason that the Centre is embarking on the strategy to build a robust marketing approach to endeavour to meeting the 40 percent mark it set.

The Covid-19 pandemic has also proven to be a challenge for the centre. There has been a delay in implementation of activities since the University was closed for almost five months because of Covid-19. However, the prospects for the future are bright as AquaFish forges ahead in revolutionising the aquaculture and fisheries sector in the region.

In an interview, the Minister of Education, Honourable Agnes Makonda NyaLonje commended the work AquaFish is doing to improve the

Aquaculture and Fisheries sector in Africa.

"LUANAR has a huge capacity to grow the fishing industry. The work that they are doing here through the Africa Centre of Excellence in Aquaculture and Fisheries Science is amazing. The Centre is attracting students from across Africa. What we learnt is that through the AquaFish, LUANAR has produced graduates that are powering the fisheries industries in Africa," she said.

AquaFish remains committed to producing fit-for-purpose critical mass of agricultural scientists for improved aquaculture and fisheries management in order to enhance food, nutrition and economic security in Eastern and Southern Africa.



**"LUANAR has a huge capacity to grow the fishing industry. The work that they are doing here through the Africa Centre of Excellence in Aquaculture and Fisheries Science is amazing. The Centre is attracting students from across Africa. What we have learnt is that through the AquaFish, LUANAR has produced graduates that are powering the fisheries industries in Africa"**

Agnes Makonda NyaLonje  
Minister of Education





Lilongwe University of Agriculture and Natural Resources  
AquaFish  
P.O. Box 219  
Lilongwe

Email: [aquafish-project@luanar.ac.mw](mailto:aquafish-project@luanar.ac.mw)  
Website: [www.luanar.ac.mw/aquafish](http://www.luanar.ac.mw/aquafish)