



The late Prof. John Machiwa: Dedication to nurturing aquatic scientists in Tanzania

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In 1997, I enrolled as a first-year B.Sc. General student at the University of Dar es Salaam, specifically in the then Department of Zoology and Marine Biology. During my second year, I was uncertain about which field to choose. However, my academic journey and passion for aquatic ecosystems began when I registered for the Marine Pollution course taught by the late Prof. John Machiwa. This course laid the foundation for my career path, ultimately leading to successfully completing my higher education and attaining advanced degrees in aquatic sciences and related fields under Prof. Machiwa's guidance. His most enduring contributions lie in his commitment to mentorship and support, which inspired me to pursue a career in aquatic sciences. Below are a few examples highlighting Prof. Machiwa's dedication to nurturing aquatic scientists in Tanzania.

Broken light meter

Prof. Machiwa was remarkably humble and patient, even when angry, he never raised his voice at students. I recall an incident during my doctoral research when I returned from the field with a broken light meter. I was anxious about how Prof. Machiwa, my research supervisor, would react to this news. With encouragement from Mzee Richard Masinde, the Chief Field Technician who had accompanied me, I finally entered Prof. Machiwa's office, light meter in hand. Upon seeing me, he immediately asked if I had collected light intensity data, to which I replied that I had only been able to gather data from some stations, not all. He then inquired about the remaining stations from which data had yet to be collected. I confessed that the meter was not functioning because it had broken while taking measurements under the submerged coral rag.

After a moment of silence, he said, "At the Ph.D. level, you should be familiar with how to operate delicate research instruments in various environments carefully. Now, how will we obtain the light data? As you know, this data is crucial for the primary productivity experiment." I was silent, but he then

encouraged me by stating that what had happened was in the past, and we needed to find a replacement instrument to continue my research quickly.

Prof. Machiwa was a dedicated mentor who maintained an open-door policy, fostering a positive learning environment where students felt comfortable seeking advice or clarification at any time. Most of his appointments were scheduled early in the morning, allowing him to read students' work throughout the day and provide same-day feedback. His editing process often involved reviewing, correcting, and setting strict submission deadlines. He was always punctual in reviewing his students' work.

Prof. Machiwa's mentorship extended to the publication process, where he actively guided students in publishing their research findings in peer-reviewed journals. This commitment to academic excellence contributed significantly to the vibrant academic achievements of his graduate student community. His emphasis on ethical conduct resonated strongly with mentees, instilling in them a sense of responsibility and honesty research. Prof. John Machiwa's mentorship was characterized by a hands-on approach that transcended traditional guidance. He engaged in one-on-one sessions with students, tailoring his mentorship to their unique needs and aspirations.

Hands-on training

During my PhD studies, one of my objectives was to analyze the metal concentration in the Pangani estuary using an Atomic Absorption Spectrophotometer (AAS). At that time, the only functional AAS was at the Institute of Marine Sciences (IMS) in Zanzibar. However, the IMS AAS utilized an expensive gas that had to be imported from South Africa, and several lamps were not operational. At the time, the Faculty of Aquatic Sciences and Technology (FAST) also had an AAS that had not yet been installed. Prof. Machiwa took the initiative to address this issue by arranging for an AAS expert from Germany to come and install the unit at FAST.

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I recall spending an entire day in the laboratory with Prof. Machiwa and other students, learning how to operate the equipment following its installation. His knowledge stemmed primarily from his experiences as a graduate student using the same machine. During these moments, his hands-on training skills truly shone, nurturing the next generation of aquatic scientists. Additionally, Prof. Machiwa was pivotal in developing the curriculum, research programmes, and academic policies related to aquatic sciences at the University of Dar es Salaam. Under his guidance, the university, particularly FAST and later the College of Agricultural Sciences and Fisheries Technology (CoAF at that time), flourished as a hub for learning and research in this specialized field.

Maintained close contacts with his students

Beyond academics, Prof. Machiwa fostered long-term relationships with his mentees, providing ongoing support as they advanced in their careers. His ability to recognize and nurture individual strengths in his students allowed him to tailor his mentorship, impacting their lives. Prof. Machiwa genuinely cared about his students' academic and social well-being. I recall one early morning when I received a call from him asking if we could meet that day. Initially, I felt apprehensive, wondering what pressing issue required such an urgent meeting. To my surprise, he simply wanted to check on how I was doing; we discussed social issues rather than academics. He offered valuable advice on balancing professional challenges and delicate social matters. Prof. Machiwa consistently encouraged his students to complete their studies on time, often saying, "No matter what happens, this is your life, and you must finish it for your own good." He frequently used uplifting phrases like, "I know you are capable, I believe in you, and I am proud of you." Just imagine how difficult life could have been with a supervisor who lacked the patience and compassion of Prof. Machiwa.

His legacy lives on through his students

Although Prof. Machiwa is no longer with us, his legacy endures through the many aquatic scientists he mentored, some of whom now hold managerial positions in research, higher education, and conservation institutions, such as the Tanzania Fisheries Research Institute (TAFIRI), various universities, and the National Environment Management Council (NEMC). He made significant contributions to advancing scientific endeavours at both national and international levels. Upon reflecting on his life and work, it becomes evident that Prof. Machiwa's influence extends far beyond the classroom. He devoted his life to understanding and preserving aquatic ecosystems while helping the students he mentored and supervised realize their full potential.

The impact of his work is still felt today, inspiring ongoing efforts to conserve and sustainably manage Tanzania's aquatic ecosystems. He produced graduates who carry forward his vision for a sustainable and scientifically informed approach to aquatic resource management.

In conclusion, Prof. Machiwa's contributions extend beyond those of a brilliant scientist; he was a compassionate mentor and a driving force behind the advancement of aquatic science in Tanzania. His legacy will continue influencing the hearts and minds of those fortunate enough to learn from and work alongside him. By honouring Prof. Machiwa, we recognize his transformative impact and commit to ensuring his dedication inspires and shapes the scientific landscape for years. To me, Prof. Machiwa was not just a supervisor but also a father figure. May God grant him eternal peace. Amen! ■



Prof. Machiwa, as the Chairperson of the Marine Parks and Reserves (MPRU) Board with Board members and MPRU staff. ©MPRU