



Kunduchi: A birthplace of marine sciences in Tanzania

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Studies in marine sciences at the University of Dar es Salaam (UDSM) officially started in the Department of Zoology and Marine Biology in 1965. Before this time, there were studies carried out by individuals mainly as reports on major sightings, such as stranded whales in Banda Beach in Dar es Salaam, or by scientists carrying out oceanographic surveys in the South West Indian Ocean, or carrying out research on fisheries and related sciences under the East African Common Services Organization and later the East African Community.

Field work for undergraduate students

During the earlier days of the establishment of the UDSM at the main campus, both the Departments of Botany and Zoology and Marine Biology were housed in the same building and collaborating in most field activities at the Kunduchi station. In Zoology and Botany Departments, students were mainly studying algae and fungi (mainly taxonomy and classification and some ecology), vertebrate and invertebrate taxonomy, classification and ecology. The marine science studied at the University was taught by lecturers at the main campus while the practical work was done at the Marine Biology Station, Kunduchi. A one-week field course was done during the long vacation. It covered, among other things, the type of beaches (sandy, muddy and rocky) and their ecology. Samples collected were preserved, analyzed, labeled and kept as spirit collection for future studies.

Currently there are estimated more than 200 species of fish and other marine organisms in bottles filled with formalin solution, stored at SoAF, at the Kunduchi Campus and a few in Zoology and Wildlife Department at the Mwalimu Julius Nyerere Mlimani Campus. These spirit collections need to be cared for since they contain valuable records.

Study site for postgraduate students and scientists

Besides undergraduate teaching, a number of postgraduate researches were carried out by members

of staff during the period between 1965 and 1980. Some of these researches included; PhD in fisheries by Prof. Wazir Okera, PhD in mangroves by Prof. Alison McCusker, PhD in plankton by Prof. Ian Bryceson, and PhD in prawns (crustaceans) by Dr. S.P. Subramaniam. During the same period both Prof. Philip O.J. Bwathondi (on lobsters) and Dr. Boniface Mwaiseje (benthic ecology) completed their Master's degrees in Tanzania before pursuing their PhD studies in the United Kingdom.

Other works done by both graduates and expatriates during the same period include those of Mr. Yason E.S. Mndeme (oyster biology and culture), Mr. Winfried V. Haule (prawn biology in a mangrove creek), Mr. Nobert A. Kayombo (*Anadara*, Mollusca), Prof. Kamazima M.M. Lwiza (oceanography, tidal and ocean currents movements), Prof. Richard G. Hartnoll (crustaceans, mainly crabs), Dr. C. Sankarankutty (zooplankton), Dr. G.M. Bernacsek (fauna of sandy beach at Kunduchi), and several other graduate researches.

Research vessels operated from Kunduchi

Researches carried out by staff and students of the Department of Zoology and Marine Biology were facilitated by a research boat R.V. Pomboo (this vessel later ran aground at Kunduchi) and a 5.2 m outboard boat, R.V. Nguru. The two vessels were assisted by a fisheries vessel, R.V. Mbudya. One of the most outstanding researches in 1978-1979 includes the trials and development of cage farming in marine waters in Tanzania.

Cage farming in marine waters was conducted both at Kunduchi and Zanzibar and involved rabbitfish (*Siganus sutor*). The findings were significant and resulted in adopting the technology to the cage farming in Tanga for Silver pompano (*Trachinotus blochii*). This was extended to Lake Victoria.

The collapse of the East African Community

The collapse of the East African Community in 1977 posed a big challenge both to the country and the

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UDSM. All fisheries and fisheries related activities were handed over to the Department of Fisheries in Ministry of Natural Resources and Tourism, which then assigned the UDSM the responsibility of care-taking them while arrangements were being made to institute a body (Tanzania Fisheries Research Institute) as final custodian of fisheries research. Thus marine fisheries researches on the mainland were temporarily centred at the Kunduchi Marine Biology Station (the current seat of SoAF). The UDSM, through the Department of Zoology and Marine Biology, was given the mandate to draft and manage the East African Marine Fisheries Research Organization (EAMFRO)

in Zanzibar. This assignment was well completed and the first Director, Prof. Abdulrahman Msangi from the Department of Zoology and Marine Biology took office in Zanzibar. The EAMFRO institute in Zanzibar was then given a new name, the Institute of Marine Sciences (IMS) under the UDSM. The UDSM through the Department of Zoology and Marine Biology built a strong foundation for marine science at IMS, Zanzibar.

In conclusion, it is obvious that Kunduchi Marine Biology Station has played a major role in the development of marine sciences in Tanzania since the time Tanzania attained her independence from Britain ■



Aerial photograph of Kunduchi taken in 1979. ©Ian Bryceson