

Research Scientist

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Dr. Emmanuel T.D. Mensah is a young Research Scientist at the CSIR-Water Research Institute's Aquaculture Research and Development Centre, stationed at Akosombo, Ghana. He obtained his Bachelor's degree in Oceanography and Fisheries at the University of Ghana in 2005, Master's degree in Fisheries Science in 2009, also at the University of Ghana. His PhD in Aquaculture and Environment was obtained from the Kwame Nkrumah University of Science and Technology, Kumasi, Ghana in 2018.

He has vast experience in Aquaculture related activities, lake fisheries and climate change issues. His research focuses on pond and cage production management, breeding of Nile tilapia and spawning of the African catfish, fish catch assessment and fish-climate model activities. He has supervised many undergraduate students from the Kwame Nkrumah University of Science and Technology, Kumasi, the University of Renewable Natural Resources and the University for Development Studies, Tamale and involved in the curricular design and training for Western Regional Coastal Foundation Aquaculture Intervention Program, Fisheries Extension Officers, fish farmer groups and individuals.

He has participated in both local and international researches among which is the COTVET Project on Technology Transfer of the Nile tilapia strain for cage culture adoption in Ghana and the VOLTRES Project on fish-climate change, a collaborative research with Aarhus University, Denmark, funded by DANIDA. Among the conferences he has participated, both local and international includes the Ghana Science Association Biennial Conferences, Marine Coastal Fisheries Management Conference, World Aquaculture Conference in Cape Town, South Africa and the 17th World Lake Conference in Ibaraki, Japan.

He recently won The Ibaraki Kasumigaura Prize for an outstanding content of his paper presented during the 17th World Lake Conference, 2018 in Ibaraki, Japan. He is a member of the Ghana Science Association and the World Aquaculture Society and also a reviewer for international peer-reviewed journals and currently has over 6 peer-reviewed articles in international journals including International Journal of Fisheries and Aquaculture, African Journal of Ecology and Aquaculture International etc.

Current Research:

- • Effects of climate change on fish resources in Lake Volta
- The research focuses mainly on environmental factors and fish catch and its interactions in the lake and to help improve the understanding of the lake ecosystem functioning. The work encompasses catch assessment of fisheries of the Lake Volta and monitoring of environmental variables such as temperature, nutrients and primary productivity. These information gathered will be used to set up a fish model (EcoPath) to make predictions of future impact of climate change on fish stocks in the Lake. The output will contribute significantly towards addressing the major needs identified in the Ghana National Climate Change Adaptation Strategy in the design and implementation of programmes on fishery management.
- •Diversification of culture based fish species in Ghana: A look at the African catfish and bonny tongue.
 - This research is geared towards the widening of the culture based species in Ghana. Currently Tilapia production in the country contributes about 90% of the cultured species hence the need to diversify production for optimal use of the other fishery resources in Ghana. The African catfish and bonny tongue fishes are one of the promising local freshwater fish species that have the potential to boost aquaculture production. These species are environmentally tolerant and have high demand by fish farmers because of the potential of the species to attract high market price due to its relatively large sizes at harvest, however, challenges such as inadequate supply of fingerlings to farmers due to their decline in Ghana's waters as a result of overexploitation possess a threat to it production. The study evaluates fry and fingerlings output of these species in production systems.

Current publications:

- • Effects of climate change on fish production in Lake Volta, Ghana. Mensah, E.T.D. PhD Thesis, Dept. of Fisheries and Watershed Management, KNUST, Kumasi, Ghana, 2018, pp 159.
- • Effects of seasonal and environmental changes on aquaculture production in tropical Lake Volta, Ghana. Mensah, E.T.D., Dankwa, H.R., Asmah, R., Lauridsen, T.L., Campion, B.B. and Edziyie, R. Aquaculture International, 2018: doi:10.1007/s10499-018-0294-7.
- • Seasonal changes in fish catch and environmental variables in a large tropical lake, Volta, Ghana. Mensah, E.T.D., Dankwa, H.R., Asmah, R., Lauridsen, T.L., Campion, B.B. and Edziyie, R. African Journal of Ecology, 2018: 00:1–10. doi:10.1111/aje.12537
- • Comparative growth study of Oreochromis niloticus and Sarotherodon galilaeus under

two different culture regimes (Hapa-In-Pond and cage systems). Mensah, E.T.D., Attipoe, F.K.Y. and Atsakpo, K. (2014) International Journal of Fisheries and Aquatic Studies, 2014; 1(5): 53-59.

- • Effect of different stocking densities on growth performance and profitability of *Oreochromis niloticus* fry reared in hapa-in-pond system. Mensah, E.T.D., Attipoe, F.K. and Ashun-Johnson, M. International Journal of Fisheries and Aquaculture, 2013; Vol. 5(8):204-209.

Conference papers:

- • Mass balanced model of Lake Volta fisheries: The use of Ecopath model. Mensah, E.T.D., Dankwa, H.R., Asmah, R., Lauridsen, T.L., Trolle, D., Campion, B.B., Edziyie, R. and Christensen, V. 17th World Lake Conference, 15th – 19th October, 2018, Ibaraki, Japan.

- • Effects of seasonal and environmental changes on aquaculture production in Tropical Lake Volta, Ghana. Mensah, E.T.D., Dankwa, H.R., Asmah, R., Lauridsen, T.L., Campion, B.B. and Edziyie, R. World Aquaculture Conference, 26th – 30th June, 2017, Cape Town, South Africa.

- • Effects of dietary supplement (Vmd-Oligovit Plus) on survival and growth of Nile Tilapia fry (*Oreochromis niloticus* L.) under mono-sex production. Agbeko, E., Anani, F., Mensah, E.T.D., Agyakwah, S.K., Atsakpo, K., Atsakpo, P., Yeboah, G. and Agyapong, C. 30th Ghana Science Association Biennial Conference, 24th – 27th July, 2017, Koforidua, Ghana.

- • Farming of African catfish, *Clarias gariepinus*: Alternative sustainable livelihood for coastal communities in Western Region, Ghana. Agbeko, E. Asmah, R., Anani, F.A., Mensah, E.T.D. and Atsakpo, P. Marine Coastal Fisheries Management Conference, 25th – 27th September, 2017, Accra, Ghana.

- • Culture of Nile Tilapia, *Oreochromis niloticus* for food security: Education for Coastal fisher folks and investors. Kusorgbor, J.K., Agbeko, E., Anani, F.A., Mensah, E.T.D., Agyakwah, S.K. and Teye, J. Marine Coastal Fisheries Management Conference, 25th – 27th September, 2017, Accra, Ghana.

Research areas and interest

- • Cage and pond production management
- • Fish breeding/spawning and hatchery management
- • Fisheries and climate change
- • Fish catch assessment

Research gate link: https://www.researchgate.net/profile/Emmanuel_Mensah12/publications

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