Dr. Emmanuel Kaboja Magna



Research Scientist

DEGREES

BSc (Oceanography an(UFiischerigs)) Ghana, Legon)

MSc

(Health Informatics) k

Kwame Nkrumah University of Science and Technolog

PhD (Environmental Sciences) ity of Ghana

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Profile of Dr. Emmanuel Kaboja Magna

Dr. Emmanuel Kaboja Magna is a Research Scientist at the Fisheries and Aquaculture Division of the Council for Scientific and Industrial Research-Water Research Institute (CSIR-WRI). He attained his Bachelor's degree in Biological Sciences (Oceanography and Fisheries) at the University of Ghana in 2007 and his Master's degree in Health Informatics in 2014 at the Kwame Nkrumah University of Science and Technology, Ghana. He obtained his PhD in Environmental Science in 2020 at the Institute for Environment and Sanitation Studies (IESS), University of Ghana. For his doctorate, he researched "Ecological and Human Health Implications of Contaminants Linked with Cage Aquaculture on the Volta Basin of Ghana." His research described varying levels of indicator polychlorinated biphenyls, organochlorine pesticides, and heavy metals in water, sediment, and cage tilapia. It further demonstrated the ecological risk and pollution status of sediment as well as the health risk of human consumption of this class of fish.

He has conducted considerable research on solid waste, the impact of climatic variables on crop yield, malaria distribution, and a review of Ghana's mental health policy. The doctoral thesis, including other research, has yielded thirteen (13) publications in reputable peer-reviewed international journals. Besides his main work at WRI, he has participated in other research activities within the group in the areas of pesticides, antibiotics, PBDEs, and PAH in different environmental matrices, wastewater quality treatment, and reuse. In all of these, he has proven to be exceptional, with a high level of research curiosity and ability. He is very innovative and has immense intellectual acumen. He has jointly supervised undergraduate students at various Ghanaian universities. He is a reviewer for an international peer-reviewed journal (Food Chemistry Advances). He has taught at the senior high school for about eight years.

Research Interests

His research interests include, but are not limited to, environmental health, sanitation, EIA, water quality monitoring and assessment, toxicological assessment of low-dose heavy metals

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and persistent organic pollutants (Pesticides, PAHs, PCBs, PBDEs and antibiotics) in different matrices, as well as their associated human health risks.

Current Research

Current research projects include:

1. 1.Occurrence and environmental risk assessment of antibiotics in water and sediment from fish farms in the Lower Volta Lake of Ghana

2. 2.Effects of glyphosate herbicide on the growth and haematological performancecultured Nile tilapia (*Oreochromis niloticus*)

3. 3.Health risk implications of polycyclic aromatic hydrocarbons (PAHs) in grilled and smoked farmed Nile tilapia (*Oreochromis niloticus*) marketed in Tema, Ghana

Selected Publications

1. 1.**Magna, E.K**., Koranteng, S.S., Donkor, A., & Gordon, C. (2022). Levels of persistent organochlorine compounds in Nile tilapia (*Oreochromis niloticus*) from three cage aquaculture farms on the Volta Basin of Ghana: Implications for human health. *Environ. Process. 9(3), 1-21.* <u>https://doi.org/10.1007/s40710-022-00600-z</u>

2. 2. Magna, E.K., Koranteng, S.S., Donkor, A., & Gordon, C. (2022). Organochlorine pesticides and polychlorinated biphenyls in sediment impacted by cage aquaculture in the Volta Basin of Ghana. *Arch Environ Contam Toxicol. 82(1),119–130.* <u>https:</u> //doi.org/10.1007/s00244-021-00904-5

3. 3. Magna, E.K., Koranteng, S.S., Donkor, A., & Gordon, C. (2022). Heavy metals pollution in the surface sediments from cage aquaculture farms in the Volta Basin of Ghana: Source identification and ecological risk assessment. *Water, Air & Soil Pollution, https://doi.or*

g/10.1007/s11270-022-05878-1

4. 4. **Magna, E.K.,** Koranteng, S.S., Donkor, A., & Gordon, C. (2021). Assessment of organochlorine pesticide and polychlorinated biphenyls residue in water from cage aquaculture farms on the Volta Basin of Ghana. *West African Journal of Applied*

Ecology, 29(2),75 - 86

5. 5. **Magna, E.K**., Koranteng, S.S., Donkor, A., & Gordon, C. (2021). Health risk assessment and levels of heavy metals in farmed Nile tilapia (*Oreochromis niloticus*) from the Volta Basin of Ghana.

Journal of Chemistry, 2021, 1-10. https://doi.org/10.1155/2021/2273327

6. 6.**Magna, E.K.,** & Yemoh, T.A. (2018). A review of mental health policy and implementation in Ghana: A roadmap to achieving SDG 3. UDS International Journal of Development, 5(1), 41-47. https://doi.org/10.47740/234.UDSJID6i

7. 7. Magna, E. K., Ofori, D., & Ojo, S. (2018). Analysis of Rainfall and Temperature Effects on Yam yield in Krachi East District of Ghana. *UDS International Journal of Development 10-19. https:doi.org/10.47740/227.UDSIJD6i*

8. 8. Magna, E.K., Dabi, M., & Tadri, P. (2019). Spatial Distribution of Malaria in the Semi-Arid Zone of Ghana: A Case of Upper West Region Using GIS *J Environ Health Sustain Dev. 4(1), 670-7. doi:10.18502/jehsd.v4i1.488*

9. 9. Magna, E.K., Dabi, M., Owusu, P., & Badu, E. (2018). Determination of heavy metals and potential health risk assessment of honey harvested from the Tamale Metropolis of Ghana using Atomic Absorption Spectrophotometer (AAS). *Elixir Pollution 121, 51522-51526*