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DEGREES

BSc. Geological Engineering (KNUST); MSc. Water Resources Survey (ITC, The Netherlands); PhD. Hydrogeology (UWC, RSA).

Profile

Dr. Anthony Appiah Duah is a Senior Research Scientist and Head of the Groundwater Division of the CSIR-Water Research Institute. He obtained his Bachelor's Degree in Geological Engineering at the Institute of Mining and Mineral Engineering of the Kwame Nkrumah University of Science and Technology in 1987. He obtained his Master's degree in Water Resources Survey (Groundwater) from the International Institute for Geo-Information Science

and Earth Observation of the University of Twente, The Netherlands in 1999 and his PhD in Hydrogeology from the University of the Western Cape in South Africa in 2012.

Dr. A.A. Duah has worked with the Groundwater Division of the CSIR-Water Research Institute since 1990 as a Hydrogeologist and a Geophysicist. He has a certificate in Groundwater Exploration and Management from the Hebrew University of Jerusalem, Faculty of Agriculture, Food and Environmental Quality Sciences, Rehovot, Israel. He has vast experience in Groundwater exploration, exploitation and management. Some of his work include the assessment of the Groundwater Resources of the Ashanti, Western and Northern regions of Ghana. He has worked on the Groundwater Recharge of the Table Mountain Aquifer in South Africa. His research focus is in Assessing the Groundwater potential in the different geological terrains of Ghana in the light of Climate Change. Dr. A.A.

Duah also has a lot of interest in Environmental Water Science and has undertaken some projects in assessing the impact of illegal small-scale mining on the water bodies in some river basins in Ghana in recent times. The project covered 8 out of the 10 regions of Ghana affected by illegal small-scale mining activities. Dr A.A. Duah has a GIS and Remote Sensing background which adds to his skills in map development and GIS applications in Water Research. He has supervised post-graduate students on Master's level in South Africa. He is an external examiner for the University of the Western Cape in South Africa for the Environmental Water Science Department and the University of South Africa. He is also a reviewer for some International peer-reviewed journals, i.e. Hydrogeological Journal and the Journal of African Earth Sciences. Dr. A.A. Duah is a Council member of the Ghana Institution of Geoscientists (GhIG), a member of the International Association of Hydrogeologists (IAH) and a member of the International Association of Hydrological Science (IAHS).

AWARDS & RECOGNITION

Senior Research Scientist and Head, Groundwater Division (CSIR-WATER RESEARCH INSTITUTE)

ACTIVE AFFILIATIONS

Council Member, Ghana Institution of Geoscientists (GhIG); Member, International Association of Hydrogeologists (IAH); Member, International Association of Hydrological Sciences (IAHS).

RESEARCH INTEREST

Assessment of Groundwater Potential in Ghana and Groundwater Management

CURRENT RESEARCH

Groundwater Assessment of the Northern and Brong Ahafo Regions of Ghana. The research focuses on gathering all relevant data and information on geology, hydrology, hydrometeorology and hydrogeology of the regions to assess the Potential of groundwater resources in terms of availability, suitability and sustainability by producing an Assessment Report and Groundwater-use maps using parameters such as Borehole Yields, Static water levels, Depth to aquifer levels and Groundwater Quality.

Impact of Small-Scale Mining on Water Bodies in "Galamsey" Communities.

The project involves sampling of water bodies, mainly rivers and streams as well as sediment sampling to analyst them in the laboratory to find out the health status of these rivers by assessing the contamination levels by the physical parameters, nutrients and heavy metals. Water availability throughout the year and their suitability for domestic and other uses.

Development of Groundwater-use maps of Ghana

The project involves creation of digital maps on physical groundwater parameters and groundwater quality parameters as baseline maps for future development of a hydrogeological map of Ghana.

Consultancies on Hydrogeological Investigations for Borehole Siting

Projects for several clients mainly to conduct Hydrogeological Investigations including Geophysical Surveys for Borehole Siting, Drilling, Construction, Development and Pumping Test Analysis of Boreholes for Sustainable Development of Groundwater Resources for Domestic, Agricultural and Industrial uses.

PUBLICATIONS

1. William A. Agyekum, Anthony A. Duah, Collins Okrah and Evans Manu (2017). Groundwater Recharge Studies and Trends in the Lower Volta River Basin, Ghana in: Ntiamoa-Baidu, Y., Ampomah, B.Y. and Ofosu, E.A. (eds.). (2017). Dams, Development and Downstream Communities: Implications for Re-optimising the Operations of the Akosombo and

Kpong Dams in Ghana. Digibooks Gh. Ltd., Tema, Ghana.

2. Collins Okrah, William A. Agyekum and Anthony A. Duah. (2017). Improving Access to Potable Water Supply for Downstream Communities of the Volta Lake in: Ntiamoa-Baidu, Y., Ampomah, B.Y. and Ofosu, E.A. (eds.). (2017). Dams, Development and Downstream Communities: Implications for Re-optimising the Operations of the Akosombo and Kpong Dams in Ghana. Digibooks Gh. Ltd., Tema, Ghana.

3. Ansa-Asare, O.D., Entsua-Mensah, R.E., Duah, A.A., Owusu, B.K., Amisigo, B., Mainoo, P.A. and Obiri, S. (2014). Multivariate and spatial assessment of water quality of the Lower Pra Basin, Ghana. Journal of Natural Sciences Research, Vol.4 (21). CSIR/WRI/RJP/ODA/2014/2

4. Hodgson, I.O.A., Obiri, S., Cobbina, S.J., Quarcoo, G. and Duah, A.A. (2014). Principal component analysis of groundwater quality data underlying geochemical processes of Dahomeyan Formation and Togo Series in the Ho Municipality (Ghana). Journal of Applied Science and Technology (JAST), Vol. 19 (1 & 2). CSIR/WRI/RJP/IOAH/2014/1

5. Kankam-Yeboah, K., Okrah, C., Agyekum, W.A., Duah, A.A., Ofori, D. and Logah, F. (2013). Water resources management of a shared transboundary aquifer system – The case of the Keta Basin. Ghana Journal of Science, Vol. 53. CSIR/WRI/RJP/KK/2013/3

6. Mainoo, P.A., Duah, A.A., Agyekum, W.A. and Menyeh, A. (2012). Evaluation of aquifer characteristics of Voltaian sedimentary rocks in the Brong Ahafo Region of Ghana. Journal of Ghana Science Association, Vol. 14 (2). CSIR/WRI/RJP/PAM/2012/1

7. Darko, P.K., Duah, A.A. and Dapaah-Siakwan, S. (2009). Assessment of groundwater resources in the Densu River Basin of southern Ghana. Journal of Science and Technology, Vol. 29 (2). CSIR/WRI/RJP/PKD/2009/1

8. Duah, A.A. and Xu, Y. (2009). Climate variability and its impact on groundwater recharge to the Table Mountain Group aquifers in South Africa. Hydrological Sciences Journal. Special issue: Groundwater and Climate in Africa, Vol. 54 (4). CSIR/WRI/RJP/AAD/2009/1

9. Duah, A. A. and Xu, Y. (2013). Sustainable Utilisation of Groundwater Resources Under Climate Change: A Case Study of the Table Mountain Group Aquifer of South Africa, In Prof. (Dr.) Bharat Raj Singh (Ed.). Climate Change - Realities, Impacts over Ice Cap, Sea Level and Risks, ISBN 980-953-307-489-9 (Available online in February, 2013). Published by Intech Open Access. www.intechopen.com CSIR/WRI/CBK/AAD/2012/1

10. Adelana, S. Fantong, W. Nedaw, D. & Duah, A.A. (2011). Groundwater and Health: Meeting unmet needs in Sub-Saharan Africa. In J.A.A. Jones (ed.) Sustaining Groundwater Resources, International Year of Planet Earth. DOI 10.1007/978-90-481-3426-7_2. Springer Science Business Media B.V. 2011. CSIR/WRI/CBK/SA/2011/1

11. Braune, E., Goldin, J., Xu, Y., Duah, A.A., Kambinda, W., Peck, H. and Kanyerere, T. (2010). Sustainable Utilisation of Groundwater in Africa (Stakeholder Guide). Produced under the UNESCO Chair in Hydrogeology, University of the Western Cape, Cape Town, South Africa.

12. Braune, E., Moseki, C. and Duah, A.A. (2009). Groundwater and Society in Africa-Learning to cope with the effects of Climate Variability and Change. Issue Paper produced for the Africa Groundwater Commission under the UNESCO Chair in Hydrogeology, University of the Western Cape, Cape Town, South Africa.

13. Gyau-Boakye, P, Kankam-Yeboah, K, Darko, P.K, Dapaah-Siakwan, S & Duah, A.A. (2008). Groundwater as a vital resource for rural development: an example from Ghana in Adelana, S & MacDonald, A. (Editors) Applied Groundwater Studies in Africa (Chapter 10, pgs

149-170). IAH selected papers on hydrogeology No. 13, Tailor & Francis Group, UK. CSIR/WRI/CBK/PG/2008/1

14. Duah, A.A. (2006). Groundwater Contamination in Ghana in Xu & Usher (Editors): Groundwater Pollution in Africa (Chapter 5, pg 57-64). Published by Tailor & Francis / Balkema, The Netherlands. CSIR/WRI/CBK/AAD/2006/1