Frank Baffour-Ata

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PROFILE

Frank Baffour-Ata is a Lecturer at the Department of Environmental Science, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. Frank obtained his PhD in Enironmental Science from the Kwame Nkrumah University of Science and Technology, Ghana. Frank holds an M.Phil. Degree in Environmental Science from Kwame Nkrumah University of Science and Technology, Kumasi, Ghana and a BSc. Degree in Fisheries and Aquatic Sciences from the University of Cape Coast, Cape Coast, Ghana.

Frank is a multidisciplinary Research Scientist who has used several research techniques that combine a broad span of disciplines including climate change and variability, ecology and land use and cover changes. Precisely, his research focuses on how climate change and variability affect food production in dryland farming systems and the adaptation practices used by smallholder farmers to manage climate risks.

Frank has received two prestigious international awards including Excellence in Reviewing for Journal of Geography, Environment, and Earth Science International in 2021 and Best Poster Presentation Award at African Climate and Development Initiative 5th Annual Conference on Climate Change and Development in 2020. He was a Research Scientist on Global Challenges Research Fund (GCRF) African Science for Weather Information and Forecasting Techniques (SWIFT) project aimed at delivering a step change in African weather forecasting capability and communication, from hourly to seasonal timescales, to protect the lives and livelihoods of African people while improving the economies of their countries.

Frank has several publications on climate change and variability issues in international peer-reviewed journals.

RESEARCH

Interests	Climate change and variability · Food Security · Climate Services · Adaptation and mitigation · Climate change and varaibility · Climate cahange adaptation and mitigation · Vulnerability assessment · Smallholder farmers · Rural Ghana
Areas	Ecology, Evolution, Behavior and Systematics · General Agricultural and Biological Sciences · Soil Science · Plant Science · Global and Planetary Change · Sociology and Political Science

RESEARCH SUMMARY

45	725	14	19	6.41	51%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 45 publications listed below, 2020–2026. Field-weighted impact is the mean over the 43 works scored for it; 1.00 is the world average for works of the same field, type and year. 22 of the 43 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Lecturer 2022–present
Environmental Science, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Research Scientist & PhD Candidate 2017–2021
Environmental Science, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

EDUCATION AND QUALIFICATIONS

M.Phil Environmental Science
Environmental Science, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

PhD 2017–2022
Environmental Science, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

PUBLICATIONS

Journal articles 45

1. **Frank Baffour-Ata**, Sylvia Cecilia Mensah, Roland Pupielu Kuutiero, Godfred Nyame, Mercy Kwakyewa Amegashie, Joshua Sakyi, Clara Abena Obenewah Asare, Lord Adjei Essandoh, Pertia Amba Abban, Shirley Obeng Fosu, James Acheamfour Antwi Oti (2026). Agricultural Practices Used by Smallholder Farmers to Mitigate Greenhouse Gases and Enhance Carbon Sequestration in the Bosomtwe District, Ghana. *Geo Geography and Environment*. https://doi.org/10.1002/geo2.70074
2. Phodie Musa Kamara, Yaw Adubofour Tuffour, **Frank Baffour-Ata**, Daniel Atuah Obeng (2026). An assessment of climate risks and vulnerabilities of unpaved secondary roads and resilient enhancement strategies in Sierra Leone. *Climatic Change*. https://doi.org/10.1007/s10584-026-04149-w
3. **Frank Baffour-Ata**, Sylvia Cecilia Mensah, Roland Pupielu Kuutiero, Leonard Djomoah, David Otu-Tetteh, Richmond Armah, Mercy Amoah Twum, Kwadwo Wiredu, Blessing Kwarteng, Philip Asare Kwaos, Julius Sarkodie Adom, Nana Adwoa Kusi-Addai (2026). Beyond climate: determinants of adaptation to climatic and non-climatic stressors among tomato smallholders in Ghana. *World Development Sustainability*. https://doi.org/10.1016/j.wds.2026.100352
4. **Frank Baffour-Ata**, Sylvia Cecilia Mensah, Louisa Boakye, Enock Arthur, Selina Adowaa Owusu, David Kingsley Asiedu-Asare, Charles Owusu Boateng, Enock Kofi Debrah, Benedicta Oboadey, Alexander Kofi Yeboah, Clara Abena Obenewah Asare, Ebenezer Okyere Adu, Emmanuel Fosu Mensah (2026). Climate-Smart Agriculture (CSA) practices and food security among smallholder farmers in Ghana: a case study of Sekyere Kumawu District. *Regional Environmental Change*. https://doi.org/10.1007/s10113-026-02576-0
5. Fidelis Yawa-ib Yapel, Philip Antwi-Agyei, **Frank Baffour-Ata** (2026). Combined effects of climate change, land use, and land cover changes on cocoa production: A mixed-methods analysis in Atwima Mponua District, Ghana. *Sustainable Geosciences People Planet and Prosperity*. https://doi.org/10.1016/j.susgeo.2026.100019
6. **Frank Baffour-Ata**, Sylvia Cecilia Mensah, Louisa Boakye, Philip Elom Adzoyi, Rhoda Afriyie Osei, Vicklin Amoako, Justice Kweku Damptey, Cosmos Darko, Samuel Owusu, Gabriel Berko, Clara Abena Obenewah Asare, Ebenezer Adu Okyere, Emmanuel Fosu Mensah (2026). Evaluating the effectiveness of climate information services in enhancing smallholder farmers' decision-making and adaptation to climate change in the Mampong municipality, Ghana. *Climate Services*. https://doi.org/10.1016/j.cliser.2026.100719
7. Robert Ugochukwu Onyeneke, **Frank Baffour-Ata**, Jonathan Atta-Aidoo, Chinenye Judith Onyeneke, Fidelis Nwosu (2026). Exploring the impacts of climate change, institutional quality, and conflicts on food security in Africa. *Frontiers in Sustainable Food Systems*. https://doi.org/10.3389/fsufs.2026.1740395
8. Louisa Boakye, **Frank Baffour-Ata**, Patrick Davies (2026). Gendered Pathways to Climate Adaptation Among Smallholder Farmers in Rural Ghana: Perspectives From Ejura Sekyedumase Municipality. *Geo Geography and Environment*. https://doi.org/10.1002/geo2.70079
9. Louisa Boakye, Philip Antwi-Agyei, **Frank Baffour-Ata** (2026). Mapping documented traditional and indigenous agro-ecological knowledge in Ghana: a systematic review. *Agroforestry Systems*. https://doi.org/10.1007/s10457-026-01662-w
10. **Frank Baffour-Ata**, Lawrence Guodaar, Winifred Ayinpogbilla Atiah, Patrick Davies, Peter Kwasi Forson, Ruth Akorli (2026). Perceptions of Climate Change, Meteorological Trends and Implications for Smallholder Cashew Farming in Ghana: Evidence From the Jaman North District. *Geo Geography and*

Environment. https://doi.org/10.1002/geo2.70061

11. Kweku Baffour Ansah, **Frank Baffour-Ata**, Louisa Boakye (2026). Socio-economic determinants of livestock keepers' coping and adaptation practices to climate variability in the Atwima Mponua district, Ghana. *Agroecology and Sustainable Food Systems*. https://doi.org/10.1080/21683565.2026.2686750
12. **Frank Baffour-Ata**, Jonathan Atta-Aidoo, Louisa Boakye, Wisdom Adzigbli, Meloney Asenso Acheampong, Russell Tettey Angmor, Bonsu Williams Sarkodie, Salomey Ayinebuno Adongo, Maud Emefa Egbedzi, Hawawu Alhassan, Patrick Davies (2026). Vulnerability of smallholder vegetable farmers to climate variability in Bosome Freho, Ghana. *Agroecology and Sustainable Food Systems*. https://doi.org/10.1080/21683565.2026.2635087
13. **F Baffour-Ata**, L Guodaar (2025). Adoption of climate-smart agriculture among smallholder cashew farmers in Jaman North, Ghana: Interventions, determinants, and barriers. *World Development Sustainability*. https://www.sciencedirect.com/science/article/pii/S2772655X25000540
14. **Frank Baffour-Ata**, Sylvia Cecilia Mensah, Priscilla Ayensu, Tracy Afia Boateng, Philip Elom Adzoyi, Frederick Gyan, Patrick Davies (2025). Analysis of the perceived economic impacts of climate change on vegetable growers in Ghana: A case study of the Kumasi Metropolis. *Nature-Based Solutions*. https://doi.org/10.1016/j.nbsj.2025.100290
15. **Frank Baffour-Ata**, Sylvia Cecilia Mensah, Roland Pupielu Kuutiero, Derrick Asumedu Opoku, Charles Sergio Agboto-Seguin, Ernestina Abena Sonful, Claudia Akosua Pokuaa Darkoh, Nana Darkoah Oteng, Evans Darkwah (2025). Assessing climate-smart agricultural practices and socioeconomic determinants in Atwima Kwanwoma District, Ghana. *Scientific African*. https://doi.org/10.1016/j.sciaf.2025.e02916
16. Phodie Musa Kamara, Yaw Adubofour Tuffour, **Frank Baffour-Ata**, Daniel Atuah Obeng (2025). Assessing local community perspectives on climate change and variability: Implications for unpaved secondary roads in Sierra Leone. *Sustainable Futures*. https://doi.org/10.1016/j.sftr.2025.100785
17. Felix KPENEKUU, Philip ANTWI-AGYEI, Fred NIMOH, Andrew DOUGILL, Albert BANUNLE, Jonathan ATTA-AIDOO, **Frank BAFFOUR-ATA**, Thomas Peprah AGYEKUM, Godfred ADDAI, Lawrence GUODAAR (2025). Cost and benefit analysis of Climate-Smart Agriculture interventions in the dryland farming systems of northern Ghana. *Regional Sustainability*. https://doi.org/10.1016/j.regsus.2025.100196
18. **Frank Baffour-Ata**, Philip Antwi-Agyei, Kojo Selasi Ashiadey, Stephen Oppong Kwakye, Louisa Boakye (2025). Effect of Rainfall Variability on Rice Production in the Ketu North Municipality, Ghana. *Climate Resilience and Sustainability*. https://doi.org/10.1002/cli2.70019
19. Phodie Musa Kamara, Yaw Adubofour Tuffour, **Frank Baffour-Ata**, Daniel Atuah Obeng (2025). Framework for assessing the climate vulnerability of unpaved roads in Sierra Leone. *Frontiers in Climate*. https://doi.org/10.3389/fclim.2025.1608176
20. **Frank Baffour-Ata**, Sylvia Cecilia Mensah, Roland Pupielu Kuutiero, Ebenezer Okyere Adu, Patricia Amo-Mesi, Kingsford Aturu-Essel, Jesse Laryea Quarshie, Martin Fayorsey, Eunice Asaah, Gifty Essuah (2025). Perceived costs and benefits of different climate change adaptation practices used by smallholder farmers for agricultural production in the Ahafo Ano South District, Ghana. *Regional Environmental Change*. https://doi.org/10.1007/s10113-024-02351-z
21. **Frank Baffour-Ata**, Sylvia Cecilia Mensah, Roland Pupielu Kuutiero, Ivy Nkansah Okoto, Queenstar Pokuaa Boateng, Isaac Kwadwo Boateng, Papa Boateng Adane, Emerald Kwabena Asare, Precious Midodzi Zotoo, Hannah Appiabea, Caleb Botchway, Peter Kwasi Forson (2025). Socioeconomic determinants of drought adaptation strategies in the Sekyere Afram Plains District, Ghana. *Sustainable Futures*. https://doi.org/10.1016/j.sftr.2025.101192
22. Ruth Akorli, Philip Antwi-Agyei, Patrick Davies, James Damsere-Derry, **Frank Baffour-Ata**, Emmanuel Nakua, Peter Donkor, Charles Mock (2025). The impact of climate change on road traffic crashes in Ghana. *International Journal of Biometeorology*. https://doi.org/10.1007/s00484-025-02964-x
23. Philip Antwi-Agyei, **Frank Baffour-Ata**, Joseph Alhassan, Felix Kpenekuu, Andrew J. Dougill (2025). Understanding the barriers and knowledge gaps to climate-smart agriculture and climate information services: A multi-stakeholder analysis of smallholder farmers' uptake in Ghana. *World Development Sustainability*. https://doi.org/10.1016/j.wds.2025.100206

24. Samuel Asante Gyamerah, Clement Asare, Henry Ofoe Agbi-Kaeser, **Frank Baffour-Ata** (2024). Assessing the impact of climate variability on maize yields in the different regions of Ghana—A machine learning perspective. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0305762

25. **Frank Baffour-Ata**, Louisa Boakye, Lordina Ekua Acquah, Samuel Boamah Brown, John Dagadu Kafui, Austin Appiah Marfo, Prince Acheampong, Salome Wheagar (2024). Barriers confronting smallholder cassava farmers in the adoption and utilization of climate-smart agriculture in the Afigya Kwabre South District, Ghana. *Climate Resilience and Sustainability*. https://doi.org/10.1002/cli2.77

26. **Frank Baffour-Ata**, Louisa Boakye, Moses Tilatob Gado, Ellen Boakye-Yiadom, Sylvia Cecilia Mensah, Senyo Michael Kwaku Kumfo, Kofi Prempeh Osei Owusu, Emmanuel Carr, Emmanuel Dzikunu, Patrick Davies (2024). Climatic and non-climatic factors driving the livelihood vulnerability of smallholder farmers in Ahafo Ano North District, Ghana. *Regional Sustainability*. https://doi.org/10.1016/j.regsus.2024.100157

27. Amma Birago Kantanka Gyimah, Philip Antwi-Agyei, Gifty Adom-Asamoah, **Frank Baffour-Ata** (2024). Drivers of adaptive capacity of rural women farmers: The role of climate action and information mediums in rural Ghana. *Climate Resilience and Sustainability*. https://doi.org/10.1002/cli2.67

28. **Frank Baffour-Ata**, Louisa Boakye, Kenneth Asare Okyere, Benedicta Boatemaa Boafo, Sylvia Amaniampong Ofosuhene, Audrey Owusu Tawiah, Isaac Odei, Selima Woriya Watara (2024). Smallholder farmers' perceived motivations for the adoption and implementation of climate information services in the Atwima Nwabiagya District, Ghana. *Climate Services*. https://doi.org/10.1016/j.cliser.2024.100482

29. **Frank Baffour-Ata**, Philip Antwi-Agyei, Louisa Boakye, Lester Simon Nii Aryee Tettey, Muriel Nana Efua Fosuaa Forson, Albright Ewenam Abiwu, Emmanuel Gyenin, Rebecca Naa Merley Larbi (2023). Assessing the adaptive capacity of smallholder cocoa farmers to climate variability in the Adansi South District of the Ashanti Region, Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2023.e13994

30. **Frank Baffour-Ata**, Jonathan Atta-Aidoo, Richmond Ofori Said, Victoria Nkrumah, Sylvester Atuyigi, Sheriff Mohammed Analima (2023). Building the resilience of smallholder farmers to climate variability: Using climate-smart agriculture in Bono East Region, Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2023.e21815

31. **Frank Baffour-Ata**, Margaret Awugyi, Norberta Sitsofe Ofori, Efua Nyansema Hayfron, Christian Elorm Amekudzi, Anita Ghansah, Ruth Akorli (2023). Determinants of yam farmers' adaptation practices to climate variability in the Ejura Sekyedumase municipality, Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2023.e14090

32. Philip Antwi-Agyei, **Frank Baffour-Ata**, Sarah Koomson, Nana Kwame Kyeretwie, Nana Barimah Nti, Afia Oforiwaa Owusu, Fukaiha Abdul Razak (2023). Drivers and coping mechanisms for floods: experiences of residents in urban Kumasi, Ghana. *Natural Hazards*. https://doi.org/10.1007/s11069-022-05775-0

33. **Frank Baffour-Ata**, Joseph Sarfo Tabi, Alfredina Sangber-Dery, Ephraim Eyram Etu-Mantey, Dawood Kwabena Asamoah (2023). Effect of rainfall and temperature variability on maize yield in the Asante Akim North District, Ghana. *Current Research in Environmental Sustainability*. https://doi.org/10.1016/j.crsust.2023.100222

34. Marian Amoakowaah Osei, Jeffrey N. A. Aryee, Jacob Agyekum, Jesse Ashong, Samuel Owusu Ansah, Maureen Abla Ahiataku, **Frank Baffour-Ata**, Leonard K. Amekudzi, Winifred Ayinpogbilla Atiah, Michael Padi, Johnson Ameho, Bashiru Yahaya, Joseph Portuphy, Benjamin Lamptey (2023). Environment of severe storm formations over West Africa on the 26-28 June 2018. *Meteorological Applications*. https://doi.org/10.1002/met.2109

35. Enoch Yeleliere, Philip Antwi-Agyei, **Frank Baffour-Ata** (2023). Impacts of climate change on the yields of leguminous crops in the Guinea Savanna agroecological zone of Ghana. *Regional Sustainability*. https://doi.org/10.1016/j.regsus.2023.04.002

36. **Frank Baffour-Ata**, Philip Antwi-Agyei, Elias Nkiaka, Andrew J. Dougill, Alexander K. Anning, Stephen Oppong Kwakye (2022). Climate Information Services Available to Farming Households in Northern Region, Ghana. *Weather Climate and Society*. https://doi.org/10.1175/wcas-d-21-0075.1

37. Alexander K. Anning, Augustine Ofori-Yeboah, **Frank Baffour-Ata**, George Owusu (2022). Climate change manifestations and adaptations in cocoa farms: Perspectives of smallholder farmers in the Adansi South

District, Ghana. *Current Research in Environmental Sustainability*. https://doi.org/10.1016/j.crsust.2022.100196

38. **Frank Baffour-Ata**, Philip Antwi-Agyei, Elias Nkiaka (2021). Climate Variability, Land Cover Changes and Livelihoods of Communities on the Fringes of Bobiri Forest Reserve, Ghana. *Forests*. https://doi.org/10.3390/f12030278

39. Philip Antwi-Agyei, Esther Ako Wiafe, Kofi Amanor, **Frank Baffour-Ata**, Samuel Nii Ardey Codjoe (2021). Determinants of choice of climate change adaptation practices by smallholder pineapple farmers in the semi-deciduous forest zone of Ghana. *Environmental and Sustainability Indicators*. https://doi.org/10.1016/j.indic.2021.100140

40. **Frank Baffour-Ata**, Philip Antwi-Agyei, Elias Nkiaka, Andrew J. Dougill, Alexander K. Anning, Stephen Oppong Kwakye (2021). Effect of climate variability on yields of selected staple food crops in northern Ghana. *Journal of Agriculture and Food Research*. https://doi.org/10.1016/j.jafr.2021.100205

41. **F Baffour-Ata** (2021). Gender barriers to climate change adaptation practices in semi-deciduous forest zone of Ghana. *Journal of Environmental Sustainability*. https://repository.rit.edu/jes/vol8/iss1/6/

42. Alawi Mohammed Jamal, Philip Antwi-Agyei, **Frank Baffour-Ata**, Elias Nkiaka, Kwabena Antwi, Antoinette Gbordzor (2021). Gendered perceptions and adaptation practices of smallholder cocoa farmers to climate variability in the Central Region of Ghana. *Environmental Challenges*. https://doi.org/10.1016/j.envc.2021.100293

43. Philip Antwi-Agyei, Emmanuel Mawuli Abalo, Andrew John Dougill, **Frank Baffour-Ata** (2021). Motivations, enablers and barriers to the adoption of climate-smart agricultural practices by smallholder farmers: Evidence from the transitional and savannah agroecological zones of Ghana. *Regional Sustainability*. https://doi.org/10.1016/j.regsus.2022.01.005

44. **Frank Baffour-Ata**, Philip Antwi-Agyei, Gideon Owiredu Apawu, Elias Nkiaka, Evans Amoako Amoah, Ruth Akorli, Kwabena Antwi (2021). Using traditional agroecological knowledge to adapt to climate change and variability in the Upper East Region of Ghana. *Environmental Challenges*. https://doi.org/10.1016/j.envc.2021.100205

45. Elias Nkiaka, Andrea Taylor, Andrew J. Dougill, Philip Antwi-Agyei, Elijah Adesanya Adefisan, Maureen A. Ahiataku, **Frank Baffour-Ata**, Nicolas Fournier, Victor S. Indasi, Oumar Konte, Kamoru Abiodun Lawal, Awa Toure (2020). Exploring the Need for Developing Impact-Based Forecasting in West Africa. *Frontiers in Climate*. https://doi.org/10.3389/fclim.2020.565500