

CSC Evaluation and Monitoring Programme

Reversing Deforestation and Improving the Livelihoods of Farming Communities in Ghana

Emma Baah Agyapong



Ghana is a country in western Africa where forests cover more than a third of its land. These forests provide essential goods and services to people, animals, and support the entire ecosystem of the region. However, the rate of forest land loss over recent decades is alarming, with woodlands decreasing from nearly 44% of coverage in 1990 to the lowest 34.6% in 2015.

The government of Ghana has initiated numerous forest management programs and projects but has had little improvement, with the forest coverage increasing only to around 35% of the total land in 2021. Restoring the forest is proving to be challenging due to unsustainable farming practices, lack of awareness about the dangers of deforestation, failure of institutions to regulate illegal logging, and unavailability of alternative livelihoods. The challenge is compounded in areas outside forest reserves, where communities play a crucial role in owning and managing forest resources but often lack the necessary knowledge and awareness to address deforestation.

Emma Baah Agyapong is a Commonwealth Alumnus from Ghana, and is leading efforts battling against deforestation in the Bono East, Savannah, and Upper West Regions. Emma seeks to tackle the root causes of deforestation by empowering farming communities to take ownership of restoring forests and adopting agroforestry to improve their livelihoods. In 2017, Emma completed her Master's in Tropical Forestry from Bangor University. She co-founded the Environment & Agroforestry Foundation (EAF), a non-profit organisation that works directly with local communities to promote environmental conservation and

natural resource management. Since then, Emma has been instrumental in leading and supervising fundraising, project implementation, and education and training activities. Under her leadership, the EAF has successfully secured funding from multiple international funders, including the Rufford Foundation, the International Tree Foundation, and TerraFund for AFR100, to reverse the trend of deforestation and reform farming practices with agroforestry.



Training of community members on tree nursery management for restoration activities in Bono region of Ghana.



Emma Baah Agyapong was awarded a Commonwealth Distance Learning Master's Scholarship in 2015 and graduated from Bangor University with a Master's in Tropical Forestry in 2017. Emma co-founded the Environment and Agroforestry Foundation (EAF), an NGO operating in several regions of Ghana. She is the CEO/Director of EAF, leading fundraising and project implementation activities and facilitating education, training and restoration initiatives. Over the years and through multiple funded projects, Emma and her team made a sustainable impact by restoring degraded forests and by reforming traditional farming practices in the Bono East, Savannah, and Upper West Regions.

Commonwealth Scholarship: Upskilling Forest Management

Before applying for a Commonwealth Scholarship, Emma worked at the Forestry Commission of Ghana after completing her BSc in Forest Resources Technology from Kwame Nkrumah University of Science and Technology in 2011. While working there, Emma also supported natural resource management and environmental conservation at several NGOs including the Sustainable Agroforestry Initiative and Green WaterHut; she gained valuable field experience but also felt a need to upskill her expertise to assist forest management in Ghana more effectively. With a background and work experience in this field, Emma was awarded a Commonwealth Distance Learning Master's Scholarship in 2015 to remotely pursue a Master's degree in Tropical Forestry from Bangor University. Throughout the Scholarship, Emma was able to build her technical and practical knowledge on conducting research and working with communities to manage forest resources. She recalled that her field research experience acquired from going to Kumasia, Bobiri Forest Reserve in Ghana with her UK supervisors laid a solid foundation for her to carry out research. From this experience she also learned to work with communities in a participatory approach, including identifying a problem, defining objectives and targets, carrying out field surveys, laying field demonstration plots, and working with teams and communities.

'With that experience that I had with my supervisors, how to identify a problem, with that knowledge, I went down to the local community level. We identified problems together like I was taught when the supervisors came to Ghana. We identified problems together, and we all sat down and found how to solve those problems within the little means or resources that we had ... I would say that, in fact, with the experience that we had with our supervisors, I was able to work, even as a team leader, working with different people, different local communities ... trying to find a solution, like we were taught. It was the basis for my success now.'

With her upskilled expertise, Emma gained the confidence and competence to fulfil her long-held desire to start something independently. In 2017, Emma set up a non-profit organisation - The Environment & Agroforestry Foundation (EAF), which works directly with local communities in environmental conservation and natural resource management to generate long-term social and economic benefits.

Emma felt the most significant change to her due to the Commonwealth Scholarship has been the knowledge and skills she acquired to identify and solve problems.

'Without the Scholarship it wouldn't be possible to do my Master's at Bangor University. My confidence level increased after the program, which also increased my ability to identify problems and find ways of solving such problems.'

'My Master's degree and the experience motivated me to set up an NGO to work directly with local communities and other stakeholders to support environmental conservation, biodiversity conservation, and improve the livelihood of local communities and food security in the respective regions. I try to bridge the gap between policy makers and other stakeholders with common goal of conservation by creating common platform where key stakeholders share ideas, opinions, challenges and find possible solutions through a collaborative effort.'

A Participatory Approach: Empowering Communities to Take Ownership of Conservation Efforts

At the EAF, Emma has been implementing a participatory approach to working with communities, restoring degraded forests, regulating ecosystem behaviour, and reforming farmers' livelihoods. This participatory approach involves stakeholders from the beginning to the end of the project, thus helping reduce resistance or resentment in communities due to lack of ownership of conservation efforts. It empowers them to continue preserving and managing forests collaboratively beyond the project's lifecycle.



Community members demonstrating mapping of their resources.

'I bring them together on board. We all decide to identify the problems and find solutions. It's like that kind of teamwork. I developed it during my time at Bangor by working with different people. That has been my success, in a way. If you go to the communities without teamwork, you cannot achieve anything because it's the people that you are going to work with. You have to learn how to understand people and work together with them to achieve a common goal.'

However, it was not easy to bring together people with different perspectives and mindsets when Emma, a woman from southern Ghana, attempted to work with locals on conservation projects. Emma encountered communication and cultural barriers in working with communities from northern Ghana, where people speak a different language, prohibit women from leading development projects, and exclude them from decision-making processes. Despite these challenges, Emma was committed to breaking the boundaries between cultures. With her international exposure and multicultural experience during her Commonwealth Scholarship, Emma found it was not impossible to break the barriers if she approached the community with persistence and patience. Eventually, Emma managed to break through these cultural barriers; she was able to make decisions with the men in the community and empowered women to participate in community affairs.

'I learned how to work together with different people, with different backgrounds, in terms of culture and language. Because at Bangor, it was only English that we spoke. Whatever language you know, you have to forget everything. Find yourself in a way where everybody will now understand you. So, that helped me.'

Forest Reserve Management in Action: Restoration and Reformation

Whilst on the Commonwealth Scholarship award, Emma won her first funding grant in 2017 from the Rufford Foundation, a UK-registered charity that funds nature conservation projects across the developing world. Because of the fruitful work on the 'Conservation of community forest fragments in the transitional zone of Ghana' project, Emma secured two more successive rounds of grants from the Rufford Foundation in 2019 and 2020 after she finished her Master's degree. She attributed her successful bidding to the continuous support from her UK supervisors at Bangor University.

'I will give credit to my lecturers at Bangor, who gave me recommendations to secure the funds. You see, because of the Scholarship, I was able to get to Bangor, do my Master's, and through the Master's, I was connected to lecturers and supervisors. They played a key role. Because for example, Rufford Foundation, I had to get recommendations from my supervisors to add to the proposal'.

Emma implemented a series of changes over three rounds of funding from the Rufford Foundation between 2017 and 2021 to restore community forests and enhance local livelihoods in Ghana's transitional zone. The first phase involved raising awareness about the connection between conserving community forests and improving livelihoods through mass education and training. This evolved into updating local by-laws to regulate illegal activities and establishing self-governed structures for sustainable forestry management beyond the project timeline. The final phase focused on introducing alternative livelihoods to ensure communities receive long-term benefits from managing forest resources themselves. As a result of these Rufford-funded projects, the communities experienced significant transformation, including increased environmental awareness and knowledge, the promotion of self-regulated governance, and improved livelihoods.



Capacity building of community members on resource mapping, improved farming, nursery establishment and tree planting and management in the Upper West Region.

'Due to our activities, now they don't experience the frequent wildfire they used to have. And we have also supported the community to design something like a by-law ... There are farmers, too, who are now benefitting from the agroforestry farms ... We go there to monitor the activities of the communities. And they are doing well when it comes to managing the area. I think it's one of my major achievements.'

Restoring Forests through Education, Regulation, and Institutions

Sensitising and educating the community about the importance of conserving forests and wildlife species with an agreed shared goal is the first step towards sustainable forest management. To do so, in the first round of the Rufford-funded project of the 'Conservation of community forest fragments in the transitional zone of Ghana' project from 2017 to 2018, Emma and her team created a common platform bringing together three communities (Menji, Kulmasa, and Maluwe) along the Black Volta Basin to share their ideas on managing the riparian ecosystem and crocodile species in their communities.

Emma was also trying to approach and bring together the key stakeholders and authorities, such as the Forestry Commission, into the platform, knowing that they also play a crucial role in sustainable forest management. This participatory approach encouraged the community to take ownership, explore, and seek the best way to manage forest resources collaboratively.

‘Because once our funding ends, we cannot go there consistently, but they [existing institutions] are there. So, usually, we all bring them together with the projects, bringing them on board during implementation.’

Additionally, the project team conducted mass education and capacity building to increase awareness of the importance of riparian ecosystems and crocodile species in supporting communities’ lives and environments.



Community education on biodiversity conservation in the Upper West Region of Ghana.

By the end of the first Rufford project, the project team reached 1,000 community members, with Environmental Management Clubs (EMCs) established in five schools to facilitate the spread of conservation messages, and Community Fire Management Advisory Groups (CFMAGs) formed to manage wildfires. 100 local members of the public were trained on mapping and assessing their resources effectively, and 1,000 tree seedlings were raised, operating as a buffer zone along one of the riparian forest fragments. The incidence of tree felling, the killing of crocodiles, overfishing, and bushfires also decreased throughout the project.



Community members planting trees in degraded forest areas along the Black Volta Basin in the Upper West region of Ghana.

Because of the success of the first project, Emma won the second round of funding in 2019 from the Rufford Foundation to work on the ‘Conservation of community forest fragments and riparian ecosystems in the transitional zone of Ghana’ project. This enabled her to enhance and extend the impact generated from the first round of funding. Over 2,000 inhabitants from three project-participating and other nearby communities within the Black Volta Basin were reached with information on the protection and management of forest and wildlife species; 25 Environmental Management Clubs (EMCs) and Community Fire Management Advisory Groups (CFMAGs) received training; 5,000 indigenous seedlings were planted to restore the degraded sites in Menji and Kulmasa, and 2,350 in Kuur and Kpaala.

More importantly, the project team supported the Menji community in reviewing and updating the local by-laws to regulate illegal activities that endanger riparian ecosystems and crocodile species.

‘Previously, without that law, they just did anything. And with that initiative, we are now able to conserve the area, for example, some of the crocodiles are endangered, and we educate them that in the whole world, there are few places that you can find these crocodiles, so you have to preserve them. With that awareness, they are now protecting the place.’

Built upon the previous two rounds of successes in implementing Rufford projects, Emma earned a booster grant in 2020. This allowed her to implement ‘Community Forest and Riparian Ecosystem (CFRE) Conservation and Livelihood Improvement in the upstream portion of the Black Volta River Basin (BVRB) of Ghana’ project. One focus of this booster project was to support four participating communities (Kulmasa, Kuuri, Siiru, and Puni) from the Savannah and Upper West Regions of Ghana to establish formal governance structures and institutions.

These established institutions were expected to materialise the process of managing forests and moving towards sustainable management. With the efforts of the project team, the participating communities established Community Resource Management Committees (CRMC), CREMA (Community Resource Management Area) Executives Committees (CEC) and Forest Monitoring and Patrol Teams (FMPT) as legalised bodies to oversee the management operations in Community Forests and Riparian Ecosystem (CFRE).

Reforming Communities' Livelihood through Agroforestry and Beekeeping

Including communities in forest management from the beginning to the end is significant. However, failing to ensure the communities feel they can improve their livelihoods by participating in forest restoration efforts could lead to all the hard work being in vain. Local communities must also benefit from conservation efforts to move forest management towards sustainability. Introducing agroforestry practices as improved alternative livelihoods was another essential focus of Emma and her team's work on Rufford's booster project.

'We introduced them to adding fruit trees with annual food crops like cashews they can harvest for a long time. Another alternative is beekeeping. We encouraged them to put them under the closed forest reserves. And they've been harvesting and generating income ... we decided to establish woodlots with the cassia, which have a coppice ability ... We introduced that species so that they can use it for their charcoal because that is one of the main systems. And they also produce shea butter. Shea butter, too, requires firewood; they need firewood for their processing.'



Farmers weeding their farms on agroforestry plots after planting trees and food crops.

Community buy-in is essential when introducing a new form of farming to a community that relies on traditional farming practices. Emma resorted to the participatory approach. She drew upon her social forestry course at Bangor University to include the communities in every project phase as much as possible, from decision-making to project implementation and having financial benefit.

'I learned social forestry as one of the courses. How to interact with the local people, how to manage, or in a way of collaborative efforts. You can't do everything on your own. You have to include a community, like participatory management. A participatory approach to managing the forest. I knew that managing natural resources is not done only by decision-makers. The forest-fringe communities, too, are a part of it.'

Throughout the Rufford booster project, 60 locals from all involved communities were selected and trained on beekeeping best practices, agroforestry practices, and woodlot establishment and management. 25,000 trees were also planted alongside these activities.



Field visit of farmers benefiting from beekeeping in Upper West Region of Ghana.

Forest Restoration and Livelihood Reformation on the Move

Moving from the Rufford projects, Emma has led the EAF team to continue collaborating with local communities in designing and implementing reforestation projects. From 2020 to 2022, the EAF team collaborated with local communities and designed a reforestation project benefitting four communities in the Savannah Region of Ghana: Kuuri, Kulmasa, Maluwe, and Telekura. From February 2023 to 2024, EAF seeks to reinforce the conservation of community-protected forests in the Black Volta Basin by promoting biodiversity.

Recently, Emma led her team and secured the funding for a six-year project - 'Restoring Farmland and Riparian Forest Restoration & Livelihood Improvement in Bono Region of Ghana' (2023-2029). This recently launched project was funded by TerraFund for AFR100, a funding consortium which includes World Resources Institute, One Tree Planted, and Realize Impact. It seeks to restore degraded forests and farmlands outside government-protected areas in the Bono East Region and support farmers to adopt agroforestry as a new form of farming to respond to climate change. By the end of 2024, the project aims to restore over 300 hectares of degraded forest and 250 hectares of farmland.

At the time of writing, nearly 100 hectares of an agroforestry plot have been planted with trees mixed with food crops. By the end of the project in 2029, it is expected that the participating communities will be able to continue restoring farmland and improving their livelihood with the capacity built throughout the project.



Emma attending the award-winning ceremony for TerraFund for AFR100.

Emma felt the most significant change to the local communities or beyond due to her Scholarship has been the restored community forests and improved livelihoods.

‘Through my initiatives, the lives of local communities have been improved through the introduction of alternative livelihoods such as agroforestry, beekeeping woodlot establishment, etc. Several hectares of degraded lands are benefitting from restoration which is benefitting the community, region, and the nation as a whole.’

Moving forward, Emma hopes to raise more funding to support her work on expanding the coverage of the project areas and planning alternative livelihoods, such as planting cashews to benefit the communities. Such projects could also offer job opportunities, increase youth employment, and stop illegal activities. Emma is also considering furthering her education through a PhD in the future.

More about Emma Baah Agyapong

[Environment and Agroforestry Foundation \(eafafrica.org\)](http://eafafrica.org)

[Emma Baah Agyapong - Conservation of Community Forest Fragments in the Transitional Zone of Ghana - The Rufford Foundation](#)

[Emma Baah Agyapong - Conservation of Community Forest Fragments and Riparian Ecosystems in the Transitional Zone of Ghana - The Rufford Foundation](#)

[Emma Baah Agyapong - Community Forest and Riparian Ecosystem \(CFRE\) Conservation and Livelihood Improvement in the Upstream Portion of the Black Volta River Basin \(BVRB\) of Ghana - The Rufford Foundation](#)

Other projects at the Environmental and Agroforestry Foundation (EAF)

[PROJECTS AND PROGRAMMES – Environment and Agroforestry Foundation \(eafafrica.org\)](#)

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