



NATURE BASED SOLUTIONS

Stories of Resilience, Community, and the Living Earth

This collection brings together personal narratives, community voices, conservation journalism, and creative work from West Africa; each piece illuminating the profound connection between people and the natural world. Together, they make the case that sustainable futures are built not just through policy, but through lived experience, indigenous wisdom, and collective action.

Editorial Introduction

In an age when environmental crises increasingly define the shape of our collective future, conversations about sustainability are no longer confined to policy rooms or international climate summits. They unfold in villages and cities, in classrooms and forests, in stories shared across generations, and in the quiet decisions individuals make every day about how to live on the earth. This magazine emerges from that broader landscape of dialogue, a space where research, lived experience, community action, and creative expression converge around one central idea: that nature itself holds many of the solutions to the environmental challenges we face.

Across its pages runs a unifying thread; the principle of nature-based solutions. Whether through urban trees cooling overheated cities, forests protecting water sources and biodiversity, traditional herbal knowledge sustained by ecological stewardship, or grassroots conservation efforts safeguarding fragile ecosystems, the contributions in this collection demonstrate that working with nature, rather than against it, remains one of humanity's most powerful tools for resilience.

Nature-based solutions are often discussed in technical terms: ecosystem restoration, green infrastructure, watershed protection, sustainable land management. Yet behind these concepts are people, communities whose lives are deeply intertwined with the landscapes around them. The articles gathered here attempt to illuminate those human dimensions.

They explore how environmental protection intersects with livelihoods, culture, health, governance, and education, revealing sustainability not as an abstract ideal but as a lived reality.

The collection begins with simple farming practices that inspire change and analytical pieces examining the environmental pressures facing Ghana and the wider West African region. These stories highlight innovative responses: urban greening initiatives designed to cool cities, grassroots adaptation efforts in climate-vulnerable regions, and policy advocacy aimed at strengthening water and sanitation systems. Together, they underscore a vital fact; environmental resilience is not built by technology alone, but through collaboration between governments, communities, and civil society.

If there is a message running quietly beneath these pages, it is this: nature is not merely a victim of environmental change; it is also a partner in the solutions. Forests regulate water cycles, wetlands absorb floods, trees cool cities, and traditional knowledge systems guide sustainable practices refined over centuries. By restoring and protecting these natural systems, we strengthen our capacity to confront climate change, safeguard biodiversity, and build more equitable communities.

This magazine invites readers to see environmental stewardship not as a distant responsibility but as a collective opportunity. The stories presented here show that meaningful change often begins locally, with communities protecting forests, young people planting trees, practitioners advocating for equitable policies, and educators nurturing the next generation of environmental guardians.

The challenges ahead are significant. Yet the examples gathered in these pages suggest something equally powerful: that solutions already exist in the landscapes, traditions, and communities around us. Our task is to recognize them, support them, and allow them to flourish.

Roots of Resilience: A Daughter's Reflection

By Jennifer Opoku Mensah

Growing up in Kumasi, Ghana, in a family of five, I watched my mother raise my siblings and I with unflinching dedication, warmth, and a quiet kind of strength that seemed to come from the earth itself. After her divorce, we became her closest companions, filling the house with noise and life. But as we grew older and our careers scattered us across cities and countries, the house we once made lively slowly fell silent. Faced with that silence, my mother did not grieve it for long. She turned, instead, to something far older than loneliness; the land.

Her name is Agatha Gyawu, born on September 21, 1960, to Mr. and Mrs. Baffour Gyawu and Madam Cecilia Aboagye, all of whom were dedicated farmers. Growing up in a farming household instilled in her a reverence for hard work and a deep respect for nature, values that would lie dormant through decades of professional life, only to bloom again in retirement.

After 36 years of service with the Ghana Education Service, retiring as Assistant Director, my mother stepped out of the office and walked straight into the garden. What began as a modest backyard project with a few seedlings and a patch of soil snowballed into something remarkable: a thriving organic farm. With a mechanized borehole providing reliable irrigation, she now cultivates plantain, cassava, cocoyam, maize, vegetables, watermelon, and turkey berry.

Not a single agrochemical touches her soil. Instead, she relies on a system of organic practices rooted in tradition. She enriches her soil through composting, turning kitchen scraps, plant residues, and farm waste into nutrient-rich organic matter. She practices crop rotation, alternating crops like maize and legumes to naturally restore soil fertility and prevent pest build-up. Through companion planting, she grows compatible crops together such as maize and vegetables allowing them to support each other's growth while naturally deterring pests. These methods, though simple, create a balanced ecosystem where the soil remains alive, the crops resilient, and the harvests sustainable.

The farm layout was made strategically. Nearest the house are beds of vegetables; pepper, tomatoes, and turkey berries easily accessible for daily harvesting. Beyond them stretch rows of maize, intercropped with cassava and cocoyam, their leaves forming a layered canopy over the soil.

Plantain trees line the edges, offering shade and acting as windbreaks, while the steady hum of the borehole sustains the entire system. Narrow footpaths weave through the plots, evidence of daily care, guiding her movements as she tends to each section with practiced familiarity.

Her farm has become a quiet engine of generosity. She processes cassava into konkonte and maize into corn dough, sharing freely with her stepmother, neighbors, and friends. The land nourishes not just bodies but relationships. In 2019, the community recognized what those around her had long known: she was crowned the Best Domestic Farmer in her town, an honour that only deepened her commitment. But beyond sustenance, these crops carry deep cultural meaning. In many Akan homes, foods like konkonte which made from dried cassava are more than meals; they are symbols of resilience, memory, and continuity. Once considered a struggle meal during periods of scarcity, konkonte has endured as a reminder of how communities adapt and survive. Today, it remains a beloved staple, often paired with groundnut soup, connecting generations through shared taste and history.

Corn dough, too, holds a central place in Akan food culture. It is the base for dishes such as banku and kenkey, meals that anchor everyday life and communal gatherings. The process of preparing corn dough; fermenting, grinding, cooking is itself an act of tradition, often passed from one generation to the next. In this way, my mother's farm does not simply produce food; it sustains cultural identity and preserves knowledge systems that are deeply rooted in Ghanaian life.

Through these crops, her work becomes part of a larger story, one where agriculture, culture, and community are inseparably intertwined. Every time we call, she is in the garden. Planting. Weeding. Harvesting. The quiet compound that once felt empty has been transformed into a sanctuary, a place of green abundance, steady purpose, and the kind of peace that only comes from being rooted in something living.

It is from her journey that I, too, have begun to dream of a backyard garden of my own. Through her story, I have learned that farming nourishes not only the body but the spirit and that it offers purpose, health, and a deep, wordless connection with nature that no career, no achievement, no award can replicate.

My mother, Agatha Gyawu, is not just a farmer. She is a living demonstration that nature-based solutions begin at home, in the soil beneath our feet, tended by ordinary people doing extraordinary things.

Agatha's Farming Tips: Simple Lessons from the Soil

1. Start Small, Grow Steady

Begin with what you have a small patch of land or even containers. Farming is not about size, but consistency.

2. Feed the Soil Naturally

Use compost made from kitchen waste and plant materials. Healthy soil is the foundation of healthy crops.

3. Rotate Your Crops

Avoid planting the same crop in the same place every season. Crop rotation helps maintain soil nutrients and reduces pests.

4. Let Crops Support Each Other

Practice companion planting. Some crops grow better together and can naturally protect each other from pests.

5. Observe Before You Act

Take time to understand your land sunlight, soil, and water patterns. Good farming begins with careful observation.

6. Water Wisely

Use water efficiently and consistently. Early morning or late afternoon watering helps reduce evaporation.

7. Avoid Chemicals Where Possible

Natural methods protect not only your crops but also your health, your soil, and the environment.

8. Be Patient with the Process

Farming teaches you patience. Growth takes time, trust the process.



Jennifer Opoku Mensah



Agatha Gyawu

GreenNOMA: Sowing Seeds of Change in Northern Nigeria

By Maryam Shu'aibu Hassan & Hafsat Sanusi Muhammad

In the sun-scorched heartland of Northern Nigeria, where ancient soils carry the memory of both abundance and hardship, a quiet revolution is taking root. It goes by the name GreenNOMA, a social enterprise born from passion, nurtured by purpose, and sustained by a vision of a future that is more inclusive, more equitable, and far more resilient to the climate crises reshaping the world. The name itself carries meaning: “NOMA,” drawn from Hausa a widely spoken language in Northern Nigeria translates to “farming,” grounding the initiative firmly in the cultural and agricultural identity of the communities it serves.

GreenNOMA is more than an organization. It is a story of two women who looked at their communities, saw both the wounds and the potential, and refused to choose between them.

Maryam Shu'aibu Hassan is a climate change engineer and social developer whose work has taken her from dense conservation forests to the challenging landscapes of dryland agriculture. Wherever she has worked, she has confronted the same uncomfortable truth: those who suffer most from climate change overwhelmingly women and young people are precisely those with the fewest resources to adapt. That recognition became a calling.

In Northern Nigeria, where climate vulnerabilities are most visible through recurring droughts and devastating floods, the urgency of her work is impossible to ignore.

Hafsat Sanusi Muhammad is an agricultural extension specialist and avid chef who found her purpose in the farmlands of rural villages. She saw untapped potential everywhere she looked, in female farmers who lacked access to markets and tools, in indigenous crops whose nutritional value went unrecognized, in young people who had energy and ideas but nowhere to channel them. Hafsat's vision was integration: smarter farms, healthier food, and stronger communities, all woven together.

Together, they co-founded GreenNOMA with a clear three-part mandate: advance gender equity, eliminate poverty, and build sustainability through green agricultural technology. In practice, this means training women and youth in climate-smart farming techniques, connecting smallholder farmers to improved tools and better markets, and providing the mentorship and supportive infrastructure that allows entrepreneurship rooted in sustainability to thrive.

GreenNOMA's programs span an impressive range of interventions, from smart irrigation techniques and agroforestry integration to digital farming tools and market linkage platforms, all designed to help communities withstand the dual threats of water scarcity and extreme weather. But the most transformative output of their work may be less tangible: the confidence that grows alongside the crops, the capacity that develops in women who once had no seat at the agricultural table, and the change that ripples outward when a single community learns to feed itself sustainably.

Yet, like many grassroots initiatives, GreenNOMA faces a significant challenge: limited funding. Despite the growing demand for their programs and the clear impact they have had on communities, financial constraints continue to limit the scale and speed at which they can expand. The irony is striking, the people are ready, the need is urgent, and the results are visible, yet resources remain a pressing obstacle.

The initiative lives on partnerships tied up with the local co-operatives, NGOs, and tech innovators to bring practical solutions where they actually matter.

“Our vision,” Hafsat says, “is to see women and youth not just as beneficiaries but as leaders and innovators in the agricultural space.” It is a vision already becoming reality, one farm, one woman, one youth at a time.



Shaping Sustainable Futures: The Work of Dr. Beata Awinpoka Akanyani

Profile Feature

In the landscape of West African development practice, Dr. Beata Awinpoka Akanyani stands as a compelling example of what sustained, principled commitment to community-centred solutions can achieve over time.

A development expert with more than a decade of leadership experience spanning Water, Sanitation and Hygiene (WASH), gender equality, youth empowerment, and climate-resilient development, she has built a career at the intersection of technical expertise and grassroots accountability. Her work reflects a belief that lasting development cannot be imposed from outside, it must be built from within communities themselves.

Dr. Akanyani holds a PhD in Development Studies from Kwame Nkrumah University of Science and Technology (KNUST), alongside a Master's degree in Development Planning and Management, a BA in Integrated Development Studies, and a Postgraduate Diploma in Urban Management Tools for Climate Change from Erasmus University Rotterdam. This broad academic foundation has equipped her to work across the disciplinary silos that often fragment development work. Today, she is widely recognized as one of Ghana's leading voices in the WASH sector.

A Career Rooted in Community Transformation

As Chairperson of the Coalition of NGOs in Water and Sanitation (CONIWAS), Ghana's foremost civil society platform for WASH advocacy, Dr. Akanyani has helped shape national dialogue on water and sanitation policy.

One of her most notable contributions has been her leadership in the negotiations that led to the Presidential Compact on WASH, a landmark agreement that secured commitments from government and stakeholders to accelerate progress toward Sustainable Development Goal 6, Clean Water and Sanitation for All.

Beyond national advocacy, Dr. Akanyani's work is deeply grounded in field implementation.

As Programmes Director for the Afram Plains Development Organisation (APDO), she has overseen large-scale development initiatives reaching more than 200 rural communities. These programmes have resulted in:

- **Over 500 Open Defecation-Free communities**
- **More than 500 trained community WASH leaders and management teams**
- **Nature-based water solutions implemented in climate-vulnerable regions**

Her work with WaterAid Ghana under the Securing Water Access Project has expanded climate-resilient water systems and governance mechanisms across 75 communities in the Upper East Region.

At the same time, her leadership in the MasterCard Foundation-supported Youth in Agriculture Programme has empowered over 7,000 young people, 70% of them women, with agribusiness training and start-up resources.

For Dr. Akanyani, these numbers are not just statistics. They represent lives transformed.

Career Milestones at a Glance

Early Career

Begins work in community development and rural planning, focusing on sanitation and gender inclusion.

2010s

Leads multiple WASH interventions across rural Ghana, helping communities transition to sustainable sanitation systems.

2019

Establishes the Young WASH Professionals Platform under CONIWAS, creating a mentorship and training network for emerging practitioners.

2020–Present

Serves as Chairperson of CONIWAS, strengthening national civil society engagement on water and sanitation policy.

Recent Years

Leads major development programmes through APDO, WaterAid Ghana partnerships, and youth empowerment initiatives across northern Ghana.

In Her Own Words: A Conversation with Dr. Akanyani

Q: What first inspired you to pursue a career in development, particularly in the water and sanitation sector?

Dr. Akanyani:

“My greatest inspiration has been passion. I have been always been a very organized person and prefer my surroundings to be neat. During my service at East Gonja District, we visited the communities and they were demanding for water because their water was extremely filthy. That moment is what made me interested in the water sector because everyone deserves access to clean water.”

Q: What has been the most difficult challenge in your work particularly as a woman?

Dr. Akanyani:

“I would have to say the stereotyping. The field I am in is a male-dominated one so I had to push beyond my limits to gain acceptance. As a woman you need to go beyond to be accepted and recognized so I am constantly upgrading my skills to amatch with the evolving trends in the sector.”

Q: What inspired you to create the Young WASH Professionals Platform under CONIWAS?

Dr. Akanyani:

“Coniwas has been in existence for 20 years. In 2018, I became a co-opted member of the executive committee. My colleague Ato and I felt that we the young people were not given the opportunity to participate so we approached the chairperson and told him that we wanted to create something exclusively for the youth and that is what led to the launch of the Young WASH Professional Platfrom under CONIWAS in 2019.”

Q: What advice would you give to young development professionals entering the field?

Dr. Akanyani:

“There are so many careers in the WASH sector. Prioritise field work as this would help you understand the communities and their needs. All sectors can be involved in WASH be it engineering or tehnology so we the youth can intentionally pick and design a career from WASH.”

Breaking Barriers for Women in Development

Women remain underrepresented in leadership roles within development institutions across West Africa. Cultural expectations, limited access to professional networks, and structural barriers often slow career advancement.

A Legacy Still in Motion

Across all her roles, as a researcher, programme leader, policy advocate, and mentor, Dr. Beata Awinpoka Akanyani has remained guided by a consistent philosophy: communities must be the architects of their own development.

Her work continues to shape what is possible for water access, sanitation, climate resilience, and inclusive development across Ghana and the wider West African region.

And if her career trajectory offers any indication, her greatest contributions may still lie ahead.



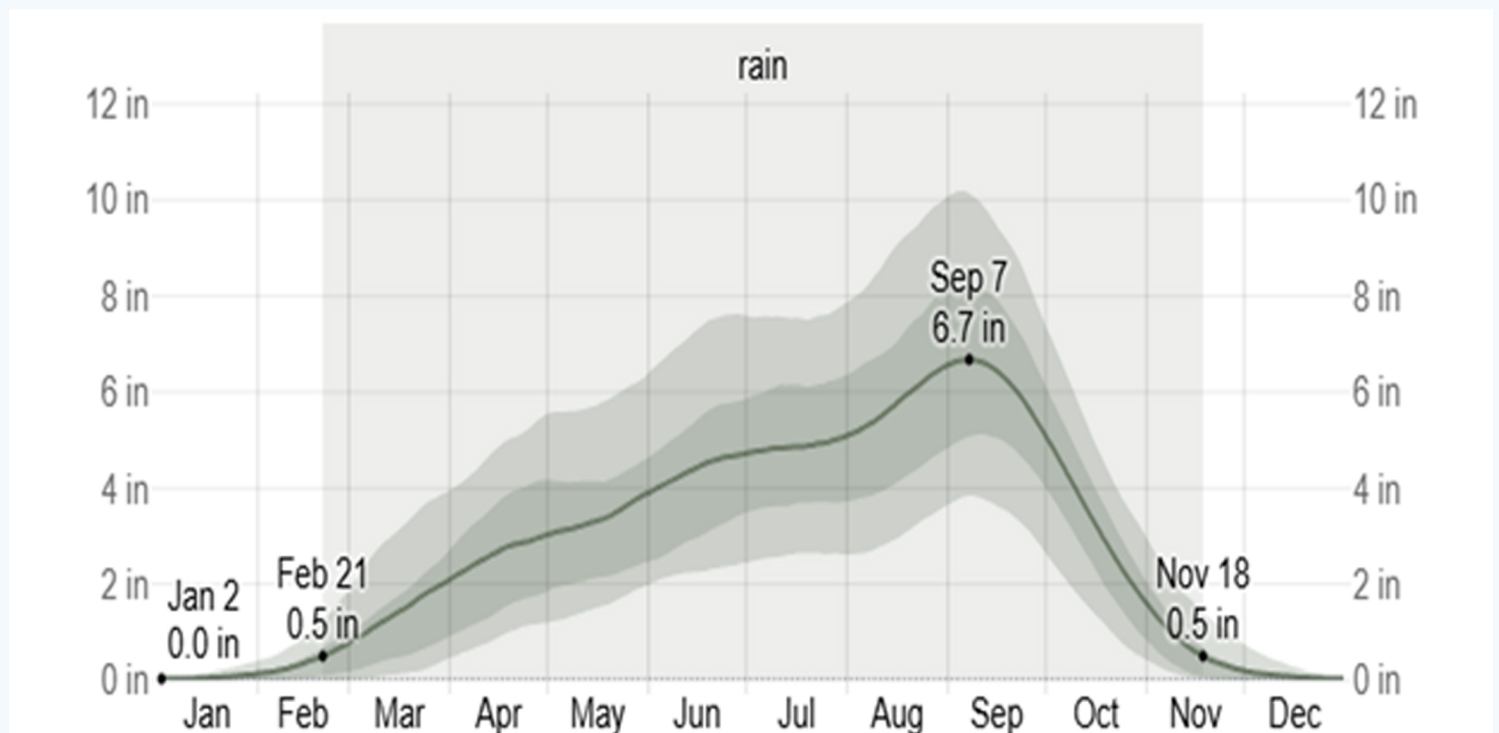
Dr. Beata Awinpoka Akanyani

Harnessing the Rain: Community Action in Northern Ghana

By Nayila Adam

Imagine waking each morning to intense heat that does not simply warm but burns and bakes the earth until it cracks. Then imagine the rains arriving not as relief, but as assault: torrential downpours overwhelming ground already too hard and dry to absorb them, flooding streets, destroying homes, washing away the topsoil on which livelihoods depend.

This is daily life in Tamale, the capital of Northern Ghana, a rapidly growing city that now sits at one of the most exposed frontlines of climate change in West Africa. Tamale faces a cruel double bind. Intensifying heat is making outdoor work, the foundation of most livelihoods here more dangerous and less productive. At the same time, rainfall patterns have become increasingly erratic. Northern Ghana has always relied on seasonal rains, but today those rains arrive less predictably and with greater intensity. When they do fall, they often come too quickly for the hardened soil to absorb them, overwhelming drainage infrastructure and triggering destructive floods.



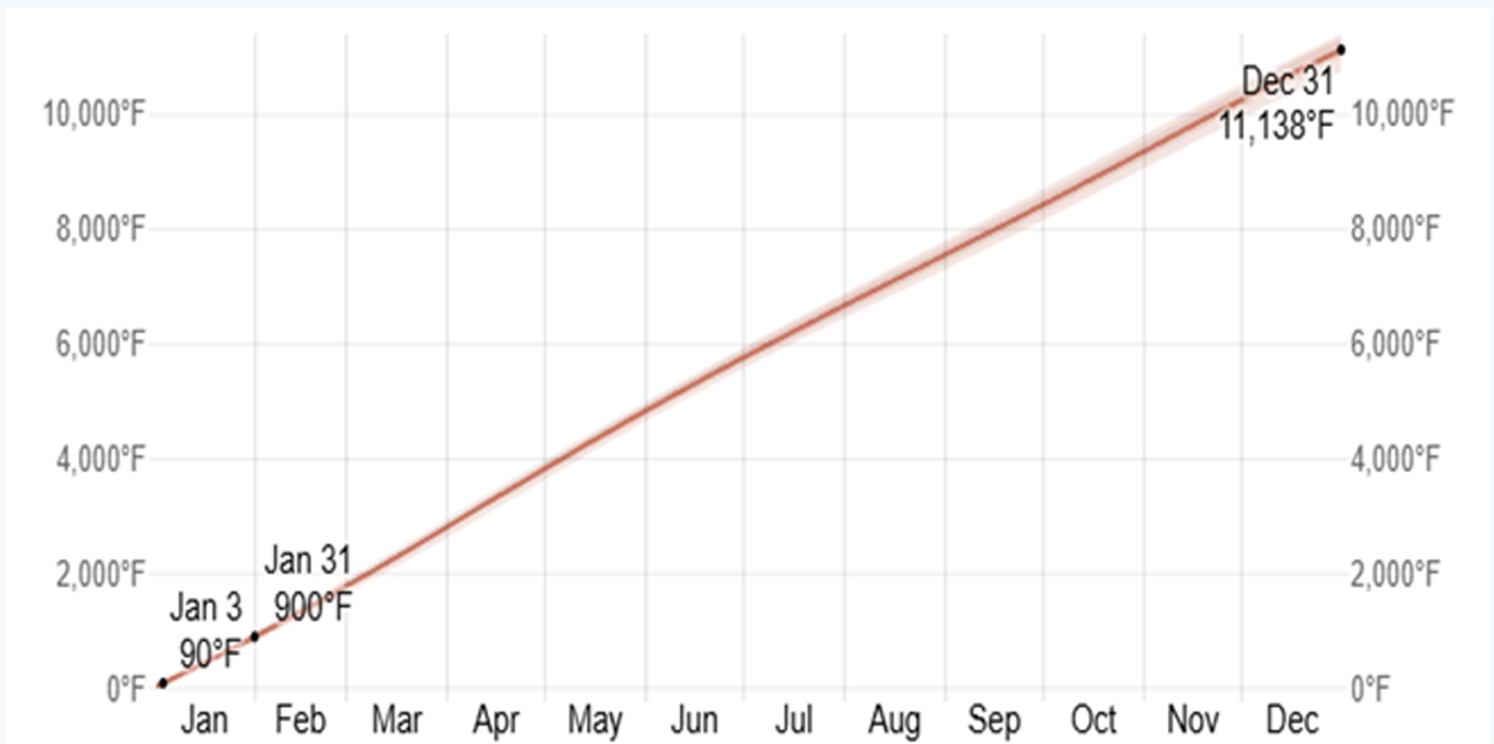
For farmers in the surrounding communities of Sagnarigu, Kumbungu, and Tolon, the consequences are immediate. Crops such as maize, millet, and sorghum, staples that sustain millions across northern Ghana are increasingly vulnerable to drought periods followed by sudden flooding.

According to agricultural extension officers in the Northern Region, maize yields in some districts have declined by 10–20 percent in recent years due to rainfall variability and heat stress. Meanwhile, climate-related health risks including malaria, dehydration, and waterborne diseases are rising as temperatures climb and flooding contaminates water sources.

Yet amid these mounting pressures, Tamale's communities are demonstrating a powerful form of resilience. Across the city and its surrounding rural areas, a climate adaptation movement is slowly reshaping how communities interact with their environment. Local organizations and community groups such as the Savanna Farmers Marketing Company Cooperative, youth groups within the Sagnarigu District Environmental Clubs, and local NGOs including the Northern Ghana Network for Development have begun implementing nature-based solutions to manage water and protect agricultural land. One such approach involves the construction of infiltration pits and small check dams, simple but effective structures that slow down surface runoff. Instead of racing across hardened ground and eroding farmland, rainwater is captured and allowed to seep gradually into the soil. In several pilot sites around Tamale, community monitoring groups have reported measurable improvements: groundwater monitoring wells show seasonal water tables stabilizing by several centimeters during the dry season, an early indicator that infiltration efforts are helping replenish underground aquifers.

Tree-planting campaigns have also become a central pillar of local adaptation. Working alongside organizations such as the Forestry Commission and community environmental clubs, residents have planted thousands of drought-resistant tree species along degraded landscapes and flood-prone areas. The restoration of grass cover and vegetation is helping stabilize soils and reduce erosion, small interventions that collectively protect farmland and improve water retention.

But the story of climate resilience in Tamale cannot be told without recognizing the leadership of women. In Northern Ghana, women bear a disproportionate burden of climate impacts. They are often responsible for collecting water, managing household food supplies, and cultivating small farms that sustain family nutrition. When droughts intensify or crops fail, the pressure on women multiplies. Yet women are also emerging as some of the most effective climate adaptation leaders.



Graph indicating growing degree days in Tamale with a projected rise for 2026 © WeatherSpark.com

For cities like Tamale, this means that climate shocks are likely to intensify in the coming decades. National frameworks such as Ghana’s National Climate Change Policy and National Adaptation Plan provide important strategic direction. But limited financial resources and implementation capacity mean that communities cannot rely on these solutions alone.

Tamale’s experience demonstrates something essential: resilience is most effective when it grows from the ground up. Local knowledge, community cooperation, and practical adaptation strategies are already helping residents confront the realities of climate change. What is needed now is stronger alignment between government agencies, NGOs, international donors, and community organizations to expand and support these initiatives.



Nayila Adam

Rest Philanthropy: Giving Rest to the Restless

By Derrick Amandor

There is a version of environmental work that looks impressive from a distance; bold restoration targets, satellite-monitored reforestation, international climate pledges with billions attached. And then there is the quieter, more intimate kind: the kind that begins with a pair of shoes.

I came to understand the latter through Rest Philanthropy, a charitable organization whose work defies easy categorization. On the surface, it is a humanitarian organization focused on improving the lives of the less privileged. Look closer, and it becomes something more: a demonstration of how human welfare and environmental resilience are not parallel tracks but deeply entangled ones.

I became involved with Rest Philanthropy through its Mpaboa 360 initiative, a programme that delivers quality footwear to children in underserved communities. Since its inception, the initiative has provided over 2,500 children with shoes in communities across Ghana. What might appear to be a simple act of charity carries far more weight when examined through an environmental lens. Barefoot children who walk miles each day to school and carry out household tasks are not only exposed to injury and infection, they are also children whose families are often so consumed by immediate survival needs that environmental stewardship becomes an unaffordable luxury. By meeting basic needs, Rest Philanthropy frees up the cognitive and emotional bandwidth for communities to engage with their broader environment.



Mpaboa 360 initiative

The Nourish the Child Project addresses malnutrition among children in vulnerable communities and has reached more than 1,500 children with nutritious meals and education on healthy practices. Both programmes, on their surface, are humanitarian interventions. But healthy, supported mothers and well-nourished children are also communities better equipped to withstand climate shocks, manage their natural resources sustainably, and invest in long-term environmental stewardship.



Maternity relief project

The most striking feature of Rest Philanthropy is the sense of community at its heart. Every donation drive, outreach event, and volunteering session is approached with empathy, with an understanding that sustainable development is not something done to communities, but with them.

Feedback from beneficiaries has been consistent: children who received shoes are now attending school more regularly; mothers report being able to focus on livelihood activities instead of immediate crises; and families express greater interest in local environmental initiatives, such as tree planting and sanitation improvements. These small but measurable outcomes demonstrate the feedback loop between human welfare and environmental engagement: supporting basic needs catalyzes capacity for environmental stewardship.

Watching a child walk confidently in new shoes, seeing a mother receive support at a moment of vulnerability, witnessing a family gain access to nutrition that had been out of reach — these are not merely humanitarian moments. They are foundations of climate resilience, quietly shaping the ability of communities to adapt, recover, and thrive in the face of environmental challenges.

The Driving force behind the Mission: Jennifer Adomah

At the helm of Rest Philanthropy is Jennifer Adomah, the Founder, CEO, and Director. A trained nurse, Jennifer blends her healthcare expertise with a deep commitment to humanitarian work, advocating for the well-being, dignity, and empowerment of vulnerable populations.

Jennifer's leadership extends across multiple sectors. She is also the CEO of Vee's Luxury Store, showcasing her entrepreneurial spirit and her ability to manage and grow diverse initiatives. Known for her dedication to mentorship, counseling, and community engagement, she inspires others to recognize their potential and to act with purpose. A public speaker and graphic designer as well, Jennifer uses multiple platforms to advocate for change and amplify the voices of marginalized communities.

Her vision is rooted in the belief that compassion is climate action: by supporting people's basic needs, communities become more resilient, more capable of stewarding their natural environment, and more empowered to shape their future.

Rest Philanthropy: Impact at a Glance

Since its inception, the organization has served over 2,000 lives through community initiatives spanning five regions of Ghana: Upper East, Western, Eastern, Greater Accra, and Bono. Its major programs include:

- **Mpaboa 365 - Providing shoes to schoolchildren to support education and well-being.**
- **Nourish a Child - Feeding and supporting children in underserved communities.**
- **Support for Children with Disabilities (Sunyani) - Donations of food and educational items.**
- **Prison Outreach - Providing meals and care to inmates.**
- **Christmas with Widows - Bringing hope and support to widows during the festive season.**
- **Feeding the Streets - Offering meals and assistance to vulnerable individuals.**

Rest Philanthropy encourages everyone to take part in this impact @restphilanthropy.org:

- **Donate to support outreach projects.**
- **Volunteer in community initiatives.**
- **Partner or sponsor programs like Mpaboa 365.**
- **Share the work to help expand reach to more communities.**

Together, volunteers, donors, and community members help bring hope, dignity, and resilience to vulnerable populations across Ghana. My experience with Rest Philanthropy has reshaped how I think about environmental progress. It does not always announce itself through grand gestures. Sometimes it begins with the quiet, radical act of making someone's life a little less difficult, and trusting that from that small act of dignity, something larger will grow. Compassion, it turns out, is climate action.



Derrick Amandor



Jennifer Adomah

The Green Cure: Fighting Urban Heat in Ghana, One Tree at a Time

By Deborah Awuni

Ghana's cities are getting hotter. Not metaphorically, measurably, dangerously, undeniably hotter.

Across Accra, Kumasi, Tamale, and other rapidly expanding urban centres, temperatures in densely built neighbourhoods are rising faster than in surrounding rural areas. Climate scientists attribute much of this increase to the Urban Heat Island effect, a phenomenon where concrete, asphalt, and glass absorb solar radiation during the day and slowly release it at night, keeping cities warmer than the natural landscape around them.

In Accra, satellite-based temperature studies have shown that dense urban areas can be 3–5°C hotter than nearby vegetated zones during peak afternoon hours. In Kumasi, field measurements conducted by local researchers found that tree-lined streets and park areas were up to 4°C cooler than adjacent commercial districts dominated by asphalt and concrete.

These numbers may sound small on paper. On the ground, they can make the difference between tolerable heat and dangerous exposure. For the child walking to school under the midday sun, the elderly man sleeping in a poorly ventilated room, or the trader working long hours in an open-air market, heat is not simply uncomfortable, it is a daily health risk. Heat stress, respiratory illness, and dehydration are increasingly reported in Ghana's urban health facilities, particularly during peak dry seasons and harmattan periods.

The city itself is slowly becoming inhospitable to the very people who built it.

Yet the solution, in many cases, is surprisingly simple and ancient. The answer is trees. Urban trees are among the most effective and affordable climate adaptation tools available to city planners.

A single mature tree can cool its surroundings through shade and evapotranspiration; the process by which water evaporates from leaves, lowering air temperatures in the surrounding area. When many trees are planted together, this cooling effect becomes even more pronounced, creating pockets of relief in otherwise overheated urban landscapes.

Walk through parts of Osu or Adabraka in Accra, or the tree-lined residential areas of older Kumasi neighbourhoods, and the difference is immediately noticeable. The air feels cooler. Streets feel calmer. The city breathes.

Trees also provide benefits that extend far beyond temperature control. They filter airborne pollutants, an especially important function during the harmattan season, when winds carry dust particles from the Sahara across West Africa. They reduce noise pollution, absorb stormwater during heavy rains, prevent soil erosion, and provide habitat for urban biodiversity.

In the language of environmental science, these benefits are known as ecosystem services; natural processes that support human life and wellbeing in ways no engineered system can replicate at comparable cost.

Kumasi's Greening Revival

Kumasi serves as a cautionary tale and also a source of inspiration. Once proudly known as the "*Garden City of West Africa*," Kumasi earned its reputation through carefully planned boulevards, public parks, and tree-lined avenues established during earlier phases of urban development.

But rapid urban expansion over the past three decades dramatically reduced that green cover. Trees were cleared to make way for buildings and roads. Open land gave way to concrete and asphalt.

The consequences were predictable: hotter streets, increased flooding, declining air quality, and the gradual erosion of the city's green identity. Yet in recent years, a new generation of urban greening initiatives has begun to reclaim that legacy.

One example is the Kumasi Urban Tree Planting Initiative, a collaborative effort involving the Kumasi Metropolitan Assembly, local NGOs, and community volunteer groups. In neighbourhoods such as Asokwa and Bantama, residents worked alongside city officials to plant thousands of shade trees along streets, schools, and public spaces.

Community members were trained in tree maintenance and watering schedules, ensuring that the young trees survived beyond the initial planting phase.

Early results are promising. Monitoring by local environmental groups indicates that areas with newly planted trees are already recording modest reductions in surface temperature and improved shade coverage, while residents report noticeably cooler walking routes and more comfortable outdoor spaces.

Kumasi's experience demonstrates something crucial: cities can reverse ecological decline, but only when communities are part of the solution.

Greening policy interventions

Urban greening is not simply a matter of planting trees at random. It requires policy frameworks that embed nature into city planning.

Ghana already has several initiatives that support urban environmental management. The National Urban Policy Framework encourages sustainable city development, while municipal authorities such as the Accra Metropolitan Assembly (AMA) and Kumasi Metropolitan Assembly (KMA) have introduced local tree-planting and landscaping programmes.

Some districts have also adopted bylaws that require developers to include green buffers, landscaping, or tree planting in new construction projects.

Yet implementation remains uneven. Urban planning experts argue that stronger enforcement and clearer incentives are needed including:

- *Protection of existing green spaces from real estate pressure*
- *Mandatory tree planting in new residential and commercial developments*
- *Restoration of degraded riverbanks and urban wetlands*
- *Investment in community-led greening programmes in underserved neighbourhoods*

If cities are designed with nature, they can become cooler and healthier.

Five Ways Residents Can Green Their Neighbourhood

1. Plant Shade Trees

Choose indigenous or drought-resistant species that thrive in Ghana's climate.

2. Start a Community Tree Day

Organize neighbourhood planting events in schools, markets, or along streets.

3. Protect Existing Trees

Report illegal tree cutting and advocate for the preservation of mature trees.

4. Create Micro-Green Spaces

Even small gardens, potted plants, and green courtyards can reduce local heat.

5. Support Local Greening Initiatives

Volunteer with community groups or NGOs working on urban environmental projects.



Deborah Awuni

The Atewa Forest: A Children's Educational Comic

Created by Derek Duah Akohene Tetteh

A children's educational comic strip centred on the Atewa Forest Range, a biodiversity hotspot in Ghana's Eastern Region and one of the country's most ecologically significant landscapes.

The comic is narrated by Akua, a young girl from the Eastern Region who serves as a tour guide for young readers, walking them through what a forest reserve is, why the Atewa Forest matters, what threatens it, and crucially what children and communities can do to protect it.

Atewa is remarkable by any measure. Stretching approximately 45 kilometres in length and up to 12 kilometres wide, covering some 258 square kilometres, it has been recognised as an Important Bird Area, a biodiversity hotspot, and a critical water catchment protecting three major river systems. Its forests are home to threatened species including pangolins, fruit bats, and rare plant species such as *Monocyclanthus vignei*. Its ecological importance has been understood for nearly a century.

And yet, Atewa is under threat, from illegal logging, bushmeat hunting, and the spectre of industrial bauxite mining, which would require the removal of the forest entirely. The visual storytelling makes these threats vivid and immediate.

The comic's final pages turn toward agency: forest watching, tree planting, and environmental education as tools children can use to become active protectors rather than passive observers. The message is clear and powerful: we can all do this. We must join forces and act together.



THE ATEWA

...A FOREST RANGE IN GHANA



Hello folks!
My name is Akua...
and I am from the Eastern region
of Ghana

I will be your tour guide
as we learn together about the
Atewa forest reserve located in
Ghana.

Do you know what a forest reserve is ?

A forest reserve is like a protected area for trees
and animals, where we make sure the forest stays
healthy by not letting people cut down trees
or build things there.



In Ghana,
one of these forest reserves is
the Atewa forest
which we will be taking
a closer look at.

As I mentioned earlier on, the Atewa Forest is located in the Eastern region of Ghana as can be seen on the map



In Ghana, the Atewa Forest is super important for humans, plants and animals.

The Atewa Forest is like a long, wide strip of land, about as long as 45 kilometers and as wide as 12 kilometers. It covers a big area, about 258 square kilometers!"

Its ecological importance has been known for a long time. let me take you a bit back in time...

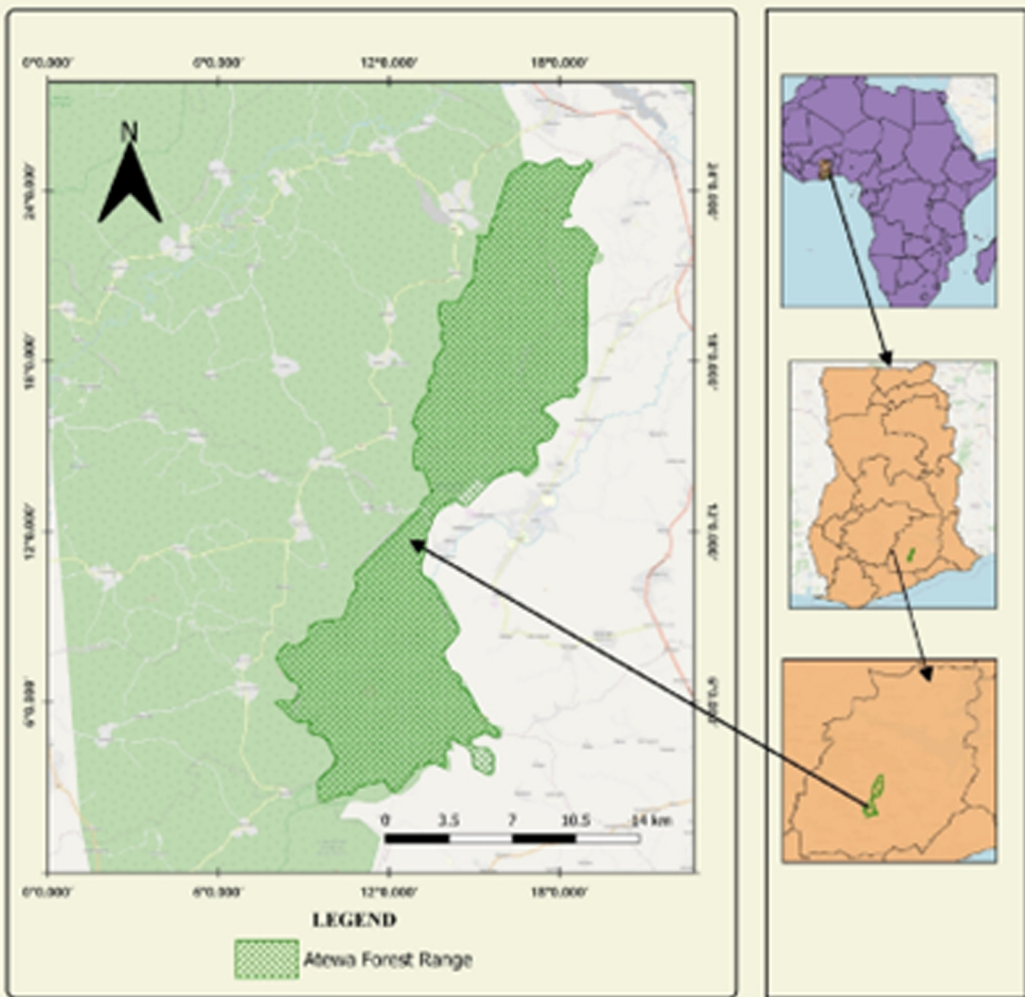
Long ago, almost 100 years ago, people decided to keep the forest safe to protect the water in three big rivers.

People have known for a long time that the Atewa Forest is special, with unique plants since the 1970s.

In the 1990s, scientists realized how important it was for all sorts of living things. Because of this, they gave it special names to protect it, like a very important place for nature.

Later, they discovered it was also a super important place for birds, giving it an international name too!"

THE ATEWA FOREST RANGE IN GHANA



The Atewa forest is also an important biodiversity hotspot that is home to many threatened species, both plants and animals ...like these ones...

This jungle flower*

Image source: iNaturalist

Pangolin



Fruit bat



Even though the Atewa Forest is super important for plants and animals, it is not protected as it should be.

The Atewa Forest is supposed to be safe, but people are engaging in activities which harm the forest.

We will take a closer look at some of these activities...

...People cut down trees and hunt animals including threatened species. These activities harm the forest.



One other activity which harms the forest is the digging for gold in the forest which leaves the forest in conditions like this. They are also thinking about digging up the ground to get a special rock called bauxite, which could hurt the forest...

Sometimes, when we dig for special rocks like gold, we use special things called chemicals. These chemicals can be bad for people, animals, and plants.



This woman is ill because she drank water containing these chemicals



This cat is also sick because the chemicals were in the food it ate.

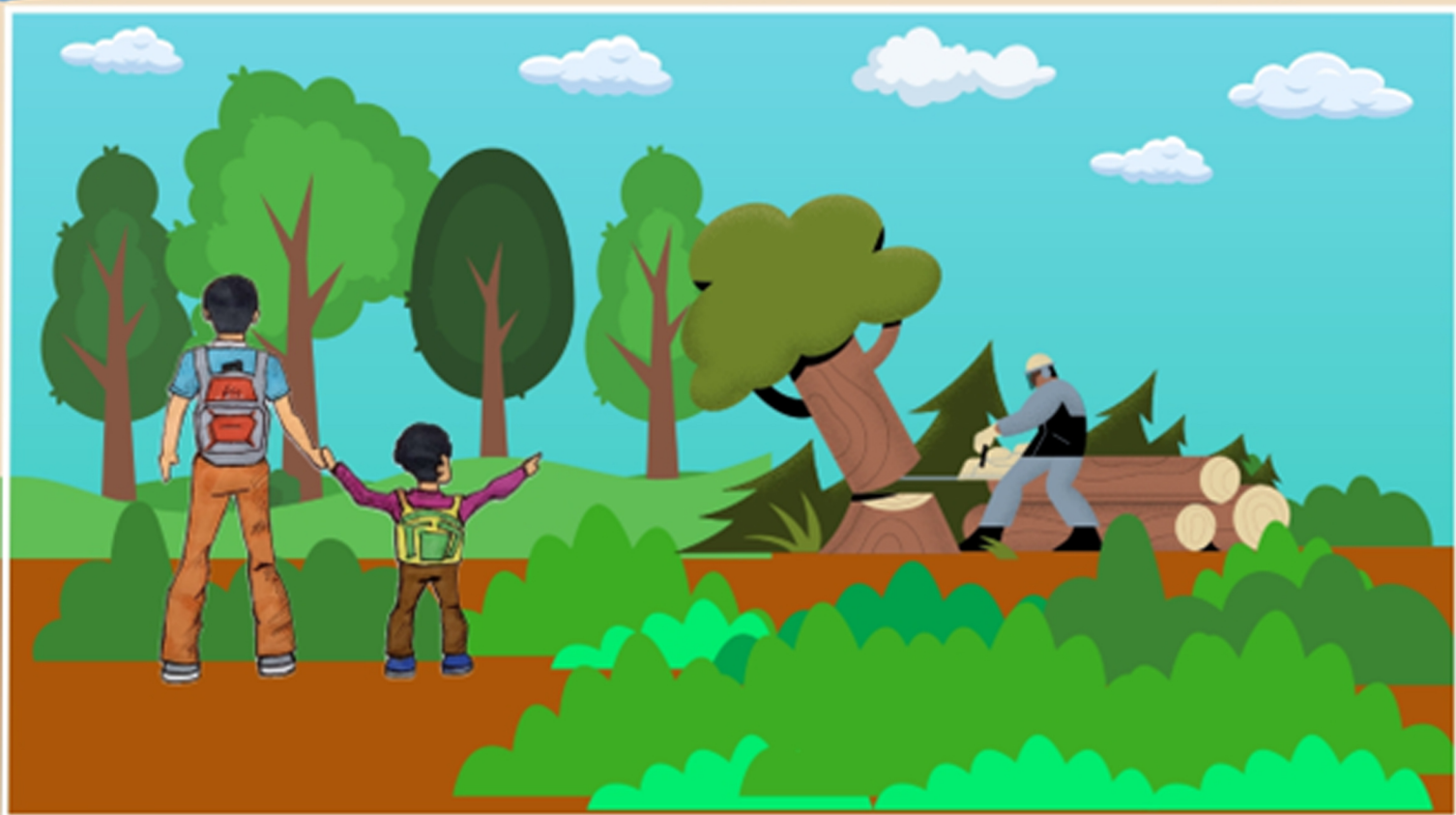
So you see, we can be harmed by these chemicals and activities.



So, are there ways we can keep the Atewa forest from harm? A big Yes! let us explore some of these ways...



... We can help keep our forest safe by being super forest watchers! We can form teams to watch over the trees and make sure no one is doing bad things like cutting them down or digging for stuff they should not. Kids and grown-ups can walk around together, and if we see anything that looks wrong, we tell the grown-ups in charge!




We can also be tree planters! We can plant new trees in the forest and around it. We can give these new trees water, and make sure nothing hurts them. This is like giving the forest a fresh start and helping it grow big and strong again!



We can also be forest teachers! Just like what I am doing. We can visit schools and tell everyone about the amazing Atewa Forest.

Kids can learn about all the cool plants and animals there and why the forest is so important.

Then, they can share what they learned with their families and friends, so everyone knows how special the forest is.



So you see, we can save the Atewa forest by doing things like planting trees and being forest watchers.

we can also save it by stopping the digging for gold in the forest and the cutting down of trees.

I believe we can all do this!
We humans have what it takes to protect our environment...but we need to join forces and act together!

I am Akua once again, and I am glad to have been your tour guide.
Share what you have learnt with your friends and families.

...and remember, we can save our planet together.
Until our next tour,
byeeeeeeee



glossary

*The actual name of the flower displayed on page 3 is "**monocyclanthus vignei**". Image source: iNaturalist

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save the



Word Search Puzzle

EFORESTAWQPT
MATEWARIVERO
QNATURETREES
TPANGOLINXWT
OBATRMLKWATE
SWATERSZQORC
YGOLDNBATURT
WRIVERPQLECF
GTREESHFORES
KPROTECTWATE

Words to Find:

- FOREST
- ATEWA
- RIVER
- TREES
- PANGOLIN
- BAT
- WATER
- NATURE
- GOLD

Quick Quiz - Test What You Learned

Circle the correct answer.

1. Where is the Atewa Forest located?

- a) Northern Region
- b) Eastern Region
- c) Western Region

2. Why was the Atewa Forest protected many years ago?

- a) To build houses
- b) To protect water in three rivers
- c) To grow more crops

3. Which of these animals lives in the Atewa Forest?

- a) Elephant seal
- b) Pangolin
- c) Polar bear

4. Which activity harms the Atewa Forest?

- a) Tree planting
- b) Teaching others about forests
- c) Gold mining

5. What can we do to help protect the forest?

- a) Cut more trees
- b) Become forest watchers
- c) Throw rubbish in the forest



Derek Duah Akohene Tetteh

EAF's Fight Against Land Degradation

By Emma Baah Agyapong

In 2017, the Environment & Agroforestry Foundation (EAF) was established with a straightforward but ambitious aim: that healthy ecosystems and thriving communities are not competing goals, but deeply intertwined ones. Eight years on, EAF has grown into one of Ghana's most committed forces for ecological restoration and rural empowerment.

Under the leadership of Executive Director Mrs. Emma Baah Agyapong and guided by a dedicated Board of Directors, EAF operates through specialized units covering Natural Resource Management, Agroforestry, Water, Sanitation and Hygiene (WASH), and Geographic Information Systems (GIS), a multidisciplinary structure that reflects the complexity of the challenges it addresses. While restoration work is often visible through tree planting and community activities, the GIS unit plays a critical but less visible role by providing spatial mapping and environmental data analysis. Through geographic planning and land-use monitoring, the unit helps identify priority restoration sites, track ecological change, and ensure that interventions are targeted where they can produce the greatest environmental impact.

EAF's operational footprint spans across some of Ghana's most ecologically pressured regions: Bono, Bono East, Savannah, and Upper West. These areas are on the frontlines of climate change battling with escalating temperatures, biodiversity loss, and land degradation resulting from years of unsustainable land use practices. Prior to intervention, many project communities faced degraded forests, damaged riparian zones, and declining agricultural productivity. Some landscapes had begun to show desert-like characteristics, threatening both biodiversity and local livelihoods.

In 2024, EAF launched three flagship projects that significantly accelerated its restoration agenda. In the Jaman North, South, and Berekum East districts, a biodiversity conservation initiative targeting degraded farmlands and riparian areas reached more than 3,000 people.

Approximately 200 hectares of degraded forest and farmland were restored using indigenous seedlings and fruit trees, an approach that respects local ecology while delivering tangible food security benefits. These interventions, which included assisted natural regeneration and enrichment planting, have helped improve vegetation cover, strengthen ecosystem resilience, and gradually reverse the environmental decline that once characterized many of these landscapes.

Beyond the trees themselves, the project built lasting institutional foundations: community nurseries were established, local youth groups were mobilized and trained in sustainable forestry and farming practices, and Community Resource Management Committees were created to ensure long-term stewardship. Community members have been central to the success of these initiatives. Youth groups and women's associations participated directly in planting and maintaining trees, while farmers involved in agroforestry and beekeeping activities have begun reporting promising results.

In the Savannah and Bono East Regions, EAF introduced an innovative beekeeping value-chain project, equipping 200 farmers with modern apiculture techniques and starter kits. By integrating beekeeping with agroforestry systems, the project strengthens both livelihoods and ecosystem health. Honey production provides an additional source of income while simultaneously encouraging communities to conserve forest resources that sustain bee populations.

Environmental education has served as a cross-cutting pillar throughout all of EAF's work. Through school environmental clubs, community training sessions, and advocacy campaigns, the organization has worked to cultivate a culture of environmental stewardship from the ground up. Community monitoring committees have also been established to oversee restoration sites, track tree survival rates, and ensure long-term maintenance of planted areas. These mechanisms help guarantee that restoration outcomes are sustained long after the initial interventions.

Strategic partnerships with TerraFund for AFR100, the Forestry Commission, District Assemblies, Traditional Authorities, GreenWaterHut, and grassroots community groups have amplified EAF's reach considerably. Such collaborations bring together technical expertise, financial resources, and local knowledge, all essential ingredients for large-scale landscape restoration.

Financial transparency and accountability remain central to the organization's operations. EAF's financial statements are independently audited, ensuring that resources are managed responsibly and directed toward maximum environmental and community impact. In 2024, the organization recorded significant revenue growth driven by support from partners including TerraFund for AFR100, GreenWaterHut, Amasachina Self Help, Gentle Jesus Timber Company Limited, and African Plantations for Sustainable Development. The majority of these funds were invested directly in restoration initiatives, environmental education, agroforestry programs, and community capacity-building activities.

Looking ahead, EAF is developing plans to upscale restoration projects, integrate sports into conservation education, promote renewable energy alternatives at community level, and improve agricultural value chains, including cashew processing. Despite persistent challenges such as climatic variability, funding constraints, and the sheer scale of degradation to be reversed, EAF remains undeterred. Their work is proof that restoration is possible, and that the most durable solutions are those co-created with the communities who call these landscapes home.



Community education, capacity building and tree planting exercises organized by EAF

Impact Highlights-EAF in 2024

200 hectares of degraded forests, farmlands, and riparian areas restored

3,000+ community members reached through restoration and awareness programs

200 farmers trained and supported in sustainable beekeeping

4 operational regions across Ghana (Bono, Bono East, Savannah, Upper West)

Multiple strategic partners supporting restoration and livelihood projects



Emma Baah Agyapong

Nature's Call

A Poem by Deborah Awuni

Mother Nature is speaking
Not in hushed tones
But in storms that bruise the heavens
In rivers choked with our mistakes
In forests breathing smoke instead of air
We are the hands that can plant futures
The voices that can bend policies
The footsteps that can tread a gentler path
Sustainability is not a slogan
It is choosing to take a stand
Against waste,
Against silence,
Against the myth that one person cannot make a difference
It is choosing to stand with the oceans
As they rise in sorrow
To guard the forests
As they suffocate
To defend the air
That writes life into our lungs
We are the generation
That will heed the call
We are the guardians
Of a planet that remembers
Let our actions
Be louder than the damage
Let our courage
Be greater than the crisis
Let the future say,
We answered when the earth called our names
And we rose.



Deborah Awuni



The Hidden Pharmacy in Our Forests

By Salifu Habib Mohammed

Long before the first pharmaceutical company synthesized a molecule in a laboratory, the forests of West Africa were already a pharmacy. Their shelves were stocked not with bottles and blister packs but with bark and root, leaf and flower, each one the product of millions of years of evolution, each carrying chemical compounds refined across geological time to protect and sustain living organisms.

I know this not from textbooks but from memory.

From dawn walks into the forest with my father, learning which plants to pick and how to harvest them without harming the plant or disturbing the ecosystem that sustains it. From watching my grandfather treat patients with calm confidence, a confidence rooted not in certificates on a wall but in generations of accumulated knowledge from the earth.

And from understanding very early that healing begins with listening, not only to the patient, but also to the forest itself.

In Ghana, herbal medicine is not merely a system of treatment. It is a relationship: between healer and patient, between community and landscape, and between the present generation and those who came before. It is a form of cultural memory, encoded not in books but in practice.

Tradition and Recognition

Despite its deep cultural roots, herbal medicine in Ghana today exists within an evolving regulatory framework.

The Government of Ghana formally recognizes traditional and herbal medicine through the Traditional Medicine Practice Council (TMPC) under the Ministry of Health. The council is responsible for registering practitioners, regulating herbal medical practices, and promoting safe standards in the preparation and use of herbal remedies. In addition, the Centre for Plant Medicine Research in Mampong-Akuapem conducts scientific studies on medicinal plants, bridging traditional knowledge with modern research. Herbal medicine has also been incorporated into aspects of Ghana's healthcare system, with herbal units operating in selected public hospitals.

For practitioners like myself, this recognition represents an important step: acknowledging that traditional healing systems have long served communities where formal healthcare was inaccessible.

Yet regulation also raises important questions about preserving the integrity of indigenous knowledge while ensuring safety and accountability.

Knowledge at Risk

For generations, herbal medicine knowledge in Ghana has been transmitted orally, from grandparents to parents, from teachers to apprentices, from healer to community.

But that chain of transmission is becoming increasingly fragile.

Urbanization, migration, and changing lifestyles mean that many young people are growing up far from forests and traditional healing practices. The rhythms of modern life leave little time for the long apprenticeships that herbal knowledge once required.

Some practitioners and researchers are now working to document this knowledge before it disappears.

Universities, botanical research centres, and cultural organizations are recording plant uses, preparation techniques, and ecological knowledge associated with medicinal species. Digital archives, ethnobotanical studies, and community-based documentation projects are slowly transforming oral knowledge into written records.

Still, documentation alone cannot replace practice.

True understanding of herbal medicine requires time in the field; observing plants, learning harvesting seasons, understanding how ecosystems function, and recognizing the subtle signals that indicate when a plant is ready to be used.

Knowledge lives not only in words but in relationships with the land.

The Forest Must Survive

Herbal medicine depends on something increasingly fragile: healthy ecosystems.

Many medicinal plants grow in forest environments that are under pressure from deforestation, agricultural expansion, and climate change. When forests disappear, the plants that heal communities disappear with them.

Responsible herbal practitioners understand this deeply.

In my own work, harvesting is done carefully. Bark is removed in small sections so that the tree can regenerate. Roots are taken only when necessary. Leaves and flowers are collected in ways that allow plants to continue growing and reproducing.

These practices reflect a simple but powerful principle: take only what you need, and leave the ecosystem intact.

Some communities are now going further, establishing community medicinal plant gardens and nurseries where threatened species can be cultivated rather than harvested exclusively from the wild.

Such efforts are essential if the forest pharmacy is to remain open for future generations.

Healing in Practice

In my work as a herbal medicine practitioner, many remedies are simple yet remarkably effective.

For patients presenting with stomach pain or diarrhoea, I often turn first to mango leaves. Cleaned and chewed, the juice swallowed while the remaining fibres are discarded, the treatment works through purification, flushing harmful substances from the digestive system and restoring balance naturally.

For patients managing high blood pressure or recovering from typhoid, dandelion has proven valuable. Consumed raw when possible, or dried and powdered for milder intake, it supports immune recovery gradually and gently.

Traditional herbal medicine also recognizes the importance of diet during treatment. Patients experiencing waist pain, for example, are often advised to avoid okra, whose properties can slow certain healing processes.

Kwahu Nsusua (turkey berry) is also popularly used when dealing with anaemia.

For skin infections and boils, I sometimes use mohole, derived from tree sources harvested carefully to ensure the plant continues to thrive.

Each treatment carries with it an ethic of balance: between human health and ecological health.

Salifu Habib Mohammed



Glossary of Key Medicinal Plants

Mango Leaves (*Mangifera indica*)

Used traditionally for digestive purification and relief from stomach disorders.

Dandelion (*Taraxacum officinale*)

Supports immune function and may help manage blood pressure and recovery from illness.

Mohole

A plant-derived preparation traditionally used for treating skin infections and boils.

Okra (*Abelmoschus esculentus*)

Commonly consumed as food but sometimes avoided during certain herbal treatments due to its healing interactions.

Kwahu Nsusua (Turkey Berry)

A vegetable typically used in the preparation of local dishes for its medicinal properties.

Protecting Knowledge, Protecting Life

The deeper lesson of herbal medicine is simple but profound: the health of people and the health of ecosystems are inseparable.

To protect the forest is to protect the future of healing itself.

And in Ghana, as in many parts of the world, that truth has been known for a long time.



**Mango Leaves
(*Mangifera indica*)**



**Dandelion
(*Taraxacum officinale*)**



Mohole



**Kwahu Nsusua
(Turkey Berry)**



**Okra
(*Abelmoschus esculentus*)**