CEPF Final Completion and Impact Report

Organization's Legal Name:	A Rocha Ghana
Project Title:	Protecting Atewa Critical Ecosystem through Biodiversity Assessments and Participatory Monitoring
Grant Number:	CEPF-110602
Hotspot:	Guinean Forests of West Africa
Strategic Direction:	2 Mainstream biodiversity conservation into public policy and private sector practice in the nine conservation corridors, at local, sub-national and national levels
Grant Amount:	$189,220.35
Project Dates:	March 01, 2021 - June 30, 2022
Date of Report:	December 23, 2022

IMPLEMENTATION PARTNERS

Forest Service Division-Forestry Commission: The Forest Service Division-Forestry Commission were involved in the development, deployment and implementation of the Spatial Monitoring and Reporting Tool (SMART). They provided input into priority areas for monitoring forest infractions with key areas being illegal logging, farming, mining and fire incidents within the forest. They also provided law enforcement support by arresting culprits of forest infractions. The Commission also provided shape files for the delineation of the Key Biodiversity Area.

Water Resources Commission (WRC): Was involved in the water quality monitoring. They used the results of data to provide advice on actions the District Assemblies can take to minimize water pollution especially at the abstraction points.

Ghana Water Company Limited: They were involved in the water quality monitoring and used the monitoring data to feed into their decision making protocols for water treatment at the Kyebi Water Treatment plant.

Community Groups – Community Resource Management Area (CREMA): They were at the core of the project implementation. They gave consent for the project implementation through the FPIC process, participated in the validation of the KBA assessments, provided

volunteers for the development and implementation of the SMART, and provided volunteers for the water quality monitoring and collection of eDNA samples. They are part of the Community Forest Monitoring group which reviews the biodiversity and water quality data from all the monitoring tools. They are using the information to engage other community members and key stakeholders in the management of the Atewa Range Forest Reserve.

Ministry of Environment, Science, Technology and Innovation (MESTI): The Ministry were involved in the review of the National Biodiversity Policy and has incorporated the recognition of KBAs as other means of managing biodiversity resources in Ghana

CONSERVATION IMPACTS

Planned Long-Term Impacts: 3+ years (as stated in the approved proposal)

Impact Description	Impact Summary
Atewa Forest is removed from the bauxite mining plans of the Government of Ghana by 2027	The project contributed to the carrying out of case studies on water and biodiversity that have been used to develop witness statements as additional evidence to making the case in court for removing the Atewa Forest from the government's bauxite mining plans. As at the time of submitting this report in Sept, 2022, the Atewa court case has finalized case management procedures and the hearing which was initially scheduled to start on 3rd Nov. 2022 has been postponed to 14th Jan 2023

Planned Short-Term Impacts: 1 to 3 years (as stated in the approved proposal)

Impact Description	Impact Summary
The innovative, participatory monitoring and information system is being used by at least 20 trained volunteers (at least 6 women) and 6 officials (at least 2 women) to identify hotspot areas for criminal activity and arrest the illegal actors by 2022	This has been achieved and is on-going. A total of 25 volunteers have been trained, comprising of 18 community volunteers all male and 7 officials from the Forestry Commission, 4 of whom were Female officers. 21 stakeholders were originally trained at a workshop in Kyebi comprising 18 community members and 3 Forestry Officer and a subsequent training held for 4 staff at the Regional Forestry office to support with monitoring the SMART system. As a result of the engagement, the number of patrols have increased within the forest. Between April 2022 and Nov 2022 there has been 39 offenders arrested and prosecuted with final judgement passed or are at different stages of prosecution. This is due to the availability of sufficient evidence to prosecute offenders compared to previous years where offenders could have their case pending for a year due to insufficient evidence to pass judgement. Find attached updated SMART report

Impact Description	Impact Summary
The biodiversity and water quality information generated at 8 monitoring sites is being used by civil society groups to advocate for Atewa forest to be removed from the bauxite mining plans by 2022	This has been achieved. Biodiversity and Water Quality Monitoring is being used to advocate for the removal of Atewa from bauxite mining. Quarterly reports are relayed to District Assemblies, Water Resources Commission, Forestry Commission and other key stakeholders for actions on improving water quality within the landscape. Some of the actions taken so far include discussions with the Palace on lease of land for galamsey as this impact on the waterbodies. The Palace was to coordinate with the District Assembly on the lease of any land for monitoring purposes. There was also a meeting with the District Assembly and EPA to enforce regulations regarding mining and farming close to rivers upstream. Through the effort of the Municipal Security Council (MUSEC), an arrest was made of an offender who was using an excavator along the Birim river as part of efforts to improve the water quality within the landscape particularly the abstraction points for Ghana Water Company Limited. The arrested person is currently undergoing prosecution charges in court. It is envisaged that these collective efforts will help improve water quality within the Atewa landscape.
Successful deployment and use of the SMART, the Community and FC forest monitoring activities have resulted in illegal forest activities reduced by at least 20% and at least one prosecution per year by 2022	This has been achieved and is on-going. As of Nov 2022, 39 persons have been arrested and prosecuted or are at various stages of prosecution for illegal logging or mining offences in the Atewa Range Forest Reserve as a result of the use of the Spatial Monitoring and Reporting Tool (SMART). Furthermore an area of 494.85km (49485ha) has been covered in the monitoring of the Atewa Forest. Attached is an updated report of the use to the SMART application and the results recorded so far.
New information generated on the status and distribution of at least four globally threatened species at Atewa Forest has been used to advocate against incompatible mining activities by 2022	This has been achieved. Five species identified as additional triggers for KBA status for the Atewa Range Forest Reserve and Six new species (Parachanna obscura, Pellonula leonensis, Labeo coubie, Labeobarbus sp, Cardioglossa occidentalis, Hybomys trivirgatus), and one potentially new species that needs further research to verify its presence (Cinnyris venusta) were recorded. If verified this will bring to the number of new species recorded to Seven. Two new families (Clarias sp. and Pelusios sp.) one of which if from freshwater turtles and one new genus (Enteromius) were also recorded. These new species which have not previously been recorded at Atewa were identified through the use of eDNA analysis. The Atewa KBA application has been submitted to the Global KBA secretariat and is under review for confirmation of its global KBA status.

Impact Description	Impact Summary
The members (being at least 8) of the Atewa Landscape Business Forum are making changes to their business activities to minimize any negative impacts they have on the landscape and to contribute to Atewa's conservation and sustainable management by 2022	This has been achieved. A twelve-member business consortium has been established. As a result, one conservation agreement has been signed with one mining company for restoration of 9.13 acres of degraded land as contribution for the conservation and sustainable management of the Atewa landscape.
The two Expert Witness statements have been used as evidence in Ghana's High Court of Justice to convince the judge to rule against the government of Ghana and its plan to mine bauxite in the Atewa Forest by the end of 2021.	This has been achieved. Two Expert Witness statements were presented in Ghana's High Court as evidence towards making the case for removing the Atewa Forest from the government's bauxite mining plans. As of September 2022, the case is still in court and under case management procedures.

Unexpected impacts (positive or negative)?

Positive:

1. The project also contributed to fostering a stronger working relationship with the Forest Service Division through the implementation of the SMART in the arrest and prosecution of culprits of forest infractions. This is the first time the Forestry Commission has agreed to work hand-in-hand with community volunteers to provide support for monitoring infractions within the forest.
2. The Ministry of Environment, Science, Technology and Innovation has accepted recommendations and incorporated the recognition of KBAs as other means of managing biodiversity resources in Ghana.
3. Through the project mining companies are now more willing to engage. This is evident in the successful signing of a conservation agreement towards the restoration of 9. 13acres of degraded sites within the Atewa landscape by Kibi Goldfields Limited.
4. The discovery of new species as a result of eDNA analysis has contributed to knowledge of the Atewa Range Forest Reserve
5. The results of the monitoring data is being incorporated into actions being implemented under the CREMA management plans
6. The institution of the SMART community monitoring team helped the Forestry Commission to increase their effort in tree planting exercises within the Forestry Reserve by deploying more staff for this activity.

Negative

7. The presence of the SMART community monitoring team is making some staff of the Forestry Commission reluctant to go on patrols. This is being addressed by continually engaging FC staff with reports of SMART patrols and prompts on areas not being covered by community members during their patrols.

PROJECT RESULTS/DELIVERABLES

Overall results of the project:

Component 1.0 Develop innovative participatory monitoring system for sustainable management of critical ecosystems

The project achieved an FPIC agreement with five communities and established a grievance mechanism for the communities to share any grievances that might arise from the implementation of the project. The community engagement took the form of community durbars and an inception meeting to create awareness on the project and its impact as well as get the consent of communities for the implementation. A total of 362 persons

comprising 163 males, 92 females, 71 male youth and 36 female youth were engaged. The use of Spatial Monitoring and Reporting Tool (SMART) is providing digital evidence-based information on forest infractions and improving response time to arresting and prosecuting offenders of forest infractions. Through the project, thirty-nine persons have so far been prosecuted for illegal logging in the Atewa Range Forest. A total of forty selected community members and volunteers from nine communities were trained; fifteen in biodiversity data collection, monitoring of water quality and twenty-five in the use of the Spatial Monitoring and Reporting Tool (SMART). Although the project originally set out to engage five communities, it had to engage an additional four communities during implementation of the project to expand the coverage of monitoring particularly with use of the SMART application. As part of the participatory monitoring system set up, the project also collected and monitored water quality in 14 waterbodies (within and outside the forest) that play critical roles either as abstraction points for supplying water to the communities/habitat for biodiversity (details attached Databases for Water Quality & Biodiversity). Physical characteristics of the water quality monitoring were temperature, pH, turbidity and dissolved oxygen. Generally, there was an observation of increasing pH of 7-8.7 over the monitoring period between Feb-Nov 2022. This value is above the acceptable pH limits for human consumption of 6.5-8.5. Higher alkaline levels of water have the potential of reducing aquatic species diversity and population densities (Spyra, 2017) . There was also an observation of low Oxidation Reduction Potentials (ORP). This is another measure to show the health of a water body to support biodiversity. The acceptable limits for ORP range between 300 and 500 millivolts, however most of the values recorded ranged between 146-198 millivolts. The level of ORP is related to dissolved oxygen. Low ORP as recorded presents a risk of increasing toxicity of metals and other contaminants in water bodies thereby affecting biodiversity growth and survival. Temperature was relatively stable but turbidity levels were very high, up to 1000ntu, which affects the availability of dissolved oxygen required to sustain biodiversity and life.It also presents a major challenge for the water treatment facilities in treating water for communities, as reported by the Ghana Water Company Limited.The project through analyzing environmental DNA (eDNA) has recorded 7 new species (1mammal,1 frog, 1 reptile,4 fish),a new genus (fish),2 entirely new families (fish and turtle) & 1 potentially new bird species previously unrecorded at the Atewa.Notable is the Endangered Limbochromis robertsi which in Ghana has only been recorded in Apedwa Forest near Kibi and the Ankasa Forest Reserve.The 2007 RAP report recorded its presence in Atewa but since then, efforts to find this fish in the Atewa Range Forest, most recently being Oct 2021, proved futile but the eDNA sampling ensured its rediscovery within the Atewa forest. Others are the prevalence of the African Finfoot(Podica senegalensis) which is rarely observed and has only been reported once by hunters. The frog Cardioglossa occidentalis has so far only been observed from the eDNA samples and is worth further research to ascertain its population and distribution. The reptile African fire skink (Lepidothyris fernandi) and the carnivorous fish species Africa snakehead (Parachanna obscura) were also recorded in Atewa for the first time using the eDNA analysis.There was also confirmation of several other species that have previously been recorded but are rarely seen in the Atewa forest.Further details of these are highlighted in the biodiversity database.

Component 2.0 Strengthen the knowledge base for international designation for Atewa:
As part of efforts to enhance the international recognition designation for Atewa, a nomination has been submitted to the Global Key Biodiversity Area (KBA) Secretariat to confirm the conservation status of the Atewa Range Forest Reserve as a global KBA. The nomination proposed five species in two taxa as additional triggers for the KBA status. The project also trained 8 key stakeholders on the global KBA criteria and requirements for assessments. Consultants were engaged to carry out field assessment for three taxa (amphibians, primates and birds), two of which (amphibians and primates) returned enough

evidence to give trigger species based on the KBA criteria. Stakeholders were positive on the results of the findings and pledged their support to the proposal of the site as a KBA. The KBA application is currently undergoing its third review as the global office raised some concerns which have now been addressed at the time of submitting this report. Beyond the global recognition of the site, the project also contributed to the finalization of Ghana's National Biodiversity Policy by integrating the findings of the project through the policy review process. Recommendations into the policy included the national recognition of KBAs as areas for biodiversity conservation besides nationally designated protected area. The policy development which is being spearheaded by the Ministry of Environment, Science, Technology and Innovation has been finalized and submitted to cabinet for approval as at Nov. 2022.

Component 3.0: Engage the private sector to support protection and sustainable management of Atewa Forest

Through private sector engagements within the landscape, one conservation agreement has been signed with a mining company Kibi Gold Fields for restoration of 9.13 acres of degraded land as a contribution for the conservation and sustainable management of Atewa landscape. The project also established a business consortium with current membership of 12 companies. The business consortium & the conservation agreement resulted from an engagement with private sector companies based on the outcome of an impact and dependencies study conducted during the project.The study surveyed 50 private businesses across nine (9) Districts within the landscape whose activities directly or indirectly depend on and/or impact the natural resources and ecosystem services of the Atewa forest (including water bodies). Businesses surveyed undertook operations such as sawmills, oil palm/kernel processing, tourism and hospitality, produce (cocoa) buyers, agrochemical dealers and miners. Businesses were classified under four main categories: mining, processing, produce-buying, and manufacturing. The most represented businesses were in Abuakwa South and Atewa West Districts respectively having 9 (18%) businesses each followed by the West Akim 8 (16%), and Kwaebibirem and Denkyembour Districts at 7 (14%) respectively. The study revealed that 95% the businesses surveyed obtain their raw material resources from the ecosystem services provided by the Atewa Forest Reserve and its landscape. The agricultural sector and its associated industries was the most dependent on the landscape in terms on benefits of ecosystem service in sustaining their businesses. Mining and woodworks were the most impactful due to the high level of degradation they leave post operation.The services sector which covers ecotourism and hospitality had less impact but highly dependent on the forest & will collapse without the forest.

Results for each deliverable:

Component		Deliverable		
#	**Description**	**#**	**Description**	**Results for Deliverable**
1.0	Develop innovative participatory monitoring system for sustainable management of critical ecosystems	1.1	One FPIC Process completed as demonstrated by FPIC report and signed stakeholder agreements	Achieved. The FPIC process was successfully completed and five communities signed an agreement to demonstrate their support towards project implementation and achievement of its objectives
1.0	Develop innovative participatory monitoring system for sustainable management of critical ecosystems	1.2	Twelve volunteers trained on the application of SMART as demonstrated by a post-training assessment report	Achieved. 25 volunteers were trained. 18 community volunteers are currently collecting data using the SMART application. 7 volunteers were from the Forestry Commission office. There was no pre-assessment carried out. However, a post assessment was carried out based of the results of the data that was being recorded in the SMART desktop. Attached is the post training assessment report.
1.0	Develop innovative participatory monitoring system for sustainable management of critical ecosystems	1.3	The SMART is being used by the SMART monitoring team to find, track and share information on illegal and damaging forest activities, demonstrated by monthly monitoring system reports	Achieved. Through the SMART has so far 39 offenders have been arrested and either prosecuted or are at various stages of prosecution. Attached is the updated SMART report.
1.0	Develop innovative participatory monitoring system for sustainable management of critical ecosystems	1.4	One Community Forest Monitoring System for water and biodiversity in place, demonstrated by meeting reports	Achieved. The Community Forestry Monitoring system was integrated into the Community Resource Management Committees which were set up as part of the Community Resource Management Area within the landscape. This was to enhance the sustainability of the system beyond the

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
				project. Attached is the latest meeting report for the CRMC of Obuoho in Oct. 2022 where the results of the data collection from the SMART volunteers were discussed and suggestions made to improve upon illegalities happening in that enclave.
1.0	Develop innovative participatory monitoring system for sustainable management of critical ecosystems	1.5	Fifteen volunteers trained in biodiversity surveys and water quality monitoring demonstrated by post-training assessment report	Achieved. Post training report attached.
1.0	Develop innovative participatory monitoring system for sustainable management of critical ecosystems	1.6	Biodiversity and water quality monitoring demonstrated by survey and monitoring reports	Achieved. Report Attached
1.0	Develop innovative participatory monitoring system for sustainable management of critical ecosystems	1.7	Two Expert Witness statements have been completed and submitted to Ghana's High Court of Justice as evidence of how bauxite mining will damage the forest and communities.	Achieved. Report cannot be attached as it has been tendered as evidence in Court
2.0	Strengthen the knowledge base for international designation for Atewa	2.1	A Rocha Ghana and other stakeholders trained in KBA assessment and monitoring demonstrated by post-training assessment report	Achieved. There was no post training assessment as the consultants were able to use the knowledge from the training to provide sufficient evidence to support the KBA application.
2.0	Strengthen the knowledge base for international designation for Atewa	2.2	Scope of trigger species for KBA assessment prepared	Achieved Scoping report attached

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
			demonstrated by post-scoping report	
2.0	Strengthen the knowledge base for international designation for Atewa	2.3	Key biodiversity assessments demonstrated by survey reports	Achieved. KBA survey reports for three taxa amphibians, birds and primates attached
2.0	Strengthen the knowledge base for international designation for Atewa	2.4	One discussion and validation workshop completed for 30 people representing at least 20 stakeholder groups demonstrated by post workshop assessment report	Achieved. Validation Report attached
2.0	Strengthen the knowledge base for international designation for Atewa	2.5	Nomination submitted to KBA Regional Focal Point for Atewa KBA status demonstrated by submitted application	Achieved. Application submitted to Global KBA secretariat. updated application based on review feedback attached
2.0	Strengthen the knowledge base for international designation for Atewa	2.6	One database established with data from the acoustic, biodiversity, and water monitoring demonstrated by link to the database on A Rocha Ghana website	Achieved. Link to A Rocha website. https://ghana.arocha.org/projects/protecting-atewa-critical-ecosystem-through-biodiversity-assessments-and-participatory-monitoring/
2.0	Strengthen the knowledge base for international designation for Atewa	2.7	Stakeholder Engagement to Integrate Project findings into NBSAP as demonstrated by report of the meeting	Achieved. The project supported the technical working group to finalize and validate the National Biodiversity Policy from which the NBSAP will be derived. The Ministry of Environment Science Technology and Innovation explained during implementation the NBSAP revision was currently on hold as the focus from the Ministry had shifted to

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
				completing the National Biodiversity Policy. Hence the support going into the policy rather than the NBSAP. As of Nov. 2022, the policy had been finalized by the Ministry and submitted to cabinet for approval.
3.0	Engage the private sector to support protection and sustainable management of Atewa Forest	3.1	Research on private sector impacts and dependencies on Atewa Forest's natural resources and ecosystem services, evidence by research report	Achieved. The impact and dependencies research interviewed 50 business within the landscape. 95% of businesses surveyed sources their raw materials from the landscape. Agricultural sector was the most dependent and the mining and woodworks sector most impactful on the landscape resources, the hospitality sector was less impactful but highly dependent on the forest. the hospitality sector is at risk of collapsing if the forest is lost. Report attached
3.0	Engage the private sector to support protection and sustainable management of Atewa Forest	3.2	Atewa Landscape Business Consortium established, evidenced by documents and list of membership	Achieved. Hold meetings of the Landscape Business Consortium. Reports attached
3.0	Engage the private sector to support protection and sustainable management of Atewa Forest	3.3	Conservation Agreements established between communities/CSOs and private sector actors evidenced by signed agreement documents	Achieved. Conservation Agreement attached
4.0	CEPF project management and monitoring for compliance	4.1	Institutional capacity and understanding of gender issues within A Rocha Ghana, effectively monitored as evidenced by the	Achieved. GTT submitted

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
			submission of Gender Tracking Tools at Project start and end	
4.0	CEPF project management and monitoring for compliance	4.2	Stakeholder Engagement Plan effectively implemented and monitored as evidenced by the programmatic report every January and July to CEPF	Achieved. CSTT submitted
4.0	CEPF project management and monitoring for compliance	4.3	Project impacts monitored and reported online at project end as evidenced by final completion and impact reports	Achieved
4.0	CEPF project management and monitoring for compliance	4.4	Communication materials are shared with the RIT per email or other online data transfer software	Communication material attached. link to website on activities https://ghana.arocha.org/projects/protecting-atewa-critical-ecosystem-through-biodiversity-assessments-and-participatory-monitoring/

Tools, products or methodologies that resulted from the project or contributed to the results:
Brochures: A project impact brochure was designed and printed for distribution among our stakeholders both local and international. This distribution was done through different media such as stakeholder meetings, the CEPF closing workshop and the African Protected Area Congress in Kigali.

PORTFOLIO INDICATORS

Portfolio Indicator Number	Portfolio Indicator Description	Expected Numerical Contribution	Expected Contribution Description	Actual Numerical Contribution	Actual Contribution Description
4a	Number of local communities are empowered to engage in the sustainable management of priority sites and/or consolidate ecological connectivity at the landscape scale (target: At least 60).	5	These are the communities (Kobiriso, Asiakwa, Saguimase, Obuase, Apapam) that will be engaged under the project and empowered with skills to monitor the forest for illegal and damaging activities so they can be addressed in a timely way.	9	5 communities were engaged during the FPIC process. These were Obuoho, Sagyimase, Potraose, Apampatia and Pameng. However during implementation there was the need to engage 4 additional communities (Saamang, Akyeansa, Larbikrom, Dompim) to support with the use of the SMART tool and the expand the scope of the monitoring activities.
1	Number of Key Biodiversity Areas targeted by CEPF grants have new or strengthened protection and management (target: At least 20).	1	Collection of evidence for KBA assessment and the submission of the KBA application will contribute to validating the KBA status of Atewa. The other activities will contribute to sustaining conservation efforts within the Atewa Forest Reserve.	1	KBA assessment for Atewa Forest updated with 5 additional species 2 primates and 3 amphibians. A proposal has been sent to the Global KBA secretariat after review by the Regional Focal Point. We await the validation from the Global Secretariat and confirmation of the site as a global KBA
2a	Number of hectares within production landscapes are managed for biodiversity conservation or	6,000	This will be the area of land (4000-6000 hectares) covered by the monitoring system and the local patrols (SMART,	8,400	This area of 8400ha covers the CREMA communities within the Atewa landscape.

Portfolio Indicator Number	Portfolio Indicator Description	Expected Numerical Contribution	Expected Contribution Description	Actual Numerical Contribution	Actual Contribution Description
	sustainable use (target: At least 100,000).		water and biodiversity) that will contribute to protecting this area within the Atewa Forest		
2.2	Number of key biodiversity areas with locally-relevant information on natural ecosystems generated and used to influence political and economic decision-making in favor of their conservation (target: for at least 20).	1	The data that will be collected will strengthen the campaign against bauxite mining in Atewa forest	1	The data on the KBA assessment is being used to engage communities and also being fed into advocacy strategies for the campaign against bauxite mining of Atewa Forest
3.2	Number of inventory of Key Biodiversity Areas in the hotspot is updated to fill critical information gaps, particularly with regard to the Lower Guinean Forests subregion, and freshwater ecosystems.	1	The KBA assessment for Atewa Forest will be updated and submitted based on the field surveys for the trigger species identified during the KBA study.	1	Four inventories were done in 1 KBA : eDNA and field assessment for three taxa (amphibians, primates and birds). These inventories resulted in additional evidence collected through the on-site KBA Trigger species assessment which identified 5 additional trigger species which are currently being reviewed to validate the KBA status of Atewa. The five trigger species are an addition to existing trigger species for

Portfolio Indicator Number	Portfolio Indicator Description	Expected Numerical Contribution	Expected Contribution Description	Actual Numerical Contribution	Actual Contribution Description
					the Atewa KBA. Another set of data on ecosystem types has been identified for triggering criteria A2b and B4 of the KBA criteria. The challenge, however, is that Ghana's ecosystem types have not been assessed under the IUCN Red List of Ecosystems and would thus need to be done before that criteria can be used to trigger additional evidence for Atewa's KBA status.

GLOBAL INDICATORS

Protected Areas

Protected areas that have been created and/or expanded as a result of the project. Protected areas may include private or community reserves, municipal or provincial parks, or other designations where biodiversity conservation is an official management goal.

Name of Protected Area	WDPA ID*	Latitude	Longitude	Country	Original Total Size (Hectares) **	New Protected Hectares ***	Year of Legal Declaration or Expansion

*World Database of Protected Areas

**If this is a new protected area, 0 should appear in this column

*** This column excludes the original total size of the protected area.

Key Biodiversity Area Management

Key Biodiversity Areas (KBAs) under improved management—where tangible results have been achieved to support conservation—as a result of the project.

KBA Name	KBA Code	Size of KBA	Number of Hectares with Improved Management
Atewa Range Forest Reserve	GHA3		49,485

Production Landscapes

Production landscapes with strengthened management of biodiversity as a result of the project.

A production landscape is defined as a site outside a protected area where commercial agriculture, forestry or natural product exploitation occurs.

Name of Production Landscape	Latitude	Longitude	Hectares Strengthened	Intervention
Atewa CREMA. This CREMA covers eight communities within the Atewa Landscape	6.1683	0.5494	8,400	The interventions include community awareness creation on conservation challenges and actions that can be taken to address them and restoration of degraded areas within the landscape. Agroforestry is also practiced to improve landscape dynamics and built community resilience against climate change. Organic cocoa schemes are being introduced in partnership with Yayra Glover and communities are currently planting Aframomum spp. (Grain of paradise) as part of livelihood enhancement.

Benefits to Individuals

- **Structured Training:**

Number of Men Trained	Number of Women Trained	Topics of Training
36	5	Use of SMART and its application in reporting Note:18 men at the community and 2 men and 1 lady from Forestry Commission in Kyebi and 1 man and 3 ladies from the Regional Forestry Commission office Water quality Monitoring 15 men and 1 female staff of A Rocha Ghana

- **Cash Benefits:**

Number of Men – Cash Benefits	Number of Women – Cash Benefits	Description of Benefits
25	0	Renumeration for patrolling using the SMART app and Water quality

Benefits to Communities

View the **characteristics** column below with the following corresponding codes:	View the **benefits** column below with the following corresponding codes:
1- Small Landowners	a. Increased Access to Clean Water
2- Subsistence Economy	b. Increased Food Security
3- Indigenous/ Ethnic Peoples	c. Increased Access to Energy
4- Pastoralists / Nomadic Peoples	d. Increased Access to Public Services
5- Recent Migrants	e. Increased Resilience to Climate Change
6- Urban Communities	f. Improved Land Tenure
7- Other	g. Improved Use of Traditional Knowledge
	h. Improved Decision-Making
	i. Improved Access to Ecosystem Services

Community Name	**Community Characteristics**							**Type of Benefit**									**Country**	**Number of Males Benefitting**	**Number of Females Benefitting**
	1	**2**	**3**	**4**	**5**	**6**	**7**	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**			
Potroase	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	Ghana	562	640
Obuoho	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	Ghana	644	828
Apampetia	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	Ghana	280	321
Pameng	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☒	Ghana	421	488
Sagyimase	☒	☒	☒	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☒	☒	☒	Ghana	524	415
Dompim	☒	☒	☒	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☒	☒	☒	Ghana	354	236
Larbikrom	☒	☒	☒	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☒	☒	☒	Ghana	257	320
Akyeansa	☒	☒	☒	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☒	☒	☒	Ghana	397	230
Saamang	☒	☒	☒	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☒	☒	☒	Ghana	520	453

Characteristics of "Other" Communities:

- Sagyimase: N/A
- Dompim: N/A

- Larbikrom: N/A
- Akyeansa: N/A
- Saamang: N/A

Policies, Laws and Regulations

View the **topics** column below with the following corresponding codes:			
A- Agriculture	E- Energy	I- Planning/Zoning	M- Tourism
B- Climate	F- Fisheries	J- Pollution	N- Transportation
C- Ecosystem Management	G- Forestry	K- Protected Areas	O- Wildlife Trade
D- Education	H- Mining and Quarrying	L- Species Protection	P- Other

No.	Name of Law	Scope	Topics														
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Ghana National Biodiversity Policy	National	☐	☒	☒	☐	☐	☐	☒	☐	☐	☐	☒	☒	☐	☐	☒	☐

"Other" Topics Addressed by the Policy, Law or Regulation:

No.	Country/ Countries	Date Enacted/ Amended	Expected impact	Action Performed to Achieve the Enactment/ Amendment
1	Ghana	September 15, 2022	KBAs particularly outside of nationally designated protected areas will be recognized nationally	Information contributed to finalizing the National Biodiversity Policy. Recommendations into the policy included the national recognition of KBAs as areas for

No.	Country/ Countries	Date Enacted/ Amended	Expected impact	Action Performed to Achieve the Enactment/ Amendment
			as biodiversity conservation areas	biodiversity conservation besides nationally designated protected area. The policy has been finalized and submitted to cabinet for approval.

Companies Adopting Biodiversity-friendly Practices

A company is defined as a for-profit business entity. A biodiversity-friendly practice is one that conserves or uses natural resources in a sustainable manner.

Name of Company	Description of Biodiversity-Friendly Practice	Country/Countries where Practice was Adopted
Kibi Gold Fields Limited	Compliance with restoration of degraded mine sites as part of their mining activities.	Ghana

Networks and Partnerships

Networks/partnerships should have some lasting benefit beyond immediate project implementation. Informal networks/partnerships are acceptable.

Name of Network/Partnership	Year Established	Country/ Countries	Established by Project?	Purpose
Atewa Landscape Business Consortium	2021	Ghana	Yes	To engage business in sustainability practices and development of green value chains while contributing to biodiversity conservation

Sustainable Financing

Sustainable financing mechanisms generate funding for the long-term (generally five or more years). These include, but are not limited to, conservation trust funds, debt-for-nature swaps, payment for ecosystem services (PES) schemes, and other revenue, fee or tax schemes that generate long-term funding for conservation.

Name of Mechanism	Purpose	Date Established	Description	Country/ Countries	Project Intervention	Delivery of Funds?

Globally Threatened Species

Globally threatened species (CR, EN, VU) on the IUCN Red List of Threatened Species, benefitting from the project.

Genus	Species	Common Name (English)	Status	Intervention	Population Trend at Site

LESSONS LEARNED

Lessons learnt Project design:
During project design, we were introduced to use of eDNA sampling while we were proposing the use of acoustic monitoring for biodiversity. This suggestion has proved very useful because it has added to the organizations skills and knowledge of global trends in biodiversity monitoring.

Lesson Learnt Project Implementation:
☐ The involvement of stakeholder (Forestry Commission and community members) in the brainstorming and design of project activities such as designing of the interface of the patrol package for the SMART application improves acceptability of the project and makes implementation smooth.
☐ The use of the eDNA application provides an indication and in most cases confirmation of the presence of species. These however need to be verified per nationally available databases to authenticate the results of the DNA sequencing makes use of databases (e.g GBIF) that may not have records of all species identified in the country.

The use of the water quality checker has enhanced the availability of water quality data for immediate use by decision makers within the landscape.

Lessons learnt Capacity Building:
☐ The organization's capacity has been built for conducting the Free Prior and Informed Consent (FPIC) process. Although community engagement has always been part of our project design, following through the FPIC process has added to the organization and staff capacities portfolio
☐ The organization also built its capacity in the use of a water quality checker for monitoring physical characteristics of water. This is the first time the organization is acquiring and using this equipment. The equipment and the results it produced was also used to improve the results of water quality testing equipment used by a partner on the project, Ghana Water Company Limited, who acknowledge that the project's water quality checker produces a more accurate result than their equipment.
☐ Another key capacity gained was in carrying out the assessments for the site's designation as a KBA. The whole process of scoping for trigger species, training stakeholders in the KBA criteria and their application, and putting together the KBA application has enriched the institutional capacity in the assessment of sites for global recognition. The organization is currently providing support to two other organizations who are also interested in assessing their sites as potential KBAs.
☐ Use of eDNA sampling and analysis to identify biodiversity in aquatic environments. This exercise provided us with valuable skills in the collection of water samples. It was our first time using eDNA analysis and the number of species recorded was remarkable.
☐ The use of the SMART application tool for collecting information on infractions and increasing the response time for arrests and prosecutions was another lesson learnt. The indicators for monitoring on the SMART tool had to be developed from stakeholders thereby enabling us to prioritize what we would want to monitor. The organization is the first to use the SMART digital facility and has received additional training from WWF Regional training programme thereby making A Rocha Ghana placed as the go to organization for SMART implementation in Ghana.
☐ Besides staff of A Rocha, 7 staff of the Forestry Commission and 33 selected community volunteers have also had their capacities built through the development and implementation of the monitoring protocols and tools.

SUSTAINABILITY/REPLICATION

Successes
1. Thirty-nine persons prosecuted for illegal logging in the Atewa Range Forest Reserve as a result of the use of Spatial Monitoring and Reporting Tool (SMART). The project envisages more prosecutions to serve as a deterrent to other forest offenders.

2. Five species identified as additional triggers for Key Biodiversity Area (KBA) status for the Atewa Range Forest Reserve. The project trained other stakeholders and researchers on the KBA trigger criteria. Some of these researchers are seeking to apply these KBA trigger to other sites across the country.

3. The project successfully deployed and is using the SMART as a monitoring tool via the digital platform. This is the first to be used in the country. The Mole National Park that uses the SMART is still using the paper based application together with GPS whiles the Atewa Range SMART is using the android technology. A Rocha Ghana can therefore serve as a resource for training other protected areas across the country on the use of the tech-based application. A Rocha Ghana has subsequently taken part in a Regional Training by WWF on SMART. This has enhanced their capacity to provide further support to any institution looking to use SMART in biodiversity monitoring.

4. Six new species (Parachanna obscura, Pellonula leonensis, Labeo coubie, Labeobarbus sp, Cardioglossa occidentalis, Hybomys trivirgatus) Two new families, one from freshwater turtles (Clarias sp.
Pelusios sp.) and one new genus (Enteromius) and one potentially new species that needs further research to verify its presence (Cinnyris venusta) were recorded. if this species is verified, it bring sthe total number of new species recorded at Atewa as a result of eDNA to seven. The reptile African fire skink (Lepidothyris fernandi) were also recorded in Atewa for the first time using the eDNA sampling.

5.One conservation agreement signed with one mining company for restoration of 9.13 acres of degraded land as contribution for the conservation and sustainable management of Atewa landscape. The mining company is one of the 10 businesses who have formed a consortium within the Atewa landscape to promote sustainable production and consumption.

Challenges:
1. A delay in obtaining the water quality checker as a result of it being unavailable from local sources and delay in its international shipment caused a late start in the water monitoring activity. However, since the equipment arrived, the results from the monitoring are guiding decision making among partners on strategies and actions to better secure the water sources of the Atewa landscape.

2. The SMART tool has proved to be useful in the detection of forest infractions in real time but also it was identified that it presents certain challenges such as the use of internet which may not always be available especially in certain portions of the forest. Data is therefore sometimes held until there is internet reception before it can be transmitted. To address this challenge of internet access, the community forest monitors have been trained to make calls for urgent infractions (illegal logging, fire incidents, illegal farming and mining) to the protected area staff or the NGO contact to enable prompt action.

3. The current SMART application requires that someone be present on the desktop or be connected to the cloud system to be able to detect alerts when they are sent. This is a limiting factor because within the setting of this project the use of SMART especially for protected area staff is an additional tool and may not always be possible to have a dedicated staff sitting with the computer to detect alert.

4. The eDNA analysis is dependent on a database that may not be able to reflect all the species that occur at a site, therefore the identification of samples to species level is limited if the sequencing does not match species listed on the database that Nature Metrics is using. For instance, in the case of the Atewa samples, there were some species that were reported to have been detected but these species are not even found within the West Africa subregion. There were also challenges with species identification that can be attributed to lab errors. Although the eDNA analysis gives a good indication of the presence of species, the results will need to be verified with existing site information or other databases of species identified within the area under study.

ENVIRONMENTAL AND SOCIAL SAFEGUARDS/STANDARDS

The project was fortunate not to trigger any social or environmental safeguard issues.

ADDITIONAL COMMENTS/RECOMMENDATIONS

Although the project received great support from CEPF, there were limited field visits from the CEPF team during the project implementation. Regular visits are recommended as this will help in the sharing of new ideas during project implementation because most of the time project designs may require a different approach in its implementation thus, such visits may serve as a platform to discuss and modify project activities to suit situations on the ground.

Provision of networking opportunities and field exchange visits between CEPF grantees would be an asset for learning and knowledge exchange.

Also communication with grantees on other potential grants within the CEPF donor community will help enhance the sustainability of projects beyond CEPF funding

Availability and continued support for CEPF grantees through a grantee community forum would also be helpful for continuous learning and networking

There was no post KBA training assessment as consultants were able to adequately use the knowledge from the training to carry out the taxonomic assessments and provide sufficient information that was used to complete the KBA application.

ADDITIONAL FUNDING

Total Amount of Additional Funding Actually Secured (USD)	

Breakdown of Additional Funding	

INFORMATION SHARING AND CEPF POLICY

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned and results. For more information about this project, you may contact the organization and/or individual listed below.

A Rocha Ghana email: ghana@arocha.org