

# COMMUNITY-BASED INDEPENDENT REPORTING PROJECT

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Pilot Testing a Community-Based Independent Reporting Platform with a  
Mobile App Link, Lake Bosomtwe, Ghana

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## Final Report



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## BACKGROUND OF THE PROJECT

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At the national level, Ghana's Draft National Biodiversity Policy (NBP)<sup>1</sup> recognizes biodiversity is the basis of sustenance of life on earth. In signing and ratifying the United Nations Convention on Biological Diversity (CBD) and its protocols, Ghana committed to implementing all the Articles enshrined in the Convention. The CBD is based on the principle that the protection and use of biodiversity should be considered always from an ecological, economic and socio-cultural viewpoint. The CBD also takes into recognition Principle 15 of the Agenda 21 - the Precautionary Principle. The successful implementation of this policy will thus contribute to the achievement of the Post 2020 Biodiversity Framework of the CBD and the Sustainable Development Goals (SDGs). Other national policies such as the Buffer Zone Policy (2013), Forest and Wildlife Policy (2012) and the Water Policy (2007) recognize the critical importance of Lake Bosomtwe<sup>2</sup> as biosphere reserve and the need to protect, regenerate and maintain the active and established vegetation in riparian buffer zones of this Biosphere Reserve.

Given its ecological, economic and social importance, Lake Bosomtwe was designated as a biosphere reserve by UNESCO In 2016. Biosphere Reserves were launched by UNESCO's 1974 Man and Biosphere Programme which recognized the need to reconcile the conservation of areas that are host to valuable biodiversity with local land-use needs through the delineation of core areas, buffer areas and transition zones<sup>3</sup>. Biosphere Reserves is one of the six operational models providing useful lessons in implementing sustainable development and for securing biodiversity conservation. The Bosomtwe Basin must have looked more beautiful and healthier and, therefore, pleasant with plenty of food and adequate clean water for all a few decades ago. Barely 30 years ago, farmers in the Basin produced all their food requirements. They had plenty to eat and the excess sold to traders from Kumasi, the regional capital, and the surrounding urban markets. Besides cocoa, farmers cultivate crops such as plantain, cocoyam, cassava, maize and vegetables.

Yet, recent evidence show that the core zones (riparian vegetation and aquatic) remain under serious threat from socio-economic activities and climate change. Ironically, the trend has changed due to the destruction of the green vegetation, which is the basis of food production. The people can barely feed themselves now. Today, traders buy the same basic food items they produced and transport them from Kumasi and elsewhere to communities around Lake Bosomtwe. In response to this, several stakeholder groups have introduced a number of interventions such as the "Community Collective Action for Food Security, Climate Mitigation and Conservation of the Newly Designated Lake

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<sup>1</sup> Ministry Environment Science and Technology (MESTI), (2021). Draft National Biodiversity Policy. MESTI, Accra Ghana

<sup>2</sup> The only natural lake system is the Lake Bosomtwi, which is now a biosphere reserve.

<sup>3</sup> Graham Bennett. (2004). Integrating Biodiversity Conservation and Sustainable Use: Lessons Learned From Ecological Networks. IUCN, Gland, Switzerland, and Cambridge, UK. vi + 55 pp.

Bosomtwe Biosphere Reserve project<sup>4</sup>, led by Arocha-Ghana and The Bosomtwe Land Restoration Project led by the Asante Kingdom Land Restoration Project (AKLRP)<sup>5</sup>.

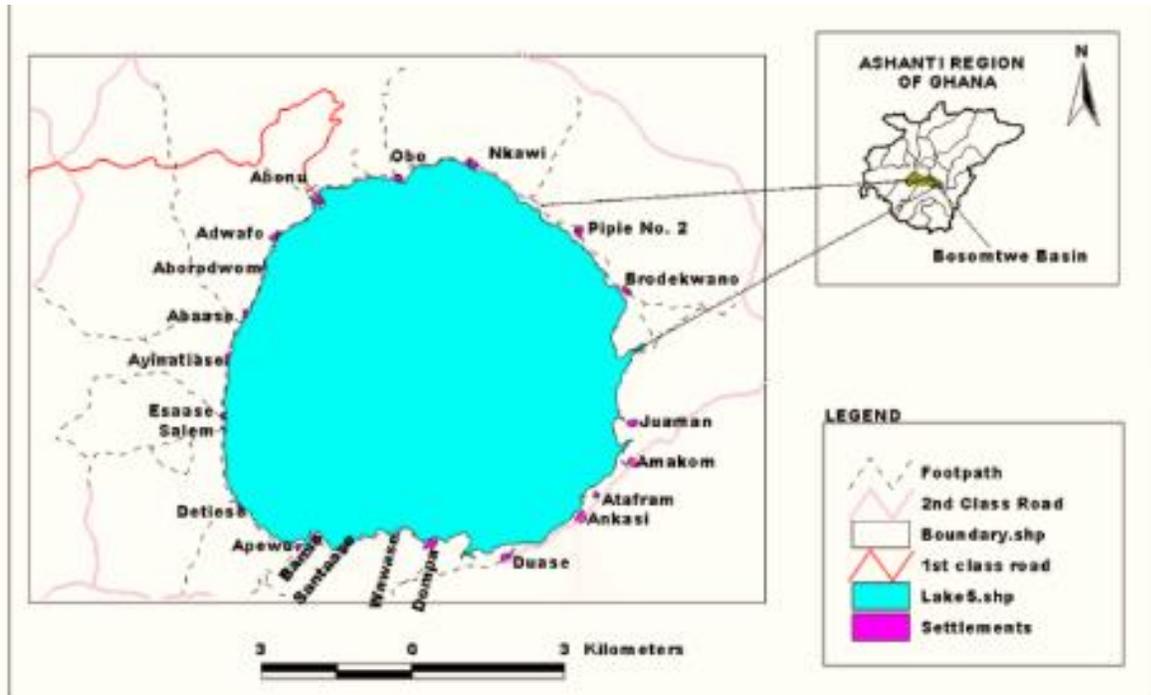


Figure 1.1 Location of Lake Bosomtwe Biosphere Reserve

While these interventions, among others, have yielded meaningful results, degrading activities are still ongoing, and threaten to undermine the biosphere reserve status of Lake Bosometwe.

In response to this, FIDEP Foundation introduced the Community-Based Independent Reporting as an intervention project. This project sought to pilot test a community-based independent reporting platform using a mobile app-link as a means of connecting 21 buffer communities within the Lake Bosomtwe biosphere reserve to monitor and report, learn, share and co-develop assertive actions for Integrated Biodiversity Management (IBM). The theoretical premise of this activity is that in watershed management, local communities are the primary stakeholders provisioned by their constant interaction with the environment, valuable knowledge and experience that makes them the best managers of the watersheds. In this regard, studies have recommended the involvement of all stakeholders i.e. professionals, scientific experts, the public at large, non-governmental organisations (NGOs) and local action groups in dealing with issues concerning water management.

<sup>4</sup> Arocha Ghana; <https://ghana.arocha.org/news/a-rocha-ghana-launches-special-initiative-to-conserve-lake-bosomtwe/>

<sup>5</sup> The AKLRP: <https://greenasantekingdom.org/about/>



This project is part of the FIDEP Foundation programme on Integrated Watershed Management. The overall goal of this programme is to promote a balanced interaction of water resources, communities and development activities through innovative management approaches in order to protect natural ecosystems and use natural resources sustainably, when conservation and sustainable use can be mutually beneficial.

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## EXPECTATIONS OF THE PROJECT

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- a. This project sought to support on-going conservation efforts at Lake Bosomtwe landscape with community-generated, timely and verifiable data to inform local planning and action.
- b. To foster Knowledge co-generation, knowledge sharing and the development of socially-technical tools, methods and approaches that catalyze local action in protecting critical ecosystems in Ghana.
- c. To train community members as data collectors and local monitors using mobile technology to collect and share information on illegal logging, fishing with harmful chemicals, indiscriminate dumping of refuse, illegal mining, farming activities, charcoal production, etc.

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## PROJECT APPROACH

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The project adopts an Integrated Biodiversity Management (IBM) approach. The project intends to promote the use of IBM as a holistic approach to management of critical biodiversity areas in Ghana. This is premised on the observation that biodiversity loss, climate change, watershed degradation and land use changes are interlinking threats to the conservation status of the Lake Bosomtwe biosphere reserve. In this case, the general purpose of an IBM is to make biodiversity conservation considerations an integral part of a local communities' social, economic and environmental development strategy, to ensure that the local riparian communities are following high standards of responsible environmental stewardship.



## PROJECT OUTPUTS

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1. Publication of a series of Working Papers including:
  - a. Working Paper on local capacity gap analysis for community-based independent reporting at the Lake Bosomtwe Biosphere Reserve
  - b. Working Paper on local capacity gap analysis for mainstreaming integrated biodiversity management (IBM) outcomes, lessons and knowledge into national policies
  - c. Working Paper on socio-institutional gap analysis for the implementation of the buffer zone policy in Ghana
2. An Online platform created to serve as a community-based tool for direct communication, awareness building and reliable information source for the riparian communities within the Lake Bosomtwe biosphere reserve and also provide an inclusive and safe space for local communities to voice out their grievances with management authorities.

## RELEVANCE OF THE PROJECT AREA

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The project will take place at the Lake Bosomtwe Biosphere Reserve. Lake Bosomtwe is located in the west central part of Ghana's Ashanti Region, 35 km South East of Kumasi a population of about 2 million. It is one of the six major meteoric lakes in the world and it is believed to be 1.3 million years old. The lake is circular in shape with a rim diameter of 10.5 km and there are four streams that flow into it; but the lake lacks an outlet makes it a closed basin. The Ashantis believe that the lake is the abode of their gods.

There are 24 villages, with a total population of 11,800 people (the average size of a village is 500 people) along the 32km shoreline of Lake Bosomtwe. The main occupation of the people is fishing; shifting cultivation and farming are also undertaken in the basin area.

**Aquatic biodiversity:** The lake Bosomtwe is rich in aquatic biodiversity of national and global significance. The most important species described to date is an endemic fish, *Tilapia busumanna*. The fish species include sarotheroden *Galilaeus multifasciatus*, *Tilapia busumana*, *T. discolour*, and *T. zilli*. The other known fish of importance is the catfish of genus *Claria*. In 2016, Lake Bosomtwe was designated as a biosphere reserve by UNESCO. **Terrestrial biodiversity:** The forests in the basin areas of Lake Bosomtwe harbors a variety of fauna that are recognized nationally and /or globally as endangered. These species include palm squirrel (*Epixerus ebii*), giant pangolin (*Manis [phataginus] gigantea*), tree pangolin (*M. tricuspis*), long-tailed pangolin (*M. tetradactyla*), bosman's



potto (*Perodicticus potto*), dwarf galago (*Galagoides demidoff*), diana monkey (*Cercopithecus diana*), black and white colobus (*colobus [procolbus] polykomos*), African civet (*Viverra civetta*), two-spotted palm civet (*Nandinia binotata*), forest genet (*Genetta pardina*), yellow-backed duiker (*Cephalophus jentinki*) and bareheaded rock fowl (*Piscathartes gymnocephalus*).

## STATUS OF PROJECT ACTIVITIES

|   | <b>Project Activity</b>  | <b>Status of Activity</b> |
|---|--|---------------------------|
| 1 | Undertake 4 Stakeholder Briefing on the Buffer Zone Policy implementation framework, local engagement in peer monitoring, forest landscape conservation planning and agroecology   | Completed                 |
| 2 | Establish inclusive and safe space online platform combining a collection of social media tools (TIMBY mobile Application, biodiversity and climate youtube channel, community facebook page, community twitter page).   | Completed                 |
| 3 | Facilitate the training and equipping local data networks to use TIMBY mobile Application to facilitate media access to watershed degradation data and to share emerging land use, management and governance issues within the Reserve.  | Completed                 |
| 4 | Organize community based training and installation of mobile applications to capture, develop and share climate impact- videos, biodiversity-based stories, farmer experiences and community testimonials on the implementation of the Buffer Zone Policy, biosphere conservation planning, riparian landscape restoration and agroecology | Completed                 |
| 5 | Facilitate 7 Connective Dialogues for Community leaders to engage with Subject Matter Experts via whatsapp group chat to identify local drivers of degradation and biodiversity loss and frame localized, culturally relevant approaches to explore and mainstream IBM into local context.   | Completed                 |



|   |  |           |
|---|--|-----------|
| 6 | Organize four (4) community tours and field-learning visits involving 12 reporters interacting with 6 forest fringe communities, 2 CREMAs and 9 community based monitors on deforestation and biodiversity loss data sharing and forest governance challenges.   | Completed |
| 7 | Organize two (2) media-briefing sessions on information access and dissemination challenges relating to deforestation and biodiversity loss involving 12 News Reporters and News Editors, 10 community representatives and Forest Services Division  | Completed |
| 8 | Develop a web-based interactive mapping platform with monthly updates to capture and provide information on community access to and use of ecosystem services and buffer zone conservation status at Lake Bosomtwi biosphere reserve   | Completed |
| 9 | Publication of 3 policy papers highlighting : <ul style="list-style-type: none"> <li>• Local Capacity gap analysis for community-based independent reporting on the Lake Bosomtwi biosphere reserve</li> <li>• Local Capacity gap analysis for Mainstreaming IBM outcomes, lessons and knowledge into national policies</li> <li>• Socio-institutional gap analysis for the implementation of the buffer zone policy in Ghana</li> </ul> | Completed |

## RESULTS

### Connective dialogues, Stakeholder Briefings, community tours and field-learning visits

The project carried out 7 Connective dialogues, 4 Stakeholder Briefings and 4 community tours and field-learning visits involving 12 reporters interacting with 6 forest fringe communities, CREMAs and 9 community based monitors focusing on the implementation

framework of the buffer zone policy, local engagement in peer monitoring, forest landscape conservation planning and forest governance challenges. Recognising the importance of local communities in the conservation efforts, CSOs like Friends of the Earth Ghana initiated a project with the aim of conserving the globally significant flora and fauna of the lake's basin by supporting traditional conservation practices and a community based conservation. This project included a *Community-based Biodiversity Assessment and Monitoring element*. In this project, school children from 24 schools were trained in assessment and monitoring of biodiversity in and around the lake, including water quality monitoring. While the Friends of the Earth monitoring project was considered most novel and community-based, it was largely focused on water quality monitoring using the prevalence of benthic macroinvertebrates. The conservation status indicators such as habitat protection, degradation and rehabilitation could not be effectively factored into this monitoring model. Therefore, several illegalities still abound and are mostly difficult to control.

While there are still traces of local monitoring capacity in communities like Abono, the continuous application of this capacity to the conservation of the Biosphere Reserve requires commitment. The commitment to utilizing this monitoring capacity seems to have been undermined by over-prioritization of economic benefits at the district level. Civil society see a competing priorities at play in the management of the Biosphere Reserve. Local community members have observed increasing illegal mining activities and sporadic expansion of farmlands in within the Biosphere Reserve. Some attributed this increase to the COVID 19 pandemic. It was indicated that, since the COVID 19 pandemic, residents who had migrated to Accra and Kumasi have returned to the village due to loss of jobs in the cities. These returnees, mostly youth are believed to be engaging in activities that increase degradations around the biosphere reserve. Such uncontrolled farming, illegal mining and other developmental activities have resulted in serious forest fragmentation, which in turn impedes the functional ecological connectivity of the Biosphere Reserve. Further fragmentation is likely to result in reduced resilience of species habitats and species populations. From the field observations, it was noted that the scale and intensity of this effect is only moderately understood by local stakeholders.

In general terms, the Biosphere Reserve may be described as a common good as it is shared and beneficial for all or most members of a given community, and its sustainability is achieved by collective action, and active participation from all stakeholders. Therefore, in theory, the effective management of the Biosphere Reserve will depend to a large extent on the ability of the management authority to apply and enforce collective decision rules. However, given that the Biosphere Reserve is regarded as a common good, it cannot be ruled out that in some form or in many forms, private interests affect the management activities and outcomes of the Biosphere Reserve. This also need to be addressed at the basin level with effective community participation. From the connective dialogues, stakeholder briefings and community tours and field-learning visits involving reporters, forest fringe communities, CREMAs and community based monitors, it can be concluded that independent monitoring is only the starting point for a more integrative sense for biodiversity conservation at the Lake Bosomtwe Biosphere Reserve.

## Establishing an inclusive and safe space online platform for Community-Based Independent Reporting Initiative

The project established an inclusive and safe space online platform combining a collection of social media tools including: TIMBY mobile application ([www.fidep.timby.org](http://www.fidep.timby.org)), biodiversity and climate youtube channel, community facebook page, community twitter page.

The project also facilitate community based training and installation of resident sustainability teams (RSTs) to use TIMBY mobile application to facilitate media access to watershed degradation data and to share emerging land use, management and governance issues within the Reserve.

The monitoring and reporting process hitherto has mostly been done through whatsapp, facebook, youtube print media, radio discussions and traditional online media. Field reports show that in spite of all the stakeholder interventions, the Lake Bosomtwe Biosphere Reserve is under serious threat because the landscape is still experiencing scatters of illegal mining activities. Figure 2.1 illustrates the distribution of illegal mining reports between 1st March and 30th August, 2021 around Lake Bosomtwe.



Figure 2.1: Illustrates the distribution of illegal mining reports between 1st March to 30th August, 2021 around Lake Bosomtwe

Source: Field reports from the FIDEP Foundation RST, 2021

For some years the activity has gone on at Beposo, one of the three key access routes to the Lake Bosomtwe Basin. Figure 2.1 illustrates that Beposo and Minti community/area are experiencing the highest level of illegal activities according to the reports received (23% and 22% respectively) between 1st March to 30th August, 2021. Minti is one of the well noted communities in Ashanti Region, if not the country, as regards illegal mining. Reports from Minti community indicates that the Bosomtwe Range forest reserve, the only one in the District and even beyond, has been mined haphazardly. There are instances where matured Cedrela trees that have been established in a plantation by the Forestry Commission under the Modified Taungya System (MTS) have been destroyed. Under MTS farmers who engaged in the establishment of the plantation are entitled to forty per cent (40%) of the proceeds from the sale of the trees. The destruction of the trees means a wasted effort and energy as well as great loss of income to the rural folk and economy.

Others including Danso, Koninyaw, Gyemasu-Anweaso, Anyanso and Anumso have all experienced illegal small scale mineral extraction. The remaining communities including: Danso, Koninyaw, Gyemasu-Anweaso, Anyanso and Anumso all experienced equal number of reports on illegal mining (11% each), as seen in figure 2.1. All these are in the Bosome Freho District Assembly which is not so rich in terms of Biodiversity. Indeed, there have been several attempts to end the destruction. It, however, appears the efforts by people clothed with state powers have failed to stop illegal mining in the country. If the failure of people vested with the authority of state to deal with the operators involved and nib the canker in the bud is not due to corruption it is difficult to identify what other cause could be the reason, otherwise their efforts have not been enough.

From the period 1st March to 30th August, 2021, there were 32 reports of harmful farming activities (clearing vegetation less than 30 meters from the water body) and 16 reports of charcoal burning around the riparian vegetation. Both of these activities have serious negative externalities on the riparian vegetation. From these reports, it was noted that the pressure on the land has been largely the result of a combination of factors. Firstly, the nature of the Bosomtwe terrain is such that it is naturally not suitable for cultivation. Part of the reason is also the result of increasing population as a result of immigration into the Basin. Table 1.1 and figures 1.2-1.3 suggest that harmful farming activities and charcoal burning is intensifying in at least 7 out of the 21 communities monitored between 1st March to 30th August, 2021. The highest number of reports on harmful farming activities came from Anyinatease and Koninyaw (recording 19% each). The highest number of reports on charcoal burning activities came from Gyemasu-Anweaso and Pipie, both recording 19% (see table 1.1 and figure 1.2).

Table 1.1: Reports of harmful farming activities and charcoal burning activities for the period, 1st March to 30th August, 2021

| COMMUNITY       | HARMFUL FARMING ACTIVITIES | CHARCOAL BURNING |
|-----------------|----------------------------|------------------|
| Anyinatease     | 6                          | 2                |
| Pipie           | 4                          | 3                |
| Abaase          | 4                          | 1                |
| Abono           | 3                          | 4                |
| Dannso,         | 4                          | 1                |
| Koninyaw        | 6                          | 2                |
| Gyemasu-Anweaso | 5                          | 3                |

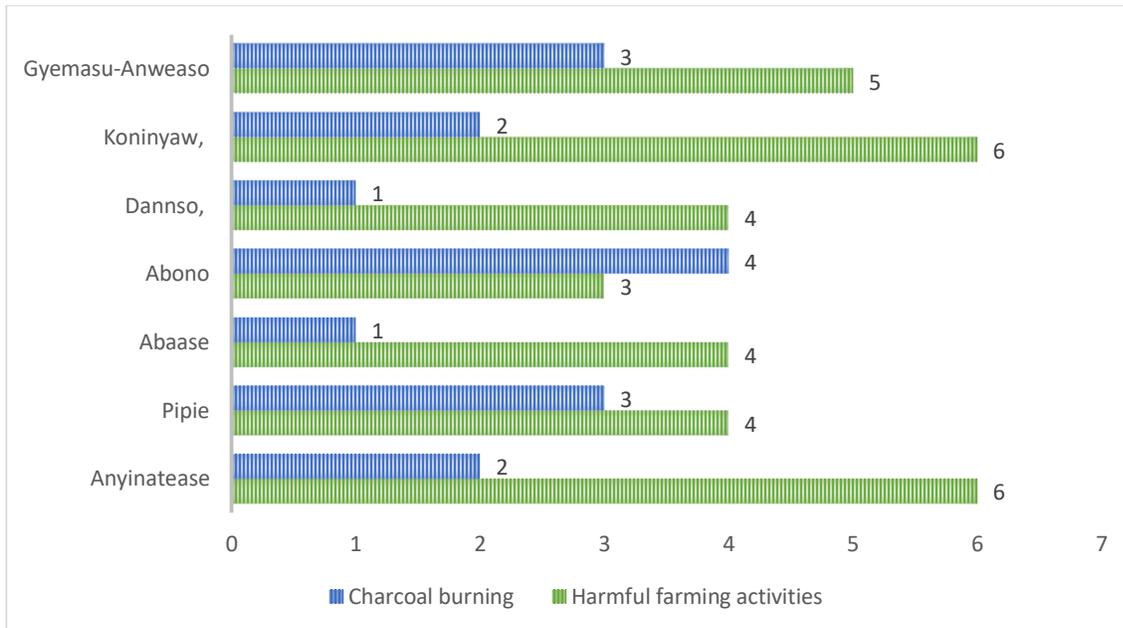


Figure 1.2: Reports of harmful farming activities and charcoal burning activities for the period, 1st March to 30th August, 2021

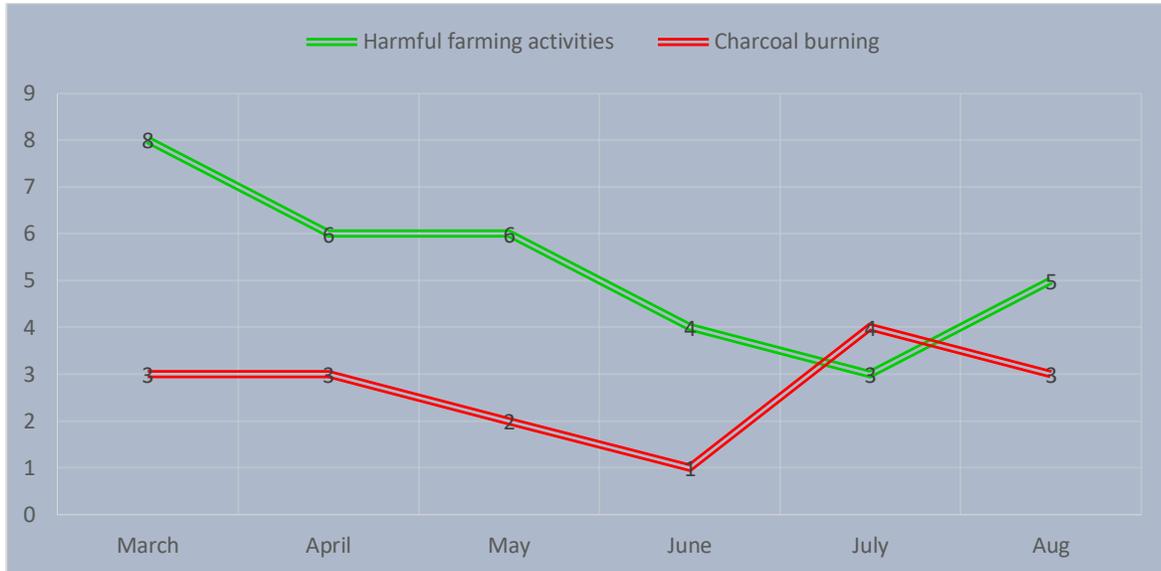


Figure 1.3: Trend of harmful farming activities and charcoal burning activities for the period, 1st March to 30th August, 2021

Figure 1.3 is a trend illustration of harmful farming activities and charcoal burning as reported in 7 out of the 21 communities monitored between 1st March to 30th August, 2021 the reports suggest that both harmful farming activities and charcoal burning were carried through out this 6 month period. It also suggest that both activities tend to decline from June to July but both activities in crease again very rapidly between July and August. Harmful farming activities decline to its lowest between June and July while charcoal burning is at its lowest between May and June but rises to its highest in August.

The other new driving factor observed in the biosphere reserve is urbanization. On 15th March, 2021, our team from Pipie community first reported on the destruction of forest in Pipie by a private developer. This was reported using whatsapp platform. In this story, a private developer had destroyed over 500 trees planted along the bank of the Lake at Pipie despite bye-laws declaring 100 meters from the water as a buffer zone. In reference to this incident, the Asantehene indicated that “For the perpetrator not realizing that these trees were planted for a purpose was very worrying. Even though the Assembly and other stakeholders have resolved that he replants the trees, it should come with a caution to deter others.” The strong reaction from the Asantehene to this media report is an indication of the influence that media attention could have on biodiversity conservation at Lake Bosomtwe. In the study on illegal logging and related trade response in Ghana,



Allison Hoare (2014), highlighted international and domestic media coverage as an important indicator that provides insight into levels of public awareness of illegal logging and related trade. Allison Hoare (2014) highlights that effective media attention will give an indication of the approaches being taken within a country to address illegal forest operations, the policy gaps and tradeoffs. Our community reporters noted that between 1st March to 30th August, 2021, there were 12 media reports on activities within the Lake Bosomtwe Biosphere reserve, including print media, radio discussions, traditional online media, facebook and youtube.

Ground observations suggest that, this increased media attention on Lake Bosomtwe is increasing youth voices and community power in the management of Lake Bosomtwe Biosphere reserve and integrated biodiversity management in general. Authorities are recognizing the voices of youth in terms of the management of Lake Bosomtwe Biosphere due to increased media reporting mostly using facebook and youtube.

To some extent, the increased media attention through this project is also revitalizing local commitment to the conservation of the Lake Bosomtwe Biosphere Reserve. The introduction of TIMBY mobile app is expected to enhance the role of local communities in promoting integrated biodiversity management through the monitoring, verification and reporting of management practices around Lake Bosomtwe Biosphere reserve, Ramsar sites, critical ecosystems and forest reserves. It is expected that TIMBY will help accelerate timely availability, adequacy and accessibility of data that feeds into the implementation of Ghana's National Biodiversity Policy (2021) and the Buffer Zone Policy (2013), the Post-2020 Biodiversity Framework of the Convention on Biological Diversity (CBD), SDGs 14 and 15 as well as other biodiversity related policies by 2030.

## **Drawing Lessons from Civil Society-led Independent Forest Monitoring for Community-Based Reporting Initiative in Lake Bosomtwe biosphere reserve in Ghana**

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Independent Forest Monitoring (IFM) has become a tool for assessing and strengthening legal compliance in the forest sector both locally and internationally. The IFM analyses how well forest laws are observed or how infractions are dealt with. It further ensures that all stakeholders play their respective roles in ensuring Good Forest Governance (GFG). The process has been expanded to include Civil Society Organizations (CSOs) who, in most cases, lead. This has given rise to the term Civil Society-led Independent Forest Monitoring (CSIFM). In Ghana, participating CSOs include Friends of the Earth-Ghana, Tropenbos Ghana, Nature & Development Foundation, Civic Response, EcoCare, Friends of the Earth, Rural Development Youth Association and Rainforest Alliance.

In watershed management, local communities are the primary stakeholders provisioned by their constant interaction with the environment, valuable knowledge and experience that makes them the best managers of the watersheds. In this regard, studies have recommended the involvement of all stakeholders i.e. professionals, scientific experts, the public at large, non-governmental organisations (NGOs) and local action groups in dealing with issues concerning water management.

Therefore, FIDEP Foundation introduced the Community-Based Independent Reporting Initiative (CIRI) modeled on the CSIFM to address watershed management. Since CIRI was modelled after CSIFM, it therefore could identify and aggregate lessons from CSIFM in order to avoid any major pitfalls and build adaptations that will make the scaling out successful. FIDEP Foundation has established a Resident Sustainability Team (RST) to facilitate independent monitoring, reporting, learning and data sharing from activities around the biosphere reserve. Between the period of 1st March and 30th August, 2021, there have been 9 reports filed by the RST on small scale mining activities around the Lake Bosomtwe, were 32 reports of harmful farming activities (clearing vegetation less than 30 meters from the water body) and 16 reports of charcoal burning around the riparian vegetation. Both of these activities have serious negative externalities on the riparian vegetation.

Already, the CIRI pilot in Lake Bosomtwe Biosphere reserve indicates that political commitment, both at the district and community levels, was identified as a closely linked theme to community-based monitoring. This was cited in respect of its demonstrated potential to undermine the monitoring and reporting, especially of illegal activities within the basin. Political commitment is not something that simply exists or emerges accidentally; it can be created and strengthened over time through strategic action. Successfully generating commitment will likely require a core set of actions with some context-dependent adaptations. Ultimately, it will necessitate strategic actions by cohesive, resourced and strongly led local actor networks that are responsive to the multifactorial, multilevel and dynamic political systems in which they operate and attempt to influence.

It was quite explicit from the communities that owing to the importance of tourism and the ecological value of the Biosphere Reserve, community level stakeholders have a medium to strong commitment towards biosphere conservation in the basin. This commitment is not purely motivated by conservation values but rather economic values and to some extent socio-cultural values. This presents multiple challenges.

In the case of Lake Bosomtwe, for instance, tourism is increasingly being promoted by government agencies with the notion of reducing pressure on the lake and its natural environment. Lake Bosomtwe, being a hydrological closed basin, is supposed to be very sensitive to these effects. However, the nature of tourism in the Biosphere Reserve is characterized by overcrowding, misuse of natural resources, insensitive tourist behaviour, mismanagement of waste disposal and uncontrolled infrastructure development, can have negative impacts not only on the natural environment but also on the social and cultural values of the local communities. Based on this observation our intention is to further explore the question of local and political commitment to the conservation of the Lake Bosomtwe Biosphere Reserve.



In summary, the challenges of CSIFM and CIRI will converge around how to build up the conservation values at the community level to a significant level so as to translate it into a strong commitment to protecting critical ecosystems. This seems to indicate an urgent need for value integration (economic, social, environmental). It is also suggestive that the solution may probably lie in devoting part of the revenue from the economic activities around the reserve that is being governed to support the activities of CSIFM/CIRI. This will be a subject of further inquiry as this project proceeds. However, as an app-linked reporting platform it is quite clear that CIRI is likely to face the logistical, economic, environmental, institutional and cultural challenges which the CSIFM is already facing.

## Publication of Policy Papers

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Based on a synthesis of field engagements and data from resident sustainability teams, the project was able to produce 3 policy papers, highlighting:

- the local capacity gap analysis for community-based independent reporting on the Lake Bosomtwe biosphere reserve
- the local capacity gap analysis for mainstreaming IBM outcomes, lessons and knowledge into national policies
- the socio-institutional gap analysis for the implementation of the buffer zone policy in Ghana

Owing to the multi-level nature of integrated biodiversity management (IBM) and its associated multi-level actions undertaken by various stakeholders, a deconstructed<sup>6</sup> outcome mapping methodology was adopted for this study. This allowed for the breaking down of research data, bypassing potentially misleading images, establishing conservation priorities and exposing unquestioned assumptions in the governance processes of protected ecosystems. This study placed emphasis on the second stage of the outcome mapping process; Outcome Monitoring and Organizational Reflection, while drawing on sub-elements of the first (Intentional Design) and third (Strategic Evaluation). This approach provided a framework for the ongoing monitoring of the initiative's actions in support of the outcomes and the boundary partners' progress towards the realization of IBM of the Lake Bosomtwe Biosphere Reserve. This approach also lends itself well to community-led data collection. The following action oriented recommendations can be made for the Draft National Biodiversity Policy to take into account as part of the National Biodiversity Action Plan (NBSAP).

**Agroforestry and Land Cover Restoration of Lake Bosomtwe Biosphere Reserve:** Introducing Agroforestry may be of essence now. This Agroforestry system is a land use management in which trees and/or shrubs are grown around or among crops or

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<sup>6</sup> Deconstruction is an approach to understanding the relationship between text and meaning. It was originated by the philosopher Jacques Derrida (1930–2004), who defined the term variously throughout his career



pastureland. In view of the importance of trees and forests in our agricultural systems and the environment they can never be dispensed with. There is, therefore, the need to halt forest destruction and plant more trees, particularly indigenous species like *Ceiba pentandra*, *Cocos nucifera*, *terminalia superba* and *Nuclei diderrichii* to enrich the biodiversity status of the Lake Bosomtwe Biosphere Reserve.

The challenge with the restoration of degraded land approach is the increasing threat of construction activities around the lake as seen in the recent report captured on video by our reporting team, a private developer destroyed about 500 trees along the banks of the lake including destroying the spawning areas where the fishes lay their eggs. This is a real threat to any attempts to restore degraded areas around the lake. This threat further solidifies the need to intensify independent monitoring and reporting of activities around the Lake Bosomtwe Biosphere Reserve.

**Community Resources Tribunal (CRT) for Lake Bosomtwe Biosphere Reserve:** Given the important role that traditional authority plays in the management of Lake Bosomtwe, it can be expedient to establish a Community Resources Tribunal (CRT) which will serve as a “Special Court/Panel” or an Institution with authority to deal with problems or issues associated with natural resources in particular and the environment in general. This CRT will examine the available statutes (laws and regulations) regarding natural resources as well as relevant traditional or customary systems/practices and promote their prompt and judicious enforcement.

**Media Attention on Lake Bosomtwe Biosphere Reserve:** The state of affairs and trend of development around the Lake Bosomtwe Biosphere reserve suggest that this is certainly the best time to a sustainable partnership with media in focusing attention on the Lake Bosomtwe Biosphere reserve. Adapting mass communication media to the rather technical issues in biodiversity conservation requires a full-bodied appreciation of tools and techniques that would encourage maximum interaction and sustain interest in the selected themes. This implies there is the need to frame the media activities in such a manner that ensures a wider coverage but also deconstructing the discussions down to the regional, district and community level. The reports received from the RST team at Lake Bosomtwe, suggest that an increase in public awareness on in biodiversity conservation is mostly a direct reflection of increased media attention or media engagement but not essentially an increase in media interest. However, without a sustained media interest in in biodiversity conservation, public awareness alone may not translate into improvements in public participation in integrated biodiversity management at the Lake Bosomtwe Biosphere reserve.

**Urgent need for Geoethical Thinking:** Carefully assessing the reports and observations suggest a practical paucity of geoethical thinking in the management of LBBR and the

fact that key stakeholders need to be exposed to the essence of geoethical thinking. Geoethics consists of research and reflection on the values which underpin appropriate behaviours and practices, wherever human activities interact with the Earth system. Its main issues and topics include: sustainable use of natural resources; reduction and management of natural and anthropogenic risks; management of land; pollution and its impacts on human health; global environmental changes, including the climate change; protection of natural environments, etc. These core elements of geoethics are have intrinsic relevance to the management of LBBR given its biodiversity values.

Lake Bosomtwe is one of the six major meteoric lakes in the world and it is believed to be 1.3 million years old. The lake is circular in shape with a rim diameter of 10.5 km and there are four streams that flow into it; but the lake lacks an outlet makes it a closed basin. There are 24 villages, with a total population of 11,800 people (the average size of a village is 500 people) along the 32km shoreline of Lake Bosomtwe. Research indicates that Lake Bosomtwe is rich in aquatic biodiversity of national and global significance. The most important species described to date is an endemic fish, *Tilapia busumanna*. The fish species include sarotheroden *Galilaeus multifasciatus*, *Tilapia busumana*, *T. discolor*, and *T. zilli*. The other known fish of importance is the catfish of genus *Claria*.

The forests in the basin areas of Lake Bosomtwe harbors a variety of fauna that are recognized nationally and /or globally as endangered. These species include palm squirrel (*Epixerus ebii*), giant pangolin (*Manis [phataginus] gigantea*), tree pangolin (*M. tricuspis*), long-tailed pangolin (*M. tetradactyla*), the bareheaded rock fowl (*Piscathartes gymnocephalus*), and many more. However, as indicated in the reports presented table 1.1, the high level of unsustainable human interaction with this sensitive ecological area suggest that there is an urgent need to place emphasis on geoethical thinking as far as the protection of the natural environment is concerned and in particular around Lake Bomomtwe as a designated Biosphere Reserve.

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**COMMUNITY-BASED INDEPENDENT REPORTING PROJECT**

**LAKE BOSOMTWE BIOSPHERE RESERVE**

## COMMUNITY-BASED INDEPENDENT REPORTING IN THE FUTURE

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Working closely with our partners, FIDEP Foundation expects to scale up and scale out Community-Based Independent Reporting to cover Ramsar sites, critical ecosystems and watersheds and key biodiversity areas in the near future. We aim to support the continued socio-technical development of independent reporting frameworks that support IUCN protected Area Categories V and VI to highlight both the scale and intensity of habitat degradation as well as the effect of fragmentation on key biodiversity areas.

Our plan for the future includes developing a two-way Result Oriented Reporting (ROR) system with resident rapid-response teams. Working closely with our partners, local and international, we aim to develop a more complete system including reporting social, economic, ecological, gender risks as well as human right abuses and law enforcement, in order to create a complete platform for behavioural change across basins.

## PROJECT PARTNERS

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## FOR FURTHER INFORMATION, CONTACT

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