

A summary of facts about Atewa Range Forest Reserve for educational purposes



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Preface

This publication is a product of the Rufford Foundation, UK funded project titled: “Collaborative management of the Atewa Range Forest Reserve in Ghana for co-benefits of conservation and enhancement of livelihoods”. The project aims to among others build capacity and create awareness among the population for the sustainable management and use of Atewa Forest Reserve. The material will be used as reference for sensitization and awareness creation in communities fringing Atewa, schools and in particular their environmental clubs, and others whose activities directly or indirectly impact on Atewa Range Forest Reserve. It is kindly supported and funded by the Rufford Foundation through their small grants scheme.

The contents however do not reflect the views of Rufford Foundation, UK but that of the authors

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Introduction

There has been a lot of attention on Atewa Range Forest Reserve and especially over the last few years because the forest reserve is important to many people for different reasons. For the government, it provides important source of timber and other natural resources which can be sold on the market to get money to support development. For people who love nature, it is very important because it has plant and animal species that cannot be found anywhere else in the world except the Atewa Forest. It helps to prevent the harmful effect of the change of our climate and also captures the poisonous or harmful gases in the air including carbon dioxide which is making the earth warm. For people who live around the forest reserve, it provides very important food including snails, bushmeat, timber, among others, materials for roofing our house, and providing the good conditions for farming. These benefits that human beings get from the environment is also referred to as Ecosystem Services (ES).

In spite of the many benefits that Atewa provides, because of population increase, and the competition among the different users of the area, the forest reserve is under a lot of threat and stress. Government, Non-Governmental Organizations (NGOs), the District Assemblies, and other stakeholders are trying to improve the management and protection of the Reserve so that it can continue to provide the benefits mentioned above for present and future generations.

This material will contribute to this, by providing information to people whose activities have influence on the forest reserve so together we can adopt good ways to manage the reserve so that we can continue to enjoy its benefits forever. This material is expected to significantly contribute to changing the lifestyles and patterns of living especially for everyone whose activities impact positively or negatively on Atewa.

The material is divided into three parts. The first part speaks to the issue of the biophysical characteristics of the reserve and some important facts about it. The second talks about the benefits we get from the forest reserve and some of the threats it is facing. The final part talks about how we can all help to protect and use the forest reserve well.

The material is structured in a way that at the beginning of each part, there are learning objectives and then each part ends with key learning points that summarize lessons from the chapter.

Part One: Facts About Atewa Range Forest Reserve

Learning Objectives

In this chapter you will learn about,

- a. The type of forest reserve Atewa is, its location and some basic facts about the reserve;
- b. Some geographical, administrative and political characteristics of the location of Atewa;

The Forest Reserve

Atewa Range Forest Reserve (for the purpose of this publication, will be referred to as “Atewa”) is one of the only two upland evergreen forest types in Ghana. Atewa (see picture in Figure 1) is located within the Moist Semi-Deciduous forest zone in the south eastern part (Eastern Region) of Ghana.



Figure 1: Atewa Range Forest Reserve within the context of Ghana.

It was established and gazetted as a forest reserve in 1926 and has been assigned as a “Globally Significant Biodiversity Area (GSBA) and an Important Bird Area (IBA)”.

Atewa runs from the north to the south and is distinguished by plateaus. Atewa is also home to many rare and endangered plant and animal species.

Atewa is nationally regarded as an important area because its mountains are the headwaters for three rivers: Ayensu, Densu and Birim rivers, which serve the majority of the inhabitants of the Eastern and Great Accra Regions (including the capital Accra), as well as industry and agriculture.

Atewa has significant impact on the microclimate of the eastern and neighbouring regions of Ghana. It is aesthetically beautiful with a significant potential for tourism.

Geographical, Political and Administrative location of Atewa Forest Reserve

Atewa Range Forest Reserve is bordered by the East Akim Municipality and Kwaebibirim district in the Eastern Region.

The East Akim municipality is located in the central portion of Eastern region with a total land area of approximately 725 km². It used to be the second largest of the 15 districts in Eastern region until 2004 when the Atewa district was carved out of it. The municipality is bordered by six districts namely Kwahu South district to the north, Atewa district to the north-west, Kwaebibirem district to the south-west, Fanteakwa district to the east and New Juaben municipality and Suhum-Krabo-Coaltar district to the South. The municipal capital, Kibi, is 55 km from Koforidua, 105 km from Accra and 179 km from Kumasi.

The Kwaebibirem district is one of the 21 districts in the Eastern region, with Kade as its capital. The district, which has a land area of about 12.30 km², was carved out of the then West Akyem district in 1988 as a result of the Government's decentralization policy. The Kwaebibirem district is located in the south-western corner of the Eastern region of Ghana. On the west, it is bordered by the Birim North district, on the north-east by Atiwa and on the east by East Akim Municipal, on the south-east by Suhum Krabo Coaltar district, to the South by West Akim Municipal, and on the South-west by the Birim South district.

Key Learning points/Summary

Now that you have gone through this chapter, you must remember that

- Atewa Forest Reserve was gazetted as a Forest Reserve in **1926** and since then, it has been designated as Globally Significant Biodiversity Area (GSBA) and an Important Bird Area (IBA)
- The Reserve covers an area approximately 725km² and is bordered by East Akim Municipality and Kwaebibirim district.
- The Reserve is home to many species of plants and animals and its mountains is the headwaters of Birim, Ayensu and Densu rivers.

Part Two: Benefits and Threats to Atewa Range Forest Reserve

Learning Objectives

In this chapter you will learn about: The learning objectives for this chapter are as follows:

- a. The broad types of benefits Atewa provides;
- b. The examples of specific types of benefits under each of the broad types of benefits;
- c. The different types of people that benefit from Atewa and understand the extent or value of the benefits they get from Atewa.

Benefits of Atewa

The benefits that humans derive from Atewa also referred to as Ecosystem Services can be broadly grouped into four: Provisioning, Regulatory, Habitat and Cultural/Amenity Services.

The Provisioning services are the tangible resources that humans derive from the ecosystem or environment. For Atewa, they include food (example bushmeat, snails, honey, mushroom, fruits), water, raw materials (timber, fuelwood, rattans, canes, etc.)

Some pictorial examples of Provisioning Services are found below



Figure 1: Fuelwood, used as source of energy in many rural homes



Figure 2: Snails, an important source of protein in meals



Figure 3: Mortar, made from wood from Atewa Forest Reserve



Figure 4: Rattans, used mainly in art and craftwork

Some animals and plant in Atewa Forest Reserve (pictures credit: Rapid Assessment Programme. 2007)



Figure 5: Tree fern, one of the rare species in West Africa



Figure 6: Grains of Paradise, shoots and fruits are eaten by many wildlife species, and also used for medicines



Figure 7: Atewa Dotted Border butterfly, considered to be critically endangered and rare, only found in Atewa



Figure 8: Giant African Scorpion, which is the largest scorpion in the world



Figure 9: Stream frogs, one of the critically endangered frog species found only in Ghana and Togo



Figure 10: Forest Cameleons, are common in Atewa

The Regulating Services are the processes that regulate the ecosystem or environment from extreme conditions. For Atewa they range from watershed protection, prevention of erosion, windbrakes, inducing rain (rainfall regulation), cleaning the air, serving as carbon sink, and enhancing pollination through animal dispersal and the creation of rainfall.

Atewa has also been recognized as a nationally important reserve because the Atewa Range provides the headwaters of three river systems, the Ayensu River, the Densu River and the Birim River. These three rivers are the most important source of domestic and industrial water for local communities as well as for many of Ghana's major population centers, including Accra. Thus, the Atewa forests protect and provide a clean water source for much of Ghana's human population and for key elements of the country's biodiversity.

The habitat services are the range of services that support the ecosystem to provide the other range of services. For Atewa, they include gene pool protection serving as resource bank for plant and animal species. Atewa also provides unique habitat for special species of fern, moss and butterfly found only in that region of tropical forest.

The cultural/amenity services are the spiritual and intrinsic (ethical or philosophical value) benefits that we get from Atewa. They include use of some parts the forest reserve as a palace of the chief and as a burial place for both chiefs and inhabitants because of their spiritual and cultural connections to the communities. The other cultural/amenity services are performing rights related to festivals in the communities, as sacred groves, as ecotourism, research, education and public awareness, aesthetic beauty and use for recreation.

Kindly refer to Table 1 below for a more detailed list of benefits that can be derived from Atewa Range Forest Reserve.

Table 1: Summary of Benefits from Atewa

Typology of Main service types	Specific Benefit from Atewa
Provisioning Services	
Food	Bushmeat
	Snails
	Honey
	Mushroom
	Fruits
Water	Supply of water to Ayensu, Densu and Birim rivers
Raw Materials	Timber
	Fuelwood
	Rattans
	Wood for mortar
	Pestle
	Cane
	Twine
	Chewing stick
	Sponge
	Construction poles
	Chewing sponge
Genetic resources	Spices
	Herbs
Medicinal resources	
Ornamental resources	Wrapping leaves
Regulating Services	
Air quality regulation	Cleaning of air (by capturing of fine dust)
Climate regulation	Inducing of rainfall (by vegetation)
Moderation of extreme events	Windbrakes
	Prevention of flooding
Regulation of water flows	Watershed protection
Waste treatment	
Erosion prevention	Prevention of erosion
Maintenance of soil fertility	
Pollination	
Biological control	
Habitat Services	
Maintenance of life cycles of migratory species	
Maintenance of genetic diversity	Gene pool protection
	Intrinsic value
Cultural and Amenity Services	
Aesthetic information	Aesthetic beauty
Opportunities for recreation & tourism	Ecotourism
	Recreation

Inspiration for culture, art and design	Festival and rites
	Royal mausoleum
	Palace of a chief of Akyem
Spiritual experience	Sacred groves
	Burial place
Information for cognitive development	Education and public awareness
	Research

In summary Atewa provides the following benefits:

- Atewa provides most water used by the Kibi region, and a large portion of water used by the Accra metropolitan area;
- Keeps the soil in place so that it does not clog the waterways;
- Absorbs rainfall, filters and slowly releases water into the rivers and streams for us and all of the animals to drink;
- Produces and cleans the air we breathe;
- Provides wood and other products for our homes, clothing, rope, and baskets, among other things;
- Is the source of both traditional and modern medicines;
- Provides a home to many animal and plant species;
- Influences the climate of the Kibi region, including when the rain comes and how long the dry season will last.

Threats to Atewa

In Ghana, the rate of deforestation has increased over the past few decades due to a number of factors, including an increase in agricultural farming (especially cash crops such as cocoa), mining and quarrying, timber exploitation, consumption and/or trade in Non-Timber Forest Products (NTFPs). Also there is increase in frequency of bushfire.

Some problems of Atewa are illegal farming, illegal logging and mining which cause degradation of Atewa. The hill slopes of the reserve in some instances are cultivated for agricultural purposes by the fringe communities causing serious degradation of the down slopes. Even though logging is prohibited on steep slopes in Atewa, there is occasional illegal logging in such areas resulting in degradation of most parts of the lower slopes.

Also communities along the lower slopes harvest fruits and other NTFPs such as mushrooms, snails and bush meat from the forest for both household and commercial purposes. Further, there is potential for bauxite mining in the reserve, even though the government has not given any license yet for mining.

In summary the threats faced by Atewa are:

- Illegal logging: Illegal logging which has been a major issue in Atewa, especially during the 1990s, leading to further problems with erosion throughout the area. Unsustainable exploitation of forested areas, coupled with the relatively high frequency of bush fires, has resulted in the depletion of important timber species. Trees such as Mahogany, Odum, Obeche, and Emire, which were abundant before the 1960s, are now locally rare.

- Mining: Mining activities by unlicensed individuals and groups are increasing and causing serious problems for communities. Major pollution, as a result of improper mining practices, occurs downstream from water bodies along whose banks mining takes place.
- Illegal hunting and excessive exploitation of non-timber forest products (NTFPs): Animal populations, especially those of larger mammals, suffer seriously from illegal hunting. Some research has shown that about 15% of the bushmeat found in the markets in Accra and Kumasi comes from the Atewa forest. Most of the species sold are wholly protected in Ghana (including the Black-and-white colobus, Spotted palm civet, Giant and Long-tailed pangolins). In addition, some traditional sacred animals (totems) such as Crested porcupine are being hunted and sold. Hunters illegally entering Atewa are known to use automatic rifles, poisonous chemicals, traps and fires. These activities have negative impacts on the villages surrounding
- Illegal expansion of farms: In many of the communities, the population is increasing. Our system of farming and settlement is land driven, therefore there is growing scarcity of land. As a result, populations are expanding into the forest reserve with some undertaking illegal farming.

Key Learning points/Summary

- Atewa provides a range of benefits to different stakeholders. The benefits range from provisioning services, regulating services, habitat and cultural/amenity services. In practical terms, these benefits translate into food, fruits, timber, water, regulating watersheds and serving as waterhead for three of the most important rivers, protecting genetic pool, aesthetic benefits and for spiritual and cultural connection with the people.
- Despite these benefits Atewa faces major threats including from illegal expansions of farms and communities in the reserve, illegal hunting and excessive exploitation of NTFPs, mining and the potential for bauxite exploitation and illegal logging.

Part Three: What can we do to help

Learning objectives

After completing this chapter,

- a. Readers should be able to name and explain some practical actions that can be taken to resolve some of the challenges Atewa is facing
- b. Describe how the he/she would be able to contribute to the conservation and sustainable use of Atewa Forest Reserve and also name some other stakeholders who could contribute to the solution.

Practical solutions can be done to protect and sustainably use Atewa

There are a few things that we can all do to help protect and sustainably use Atewa and its resources.

1. Share the message you have learned in this educational materials with your family, friends and colleagues everywhere. It does not matter if the person is not from your community or even Atewa. All of us should learn about the wonderful benefits we get from Atewa. That way we can contribute in our small way to protect it.
2. Add our voice to efforts to stop illegal or galamsey mining especially in the forest reserve.
3. Add our voice to efforts for government to convert Atewa to a National Park so that it will have more resources and power for its protection.
4. Educate and stop people who cut trees illegally from Atewa.
5. Plant trees in your own farms, backyard gardens, on school compounds to increase the beneficial climate effects of forests. This will also help us to get timber for our household use and reduce the pressure on Atewa. If you grow a tree, it belongs to you. So don't be afraid to grow your own tree and take care of it to grow. You will get a lot of benefits from it.

Stakeholders and what role they could play in conserving Atewa

There are a range of people in different positions with differing powers who can contribute to the conservation of Atewa. They could be grouped into national and local level stakeholders.

National stakeholders

They include:

- a. Central government: Take appropriate actions to legally elevate Atewa to the status of a national park in conformity to recommendations from several research and advocacy work conducted on the Area. Also put in place the necessary institutional structures to make this work.
- b. Civil Society Organizations: Continue to advocate for conservation and wise use of the resources and benefits provided by Atewa.

Local Stakeholders

They include:

- a. District/Municipal Assemblies: Put in place the necessary by-laws and structures to protect Atewa. They can also promote alternative livelihood actions that will support community members and encourage them to protect Atewa.
- b. Community Members including schools, faith-based organizations, religious bodies, Traditional Authorities: continue to create awareness and sensitize themselves on the benefits of Atewa and practical ways they can help to conserve the forest.

Key learning Points/Summary

- There a number of practical things that can be done to help conserve and protect Atewa Forest. And these things can be done at the central/national level or at the local level. They include establishing the right policies and laws to protect the reserve.
- Community members informing themselves on the benefits of the reserve and how they can use it sustainably.

References

1. Ansah, K. B. (2014). Development of management scenarios for Atewa Range Forest Reserve in Ghana using Integrated Ecosystem Assessment. MSc Thesis in Environmental Sciences. Wageningen University.
2. Rapid Assessment Program. 2007. Biodiversity in the Atewa Range Forest Reserve, Ghana. Conservation International, Arlington, VA, USA

Picture Report

18162-2: Collaborative management of the Atewa Range Forest Reserve in Ghana for co-benefits of conservation and enhancement of livelihoods



Community Sensitization and training events



Community Sensitization and training events



Discussing training programme with official of Business Advisory Centre



Seedlings being readied for transportation to the communities



Seedlings at the nursery before transportation to the communities