

UWE ROSENBERG

ATIWA

AN ACCOMPANYING BOOKLET

ATIWA takes you to Ghana, West Africa, to a village community on the edge of a nature reserve.

Taking the role of a family of fruit farmers, players build a symbiotic relationship with fruit bats that live on the fruit from the trees on the one hand, and widely spread the seeds on the other, reforesting entire forests. The perfect balance between fruit bats and the growth of your farm is the key to success and victory.



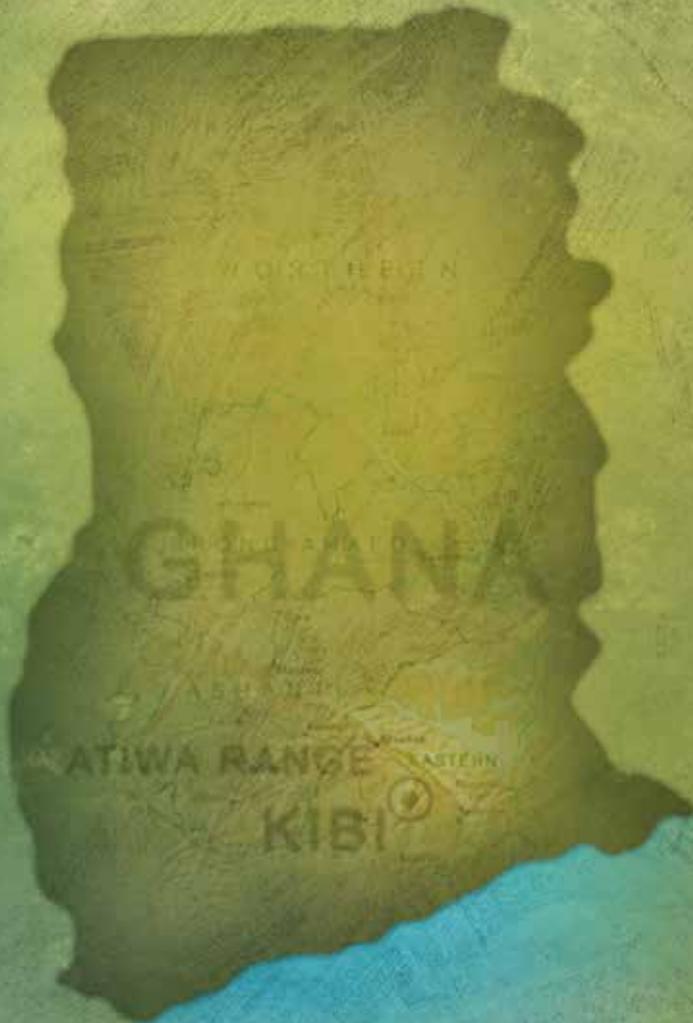
ON THE HISTORY OF GHANA

Everything that happens in my game *ATIWA* - and in Ghana of the present day - must be evaluated against the backdrop of Ghana's history. Therefore, here is a brief overview:

Beginning in the 13th century, the Akan people immigrated to central Ghana coming from the north. They still populate Ghana and the West African coast today. Back then, they organized themselves in small political units, which later became small kingdoms and, in 1695, the Ashanti Empire.

As Gold Coast colony, Ghana was under British colonial rule for 79 years and became the first African nation state to gain independence in 1957. After independence, Ghana slipped into a socialist-style dictatorship with Kwame Nkrumah, during which the country's resources were, largely, squandered.¹

Like many other developing countries, Ghana was heavily in debt at the beginning of the 1980s. Only the International Monetary Fund and the World Bank were still granting new loans. One condition of this was the liberalization of the economy to create incentives for international corporations. Today, multinational companies own open-pit mines. 90 % of Ghana's gold is extracted from these mines. Local small-scale miners account for the remaining 10 %. Large-scale open-pit mining hardly creates any jobs, as much of the mining is done by machines. It destroys the environment, and the people who depend on employment in the industry work under inhumane conditions.²



THE ATIWA RAINFOREST

Atiwa (also known as “Atewa Range”) is a range of hills in southeastern Ghana, a forest reserve with 17,400 hectares of high-altitude evergreen forest, which is rather rare in Ghana. Mineral resources such as diamonds, white clay and bauxite also occur there.³ Atiwa made global headlines in 2006 when an expedition discovered rare colobus monkeys and 17 globally endangered butterfly species, and then again in 2022, when plans to build a bauxite mine in the Atiwa began. The Atiwa mountain rainforest is one of the most biodiverse yet endangered natural gems on Earth. Its springs provide drinking water for 5 million people. The tropical ecosystem with 8 meter high tree ferns and swamp and river landscapes is home to a special biodiversity of 40 mammal species, 150 bird species and more than two thirds of all butterfly species known worldwide. 32 species of the amphibians living here are known, but by no means have all of them been researched.⁴

The reserve has been threatened not only by bauxite mining, but also for some time by hunting for bushmeat and by logging - both aspects come into play in the game.

ATIWA, that's the name of my new game.
People in Ghana pronounce it “Eh-dee-wuh”
- with emphasis on the third syllable.



* The term “king” should not be understood in the historical-feudalistic sense. Terms such as “mayor” or “chief” would not be accurate either, but only depict a partial aspect of the office and function.



THE INSPIRATION

The story that gave me the decisive inspiration for ATİWA took place in the district capital Kibi (*pronounced “chee-bee” with emphasis on the first syllable*). “Fruit bats reforest African forests”⁵ was the title of the article that immediately piqued my interest. In it, the Max Planck Society presents the research results of Dr. Mariëlle van Toor and Dr. Dina Dechmann.

Straw-colored fruit bats (*lat. Eidolon helvum*) are a species of bat widespread in Ghana. They live on nectar and fruits, fly long distances to their feeding grounds every night and excrete the seeds of the fruits again - a colony of 150,000 animals spreads about 300,000 seeds in a single night. This way, 800 hectares of forest in Ghana could be reforested per colony each year. Unfortunately, the number of bats continues to decline. The fruit bats are hunted in large numbers and offered on markets as bushmeat. The deforestation of their roosting trees also threatens the populations.

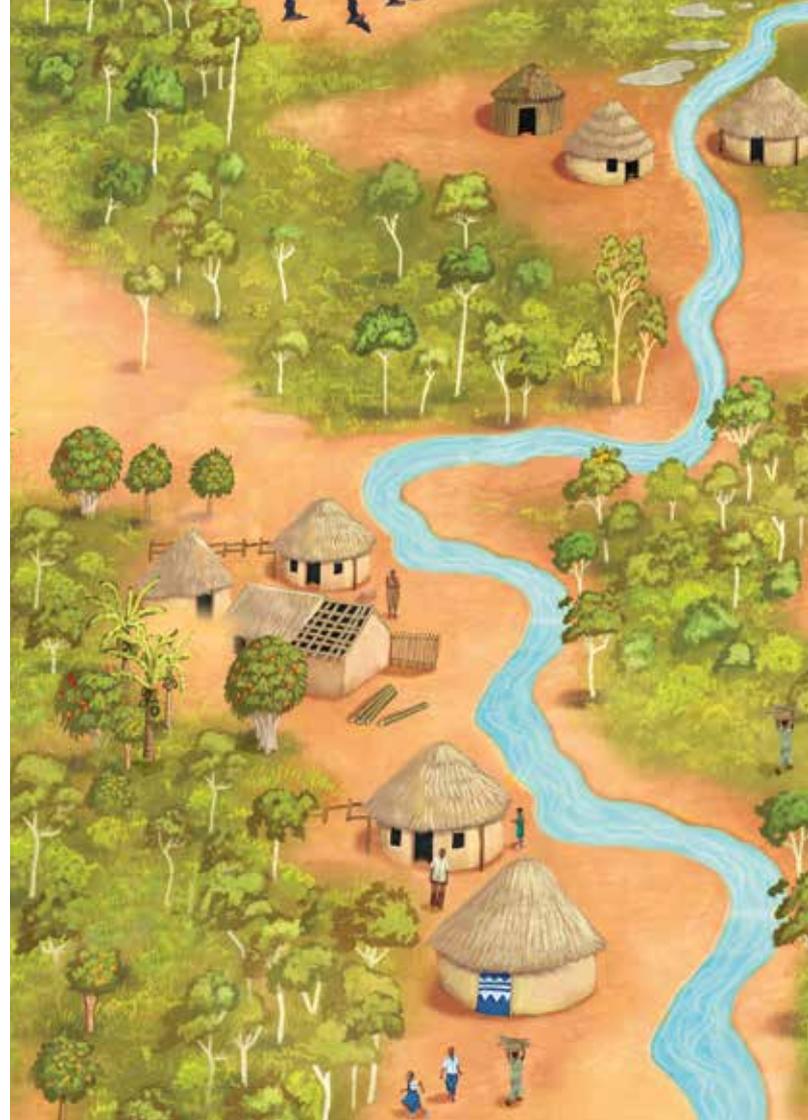
The last sentence in the article gave me the idea to make a game about (and especially for) fruit bats: “The population (...) urgently needs to be informed about the importance of the straw-colored fruit bats. A local king* in Kibi, a town in southern Ghana, is setting a good example: he put the colony of fruit bats that lives in his garden under his personal protection.”⁶

IMPLEMENTATION IN THE GAME

The first game element I developed were the houses that are built of wood. Once these are inhabited by families who know about the benefits of the fruit bats, the families can provide shelter for the animals on their property. The fruit bats in turn cause new fruit trees to grow, bearing fruit to be eaten by humans and animals. As a working title, I initially called my game “Kibi.”

Kibi, the town in the hinterland of the capital Accra, has a special aspect related to its history: When Ghana became independent in 1957, there were three major gold fields. One was located near Kibi. Gold became the country’s most important foreign exchange earner, yet Ghana was still among the poorest countries in the world. There were more than 230 companies engaged in gold mining, in addition to a micro-mining industry of 150,000 family businesses. “Galamsey mining” is the term commonly used in Ghana to describe illegal small-scale mining, often done by women and children on the fringes of legal mining areas. The chemicals used to extract gold pose danger to both people and the environment.⁷

When I learned about galamsey mining, I had already divided the families I wanted to thematize in my game into trained and untrained families. Now, in addition to wood, fruit bats, bush animals, goats, and fruit, I brought another resource into play: gold. Trained families should get it as a regular income, untrained ones mine for it laboriously.





Wikimedia Commons
Cymothoe sangaris01.jpeg



Wikimedia Commons
Eidolon helvum fg01.JPG



Wikimedia Commons
Ussher's Flycatcher.jpg

ENVIRONMENTAL PROTECTION

Mining (a topic for maybe another game), which mainly benefits large western corporations, causes considerable environmental damage.

Awareness of the sustainable use of natural resources has been growing in recent times. **There is hope:** Especially the younger generations in Ghana are increasingly concerned with environmental protection. Numerous projects run by NGOs (non-Governmental Organizations) support the local population in their confrontation with large corporations, campaign for more education in schools and work together with the population to develop sustainable solutions in agriculture. Civil society resistance in the country against projects - such as the planned construction of the bauxite mine in the Atiwa rainforest - is growing.

With my game **ATIWA** (and the planned, accompanying book) I want to draw attention to this region and to the fruit bats.

We need an understanding of the bigger picture and realize that the ecological and social problems in Ghana cannot be viewed isolated from Europe - quite the opposite. **Africa is our future. And Ghana is part of it.**

THE BENEFIT OF FRUIT BATS

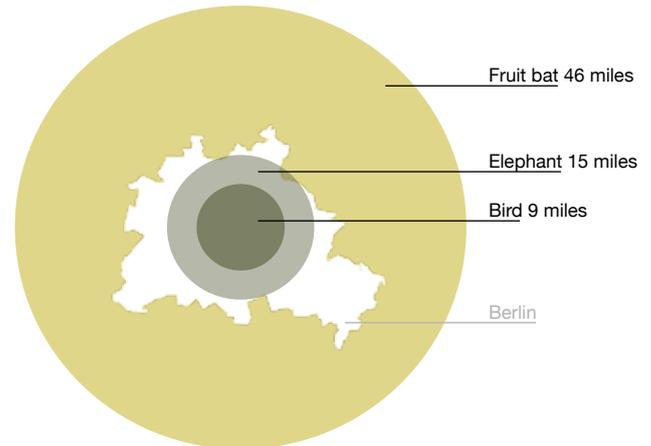
Most species of animals that live on fruit rarely leave the protective treetops of their forest. They spread the seeds of the fruits within a small radius. Fruit bats, on the other hand, fly over open landscapes and forest boundaries. Since they live in colonies of thousands of conspecifics, their seed dispersal is of enormous importance. When they forage at night, they pollinate trees and flowers. On their nightly flights back to their roosting trees, the animals excrete the seeds of the fruits again, thus sowing entire forests.

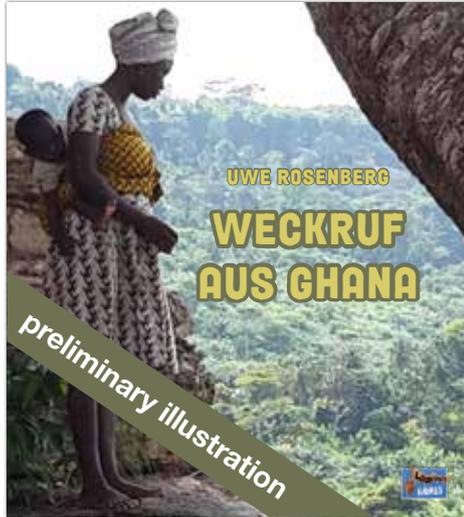
Fruit bats cover long distances when searching for food. They spread the seeds much further than other animal species: a fruit bat spreads the seeds over 46 miles, an elephant over 15 miles, a bird over 9 miles and a monkey over 1 mile. The fruit bats particularly spread fast-growing trees, which as pioneer species only create the right environment for other trees to sprout.⁹

The list of bats' superpowers is long: they "see" with their ears, use ultrasound to orient themselves in the dark, and are the only mammals that can fly. They live to a very old age because their cells manage to slow down the aging process. Bats play a major role in the health and diversity of the plant world: at least 550 plant species are pollinated or spread by them, including bananas, mangos, and cacao.⁸

Nevertheless, the number of fruit bats in Africa is declining: they are hunted and eaten. In Ghana, there are about 2.5 million fruit bats. About 1.5 million of them are shot each year. Therefore, it is extremely important that the benefits of these animals are recognized.

Not only is there a massive deforestation problem in Ghana (as in many other regions of the world) that fruit bats could counteract, but also more and more animal species are becoming extinct in the wake of environmental destruction and the climate crisis. Economically, the decline of pollinators such as insects, bats, and birds causes \$600 billion loss worldwide each year¹⁰ - so it's even worth it in an economic context.





Wikimedia Commons: Umbrella_rock.jpg



Foto: Uwe Rosenberg

Uwe Rosenberg

**Weckruf
aus Ghana**

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ABOUT THE AUTHOR / DESIGNER

Uwe Rosenberg is one of the most renowned German game designers. Among his award-winning games are *AGRICOLA* and *PATCHWORK*.

He sends a heartfelt thanks to the people who advised him in the development of the game *ATIWA* and the compilation of information on the subject.

THE NONFICTION BOOK FOR THE GAME

This booklet can only reflect a small part of the extensive and multifaceted issue. Uwe Rosenberg gives a more detailed account in his nonfiction book “Weckruf aus Ghana” (eng. “Wake-up Call from Ghana”), which will be published by Lookout at the end of 2022. Please note that due to limited resources the book will be published in German language only.

- 1 Köpcke, Monika (2007, March 6). Freiheit für die Goldküste <https://www.deutschlandfunk.de/freiheit-fuer-die-goldkueste-100.html> *retrieved 06/21/22.*
- 2 <http://www.gesichter-afrikas.de/rohstoffe-resourcen-in-afrika/metallische-rohstoffe/gold.html> *retrieved 06/22/22.*
- 3 Purwins, Sebastian: Bauxite mining at Atewa Forest Reserve, Ghana: a political ecology of a conservation-exploitation conflict. In: *GeoJournal*, No. 87/2022, pp. 1085 ff.
- 4 Rettet den Regenwald e.V. (2013, November 15). Ghanas Atiwa-Regenwald muss geschützt werden <http://www.waldportal.org/news.tropen2013/news.tropen.2013112121/index.html> *retrieved 06/22/22.*
- 5 Max-Planck-Society (2019, April 01). Flughunde forsten afrikanische Wälder auf. <https://www.mpg.de/13271179/flughunde-samen-verbreitung> *retrieved 06/20/22.*
- 6 Ibid.
- 7 DW (2017, October 12). <https://www.dw.com/de/auf-der-suche-nach-dem-schnellen-gold/g-40920588> *retrieved 06/23/22.*
- 8 Bates, Mary (2021, November 15). Fledertiere: Warum Flughund und Fledermaus mehr Anerkennung verdienen. National Geographic online.
- 9 Max-Planck-Society (2019, May 07). Jagd auf Flughunde schadet auch dem Menschen. <https://www.mpg.de/13414191/ipbes-biodiversitaet-flughunde> *retrieved 06/20/22.*
- 10 Ibid.

Credits



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