

AN EXPLORATION OF THE TOURISM VALUES OF NORTHERN GHANA. A MINI REVIEW OF SOME SACRED GROVES AND OTHER UNIQUE SITES

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ABSTRACT

Aside optimization of amateurism, scientific and cultural values, the tourism prospects of the 7 regions constituting Northern Ghana from literature review reveals that each area contains at least three unique sites. These sites offer various services which can be integrated

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into value chains for sustainable medium and long-term tourism development projects. Joint efforts should be made by development partners such as UNESCO through its Man and the Biosphere Programs with Universities, and other innovative Research Institutions. A multi-sectoral approach should be adopted to assist the Government of Ghana inter alia, through the Ministries of Tourism, Arts and Culture, Lands and Natural Resources, Science and Environment to come out with dynamic ecotourism action plans. Heralding frantic attempts to fully develop the potential tourism sites by harnessing its resource bases alongside the development of an efficient rail-network transportation system - mark the ways forward for optimization of significant tourism benefits.

Keywords: Northern Ghana, Tourism sites/services, Optimization of tourism values, Government of Ghana

INTRODUCTION

Recent studies unveiled that the tourism sector which contributes about 3.5-4% of Ghana's GDP and demonstrates great potential to improve the economic growth of the country by 2027, further caters for optimization of intrinsic satisfaction (amateurism) and extrinsic values such as scientific and cultural studies (Osei-Bonsu, 2016; Tiimub et al., 2020). Northern Ghana (NG) is so broad-based and encompasses, Northern, North East, Upper East, Upper West, Savannah and northern parts of the Bono East, Brong-Ahafo and Oti Regions of Ghana. The area is typified by prolonged drought, monomodal rainfall pattern, high sunshine intensity with temperatures often exceeding 45 °C, commonly manifested as part of guinea savannah and Sahel savannah local prevailing conditions (Tiimub et al., 2020; UNESCO 2006). The regions in NG are popular for its unique savannah grasslands that stretch far and wide with baobab trees standing strong atop the grasslands (Campbell, 2005). In this review, the potential ecotourism sites and the resources within them by specific references to sacred groves and their locations in NG, suitably positioned for promotion of ecotourism value chains were tracked and discussed (Oduro & Okae-Kissiedu, 2006; Amoako-Atta, 1998, Tiimub et al., 2000). Ghana has about 1,904 sacred groves ranging from 0.5 to 1,300 hectares (Forestry Commission Act, 1990). Previous estimates indicate that the nation loses between 22,000 ha and 75,000 ha of the forest land annually through permanent conversion into agricultural lands, logging, mining and quarrying, fuel wood cutting, urban settlement, bush fires and to a lesser extent through gathering of minor forest products (Global Forest Watch, 1995-2020). Estimates between 2011 and 2018 statistics further indicate that Ghana losses a primary forest cover of 6,898.62 plant species representing 7.4% of the total forest cover annually. Sacred groves are believed to have been in existence for a very long time. They are inherited property of the surrounding communities from their ancestors often perceived as fetish places, good grounds for making traditional sacrifices and staging of religious prayer camps (Mohapatra et al., 2017, Nganso et al., 2011). The groves are protected from any degrading activities such as bush fires and cutting of trees. Albeit, some community sacred groves have bylaws for its protection whilst others rely on the authority of the traditional elders for protection and conservation of the unique biodiversity. "Tree cover threshold" has been used for defining the net tree coverage in sacred groves. For example, 75% includes only areas with more than 75% tree cover, reflecting dense canopies whereas 10% includes all areas with up to 10% tree cover with sparse canopy densities (Tiimub et al., 2020a). Traditionally and over the past two centuries, sacred groves have experienced environmental protection via cultural beliefs, byelaws and occasionally benefited from external scientific or management interventions delivered by NGOs and

international organizations such as GACON and UNESCO under CIPSEG Project of 1992 (UNEP, 2012). (UNESCO, 2017). (UNESCO, 2018).

METHOD

A holistic evaluation of the key tourism sites by introspection of their resource potential within the ecotourism value chain was cross-examined based on revised literature accessed. And a descriptive information with some photographs were taken from the seven regions comprising northern Ghana in the scope of this current mini reviews (**Figure 1**). Appendix (**Table 1** abducted from our previous studies). Aspects of the unique features, benefits, management and maintenance of sacred grove, as well as considerations on effective networking to address challenges and harness tourism sector gains have been summarily discussed.

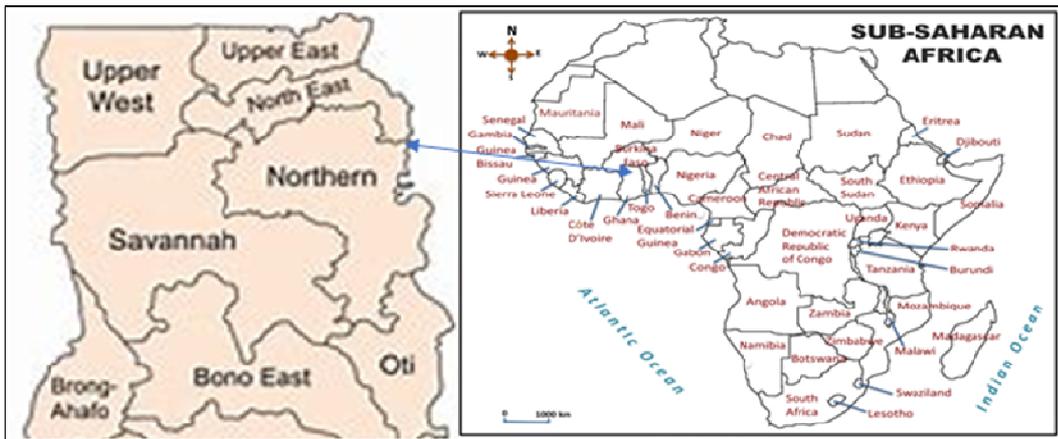


Figure 1: Northern Ghana is well positioned for ecotourism gains among Sub-Saharan African countries.

Source: Ghana web, 2021

Table 1: Regional distribution and resource potential of some ecotourism sites in Ghana.

Region	Tourism Site	Description	Geographical index	Key resource base	References
Ashanti	Adanwomase Kente weaving	A town in the Ashanti Region of Ghana located in Kwabre East District	About 27 kilometers northeast of Kumasi	It is noted for <u>Kente</u> weaving with towns like <u>Bonwire</u> which is about 2 kilometers away	Donkor, 2015
	Ahwiaa wood carvings	A town in the Kwabre East District	Located 9 kilometers from Kumasi along the Kumasi - Mampong Highway.	Noted for its wood carvings, arts and crafts	"Ahwiaa". www.ghana.travel . Archived from the original on 2015-09-24. Retrieved 2015-05-25.
	Bobiri Butterfly Sanctuary	It is a natural reserve rich in biodiversity	It is located on the main Accra - Kumasi Highway at the village of Kubease, about 33.6 km from Kumasi.	Noted for Bobiri Butterfly Sanctuary with more 400 species of butterflies	https://en.wikipedia.org/wiki/Bobiri
	Ntonso Adinkra Arts and crafts village	Ntonso is a town in the Kwabre East District of the Ashanti Region	Ntonso, located a few kilometres from Kumasi on the Mampong road in the Kwabre East District	Noted for its <u>Adinkra</u> crafts. It is also the home of Adventist Girls High School.	ww.ntonsoadinkra.com". ntonsoadinkra.webs.com . retrieved 2017-10-03.

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	Bonwire Kente Weaving site	A town in Ejisu-Juaben Municipal district which originated the best and most popular cloth in the whole of Africa. The cloth is popularly known as "Kente"	Bonwire is located 18km on the Kumasi-Mampong Road	Bonwire is also known for the Bonwire Secondary Technical School. The school is a second cycle institution	<i>Meyer, 2002</i>
	Lake Bosumtwi	The only natural lake in Ghana, found in the Ashanti region.	Situated within an ancient impact crater that is about 10.5 kilometres (6.5 mi) in diameter. It is about 30 km south-east of Kumasi the capital of Ashanti. About 30 villages surround Lake Bosumtwi, with a combined population of about 70,000 people.	A popular recreational area, according to traditional belief, the souls of the dead come here to bid farewell to the god Asase Ya . Because of this, it is considered permissible to fish in the lake only from wooden planks. Among the fish species in the lake is the endemic cichlid Hemichromis frempongi , and the near-endemic cichlids <i>Tilapia busumana</i> and <i>T. discolor</i>	<i>Koerberl et al., 2007.</i>
	Kumasi Zoo	The Kumasi Zoo (Kumasi Zoological Garden) is a zoo located in the heart of Kumasi in the Ashanti Region of Ghana	The zoo occupies a 1.5-square-kilometre (370-acre) area between the Kejetia Bus Terminal, the old race course and the Kumasi Centre for National Culture	It has about 40 different species of animals, with individual animals numbering over 135. A notable feature is the thousands of bats that rest on trees in the zoo	Kwame Gyasi, 2014
	Pankrono pottery	A town in the Kwabre East District of the Ashanti Region	Stretches, 8 kilometres on the Kumasi – Mampong Highway located after Tafo.	Noted for its pottery production ventures.	http://www.ghana.travel/touring_ghana/craft_villages/pankrono/ /2017/10/06
Brong-Ahafo Region	Boaben-Fiema monkey sanctuary	Located about 9 kilometers from Nkoranza and 25Km from Forikrom townships in the Brong Ahafo Region of Ghana	The Sanctuary covers just 1.9 km ² but only parts are truly forested. It is situated in the extreme north of the original forest zone and is currently isolated from any larger forests by some 50 km of derived savanna and farm bus	It has survived only because it provides the essential habitat for two species of monkey that are revered by the local communities. Surveys indicate that the present butterfly fauna is about 375 species, which is impressive for a tiny forest.	Larsen et al., (2014).
	Buoyem	Buoyem is a town in the Brong Ahafo Region of Ghana.	Human population of about 3,900 inhabitants with high population of invasive bats.	The town is known for the Buoyem High School. The school is a second cycle institution. There is high population of bats living in caves, on trees, class rooms ceilings, farms, workplaces etc.	https://en.wikipedia.org/wiki/Buoyem
	Kintampo waterfalls	This is a series of 3 waterfalls, the largest being 25m high. In total, in a number of steps and cascades, the river drops 70m.	In colonial days this was known as Sanders Falls, it is located on the river Pumpum, a tributary of the Black Volta.	On entry a guide takes you first up to the top falls, which can be photographed, then the the Centre falls that are difficult to see and finally down to the far larger bottom one. There is a climb of 152 steps back to the car park level. This concrete stairway was added in the mid 1960's. There is an archaeological site at/or near Kintampo, where civilization can be shown to have existed between 2500BCE and 1400BCE, and it's the earliest known site for the cultivation of the cowpea. These were farmers with stone buildings as wattle and daube, using polished stone axes and stone beads, domestic pots, ceramic sculptures of people and more.	http://www.ghana.photographersresource.com/locations/Landscape/LG/Kintampo_waterfalls.html /2017/10/19
	Bui Dam and Nature Reserve	Ghana's second largest hydroelectric generating station was commissioned by the country's President, John Dramani Mahama, in December 2013. The Bui Power Authority Act 2007 (Act 740) was enacted by the Parliament of Ghana and assented by the	Located on the boundary between the Northern and Brong Ahafo Regions.	The Bui hydroelectric project consists of a roller compacted concrete (RCC) gravity dam across the Black Volta and two Saddle Dams on the right bank to contain the reservoir. The RCC dam has a five-bay spillway arranged in the middle and a powerhouse located at the toe on the left bank. The powerhouse has three generating units each with a capacity of 133.3MW. Power produced from the plant is evacuated from the	http://www.waterpowermagazine.com/news/new-sbui-dam-project-ghana-4277839/2017/10/19

		President J.A. Kuffour in July 2007 to establish an Authority known as the Bui Power Authority (BPA) whose role was to plan, execute and manage the 400MW project.		newly constructed Bui Switchyard through 161kV transmission facilities operated as part of the National Interconnected Transmission System. A total of 240km of transmission lines has been built under the project. These include two 18km and 17km lines which broke into the existing Sawla-Techiman lines to form Bui-Sawla and Bui-Techiman lines. Other transmission facilities constructed are the 67km Bui-Kintampo line, the 138km Bui-Sunyani line, and expansion of the Sunyani Substation to accommodate the new Bui-Sunyani line.	
Central	Kakum National Park	Located in the coastal environs of the Central Region of Ghana. Established in 1931 as a reserve, it was gazetted as a national park in 1992 after an initial survey of avifauna was conducted.	Covers an area of 375 Km ² (145 mi ²)	The area is covered with tropical rainforest. It is one of only 3 locations in Africa with a canopy walkway, which is 350 meters (1,150 ft) long and connects seven tree tops which provides access to the forest. Notable endangered species of fauna in the park are Diana monkey, giant bongo antelope, yellow-backed duiker and African elephant. It is also an Important Bird Area recognized by the Bird Life International with the bird area fully overlapping the park area. The bird inventory confirmed 266 species in the park, including eight species of global conservation concern. One of these species of concern is the white-breasted guinea fowl. Nine species of hornbill and the African grey parrot have been recorded. It is very rich in butterflies as well, and a new species was discovered in 1993. As of 2012, the densest population of forest elephants in Ghana is located in Kakum	Eagles and McCool, 2013
Eastern	Adjeikrom	A Town where Ako-Adjei, considered being one of the "Big Six", who were arguably some of the most famous people in Ghana's fight for independence from British rule hailed from.	Adjeikrom is located on the Osiem-Begoro road. From Kumasi or Accra, use the Bunso-Koforidua Road and turn left from Osiem. About 10kms to Adjeikrom and Tarred Road all the way. Taxis are available from Koforidua or Osiem to Begoro.	Dr. Ako-Adjei was also a founding member of the United Gold Coast Convention, the political party that initially spearheaded the surge for independence. He was born on 17 June 1916 in Adjeikrom, in the Eastern Region of Ghana (then the Gold Coast). Some Quotes of Ako-Adjei: "Ghana is our country. We have nowhere to go. This is where God has placed us and the earlier, we realized this the better for all of us."	Ellison (2002).
	Akim Abompe	A hub for the stone-bead making industry in the forest zone of Ghana	Akim Abompe is off the main Accra-Kumasi Highway just northeast of Osino. For public transport, minibuses ply from Koforidua to Osino and then taxis from Osino to Abompe.	Preliminary ethnographic observation of the industry not only reveals that it is community-based, but that it also interacts in a complex way with other local crafts in the village which serves as tourist attraction community.	Bredwa-Mensah (1996) .
	Boti Waterfall	The Boti Falls is situated in the Yilo Krobo district of the Eastern Region of Ghana. This important waterfall is located at the heart of the forest reserve at Huhunya.	About 17km North-East of Koforidua.	The originating source is from river Ponpon which starts at Ahenkwa-Amalakpo and through to Boti Langmase where it turns into the fall 30m high water falls. Recreational visit has played an important role in the provision of leisure and reduction of stress. Individuals and households pay to enjoy this natural resource that has been provided by nature.	Mohammed (2014)

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	Bunso Arboretum	The Plant Genetic Resource Centre is found at Bunso, located	About 1 km away from Lina-door (highway rest stop) at the Koforidua junction where various Ghanaian dishes are served on the Main Accra – Kumasi highway.	Promotes scientific research from an arboretum of different plant species, out of which about 29 species have medicinal value based on ethno-botanical survey of their medicinal uses.	Boateng et al., (2005).
	Akosombo Dam	The Akosombo Hydroelectric Project (Akosombo HEP), usually referred to as the Akosombo Dam, lies in the southeastern part of Ghana.	It is located near Akosombo, a town build mainly for the workers at the dam, early 1960's	Akosombo has his own run hospital, by Volta River Authority, schools, public swimming pool, market and shops, restaurants, as well as some good hotels and guest houses. Akosombo is also a home of Akosombo Port, with Ferry connection to Northern Ghana, and the Dodi-Princess cruise-ship (to Dodi Island)	http://ghananet.com/akosombo-dam.html/2017/10/19
Greater Accra	Shai Hills	Located around Dodowa district, closest wildlife park to Accra, only 17 kilometers away compared to Mole National Park and Kakum National Park.	51 square kilometers	The basement consists of stone quarries. Its vegetation is a combination of open and wooded grassland, and fauna found there include guinea fowls, antelopes, baboons and francolins served by a railway station	https://en.wikipedia.org/wiki/Shai_Hills 2017/10/06
	Achimota Forest Reserve	Created in 1930 for research, tourism but has over the years lost more than 150ha as a result of urban infrastructure development and illegal encroachment	Covered 495 ha land areas with vegetation.	An Eco theme park involving the introduction of selected wildlife species and operation of wildlife safaris, an amusement park, eco-lodges, a spiritual enclave and a cultural village.	https://www.ghanaweb.com/GhanaHomePage/features/Achimota-Forest-Major-Ecotourism-destination-43967243/2017/10/06
Northern	Daboya	Capital of the North Gonja District in the Northern Region of Ghana. Daboya is represented by the Damango-Daboya constituency.	Population = 43,547, comprising 49.4% males and 50.6% females, representing 49% and 51% respectively with a growth rate of 2.19%.	'Fugu' smoke weaving and salt mining community. Street lightening procured and installed in Daboya township	North Gonja District Draft Medium Term Development Plan (2014-2017). https://s3.amazonaws.com/ndpcstatic/CACHES/PUBLICATIONS/2016/04/04/NR_North+Gonja_2014-2017+DMT DP.pdf

	Mole National Park	Largest and most prestigious National Park in West Gonja Distict of Ghana	It covers land size of 4,840 km ²	The Park center is endowed with swimming pool, motel and guest houses, viewing center and museum situated on a hill and surrounded by an escarpment. There are wild animal wallowing pools, and varieties of flora (trees, shrubs, herbaceous plants, grassland and Fauna (over 93 mammal species, and the large mammals of the park include an elephant population, hippos, buffalo, and warthogs. The park is considered a primary African preserve for antelope species including kob , defassa waterbuck, roan, hartebeest, oribi , the bushbuck, and two duikers, the red duiker and yellow-backed duiker. Olive baboons, black-and-white colobus monkeys, the green vervet, and patas monkeys are the known species of monkeys resident in the park. Of the 33 known species of reptiles slender-snouted and dwarf crocodile are found in the park. Sightings of hyenas, lions and leopards are unusual, but these carnivores previously common in the park. Among the 344 listed bird species are the martial eagle, the white-headed and palm-nut vultures, saddle-billed storks, herons, egrets, the Abyssinian roller, the violet turaco, various shrikes and the red-throated bee-eater),trained park guards, vehicles for safari animal spotting, supermarkets, student camp facilities etc.	<i>Brashares et al., 2001, Briggs, 2007</i>
	Larabanga Mosque	Built in the Sudanese architectural style in the village of Larabanga , Ghana. It is the oldest mosque in the country and one of the oldest in West Africa, and has been referred to as the "Mecca of West Africa". It has undergone restoration several times since it was founded in 1421. The World Monuments Fund (WMF) has contributed substantially to its restoration, and lists it as one of the 100 Most Endangered Sites	Located on the way, about 3 km to the Mole National Park	The mosque has an old Quran, believed by the locals to have been given as a gift from heaven in 1650 to Yidan Barimah Bramah, the Imam at the time, as a result of his prayers. The mosque, built with mud and reeds, has two tall towers in pyramidal shape, one for the mihrab which faces towards Mecca forming the facade on the east and the other as a minaret in the northeast corner. These are buttressed by twelve bulbous shaped structures, which are fitted with timber elements.	Blier, 2013
Upper East	Paga	A small town in Upper East region, lying north of Bolgatanga . Paga is the capital of Kassena Nankana West District , a district in the Upper East region of Ghana. The town is located on the border of Burkina Faso and is 166 km south of Ouagadougou via the N5 highway, the main road linking Ghana and Burkina Faso.	Population of about 10,000 people.	Live crocodile and ponds. Many inhabitants in this small town are multilingual, speaking their native Kasem and English among other languages.	<i>Ghana Expeditions. 2007-09-07. Retrieved 2011-09-21.</i>
	Sirigu	a village in the Upper East Region of Ghana. It is about 800 kilometers from	The village is located 35. Km from Bolgatanga, the capital of the Upper East Regio of Ghana	Well known for its basketry, pottery, traditional architecture and wall painting.	Ghana's Technology City - Africa's

		Accra .			Hope for the 21 st Century". www.ghana.gov.gh . March 4, 2013. Retrieved March 8, 2013.
	Tengzug	Located in the hills, southeast of Bolgatanga	It is about 17 Km away from Bolgatanga	Tengzug has a Shrine surrounded by hills which is believed to grant luck and prosperity to all those who visit it	https://wikitravel.org/en/Bolgatanga?title=Bolgatanga a 2017/10/06
Upper West	Gwollu	It is the district capital of Sissala West in the Upper West Region of Ghana.	A small town 70 km north of Wa.	It is the hometown and birthplace of Ghana's former President Dr Hilla Limann . It was part of the slave route during the slave trade. Gbollu Koro Liman built the Gbollu defence wall in the 19th century as part of its defence against the slavers	http://touringghana.com/upper-west-region/2017/10/06
	Wechiau	Wechiau Hippo Sanctuary is a community protected area, located at the extreme north-western corner of the Upper West Region. It is home for aquatic wildlife species.	It stretches 40-kilometres down the length of the Black Volta River, forms the region's western boundary with Burkina Faso	It is home to hippos, bats, chameleons, hedgehogs and many different types of lizards and snakes. The sanctuary is an excellent place to see birds with over 200 species identified and new sights seen regularly. an excellent spot for bird watching, including woodland savannah, riverine and forest shore bird species, monitor lizards, bats, hedgehogs, pythons, and even chameleons.	http://touringghana.com/upper-west-region/2017/10/06
	Gbelle Game Reserve	Is stretches 17 km south of Tumu, the reserve is a sanctuary for indigenous wildlife.	Totally 565km ² in size.	Possesses large herds of roan antelope, and is part of Ghana's Conservation Programme.	http://touringghana.com/upper-west-region/2017/10/06
	George Ferguson's Tomb	George Ekem Ferguson was a Ghanaian colonial agent who was instrumental in convincing local chiefs to sign treaties of friendship with the British.	The Tomb is located at the G.E. Ferguson cemetery in Wa Municipality.	He was later killed in 1897 by slave raiders, but his tomb preserved in Wa.	http://touringghana.com/upper-west-region/2017/10/07
Volta	Amedzofe	Mountainous settlement north of Ho in the mountainous region of the Ho Municipal District of the Volta Region of Ghana. It is presently located in the Newly Created Ho-West District Assembly	It is at an altitude of 677 meters (2,224 feet) above sea level.	Has four natural gifts: The Ote (otay) falls, Mt. Gemi, the Weather and the Landscape. It has played a role in the nineteenth century Anglo-Ashanti Wars. The Amedzofe Training School was built in 1880 by German Missionaries	<i>The worldwide index of cities and towns</i> . 2007. Retrieved 2007-03-24
	Kpetoe	A major tourism destination located in Agotime –Ziope District	Population of 34,456. The females constitute about 54.20% while the males constitute 45.8%. The most densely populated areas are Kpetoe, Ziope, Afegame and Akpokope. The average household size in these settlements is 4.8%	The rich culture of the district which is displayed during the Agbamevor Za (Kente Festival) of the Agotime People serves as an important attraction for people all over the Country. The Week-Long Festival comes in the first week of September and it is devoted to showcase Kente and exhibit varieties of the Agotime Kente.	2010 Population and housing Census, GSS http://www.mofep.gov.gh/sites/default/files/budget/2016/Composite/VR/Agotime.pdf 2017/10/07

	Liati Wote	Nestled in the heart of the Volta Region at the foot of the range of mountains that make up the Ghana/Togo border, Liati Wote is a hidden paradise.	Approximately 885 meters above sea level, (2905 feet)	Liati Wote possesses the highest mountain in Ghana and beautiful water falls (Tagbo Falls), over 300 species of butterflies. Mount Afadjato on a clear day offers views of the neighboring villages, the Tagbo Waterfall, and the Volta Lake	http://www.ghanaexpeditions.com/regions/highlight_detail.asp?rdid=363/2017/10/06
	Kyabobo National Park	The reserve was established in 1997, Located in a transition zone between tropical rain forest and tree savanna.	360-square-kilometre (140 sq mi)	Ghana's second highest mountain, Mount Dzebobo is contained within the park and offers visitors an impressive view of the Lake Volta. Park's wildlife includes African bush elephants, African leopards, African buffalo, waterbuck, several primate species, bushbuck, duikers and, a symbol for the park, the rock hyrax. A park survey lists at least 500 species of butterflies and 235 birds	<i>Ryman 2013, Parks and Reserves of Ghana, 2017.</i>
	Tiafi-Atome	Oral history has it that some 200 years ago, a group of migrants left the coastal shores of Cape Coast in the Central Region of Ghana to their present home in the Volta Region. On arrival, they settled in three major close communities namely Tafi Mando, Tafi Atome, and Tafi Abuise. This ancestral group intercepted a group of calm monkeys who lived amicably with them. The area was organized into monkey sanctuary in 1996 by a Canadian named John Mason who arrived in the community in the mission of scientific conservation research.	Located about 43km South of Hohoe.	Forests area with Fetish monkeys believed to be messengers to the god, the chiefs and people of Tafi communities have been protecting them for the past 200 years.	https://www.newsghana.com.gh/tafi-atome-home-of-monkeys/2017/10/06
	Wli Waterfalls	Wli Waterfalls is the highest waterfall in Ghana and West Africa. It has a lower and an upper fall.	20 km from Hohoe	A walk through the forest of the Agumatsa wildlife sanctuary offers a chance to see a large colony of fruit bats, butterflies, birds, monkeys and baboons. A large colony of bats can be seen clinging to the cliffs and flying in the sky	"Wli Waterfalls". www.bridgingdevelopment.org . Retrieved 2017-04-06.
	Avu-Lagoon	Avu Lagoon in southeastern Ghana is used and owned by 15 Communities, since 1992 it has been recognized as a wetland of international importance under the RAMSAR Convention	The area comprises a 277.67-hectare freshwater lagoon that is 11 km long, up to 5 km wide, and falls within the boundaries of the otherwise predominantly brackish 69,445.42-hectare Anlo-Keta Lagoon Complex	Avu residents, until recently, hunted sitatunga for its meat and hide, but also to fulfil traditional beliefs. Ewe traditional religion is polytheistic, with one supreme deity (Mawu) and many other divine beings associated with particular natural phenomena (e.g.,rain, wildlife), places (e.g., rivers, the lagoon), communities, or family clans	Parrinder, 1961. McPherson et al., 2016.
Western	Ankasa National Park	An area in southwestern Ghana, about 365 kilometers west of Accra near the border with Côte d'Ivoire. It incorporates the Nini Suhien National Park and the Ankasa Resource Reserve.	Approximately 500 square kilometers,	The Ankasa , Nini , and Suhien Rivers all pass through the park, and are known for their rapids and waterfalls. The evergreen rainforest has the most biological diversity of any in Ghana, with over 300 different plant species having been recorded in a single hectare of forest. Animal life includes the elephant, bongo, chimpanzee, Diana monkey, and 263 species of birds. The Park includes basic camping facilities with shelters, toilets, and running water along with many facilities for sitting down and having a chat	Ghana Wildlife Society:Ankasa National Park (Accessed October 2017)

Nzulezu (A village on stilts)	A village in the Jomoro District of the Western Region of Ghana. In 2000, it was nominated as a UNESCO World Heritage Site, and it is a major tourist attraction area.	Nzulezo (or Nzulezu) is located near the village of Beyin , roughly 90 kilometers west of Takoradi	Nzulezo overlooks the Lake Tadane, and is entirely made up of stilts and platforms. Nzulezo was built over Lake Tadane. The settlement of Nzulezo consists of stilt-supported structures integrated seamlessly with the water-dominated natural landscape. The village can be reached only by a canoe; the route, which crosses the rain forest, takes about an hour to 5 km away. In the village there is a church and a school	Nzulezu Stilt Settlement - UNESCO World Heritage Centre Retrieved on 2017/10/06
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Source: (Tiimub et al., 2020b).

RESULTS

Valued sacred growth resources in Northern Ghana Telly earlier intimated that, in northern Ghana, the oral history of the Malshegu people reveals their torment by the Arab slave traders in the 18th century. An appeal to the Kpalevorgu deity, whose oracle is manifested in the form of a boulder under a baobab tree, finally enabled the indigenes of Malshegu to triumph (Telly, 2005). Currently, the Malshegu grove is protected by the community, and its lush forest stands out amid the relatively barren savannah vegetative cover around it. The indigenous community believes that Kpalevorgu provides them with rainfall, successful crop harvesting and fertility (Tiimub et al., 2020). At the same time, it has also protected the flora and fauna that have lost other canopy forest habitats.

Another sacred grove, Jaagbo in the Tolon district, also traces its origins to the protection of the community through traditional beliefs and bylaws. According to oral history, two epidemics struck the Tolon community in the 15th century, and soothsayers determined that the people had neglected Jaagbo which serves as the residing place of some twin gods. Hence, when the necessary sacrifices and rituals were performed at certain localities in the forest, the diseases ceased to spread. The gods are believed to take the form of leopards, crocodiles, or pythons; thus, none of these animals are killed or eaten at Tolon. Community members regularly consult Jaagbo for help in bearing children, healing the sick and bringing rain. Joint reverence for Jaagbo also keeps four different communities allied and brings them together for annual sacrifices (Tiimub et al., 2020). The Bontanga irrigation dam and Dalun water treatment plant which serves as the main potable water treatment source for the Tamale Metropolis and managed by the Ghana Water Company Limited are also located within the Tolon and Kumbungu districts.

The Portuguese first arrived in present-day Ghana in the 15th century and were smitten with the abundant gold they found. The British gained control of what was then called the “Gold Coast” until the country’s independence in 1957. European colonials divided Ghana’s land into parcels owned by individuals instead of the community, which broke down the traditional communal investment in land stewardship. They sought to grow non-native crops, which often destroyed the ecology of the local region and necessitated the use of fertilizers. Ghana’s vast forests were harvested for whole timber export without much value addition under sustainable yields concept (Campbell, 2005). Perceivably, the Church Missionaries tried to replace the worship of multiple gods that were manifest in natural phenomena like trees and streams within sacred groves with the worship of a True Messianic Christian God in their newly discovered environments (Anane, 1997).

Ironically, while European culture perceivably brought destruction to the land as a whole, it also sought to preserve small portions through the concept of wildlife reserves for scientific, cultural and educational functions (UNESCO, 2017). In as early as 1900, Britain passed a legislation that established protected

areas within its colonies. Yet, the structure of these reserves only reflected the European ideology whereby, land inside the reserve was protected from random use, while land outside the reserve was open to any kind of development. In a sharp contrast, the traditional structure and management of sacred groves incorporates graduated zones: a highly protected core zone, which is only entered for ceremonial purposes; a buffer zone that permitted limited use of resources, and which scientists claimed correlates with a high level of biodiversity; and a surrounding transition zone that may support farming and logging, managed in an ecologically sustainable way (Oduro & Okae-Kissiedu, 2005, Telly, 2006, UNESCO 2006, Kuuder et al, 2013, IUCN 2010, Tiimub et al., 2020c). Following the adoption of wildlife reserves, the give-and-take preservation approach and graduated zones of conservation honed over centuries were dismantled, depriving indigenous people of their livelihood (rights to fish, hunt, and harvest natural forest resources) and the land of its equilibrium (IUCN, 2010).

The country's first post-colonial wave of export timber harvesting began in the 1980s. Between 1990 and 2000, the mean annual rate of deforestation was reported at 1.7 percent, one of the highest in the world. Over the years, some 2,000 sacred groves exist in Ghana, making up 1.5 percent of its land. In these small patches of tree growths, however, an unparalleled level of biodiversity exists, and may serve as gene pools for species that have gone extinct elsewhere due to deforestation, higher population growth pressure and protracted changes in the land use forms (IUCN, 2010).

Other top regional tourist sites in northern Ghana

Top tourist attraction sites in the Savanna Region include the Mole National Park (a safari park that houses elephants, baboons, a few lions and leopards and other animals living in their natural habitats, plus several hundred of bird species with a hostel camping facility developed through the joint effort of Kwame Nkrumah University of Science and Technology's Institute of Renewable Natural Resources and Mole Park Management for hosting students who embark upon various practical research activities). The Savannah region is also home to the revered Larabanga Mosque (built in the 13th century), the Daboya salt mines and traditionally woven smoke market, the Ndewura Jakpa Palace/Royal Mausoleum and Savanna Forest reserve at Damongo which contains the popular rose wood species, the Black and White Volta Rivers and local water transport services at Yapei, Buipe, Mpaha and the Volta Lake ferry and engine boat/canoe transport service run between Makango and Yeji. Salaga was an important town along the slave trade route from the northern parts of Ghana and Burkina Faso all the way down to the castles and forts along the Gold Coast (Mole National Park, 2015). The Kintampo waterfalls and center of Ghana ringed tree fence, Bui hydroelectric dam and Bia Forest reserve, located within the flanks of the Bono East region closer to the Savannah region further constitute adjacent ecotourism sites in northern Ghana (Tiimub et al., 2020).

The Upper East Region (UER) of northern Ghana is noted for its diverse cultures and history and the communal spirit among its indigenes. It contributes the second smallest land mass among the currently 16 administrative regions of the country. Popular tourist sites in UER include the Paga Crocodile Pond, Navrongo Cathedral, Bolgatanga art and craft market, Tongu hills and Tenzug shrines. The crocodiles live in the Paga Crocodile Pond, about forty-four kilometers from Bolgatanga, the regional capital, where they swim merrily along side young children while their mothers wash clothes on the banks. The people of Paga claim

that, no one has ever been harmed by any of the crocodiles. The crocodiles are equally respected by the citizens who believe that the soul of every native of Paga is carried by these animals (Patoway, 2015). Besides, whenever any important personality in the village dies, it is followed by the death of one of the sacred crocodiles because it is believed that the crocodiles are somehow connected to their ancestral spirits. By this perception, the crocodiles are therefore, well protected and regarded as being sacred in the community. The indigenes of Paga ensure the crocodiles are fed by offering them sacrifices of live fowls. Scientifically, crocodiles are carnivorous and generally aggressive, but not in the town of Paga. Through natural acquaintances to adaptive animal behavior, the crocodiles have in turn learned to live harmoniously with the people. This phenomenally unusual friendship between the people of Paga and the crocodiles does not however render the reptiles as being naturally totally harmless, particularly if threatened or endangered by externalities (Bateman and Fleming, 2012).

Plated photographs (**Figure 2, 3, 4**) indicating some unique tourism sites in the Upper East Region of Northern Ghana.



Figure 2: Paga crocodile pond.

Source: Ghana web, 2021.



Figure 3: Bolgatanga art market.

Source: Ghana web, 2021.

The Navrongo Cathedral is one of Ghana's oldest Churches. Our Lady of Seven Sorrows Cathedral was built in 1906 by the Europeans. The walls of the cathedral were built with mud, explaining why it is sometimes called the mud cathedral. On the inside, it appears like many other Catholic Churches with pictures of events in the time of Jesus pasted on the wall. Being one of the oldest Churches in the country, the people that visit it are not entirely there to worship. Many of them are



Figure 4: Navrongo cathedral.

Source: Ghana web, 2021.

tourists who come to feast their eyes on that ancient piece of beauty. In the Bolgatanga market, the most popular products displayed are straw woven baskets, called Bolga baskets. In farming seasons, many agricultural products are sold there. The things that make the Tongo community a popular tourist attraction site are their festivals, the Tenzug shrine and the whispering rocks. The people of Tongo are deeply traditional people who often worship at the shrine which is perceived to grant good luck and prosperity to its visitors. The Tongo hills are also known for their many astounding, natural rock formations (UNESCO, 2018). The Via dam at Bongo and Tono dam at Navrongo are major water sources for irrigation, flood control and recent Government of Ghana Flagship irrigation farming for food security enhancement programs and other development projects in northern Ghana (Agbeko et al., 2019).

In the North East Region, we have the Gambaga-Nanpkanduri scarp, the mystic wall, the Nayiri Palace and Baptist Medical Centre at Nalerigu, as well as the Old District Court, Prisons and Witches Camp at Gambaga. Historically, Nalerigu is where that reinforced mud defense slave wall – akin to the Great Wall in China, was constructed by the locals to protect the community against slave-raiders in the Gold Coast colonial era (UNESCO, 2018).

The Upper West Region makes up 3% of the total land mass of Ghana. Popular tourist sites in UWR include the Wechiau hippopotamus sanctuary (**Figure 5**). Gbollu slave defense wall, the George Ferguson's tomb in Wa and Gbelle game reserve. Wechiau is a home to most of the country's hippos. There is nowhere else in the country to find more of these hippos which can be well spotted closely on canoe rides along the river. Around the hippo sanctuary it is very common to spot chameleons, monitor lizards, hedgehogs, snakes and many other animals. There are up to 200 different bird species nesting within this hippo sanctuary enclave. This reserve mainly serves as a home to many endangered animals. Wild animals in Wechiau sanctuary are conserved for natural reproduction, to populate and keep them alive for sustainability functions. The most valued and protected animal species in the sanctuary comprise of hippos, water bucks and some endangered bird species (IUCN 2010, Kuuder et al., 2013).



Figure 5: A hippopotamus sanctuary at Wechiau.

Source: Forestry Commission Act (Act 571) of Ghana, 1990.

DISCUSSION

Unique features of the sacred groves

The Tindangung sacred grove in Saveligu-Nanton District has a mystic stone at the middle of the shrine, monitor lizards, pythons and other wildlife that gallivant the forest. However, of the total respondents interviewed in both communities in a recent survey, about 97.5% of them intimated that the history of the sacred grove attracted people while 79.5% felt it was rather the routine religious rituals performed therein, which brought visitors. The floral diversity components of the sacred groves are found to attract more tourists or researchers. Wuerthner and Hang et al., both intimated on the uniqueness of flora for touristic attraction as similarly echoed by Cobbina et al., in Ghana (Wuerthner, 2020; Hang et al., 2019; Cobbinah et al., 2015). Exemplarily, the beneficial objective for establishing any forest protection and sacred grove projects in any locality is mainly to enhance ecotourism functions (Hausner et al., 2017, Hang et al, 2019, UNESCO, 2018, Tiimub et al., 2020). The current review analyses further dilate on the prospects of expanding ecotourism by conserving the unique potential features of sacred groves to promote local and international tourism. Apparently, both Jaagbo and Tindangung sacred groves in northern Ghana are enriched with the unique features which significantly showcase their potentials for sustainable ecotourism development functions. The Jaagbo sacred grove for instance has about 220 different species of plants. Besides, paths have been created leading to certain adventitious spots such as the crocodile pond, bird sanctuary and historic baobab tree that is longitudinally imprinted with horse foot (Telly, 2006).

Benefits of the sacred groves

In Asian sacred sites for instance, many of the community members placed great values on their sacredness due to some associated benefits and categorized them into two: firstly, the environment and the second, social (Verschuuren, 2016). Linked to these value system ideologies, some recent tailored results confirmed that about 60% of respondents in the recent Ghanaian study intimated that both the Jaagbo and Tindangung groves offer the surrounding communities rain and protection against strong wind slides while 40% showcased the groves as indirect sources of income from tourism functions (Tiimub et al., 2020). These groves were attributed as healing sources once about 60% of medicinal plants or animals are obtained them to treat various diseases. The groves further constituted spiritual grounds for performance of traditional sacrifices to localized ancestral gods of the lands. About 83% of the community members

accentuated that they obtained wild fruits and mushrooms which serve as asynchronous sources of food security for the people to break hunger pulses. Their beliefs were strongly pinned towards quick conversion of the groves to ecotourism centres so that better care and management could be devoted to conserve both the medicinal and non-medicinal plants species and to promote ethnobotanical studies by researchers from the adjoining academic institutions. Examples of medicinal tree species within the groves are *Alstonia boonie*, *Tamarindus indica* and *Azadirachta indica* (Tiimub et al., 2020). These tree species were also intimated by 80% of the respondents to be efficacious towards local treatment of stomach upset and dysentery and were also used to assist in the delivery of placenta during labor when the barks are processed.

The fore findings ultimately confirmed that sacred groves classically provide a number of benefits to local indigenes in the communities and entire nation as obviously intimated by various experts (Halley et al., 2016; Bicknell et al., 2017; Brambilla and Ronchi, 2016; Bailey et al., 2016; Oyebamiji, 2019). These inexhaustive benefits according to expressions of the subjects interviewed in recent studies of Tiimub et al., on sacred groves as potential ecotourism sites at Tolon and Diare were summarized in brackets as follows: [i. it constitutes research base for students and scientists (38 respondents out of 40 affirmed this point, totaling 95%); ii. it further promotes cultural values once it is often used as special burial grounds, religious or spiritual functions for some members of the community (29 out of 40 respondents sided with the idea, making 72.5%); iii. its ecological role promotes carbon sequestration and protection of water bodies, provision of habitat for conservation of wildlife species and air purification of polluted systems through phytoremediation, natural decomposition and bioremediation of both water and soil pollutants (100% affirmed the point); iv. the groves also permit limited collection of non-timber forest products such as medicinal plants or animals, mushrooms, chewing sticks, rafters and poles for erection of household roofs (intimated by 94% of respondents)] (Tiimub et al., 2020).

Management and maintenance of the sacred groves

Majority (90-95%) of the respondents in recent surveys of Tiimub et al., attested that successful traditional means of sacred groves protection was attributable to factors earlier on detected by Telly such as: use of the groves to promote ancestral worship apart from rendering sacrifices to the local gods (Tiimub et al, 2020a; Telly, 2003). The use of taboos also restricts the level of activity in the grove to some particular days in the week. Despite all these perceptions and claims, most respondents remarked on the need to ensure proper conservation of fauna and flora at the groves as part of environmental sustainability and tourism functions. For instance, 75% of the subjects suggested maintenance and preservation of roses and other woody species in the grove while 25% posited that avoidance of bush burning were generally crucial measures of grove sustainability functions. Additionally, 92.5% of the community members opined on development of the groves into tourist centres as the best land use alternative for preservation of important plant genetic resources. According to them, it serves as the way forward for enhancing sustainable utilization and management of natural resources (Tiimub et al., 2020). These opinions also linked up appropriately with sustainable natural conservation principles because the findings corroborated strongly with the historic forest resources development agenda of Ghana (Ormsby, 2020). It has been since 1887 that the Colonial government set up steps towards sound conservation of certain forest areas of Ghana. Thus, forest reserves were established to protect

agriculture lands from erosion, maintain equilibrium in climatic conditions and sustain river sources. However, most sacred groves laid outside confines of the forest reserves and have been adversely subjected to protracted vulnerability because of both natural and anthropogenic disturbances (Nganso et al., 2011; Amoako-Attah, 1998).

Considerations on effective networking to address challenges and harness tourism sector gains

Some of the major trajectories against the tourism sector development have been lack of international cooperation and integration among the service providers and concerned authorities, as well as the difficulty involved in sustaining multisectoral participation of different interest groups in tourism activities in situations whereby, certain factors and strategies are particularly required to drive the choices of women graduates to venture into the tourism and hospitality business sector (Kobra et al., 2019). For instance, tourism investment is very crucial in Bangladesh in contrast with the neighboring countries (Kobra et al., 2018). An avenue to promote globalization of tourism and hospitality industry may be the option to develop effective and efficient rail-network transportation systems to enhance intercountry transportation of raw materials, intermediate products and finished goods (Karim, et al., 2020). On attempts to utilizing the long-distance competitive advantage of rail transport systems, the Trans Asian Rail-network has a major role to play in bringing a more even distribution of economic opportunities and benefits across nations by reducing barriers and corruption possibilities on tourism investment climates when the roles of the civil societies are well respected (Kabir, et al., 2021). Aside globalization, regional integration can determine the vulnerability of climate change in agriculture and food security by co-opting measures which influence the sustainability of ecotourism functions (Hossain, et al., 2013). Ghana is currently partnering China in developing its railway sector with neighboring African countries such as Burkina-Faso in order to harness tourism sector gains whilst globalizing businesses through its Ports and Harbours Authorities. In this regard, Beijing is financing US \$2 billion worth of rail, road and bridge networks, and in exchange, China will be granted access to 5% of Ghana's bauxite reserves (Smith, 2019).

CONCLUSION

The main tourism sites and services captured in the review from northern Ghana included but not limited to sacred groves, national park with student hostel camping facilities, unique Cathedral and Mosque, art and craft market, crocodile pond, mystic stone, natural hills and shrines, hippopotamus sanctuary, game and forest reserve, hydroelectric dams, traditional smoke markets and salt mines, mystic wall, witches camp, Gospel Missionary medical centre, traditional palaces and mausoleum, scarps, among others showcased (**Table 1**). These sites actually require significant improvement in terms of sustainably adoptative conservation initiative so as to optimize prospective gains. Therefore, the Government of Ghana ought to partner stake holding communities, NGOs and private sector investors to identify new and reliable aspects for synergism. One transformable strategy is to exploit the knowledge of environmental/ecological engineers and conservators towards repackaging of tourism sector strategic investment policies in order to create balance in terms of infusing beneficial projects/programs that promote multisectoral participation, effective rail-network transportation systems into any sustainable tourism development planning initiative. It is also ascertained that

international partners interested in promoting tourism sector investment policy initiatives with Government of Ghana (GoG) can collaborate with the higher institutions such as Kwame Nkrumah University of Science and Technology, Kumasi, University for Development Studies at Tamale, Simon Diedong Dombo University of Business and Integrated Development Studies in Wa, the Wa, Tamale and Bolgatanga Technical Universities, the Northern Parliamentarians and Ministerial Caucuses of GoG for better collective bargaining agreements. The institutions already run well-structured multifaceted academic programs on tourism, hospitality, environmental management/sustainability and can better assist in identifying aspects for effective collaboration for research to herald tourism development programs in Northern Ghana.

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