

Ecotourism Planning and Development: A Condition for Building Sustainability in Bayelsa State, Nigeria

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Abstract

The study assessed the ecotourism resources for sustainable development in Bayelsa State, Nigeria. Objectives of the study were to identify available ecotourism resources in the study area; assess the condition of available ecotourism resources in the study area; and identify approaches to promote sustainable development of ecotourism of the study area. The study employed a Mixed Methods Research approach and sequential exploratory design. The study employed purposive and simple random sampling techniques. The study interviewed 20 key informants that are knowledgeable in ecotourism and sustainable development and 399 household-heads (respondents) from 8 Local Government Areas and 33 communities with ecotourism resources by employing Taro Yamane formula at 5% precision level to determine sample size. Geographic Information System, photographs and personal observations were also used to identify and characterised the study area in reference to ecotourism resources. The study found that there are identified 31 locations of ecotourism resources across the 8 LGAs of Bayelsa State. The sites are characterised with forest reserves, mangrove swamps, rivers, creeks, lakes, beaches, agricultural, cultural and fishing festivals. The present status of the resources is underdeveloped, poorly developed and threatened by unsustainable human action from oil and gas exploration, lumbering and poaching activities. The sites are suitable for oceanographic, zoological, biological and recreational activities that will promote research and investment opportunities. Some approaches for the planning and development as suggested by respondents were preparation of ecotourism development plan, creating environment awareness and promote Public-Private Partnership for ecotourism development. The study has recommended that Bayelsa State Government should as a priority prepare ecotourism plan that will promote the planning and development of the identified ecotourism sites and resources; constitute research teams for regular studies for appraisal of the ecotourism sites and resources to identify, protect and conserve the rich and exotic flora and fauna and cultural activities; a partnership framework should be established to involve all stakeholders; develop necessary infrastructure and services; improve public awareness on the importance of ecotourism resources; and enforce environmental laws by the relevant government agencies to protect and conserve ecotourism sites and resources in the study area.

Keywords: Ecotourism, Planning and Development, Sustainability, Bayelsa State

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I. Introduction

The quest and zeal for socio-economic growth and development by developing democracies, countries, cities and communities have become eminent in recent times (Izvorski & Karakulah, 2019), and the resources in their environment are threatened by human decisions and actions (Organisation for Economic Cooperation and Development (OECD), 2022). The increasing human population and activities have dotted more footprint marks on the earth surface globally and developing countries also are experiencing this phenomenon greatly. These footprints include urban and rural development such as housing, industries, transportation systems, extraction of natural resources and modification of the natural environment for growth development. Thus, the question of how to develop sustainability has become important and imperative to man in his everyday decisions. One aspect of man's endeavour to build sustainable development is ecotourism development in the tourism sector. Ecotourism development is a fundamental principle and tool in building sustainable development in any geographical space, thereby increasing local capacity and growth and employment opportunities. Ecotourism has become an effective and efficient mechanism for empowering local communities around global by reducing poverty gaps to achieve sustainable development (International Ecotourism Society (IES), 2015).

Globally, the tourism industry has experienced steady growth almost every year. According to the global travel and tourism industry statistics in 2018, international tourist arrivals increased from 528 million in 2005 to 1.19 billion in 2015 and the global international tourism revenue reached approximately 1.26 trillion US dollars, having almost doubled since 2005 (Shaikh, Choudhary & Singh, 2019). Same year, China had the largest international tourism expenditure, followed by the United States and Germany. The leading city in international visitor spending was Dubai, where tourists spent more than 31.3 billion US dollars in 2016 (Shaikh *et al.*, 2019). The figure was projected to exceed 1.8 billion by 2030 (World Tourism Organization (UNWTO), 2018). These statistics showed that the developing countries have more earning in tourism than the developed countries. However, Africa countries which are categorised as developing countries benefited from the tourism sector economically. Countries such as Uganda, Algeria, Egypt, South Africa, Kenya, Zimbabwe, Morocco, Tunisia, Ghana, and Tanzania have benefited greatly from tourism especially ecotourism sub-sector (Encyclopedia of World Geography, 2022; Signe, 2018).

Nigeria geographical space is blessed with abundant resources like any other African country as identified which can support the ecotourism development and promote sustainable development (Federal Government of Nigeria (FGN), 2022). These ecotourism resources include forests and natural reserves with exotic plants and unique wildlife, water bodies and beaches, waterfalls and springs, mountains, plateaus and ranches, cultural and historic relics (FGN, 2022). Notable sites identified for ecotourism in Nigeria are Agbokim, Ezeagu, Erin-Ijesha and Gurara Waterfalls, Olumo, Aso and Zuma Rocks, Benue, Niger and Nun Rivers, Cross River, Kainji, Okomu, Gashaka-Gumti, Jos Wildlife, Kamuku and Yankari National Parks, Sukur Cultural Landscape, Osun-Osogba Shrine, Ogbunike Caves, Okomu Forest Reserve, Ngwo Pine Forest, Obudu, Mambilla and Biu Plateaus, Mandara and Patti Mountain, Obudu Cattle Ranch, Lake Chad, Ikogosi Warm Springs, Idanre and Oban Hills, Coconut, Bar, Ibeno and Tarkwa Beaches, Awhum Monastery, Kajuru Castle, Alok Ikom Monoliths, Giant Footprint of Ukhuse Oke (LegendK!D, 2016; Travelstart, 2015).

Some of these ecotourism resources and characteristics found in other parts of Nigeria are also found in Bayelsa State of Nigeria. The state terrain is blessed with the landscapes of water bodies, forest reserves and cultural and historic relics. These conditions present Bayelsa State for ecotourism activities and promotion of sustainable development to boost the socio-economic growth and development of the state. As Sustainable Development Goals (SDGs) 11, 13, 14 and 15 (Sustainable Cities and Communities, Climate Action, Life Below Water and Life on Land) become the watchwords of the politicians, decision makers and researchers (United Nations Department of Economic and Social Affairs (UN-DESA), 2015), ecotourism development in Bayelsa State become a crucial tool and process to achieving sustainability. Thus, this study focuses on ecotourism as a veritable approach to socio-economic growth and development of Bayelsa State in Nigeria likewise as a platform to promoting sustainable development to achieve the needed environmental protection and conservation, and building local capacity of the state and communities.

Statement of the Problem

Bayelsa State is endowed with ecotourism resources is no longer a say but a fact. It has been observed the ecotourism resources found with the state territory have not been utilised and used to promote sustainable development. This condition is caused by government inability to harness and plan for the development of these ecotourism resources, for awareness of communities the importance of these resources to the environment and providing platform that will attract the private sector into the investment on the development of these resources that will bring the dare needed socio-economic growth and development and sustainability. The ineffective and efficient utilisation of these resources will affect the benefits that is expected from the ecotourism sub-sector such as depletion of resources, environmental, pollution and socio-economic growth of Bayelsa State and the local communities. It will further limit the actualisation of sustainable development in the state as the entire ecosystem and human activities will be affected negatively. There is need to identify and assess ecotourism resources to improve sustainable development in Bayelsa State.

Aim and Objectives of the Study

The aim of the study is to assess the ecotourism resources for sustainable development in Bayelsa State, Nigeria.

The objectives of the study are to:

- i. Identify available ecotourism resources in the study area;
- ii. Assess the condition of available ecotourism resources in the study area; and
- iii. Identify approaches to promote sustainable development of ecotourism of the study area.

Scope of the Study

Geographically, the study covered the entirety of Bayelsa State in Nigeria (see Figure 1). Furthermore, the content scope includes identifying ecotourism resources available in the study area; assessing the condition of

the ecotourism resources available in the study area; and identifying approaches to promote sustainable development of ecotourism improve to environment and local economy of the Bayelsa State and local communities of the study area.

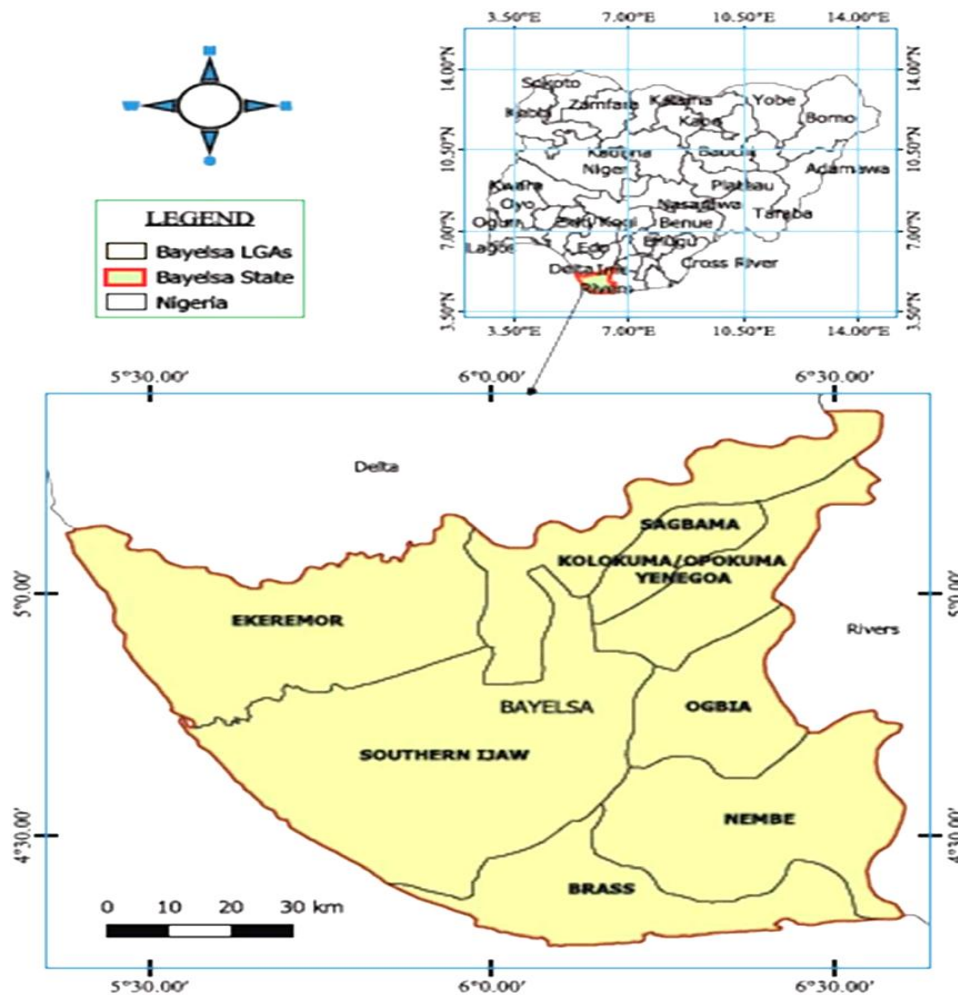


Figure1: Map of Nigeria and Bayelsa State, the Study Area
Source: Surveyor General's Office, Bayelsa State, 2021

II. Literature Review

Ecotourism Development: An Overview

Ecotourism is a form of international tourism. It is one of the fastest growing segment of the global tourism industry today that promotes less or non-destructive and non-consumptive use of nature (Bhuiyan & Ivlevs, 2019). Over the last three decades, there has been a growing debate on quality tourism worldwide; ecotourism, as a result, appeared as an environmentally benign and responsible journey to areas of outstanding beauty and exceptionally pristine places with identities of their own (Donohoe & Needham, 2006). It is a win-win development strategy especially designed for underdeveloped rural areas. The key considerations of ecotourism value the natural environment, respect of host culture and the local quality of life (Mirsanjari, 2012). The history of international tourism is evident of main tourism. Tourism as an inevitable activity has been booming since the 1950s (Smith & Robinson, 2006).

In 1950, the international arrival was 25 million globally. The international arrivals worldwide increased to nearly 70 million in 1960 that grew further to 160 million in 1970. In 1980, international arrivals totaled over 280 million and rose to over 563 million by 1995. Between 1950 and 1999, the number of international arrivals showed an evolution from 25million international arrivals to the current 664 million, corresponding to an average annual growth rate of 7% (Sharpley, 2002). For the year 2000 World Tourism Organization (WTO) projected worldwide tourist arrivals of around 702 million and over One (1) billion by 2010. In 2001, the global international arrivals amounted to more than 700 million. According to WTO study, "Tourism: 2010 Vision" predicts that 1.5 billion tourists will be visiting foreign countries annually by the year

2020, spending more than \$2 trillion or 5 billion every day. Tourist numbers grew by 6% in 2018 and by 7% in 2017 as holidaymakers returned to sunshine destinations in the eastern Mediterranean such as Turkey and Egypt after several years of tourists staying away due to security concerns (De Luca, Shirvani, Ahmadreza, Francini & Liberatore, 2020).

From the dense, green rainforests of Costa Rica, to the humid, lively Amazon of South America, to the hot deserts of Kenya, to the colorful, warm Great Barrier Reef off the coast of Australia, these natural beauties have been sites to see for generations (Goldstein, 2014). People travel thousands of miles to see these natural wonders of the world; it is these sorts of natural marvels that gave rise to the movement the world now knows as ecotourism (Goldstein, 2014). For decades, people have traveled around the world looking at the beauties that this planet has to offer. John Muir, for example, ventured into the Sierra Nevada mountain range and fell in love with it so much that he put it on himself to protect the land that would later become Yosemite National Park. Though the term was not coined yet, Muir's trip into Yosemite Valley is a form of ecotourism (Muir, 2017).

Ecotourism and Sustainable Development

Ecotourism and sustainable development are concepts that cannot be separated in principles and practices. The activities of ecotourism promote the tenets of sustainable development in all ramifications (Earth Reminder, 2022). The ability to understand ecotourism as an activity that has minimal impact on the environment introduces sustainability (Xu, Ao, Lui & Cai, 2022). Ecotourism has to do with promoting the conservation and preservation of natural features, social and cultural values of the environment by translation through the conscious planning and management of socio-economic growth and development of the environment without compromising the ability of the present and future generations in their survival.

Ecotourism and sustainability have impacted positively on several environments where the both concepts have been employed for development (Anup, 2016). Ecotourism as a direct relation to nature conservation and preservation of the environment resources involving all stakeholders of the environment including local communities in all stages of the process (Kiper, 2013). However, the development process is a lengthy process, which requires a sustained effort from all those involved but can bring major benefits in the long term can tribute directly to the formation of sustainability on the area involved (Kasalak, Akinci & Yurcu, 2016).

Ecotourism activities have particularly recently become sector which has created countless changes both in socio-cultural and economic aspects. The main purpose of ecotourism is not only ensuring the socio-economic development but also the protection of natural and cultural landscape values to ensure awareness of nature conservation on the other hand (Kasalak et al., 2016). Ecotourism in all ramifications has presented environmentally responsible travel to relatively undisturbed natural areas, travel in order to enjoy, study and appreciate nature, promote of conservation, combining sustainable development with the natural environments. Also, ecotourism has used natural assets and resources in ecologically sensitive areas to create unique visitor experiences with minimal impact on the area, and a form of tourism developed in natural areas, whose goal is to acknowledge and to appreciate nature and local culture (Kiper, 2013). These activities have demonstrated the principles of the sustainable development into practice that advanced the conservation and preservation in the planning and management of the environment through ecotourism as a sub-sector of tourism.

III. Methodology

The study employed a Mixed Methods Research (MMR) approach using sequential exploratory design (SED) for collection and analyses of data for the study. The study employed judgmental and simple random sampling techniques for collection of data in the study area. To collect qualitative data, 20 key informants were interviewed that are knowledgeable in ecotourism and sustainable development using judgmental sampling technique representing various government agencies including Bayelsa State Ministry of Culture and Tourism Development(BSMCTD), Bayelsa State Ministry of Environment (BSME), Bayelsa State Ministry of Urban and Rural Planning (BSMURP), Bayelsa State Ministry of Land and Housing (BSMLH), Bayelsa State Tourism Board (BSTB), Institute of Tourism and Hospitality (ITH)and community leaders. Thus, 399 household-heads (respondents) were also interviewed using judgmental and simple random sampling techniques to collect quantitative data for the study by identifying 8 Local Government Areas (LGAs) and 33 communities with ecotourism resources in the study area. Hence, to achieve the sample size from these communities, the population of these communities were projected from 1991 Census report(National Population Commission (NPC), 1991) to 2021 using 3.2% growth rate (NPC, 2018). Average household size of 5 persons (National Bureau of Statistics (NBS), 2016) was used to determine the total number of households in the communities and Taro Yamane formula was employed at 5% precision level to determine sample size (see Table 1). Geographic Information System (GIS), photographs and personal observations were also used to spatially identify and characterised the study area and the prevailing ecotourism resources conditions identified in the communities of the study area.

Table 1: Sampled LGAs, Communities, Population and Sample Size for the Study

S/No.	LGAs and Communities Sampled	1991 Population	2021 Population (Projected Using 3.2% Growth Rate)	No. of HH (5 Pers. per HH)	No. of HH Sampled
1	Brass				
	Twon-Brass	14,425	37,072	7,414	22
	Akassa	1,879	4,829	966	3
	Sangana	4,058	10,429	2,086	6
2	Ekeremor				
	Torugbene	9,037	23,225	4,645	14
	Ogbogbene	1,218	3,130	626	2
	Ekeremor	10,393	26,710	5,342	16
	Aleibiri	16,189	41,606	8,321	25
3	Kolokuma/Opokuma				
	Kaiama	8,754	22,498	4,500	13
	Sabagreia	7,681	19,740	3,948	12
	Sampou	693	1,781	356	1
	Odi	11,734	30,156	6,031	18
4	Nembe				
	NembeCreek	1,991	5,117	1,023	3
	Basambiri	18,599	47,799	9,560	29
	Ogbolomabiri	23,595	60,639	12,128	36
	Okokokiri	748	1,922	384	1
5	Ogbia				
	Oloibiri	12,300	31,611	6,322	19
	Otuasega	6,326	16,258	3,252	10
	Imiringi	5,117	13,151	2,630	8
	Amakalakala	2,360	6,065	1,213	3
6	Sagbama				
	Sagbama	4,140	10,640	2,128	6
	Agbere	9,486	24,379	4,876	15
	Adagbabiri	2,490	6,399	1,280	4
	Tungbo	8,425	21,652	4,330	13
7	SouthernIjaw				
	Amassoma	36,454	93,687	18,737	56
	KoluamaII	1,652	4,246	849	3
	Peremabiri	9,655	24,813	4,963	15
	Diebu	3,862	9,925	1,985	6
	Opuama	4,792	12,315	2,463	7
	Angiama	8,007	20,578	4,116	12
8	YenagoaCity				
	Swali	2,520	6,476	1,295	4
	Famgbe	4,418	11,398	2,280	7
	Tombia	3,766	9,679	1,936	6
	Zarama	2,483	6,381	1,276	4
	Total	246,448	666,306	133,261	399

Source: NPC, 1991; NPC, 2018; NBS, 2016; Researchers' Computation, 2021

IV. Results and Discussions

Identified Available Ecotourism Resources in the Study Area

Table 2 and figure 2 shows the locations and spatial distribution of ecotourism sites and resources in the Bayelsa State. The study has identified 31 locations of ecotourism resources across the 8 LGAs of Bayelsa State. As indicated in table 2 and figure 2, Southern Ijaw and Yenagoa LGAs have 6 locations of ecotourism sites each which is the modal in the state. Hence, this was followed by Brass and Ogbia LGAs, having 4 locations of ecotourism sites each while Kolokuma/Opokuma, Nembe and Sagbama LGAs have 3 ecotourism sites each and the LGA with the least site is Ekeremor having only 2 sites. Furthermore, from table 2, in Brass LGA these sites are located in Okpoama, Sangana-Akassa, Brass and Edumanon which are characterised by beach, wild forest, forest creek, mangrove, swamp, creek and forest reserve that support variety of flora and fauna. In Ekeremor LGA, the sites are located in Agge and Agricultural Palm having features such as sandy beach and palm beach. In Kolokuma/Opokuma LGA the identified sites are located in Egbedi, Odi and Gbaran-Ubie characterised with forest reserve, beach and cultural festival (Ogoriba Uge) while Nembe LGA sites are located in Edumanon and Nembe having forest reserve, mangrove swamp, creek cultural festival (Ancient War Canoe regatta).

Table 2 and figure 2 indicated that in Ogbia LGA, the locations of the ecotourism sites are Edumanon, Ogbia, Idema and Otuoke. The sites are characterised with forest reserve, mangrove swamp, creek, agricultural and cultural festivals (Eval Awani Idema and Odemimom Otuake Creek Forest). Sagbama LGA sites are located in Okoa-Toru, Opuadumo and Sagbama having features such as lakes (Lake Okoa-Toru, Opuadumo Lake) and cultural festivals (Seiben Ogugu). Southern Ijaw LGA resources locations are in Olodiana, Koluama, Apoi, Ossiana, Ikibiri and Nun River Basin characterised with beaches, creeks, lake (Adiegbe), forest reserves, rivers and cultural and fishing festival. In Yenagoa City LGA the locations of the sites are in Gbarain Clan, Yenagoa City, Swali, Sagbageria, Famgbe and Atissa Clan. The sites are characterised with forest reserves (Taylor Creek and Bayelsa National Forest Reserves), lakes (Ox-bow and Effi), beach and cultural festivals (Gbarain Uge and Uge Adiefa). The table 2 and figure 2 have showed in Bayelsa State, in every LGA, there are variety of ecotourism resources that can be explored through planning and management of the resources for sustainable development and growth taken cognisance of their physical, social and economic dimensions.

Table 2: Locations and Ecotourism Resource Types

LGAs	Locations	Ecotourism Resource Types
Brass	Okpoama	Beach
	Sangana-Akassa	Lake, Wild Forest and Forest Creek
	Brass Mangrove Swamp Creek Forest	Mangrove, Swamp, Creek and Forest
	Edumanon	Forest Reserve
Ekeremor	Agge	Sandy Beach
	Agricultural Palm	Palm Beach
Kolokuma/Opokuma	Egbedi	Forest Reserve
	Odi	Beach and Cultural Festival (Ogoriba Uge)
	Gbaran-Ubie	Lake
Nembe	Edumanon	Forest Reserve
	Nembe Mangrove Swamp Creek Forest	Mangrove Swamp, Creek and Forest.
	Nembe Ancient War Canoe (Regatta)	Cultural Festival
Ogbia	Edumanon	Forest Reserve
	Ogbia	Mangrove Swamp, Creek and Forest
	Idema	Cultural Festival (Eval Awani Idema)
	Otuoke	Agricultural and Cultural Festival (Odemimom Otuake Creek Forest)
Sagbama	Okoa-Toru	Lake (Okoa-Toru)
	Opuaduno	Lake and Fishing Festival
	Sagbama	Lake and Fishing Festival (Seigben Ogugu)
Southern Ijaw	Olodiana	Beach
	Koluama II	Beach
	Apoi	Creek and Forest Reserve
	Ossiana	Lake (Adiegbe) and Fishing Festival
	Ikibiri	Forest Reserve
	Nun River Basin	River and Forest Reserve
Yenagoa City	Gbarain Clan	Forest Reserve (Taylor Creek) and Cultural Festival (Gbarain Uge)

	Yenagoa City	Forest Reserve (Bayelsa National Forest Reserve)
	Swali	Lake (Ox-bow Lake)
	Sagbageria	Lake (Effi) and Fishing Festival
	Famgbe	Beach and Party Festival
	Atissa Clan	Harvest and Cultural Festival (Uge Adiafa)

Source: BSMCTD, 2021; Researcher’s Field Work, 2021

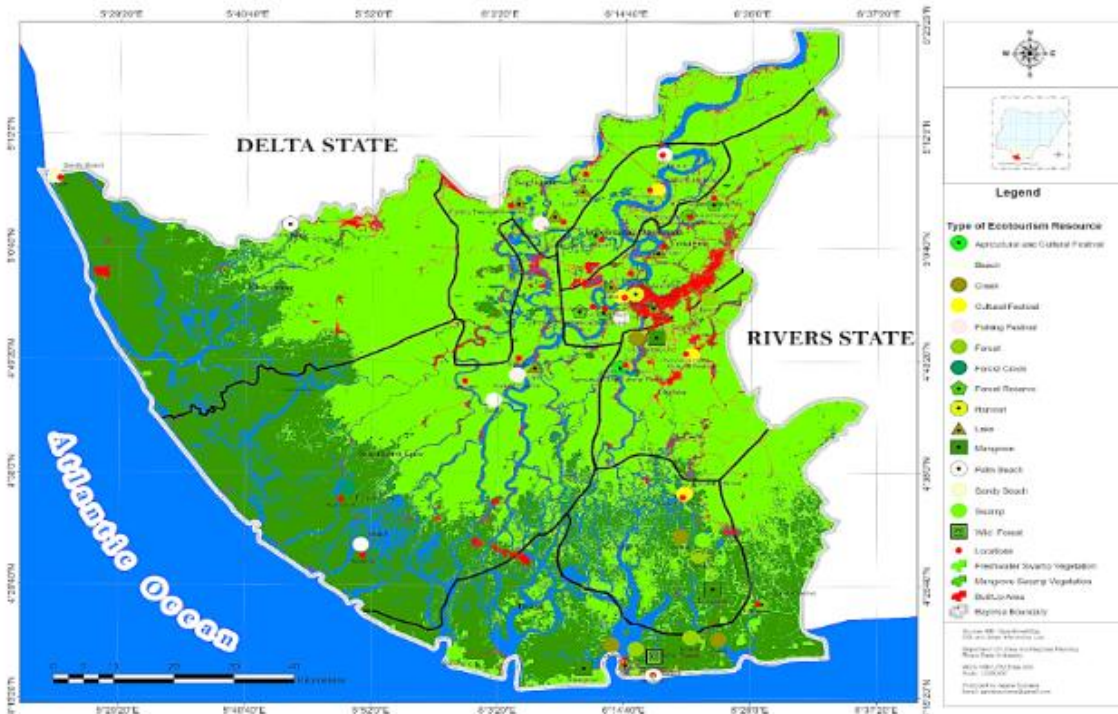


Figure 2: Spatial Distribution and Natural Features of Ecotourism Resources and Sites
 Source: BSMCTD, 2021; Researcher’s Fieldwork, 202

Accessed Condition of Available Ecotourism Resources in the Study Area

Table 3 shows the identified ecotourism resources, their attributes and present status in the study area. As highlighted in table 3, Brass LGA were these ecotourism resources are such as Okpoama, Sangana-Akassa, Brass Mangrove Swamp Forest and Edumanon Forest have beaches (natural white sand) (see Figure 3), lakes, mangrove forest and forests that are rich with exotic ecosystem and fragile fauna and flora(variety of birds, chimpanzees, aquatic life, and various species of plants that are peculiar to the environment). The waterbodies of ocean and lakes regulates the estuarine coastal water quality through sedimentation and nutrient uptake from their waves. However, with enormous physical characteristics of the identified sites and resources, the present status of the sites are underdeveloped but are suitable for oceanographic, biological and zoological activities for research and recreation. The sites can support other forms of recreation and economicactivities such as outdoor relaxation, boating, water biking, hotelier business and local crafting for culture exhibition. The resources are threatened by human activities such as unsustainable mining of oil and gas activities, lumbering and poaching by locals. From data in table 3, in Ekeremor LGA ecotourism sites are in Agge and Agricultural Palm characterised with sandy beaches, mangroves and palm beaches. The present status of these sites and resources are undeveloped and poorly developed (sand beach and mangrove) while the palm beach has been developed for agriculture but not fully utilised for economic development of the LGA and Bayelsa State. The sites and resources are suitable for oceanographic, zoological, biological and recreational activities that will promote through research and investment for economic growth and development. The sites and resources are threatened by human impacts from lumbering and poaching activities.



Figure 3: Okpoama Beach in Brass LGA, Bayelsa State

Source: Researchers' Fieldwork, 2021

Kolokuma/Opokuma LGA ecotourism sites are 3 located at Egbedi, Odi and Gbaran-Ubie. The sites resources are characterised with forests, creeks, rivers, lakes, beach, seashells, exotic wildlife, flora and fauna, serene atmosphere and cultural festivals. The present status of these sites and resources are underdeveloped and suitable for oceanographic, zoological, biological and recreational activities that will promote through research and investment for economic growth and development. The sites and resources are threatened by human impacts from oil and gas exploration, lumbering and poaching activities (see Table 3). In Nembe LGA, the ecotourism sites and resources are located Edumanon and Nembe areas. The located are depicted by forest reserve ((Edumanon Forest of wildlife of fauna (chimpanzees, birds of various species and aquatic life and exotic flora), mangrove swamp creeks and rivers, and cultural festivals (War Canoe regatta and rich cultural displays). From the data in table 3, the status of the sites and resources are underdeveloped but suitable for oceanographic, zoological, biological and recreational activities and research expeditions. The sites and resources are threatened by human impacts from oil and gas, lumbering and poaching activities that may affects the quantity and quality of resources in the sites (see Table 3).

From the data as presented in table 3 shows that Ogbia LGA identified ecotourism sites and resources are located in Edumanon, Ogbia, Idema and Otuoke having forest reserve (Edumanon), mangrove swamps, creeks, rivers and agricultural and cultural festivals (Eval Awani Idema and Odemimom Otuoke). The sites are underdeveloped but suitable for oceanographic, zoological, biological, recreational and research expeditions. The sites and resources are threatened by human impacts from oil and gas, lumbering and poaching activities that is affecting the quantity and quality of resources found in the sites. The Sagbama LGA has location of ecotourism sites and resources at Okoa-Toru, Opuaduno and Sagbama which have lakes (Okoa-Toru), fishing festival (Seiben Ogugu) and beach. The sites and resources are threatened over harvesting of aquatic life and low patronage of poor publicity.

In table 3, Southern Ijaw LGA ecotourism sites and resources are located in Olodiama, Koluama II, Apoi, Ossiama, Ikibiri and Nun River Basin. The sites and resources displays beaches, creeks (Apoi and Adiegbe), rivers, forest reserves and cultural festivals. The sites are underdeveloped but suitable for oceanographic, zoological, biological, recreational and research activities. The sites and resources are threatened by human impacts from oil and gas, lumbering and poaching activities that is affecting the quantity and quality of resources found in these sites. While in Yenagoa City LGA has location of ecotourism sites and resources in Gbarain Clan, Yenagoa City area, Swali, Sagbageria, Famgbe and Atissa Clan having forest reserves (Taylor Creek Forest and Bayelsa National Forest), lakes (Ox-bow and Effi) (see Figure 4), beach and cultural festival (Uge Adiegbe and Gbarain Uge) and beach. The sites are characterised with exotic flora and fauna, varieties of birds and endemic fishes. The most of the sites are underdeveloped but the Ox-bow Lake has been considerably developed for recreation by the Bayelsa State Government (see Figure 5). The sites are suitable for oceanographic, zoological, biological, recreational and research activities. The sites and resources are threatened by oil and gas activities, over harvesting of aquatic life and low patronage due to poor publicity (see Table 3).

Table 3: Identified Ecotourism Resources, Attributes and Present Status

LGAs	Locations	Ecotourism Resource Type	Attributes	Present Status
Brass	Okpoama	Beach	<ul style="list-style-type: none"> •The Beach is the longest natural beach in Bayelsa State. •The beach is an erosive beach with the prevalence of high waves and currents. •The sand is clean and smooth suitable for all forms of relaxations. •Plants that have breath roots that are useful for adapting to muddy tides. Like: Mangrove. •It has a mangrove ecosystem around the coast with its function as a barrier to sea waves that can erode the coast of the coast. 	Underdeveloped and highly suitable for oceanographic, recreation, economics, biological and zoological activities
	Sangana-Akassa	Lake, Wild Forest and Forest Creek	<ul style="list-style-type: none"> •Lake •Forest •Flora and Fauna •Birds of different species and mangrove ecosystem 	Underdeveloped and highly suitable for oceanographic, socio-economics, biological and zoological activities. Threatened by human impacts from oil and gas and lumbering activities.
	Brass Mangrove Swamp Creek Forest	Mangrove, Swamp, Creek and Forest	<ul style="list-style-type: none"> •Coastal Wetlands •Halophytic (salt loving) trees. •Crucial Ecosystem •Forest •Essential connection between life in the ocean and life on land. •Absorbs the energy from waves and wind as well as regulates the estuarine coastal water quality through sedimentation and nutrient uptake. •Creeks for canoeing for transportation and recreation. 	Undeveloped and highly suitable for oceanographic, social, economic, biological and cultural activities. Threatened by human impacts from oil and gas and lumbering activities for cooking energy.
	Edumanon	Forest Reserve	<ul style="list-style-type: none"> •Forest •Chimpanzees •Flora and Fauna •Wild-life and Exotic Plants 	Underdeveloped. Its purpose is to attract visitors for socio-economic growth and development. Highly suitable ecotourism, zoological and biological activities. Threatened by human impacts for lumbering and poaching activities.
Ekeremor	Agge	Sandy Beach	<ul style="list-style-type: none"> •Agge Beach Shoreline •Smooth Sand and loose sediments •Pebbles •Seashell fragments •Plants that have breath roots that are useful for adapting to muddy 	Poorly developed with little attention. Highly suitable for oceanographic, biological and zoological activities. Threatened by human impacts from oil and gas

			tides such as mangrove.	and lumbering activities.
	Agricultural Palm	Palm Beach	<ul style="list-style-type: none"> •Palms •Sandy Beach •Raffia (thatch) 	Developed, suitable for recreation and economic activities.
Kolokuma/Opokuma	Egbedi	Forest Reserve	<ul style="list-style-type: none"> •Forest •Creeks and rivers •Wildlife Species of flora and fauna 	Mapped out by Government but underdeveloped and highly suitable for biological and zoological activities. Threatened by human impacts from lumbering and poaching activities.
	Odi	Beach	<ul style="list-style-type: none"> •Odi Beach Shoreline •Smooth sand and loose sediments •Pebbles •Seashell fragments •Plants that have breath roots that are useful for adapting to red clay tides. Like water lilies and shrubs. • Commemoration of the killing of the buffalo that terrorised the community. 	Poorly developed and highly suitable for oceanographic, recreation, biological, zoological and cultural activities. Threatened by human impacts from oil and gas activities and poor patronage.
	Gbaran-Ubie	Lake	<ul style="list-style-type: none"> •Open water with different species of fishes •Forest •Flora and Fauna •Wildlife Species •Serene Atmosphere 	Undeveloped and highly suitable for oceanographic, recreation, biological and zoological activities. Threatened by human impacts from oil and gas activities.
Nembe	Edumanon	Forest Reserve	<ul style="list-style-type: none"> •Forest •Chimpanzees •Flora and fauna •Wildlife and Exotic Plants •Creeks and rivers 	Underdeveloped. Its purpose is to attract visitors for socio-economic growth and development. Highly suitable ecotourism, zoological and biological activities. Threatened by human impacts for lumbering and poaching activities.
	Nembe Mangrove Swamp Creek Forest.	Mangrove, Swamp, Creek and Forest.	<ul style="list-style-type: none"> •Coastal wetlands •Halophytic (salt loving) trees. •Crucial Ecosystem •Forest •Essential connection between life in the ocean and life on land. •Absorbs the energy from waves and wind as well as regulates the estuarine coastal water quality through sedimentation and nutrient uptake. •Creeks for canoeing for transportation and recreation. 	Undeveloped and highly suitable for oceanographic, social, economics, biological and cultural activities. Threatened by human impacts from oil and gas and lumbering activities for cooking energy.

	Ancient War Canoe	Cultural Festival	Cultural and ceremonial festival done in the meandering creeks of Brass and Nembe in exotic and colourful regalia dance displays in War Canoes depicting our rich heritage around the creeks.	Poorly developed and highly suitable for cultural and social activities. Threatened by poor human patronage.
Ogbia	Edumanon		<ul style="list-style-type: none"> •Forest •Chimpanzees •Flora and Fauna •Wild-life and Exotic Plants •Creeks 	Underdeveloped. Its purpose is to attract visitors for socio-economic growth and development. Highly suitable ecotourism, zoological and biological activities. Threatened by human impacts for lumbering and poaching activities.
	Ogbia Mangrove Swamp Creek Forest	Mangrove, Swamp, Creek and Forest	<ul style="list-style-type: none"> •Coastal Wetlands •Halophytic (salt loving) trees. •Crucial Ecosystem •Forest •Essential connection between life in the ocean and life on land. •Absorbs the energy from waves and wind as well as regulates the estuarine coastal water quality through sedimentation and nutrient uptake. •Creeks for canoeing for transportation and recreation. 	Undeveloped and highly suitable for oceanographic, social, economics, biological and cultural activities. Threatened by human impacts from oil and gas and lumbering activities for cooking energy.
	Eyal Awani Idema	Cultural Festival	<ul style="list-style-type: none"> •Creeks for boat cruising for recreation. 	Poorly developed and highly suitable for cultural and social activities. Threatened by poor human patronage.
	Odemimom Otuoke	Agricultural and Cultural Festival	<ul style="list-style-type: none"> •Commemoration of harvest season. •Creeks for the celebration. Boat cruising on the waters. 	Poorly developed and highly suitable for cultural and social activities. Threatened by poor human patronage
Sagbama	Lake Okoa-Toru	Lake	<ul style="list-style-type: none"> •Open Water with different fish species •Crocodile •Forest and Exotic Birds •Forest and Land •Flora and Fauna •Wildlife Species •Serene Atmosphere 	Undeveloped and highly suitable for oceanographic, biological and zoological activities. Threatened by human impacts from oil and gas activities and over harvesting of aquatic lives.
	Opuaduno	Lake and Fishing Festival	<ul style="list-style-type: none"> •Open Water with different fish species •Crocodile •Forest and Exotic Birds •Forest and Land •Flora and Fauna •Wildlife Species •Serene Atmosphere •Fishing Festival 	Poorly developed and highly suitable for cultural and social activities. Threatened by poor human patronage

	Seigben Ogugu	Lake and Fishing Festival	<ul style="list-style-type: none"> • This Lake cuts across the two LGAs of Sagbama and Southern Ijaw. •Open Water with different fish specie •Forest and Exotic Birds •Forest and Land •Flora and Fauna •Wildlife Species •Serene Atmosphere •Fishing Festival takes place every 27th of May. 	Poorly developed and highly suitable for cultural and social activities. Threatened by poor human patronage
Southern Ijaw	Olodiamama	Beach	<ul style="list-style-type: none"> • The beach is formed by the flow of the River Nun and Forcados Rivers on shoreline. •Smooth Sand and loose sediments •Pebbles •Seashell fragments 	Poorly developed and highly suitable for oceanographic, biological, zoological, cultural and social activities. Threatened by human impacts from oil and gas activities and over harvest of fishes.
	Koluama II	Beach	<ul style="list-style-type: none"> • The beach is formed by the flow of the River Nun and Forcados Rivers on shoreline. •Smooth Sand and loose sediments •Pebbles •Seashell fragments 	Poorly developed and highly suitable for oceanographic, biological, zoological, cultural and social activities. Threatened by human impacts from oil and gas activities and over harvest of fishes.
	Apoi	Forest Reserve	<ul style="list-style-type: none"> •The creek (Apoi Creek) cuts across the two local government of Sagbama and Southern Ijaw. •The forest is a tidal freshwater lowland swamp forest which is composed mainly of marshes, mangrove forest and freshwater swamps. • Dense Forest and rich in several ecologically and economically valuable flora and fauna species some of which is the red colobus monkey, manatee, sclater guenon, royal python, and chimpanzee. • The forest also serves as an important spawning and nursery ground for fish. •It is one of the major wetland in the Niger Delta that supports birdlife. 	Poorly developed and highly suitable for oceanographic, biological and zoological activities. Threatened by human impacts from oil and gas, poaching and lumbering activities.
	Ossiama	Adiegebe Lake and Fishing Festival	<ul style="list-style-type: none"> • This Lake cuts across the two LGAs of Sagbama and Southern Ijaw. •Mysterious 500 years old lake •Open Water with different fish specie •Crocodiles •Forest and Land •Flora and Fauna 	Poorly developed and highly suitable for oceanographic, biological, zoological, cultural and socio-economic activities. Threatened by human impacts from oil and gas activities and over

			<ul style="list-style-type: none"> •Wildlife Specie •Serene Atmosphere •Fishing Festival 	harvest of fishes.
	Ikibiri	Forest Reserve	<ul style="list-style-type: none"> •Forest and Land •Flora and Fauna •Wildlife Specie •Serene Atmosphere with presence of the creeks. 	Poorly developed and highly suitable for biological and zoological activities. Threatened by human impacts from oil and gas, poaching and lumbering activities.
	Nun River Basin	Forest Reserve	<ul style="list-style-type: none"> •Forest and Land •Flora and Fauna •Wildlife Species •Rivers and streams. 	Poorly developed and highly suitable for biological and zoological activities. Threatened by human impacts from oil and gas, poaching and lumbering activities.
Yenagoa	Gbarain Clan	Forest Reserve (Taylor Creek Forest) and Cultural (Gbarain Uge) Festival	Forest reserve Unfortunately, however, no field studies are available on the diversity of the terrestrial vertebrates (amphibians, reptiles, mammals) in this protected territory.	Poorly developed and highly suitable for biological and zoological activities. Threatened by human impacts from oil and gas, lumbering and poaching activities.
	Yenagoa City area	Forest Reserve (Bayelsa National Forest)	<ul style="list-style-type: none"> •Forest and Land •Flora and Fauna •Wildlife Specie •Rivers and streams. 	Poorly developed and highly suitable for biological and zoological activities. Threatened by human impacts from oil and gas, lumbering and poaching activities.
	Swali	Lake (Ox-bow)	<ul style="list-style-type: none"> •Intentional Lake •Flora and Fauna •Natural Park •Boat Rides •Suitable for swimming •Relaxation 	Poorly developed and highly suitable for oceanographic, biological, zoological, cultural and social activities. Threatened by human impacts from oil and gas activities and over harvest.
	Sagbageria	Lake (Lake Effi) and Fishing Festival	<ul style="list-style-type: none"> •Open clear water with different fish specie •Unharmful crocodiles •Forest and Land around •Flora and Fauna •Wildlife Species •Purifies itself •Fishing Festival that takes place every 7years subject to the pronouncement of the chief priest. 	Poorly developed and highly suitable for oceanographic, biological, zoological, cultural and social activities. Threatened by human impacts from oil and gas activities and over harvest.
	Famgbe	Beach and Party Festival	<ul style="list-style-type: none"> • The beach is across the community. •Smooth Sand and loose sediments • The beach is from a formation of the Nun River that runs in 	Poorly developed and highly suitable for oceanographic, biological, zoological, cultural and social activities. Threatened by

			parallel of the community. •Fresh water mangrove	human impacts from oil and gas activities and over harvesting of fishes.
	Atissa Clan	Harvest and Cultural (Uge Adiafa) Festival	This is a commemoration of the harvest season carried out by the twelve (12) Atissa Clan in Yenagoa LGA. It is usually celebrated every 25th of June with a dance from the twelve clans on a boat display on the Nun River. There is a display of the farm products in basket with a cultural colourful dance display.	Poorly developed and highly suitable for cultural and social activities. Threatened by human impacts from oil and gas activities.

Source: BSMCTD, 2021; Researcher’s Fieldwork, 2021



Figure 4: Fishing Festival at LakeEffi
Source: Researchers’ Fieldwork, 2021



Figure 5: A Boat Pavilion at Ox-Bow Lake in Swali
Source: Researchers’ Fieldwork, 2021

Identified Approaches for Sustainable Development of Ecotourism in the Study Area

Table 4 shows the various approaches for the planning and development of ecotourism sites and resources to promote sustainable development of Bayelsa State. As suggested by respondents in table 4, the modal approach for the suggested is the preparation of ecotourism development plan accounted for 38% of the responses, followed creating environment awareness and promote Public-Private Partnership (PPP) for ecotourism development accounted for 26% and 15%, respectively. Other approaches suggested from responses were develop ecotourism policy and programme, and strengthening of established tourism development agency recorded as 11% and 10%, respectively. All approaches are expected to promote the planning and development of ecotourism sites and resources in a sustainable manner in the study area. All these approaches were also suggested by the key informants interviewed including involving all stakeholders such as government, private sector, researchers, communities and individuals in the planning and development of ecotourism sub-sector. Globally, where tourism sector and particularly ecotourism has been successful, the government have been fully involved in the planning and implementations of policies and programmes (Drumm & Moore, 2005). In the planning and development ecotourism with these approaches will help have every stakeholder be part of the development process and have a considerable concern for the sites and resources. This will further enhance the protection and conservation of the resources to build the capacity of the local economy and promote sustainable development.

Table 4: Approaches for Sustainable Development of Ecotourism Sites and Resources

S/No.	Approaches for Sustainable Development	No.	%
1	Develop ecotourism policy and programme	46	11
2	Creating environmental awareness	103	26
3	Strengthening the established tourism development agency	40	10
4	Preparation of ecotourism development plan	151	38
5	Promote Public-Private Partnership for ecotourism development	59	15
	Total	399	100

Source: Researchers' Fieldwork, 2022

V. Conclusion

Ecotourism as a sub-sector of tourism is important for the promotion of sustainable development in various climes globally. The study has identified and assessed ecotourism sites and resources in Bayelsa State of Nigeria to promote sustainable development in the physical and socio-economic dimensions. The study has identified forests, beaches, flora and fauna of distinct characteristics and cultural festivals that are suitable for ecotourism and research activities. The sites and resources are threatened oil and gas activities, over harvesting of aquatic life and low patronage because of poor publicity. This has affected status of the sites and resources including the socio-economic growth and development of the local communities and inhabitants likewise Bayelsa State economically and environmentally. Though, some approaches have been suggested for respondents in the study including the policy and programme formulation for tourism and preparation of tourism plans. However, the study has recommended measures for the promotion of sustainable development of ecotourism sites and resources in the study area.

Recommendations

The study has the following recommendations:

- i. Bayelsa State Government should as a priority prepare ecotourism plan that will promote the planning and development of the identified ecotourism sites and resources in a sustainable manner to enhance their accessibility and usability by investors, visitors and researchers;
- ii. Bayelsa State Government should constitute research teams with various specialties for regular studies for appraisal of the ecotourism sites and resources to identify, protect and conserve the rich and exotic flora and fauna and cultural activities that will attract the expected audience;
- iii. A partnership framework should be established by Bayelsa State Government, investors and communities for the planning and development of ecotourism sites and resources in the study area to increase mutual cooperation among all stakeholders;
- iv. All necessary infrastructure and services should be provided to the ecotourism sites for easy access to improve the local economy of the state and communities;
- v. Public awareness on the importance ecotourism resources should be made to the communities to reduce their impacts on the environment; and
- vi. Environmental laws should be enforced by the relevant government agencies for the protection and conservation of the ecotourism sites and resources of the study area.

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