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IMPACT OF COVID - 19 PANDEMIC ON ECOTOURISM IN SOME NIGERIA NATIONAL PARKS.

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ABSTRACT

This research investigated the impact of covid-19 pandemic on ecotourism in some Nigerian National Parks. Two hundred and ninety-two (292) respondents were selected from the employees of the Parks and the Parks management. Proprietors of businesses linked to ecotourism were the subjects of purposive interviews. The gathered data underwent filtering, coding, and analysis through descriptive statistics, including mean, frequency, and percentage. The relationship between the socio-demographic and professional characteristics of park staff and their perceptions of the COVID-19 pandemic was analyzed using regression analysis. The findings revealed that 54.6% of the respondents were from Chad Basin National Park. Additionally, 49.8% were involved in Ecology and Resource Management (ERM), and significant majorities (81.2%) were male. Furthermore, 85.6% of the respondents were married, and 60.3% had obtained a tertiary education. In terms of experience, senior park inspectors represented 21.8% of the staff, while those with a total of ten years of service made up 12.7%. Individuals who have served for a decade in their current park accounted for 13.1%. Notably, 96.5% of the respondents were aware of COVID-19, with 71.2% citing social media as their primary source of information. The study concluded that the pandemic resulted in changes to health and sanitation protocols at ecotourism destinations. Additionally, the park could play a role in raising awareness about COVID-19 and associated safety concerns, which could help reduce the spread of misinformation about these sites. Further studies should be conducted to evaluate the state of ecotourism after the COVID-19 pandemic and potential tourists' awareness of the risks associated with traveling for ecotourism during COVID-19.

Key Words: Covid-19, pandemic, Ecotourism, National Park

INTRODUCTION

Ecotourism, a form of nature-based travel, avoids the negative social, economic, and environmental impacts associated with mass tourism (Duffy, 2013). This type of tourism empowers local and host communities, protects the environment, and promotes cultural and environmental awareness (Jovanovic et al., 2021). Ecotourism has been recognized as a promising opportunity for developing nations, as it encourages ethical visits to natural areas that benefit both local communities and the environment (Hosseini et al., 2021). It represents a lucrative and dynamic segment of the tourism industry (Hosseini et al., 2022). These locations, with their natural potential, offer services to travelers seeking nature-based experiences (Hosseini et al., 2022). Recent studies (Ajake & Amalu, 2012a; Amalu et al., 2017; Lee et al., 2013) indicate that ecotourism plays a crucial role in promoting sustainable economic and environmental growth. Many nations actively engage in ecotourism due to its capacity to support both macroeconomic and microeconomic growth, preserve natural resources, and foster global peace and cooperation (Mbabazi, 2013; Hall, 2014).

In Nigeria, ecotourism has experienced significant growth, positively impacting the economy (Amalu, 2013). Some of the country's premier ecotourism destinations include Millennium Park in Abuja, Kajuru Castle in Kaduna, Cross River National Park, Afi Mountain Sanctuary, Obudu Mountain Resort in Cross River State, Yankari Game Reserve, Wikki Warm Springs, Idanre Hills, Gashaka Gumti National Park, Kamuku National Park, and Chad Basin National Park.

These destinations have greatly enhanced the aesthetic value of cities across Nigeria, boosted community revenues, increased family incomes, and created employment and business opportunities (Ajake et al., 2016; Enang et al., 2016). Recent studies (Ajake & Amalu, 2012a; Amalu et al., 2017; Lee et al., 2013) highlight the crucial role that ecotourism plays in promoting sustainable economic and environmental growth.

The National Park sector has been significantly impacted by the ongoing crisis, much like several other sectors. This impact includes disruptions to livelihoods, employment issues, global supply chains, and a trend of reverse migration from urban to rural areas. As a result, there is increased dependency on forests, which places considerable stress on their health and biodiversity. Furthermore, due to the COVID-19-related economic crisis in 2020, an

estimated 34.3 million more people are likely to fall into extreme poverty (UNDESA, 2020).

Ecotourism plays a crucial role in promoting environmental sustainability. Many countries have embraced ecotourism because of its potential to support both macroeconomic and microeconomic development, conserve natural resources, and foster global peace and cooperation (Mbabazi, 2013; Hall, 2014).

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As a result of the COVID-19 pandemic, travel restrictions, social distancing, activity cancellations or delays, partial or total lockdowns, and other measures were promptly implemented nationwide. Consequently, the majority of operations in National Parks were reduced or suspended, public access to visitor facilities was limited, businesses were closed, non-essential National Park staff were removed from their duties, and vital supply chains were disrupted. This had a significant impact on the essential day-to-day operations of the National Parks. Activities within these parks, particularly ecotourism, were restricted, leading to increased criminal activity since they were sometimes used as hideouts.

The COVID-19 pandemic has highlighted the devastating effects of global crises on tourism, especially within the economic sector (Ugur & Akbyk, 2020). The tourism industry was severely affected by COVID-19 (Gursoy & Chi, 2020). This industry faced significant challenges due to government-imposed regulations that restricted movement and travel. These limitations impacted both domestic and international tourism, affecting inbound and outbound travel.

The National Park sector, like many others, has been profoundly affected by the ongoing crisis. This impact includes disruptions to livelihoods, employment issues, and challenges to global supply chains. There has also been a trend of reverse migration from urban to rural areas, leading to increased reliance on forests, which puts stress on their health and biodiversity. Additionally, due to the economic crisis related to COVID-19 in 2020, an estimated 34.3 million more people may have fallen into extreme poverty (UNDESA, 2020).

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STUDY AREA

Description of the study area

This research was conducted in two National Parks in Nigeria: Chad Basin National Park, located in Borno and Yobe States, and Kamuku National Park in Birnin Gwari, Kaduna State.

Chad Basin National Park is situated in the Sudano-Sahelian ecological zone in the extreme north eastern part of Nigeria, between latitudes 11°00' N and 13°00' N and longitudes 13°00' E and 15°30' E, covering a total area of 2,258 sq. km. The park comprises three non-contiguous ecological systems of significant conservation importance:

Chingurmi-Duguma Sector: This is the largest sector, covering an area of 1,228 sq. km. It is located in the Woloji and Gulumba districts of Bama Local Government Area in Borno State. This sector is contiguous with Waza National Park in the Republic

of Cameroon, presenting opportunities for promoting trans-boundary ecotourism.

Bade-Nguru Wetland Sector: Part of the internationally renowned Hadeja-Nuru-Bade Wetland (Ramsar Site), this sector covers an area of 938 sq. km and includes the legislated Bade Native Authority Gogoram and Zugurma Baderi Reserve, situated southwest of the Bade and Jakusko Local Government Areas in Yobe State.

Bulatura Sector (Bulatura Oasis): Located in the Yusufari Local Government Area of Yobe State, this sector spans 92 sq. km and was formerly known as Kilboa Forest Reserve, established in 1970. It features highly mobile scenic dunes, making it ideal for ecological and adventure tourism.

In terms of climate, the coldest month is January, with an average high temperature of 29°C and an average low temperature of 17°C. Conversely, the warmest month is May, with an average maximum temperature of 38°C. The driest months are January, February, November, and December, averaging 0 mm of rainfall, while August is the wettest month, with an average precipitation of 203 mm (Geotsy, 2022).

Kamuku National Park, located in Birnin Gwari Local Government Area of Kaduna State, covers an area of 1,121 sq. km. Originally gazetted as a Native Authority forest in 1936, it was upgraded to a National Park in 1999. The highest average air temperatures typically occur during the hot season (March to May), while the lowest average temperatures are recorded during the cold season (December to February) (Abaje et al., 2017).

The wet season lasts from April through October, peaking in August, while the dry season extends from November of one year to April of the next (Abaje et al., 2012). The annual average rainfall ranges from approximately 1,733 mm in the southern part of the zone to about 600 mm in the northern part (Abaje et al., 2016). April is the warmest month, with an average maximum temperature of 34°C. January and December are the driest months, with an average of 0 mm of rainfall, while August is the wettest month, averaging 273 mm of precipitation (Geotsy, 2022).

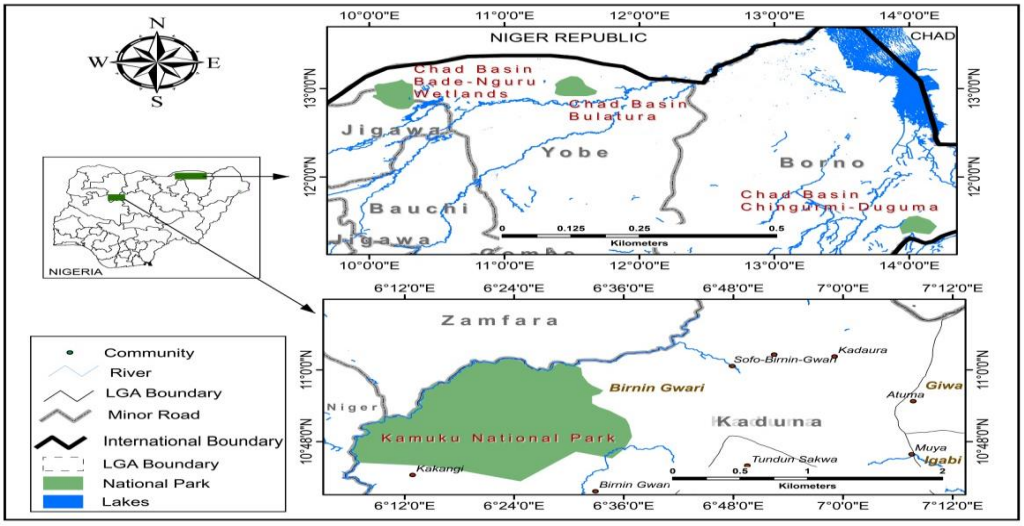

Figure. 1. Map of Chad Basin and Kamuku National Park
Source: Geography Department FUDMA (2023)

METHODOLOGY

The researcher went to the study area to obtain preliminary information about each of the Parks and their environs. This is to enable adequate planning and focus for the actual survey.

Sampling Size and Sampling Procedure

A 95% confidence level, a standard deviation of 0.5, and a confidence interval (margin of error) of ± 5%, were used to determine the sample size for unknown population as shown in the formula below:

$$\text{Sample size} = \frac{(\text{Z-score})^2 \times \text{StdDev} \times (1-\text{StdDev})}{(\text{Error margin})^2}$$

Z-score: The statistical value for the standard distribution corresponding to the desire confidence level= 1.96

A multistage cluster sampling method, combined with purposive sampling techniques, was used for this study, along with face-to-face interviews. In the first stage, two national parks, each consisting of eight departments, were selected. The departments are: Human Resources Management (H.R.M), Ecology and Resources Management (E.R.M), Park Research and ICT (P.R. & ICT), Conservation Education (C.E), Accounting and Finance (A.F), Works and Maintenance

(W.M), Audit, and Ecotourism. A total of sixty-three questionnaires were distributed to the management teams of the two parks: thirty-three questionnaires for Chad Basin National Park and thirty for Kamuku National Park. In the second stage, two hundred and twenty nine (222) staff were selected from the two National Parks (Chad Basin and Kamuku). , one hundred and twenty-five (125) from Chad Basin National Park while one hundred and four (104) from Kamuku National Park.

The respondents were purposely selected based on their ability to read and write. Furthermore, the staff strength of Chad Basin National Park is higher than that of Kamuku National Park as shown in Table 1.

Table 1. Sampling Procedure

Multi Stage	National Park	Respondents
Stage one	Chad basin National Park (Park Management)	33
	Kamuku National Park (Park Management)	30
Stage two	Chad Basin National Park (Park employees)	125
	Kamuku National Park (Park employees)	104
Total		292

Source: Field Survey, 2022

RESULTS

Socio-demographic and Professional Characteristics of the Respondents (Employees)

The socio-demographic and professional characteristics of the respondents (staff) are detailed in Table 2. It reveals that 54.6% of the respondents were from Chad Basin National Park, while 45.5% were from Kamuku National Park. A significant portion, 49.8%, was involved in Ecology and Resource Management (ERM), whereas only 0.9% were engaged in conservation education. The majority of the respondents (81.2%) were male, while 18.7% were female. Furthermore, most respondents (85.6%) were married, with a small percentage (0.4%) being divorced or separated. In terms of education, 60.3% of respondents had attained tertiary education, while only 1.3% had completed primary education.in conservation education (0.9%). Majority (81.2%) of the respondent were male while the least (18.7%) were female. In addition, most (85.6%) respondents were married while the least were divorced/separated (0.4%). Most (60.3%) respondents had tertiary education while least (1.3%) was primary education.

Senior Park Inspectors represented the highest percentage of staff at 21.8%, while Chief Park Inspectors had the lowest percentage at 2.2%. Among staff members, those with ten years of service in the National Park Service accounted for the largest group at 12.7%, whereas those with thirty-two years of service represented the smallest group at 0.4%. In terms of tenure at the current park, respondents with ten years of service made up the highest percentage at 13.1%, while those with fifteen years of service had the lowest percentage at 0.4%. Regarding monthly income, staff with earnings between N61,000 and N90,000 were the largest group at 26.2%, while those earning N100,000 and above had the lowest percentage at 4.8%. Additionally, rangers constituted the highest percentage of respondents at 43.2%, whereas works and maintenance staff had the lowest percentage at 0.4%.

Table 2a: Socio-demographic and Professional Characteristics of the Respondents (Employees)

Variables	Frequency	Percentage (%)
Park		
Chad Basin National Park	125	54.6
Kamuku National Park	104	45.4
Total	**229**	**100**
Departments		
Ecology and Resource Management	114	49.8
Ecotourism	18	7.9
Human Resource Management	10	4.4
Conservation Education	2	0.9
Park Research and ICT	54	23.6
Audit	4	1.7
Account and Finance	3	1.3
Works and Maintenance	12	5.2
No response	12	5.2
Total	**229**	**100**
Gender		
Male	186	81.2
Female	43	18.8
Total	**229**	**100**
Marital Status		
Single	32	14.0
Married	196	85.6
Divorced/Separated	1	0.4
Total	**229**	**100**
Education		
Primary	3	1.3
Secondary	60	26.2
Tertiary	138	60.7
No response	28	11.8
Total	**229**	**100**

Source: Field Survey, 2022.

Table 2b: Socio-demographic and Professional Characteristics of the Respondents (Cont.)

Variables	Frequency	Percentage (%)
Rank		
Assistant Park Warden	21	9.17
Assistant Chief Park Ranger	13	5.68
Chief Park Ranger	21	9.17
Park Warden	11	4.80
Principal Park Inspector	7	3.07
Assistant Chief Park Inspector	17	7.42
Deputy Chief Park Inspector	7	3.07
Chief Park Inspector	5	2.18
Senior Park Inspector	50	21.83
Park Ranger II	13	5.68
No response	64	27.93
Total	**229**	**100**
Year of service in National Park Service		
1 to 5	43	18.78
6 to 10	84	36.68
11 to 15	38	16.59
16 to 20	24	10.48
21 and above	34	14.85
No response	6	2.62
Total	**229**	**100**
Length of service in the current Park		
1 to 5	53	23.14
6 to 10	65	28.38
11 to15	58	25.33
16 to 20	13	5.68
21 and above	24	10.48
No response	16	6.99
Total	**229**	**100**

Field Survey, 2022.

Table 2c: Socio-demographic and Professional Characteristics of the Respondents (Cont.)

Variables	Frequency	Percentage (%)
Income		
30,000-60,000	51	22.27
61,000-90,000	60	26.20
91,000-120,000	30	13.10
121,000-150,000	26	11.36
151,000 and above	11	4.80
No response	51	22.27
Total	**229**	**100**
Staff role		
Ranger	99	43.23
Ecotourism Officer	16	6.99
Admin officer	13	5.68
Finance officer	6	2.62
Ecology and resource management officer	14	6.11
Audit	3	1.31
Research officer	42	18.34
Head of Unit	2	0.87
Engineer	7	3.06
Works and Maintenance	1	0.44
No response	26	11.35
Total	**229**	**100**

Source: Field Survey, 2022

Employees' Level of Awareness of COVID-19 Pandemic

The results presented in Table 3 indicate that nearly all (96.5%) of the respondents were aware of the COVID-19 pandemic, while only a small percentage (0.4%) were not aware. A majority of the respondents (48.0%) reported being extremely aware of the pandemic, whereas the smallest group (5.7%) indicated they were only slightly aware.

Regarding the perceived sources of the COVID-19 pandemic, the largest percentage (18.8%) identified the coronavirus itself, while the smallest percentage (0.4%) attributed the pandemic to non-compliance with COVID-19 protocols and contact with infected objects. Additionally, a significant majority (86.9%) reported that their family and friends had not been infected by COVID-19, while the least number (5.2%) indicated otherwise.

Respondents' Sources of Awareness of COVID-19 Pandemic

Table 4 indicates that social media was the primary source (71.2%) of awareness about the COVID-19 pandemic, while the least source (0.4%) was friends.

Table 3: Employees' Level of Awareness of COVID-19 Pandemic at the Destination

Variables	Frequency	Percentage (%)
Awareness of COVID-19 pandemic?		
Yes	221	96.5
No	1	0.4
No response	7	3.1
Total	**229**	**100**
If yes, what describe your level of awareness?		
Slightly aware	13	5.7
Somewhat aware	23	10.0
Moderately aware	75	32.8
Extremely aware	110	48.0
No response	8	3.5
Total	**229**	**100**
Name the probable source of COVID-19 virus		
Corona virus	68	29.69
Personal contact	33	14.41
From surface/air	4	1.75
Refusal to abide by the COVID-19 protocol	1	0.44
Hospital	5	2.18
Touching infected object	1	0.44
Bush meet	2	0.87
Body weakness	3	1.31
Traveling	12	5.24
Total	**229**	**56.33**
Have you, you colleagues or friends and family been infected by covi-19?		
Yes	30	13.1
No	199	86.9
Total	**229**	**100**

Source: Field Survey, 2022.

Table 4: Sources of Awareness of COVID-19 (Multiple responses)

Variables	Frequency	Percentage (%)
Radio	131	24.35
Television	132	24.55
Newspaper	75	13.94
Social media	163	30.29
Personal experience	30	5.58
Facebook	4	0.74
Health personal	2	0.37
Through friends	1	0.18
Grand Total	**538**	**100**

Source: Field Survey, 2022.

Employee Perceptions of the Impact of COVID-19 on Ecotourism in the Parks

Table 5 illustrates the perceived impact of COVID-19 on ecotourism in the parks. The mean scores ranged from 2.68 to 4.15. The highest perception indicated that COVID-19 led to changes in sanitation and health-related protocols at this destination (Mean = 4.15), while the lowest perception noted an increase in the flow of domestic tourists to this destination (Mean = 2.68).

COVID-19 Pandemic and Preventive Measures Adopted at the Destinations (Parks)

Table 6 presents the status of the COVID-19 pandemic and the preventive measures adopted at various destinations, specifically parks. In Chad Basin National Park, 81.8% of respondents indicated that the impact of the COVID-19 pandemic on ecotourism was low. Conversely, in Kamuku National Park, 30.0% stated that the impact was moderately high. Regarding the measures taken to mitigate the spread of the virus, 97.0% of respondents in Chad Basin National Park reported the COVID-19 vaccine as a preventive measure, while 86.6% of those in Kamuku National Park noted the same. Additionally, 87.9% of individuals in Chad Basin National Park expressed that tourists and the public adhered to COVID-19 preventive measures, compared to 100% in Kamuku National Park. When it comes to the extent of compliance, 81.8% of respondents in Chad Basin National Park stated it was very high, while 66.7% in Kamuku felt the same. Furthermore, 98.9% of staff in Chad Basin National Park reported compliance with COVID-19 preventive measures, whereas compliance was reported at 100% in Kamuku National Park. Lastly, 75.8% of respondents in Chad Basin indicated their compliance level was high, while in Kamuku, it was reported at 46.7%.

Table 5: Employee's perception of the impact of COVID-19 on ecotourism in the Parks

Variables	Mean	Standard deviation
COVID-19 promotes virtual ecotourism	3.39	1.37
COVID-19 make ecotourism travel very risky	3.55	1.45
Visitation to the park was halted through COVID-19	3.74	1.32
There was health risk and concerns from ecotourism travel due to COVID-19	3.87	1.17
There was increase in the flow of domestic tourists to this destination	2.68	1.49
There was loss job in ecotourism-linked businesses	3.39	1.24
There is increase in family outings to this destination	2.72	1.33
There is more awareness on the link between the destruction of ecotourism resources and COVID-19 pandemic	3.31	1.48
COVID-19 negatively affected the development of ecotourism	3.85	1.27
COVID-19 brought about changes in sanitation and health related protocols at this destination	4.15	1.73
COVID-19 affected funding for ecotourism resources in this park	3.85	1.24
COVID-19 prevented law enforcement for protection of ecotourism resources	3.55	1.34
COVID-19 drastically reduced revenue from ecotourism	4.02	1.12
There was increase in poaching of ecotourism resources due COVID-19 movement restriction	3.34	1.36
Host communities with ecotourism-linked businesses lost their income during COVID-19	3.97	1.09

Field survey, 2022

Table 6a: COVID-19 and Preventive Measures Adopted At the Parks

	CHAD BASIN NATIONAL PARK				KAMUKU NATIONAL PARK			
Variables	N	WS	WMS	**Decision**	N	WS	WMS	**Decision**
To what extent do you think COVID-19 impacts ecotourism activities in your park?	33	25	0.76	Low	30	96	3.2	Very High
What is the extent of tourist's compliance to COVID-19 preventive measures?	33	94	2.85	Moderate	30	90	3.0	High
What is the extent of staff compliance to COVID-19 preventive measures?	33	106	3.21	Very high	30	109	3.6	Very High

Field Survey: 2022

Low: 0-1.95 N: Number of respondents

Moderate: 1.95-2.95 WS: Weight Score

High: 2.95-3.05 WMS: Weight Mean Score

Very high: 3.06-3.95

Extremely high: 3.95-5.0

Table 6b: COVID-19 Pandemic and Preventive measures Adopted at the Parks.

	Chad Basin National Park		Kamuku National Park	
Variables	Frequency	Percentage	Frequency	Percentage
Are tourist and public complying with COVID-19 protection measures in your park?				
Yes	29	87.9	30	100.0
No	4	12.1	0	0.0
Total	33	100	30	100
Are your staff complying with COVID-19 measures?				
Yes	31	93.9	30	100.0
No	2	6.1	0	0.0
Total	33	100	30	100
What measures has your park taken to reduce the spreadof COVID-19?				
Use of facemask	8	24.2	25	83.3
Use of hand sanitizer	7	21.2	24	80.0
COVID-19 vaccine	32	97.0	26	86.6
Social distancing	8	24.2	20	66.6
Reduction in duration of opening hours	1	3.0	8	26.7
Reduction in number of visitors per hour	1	3.0	10	33.3
Educate and pass awareness to communities around the park	0	0.0	1	3.3
Total	57	172.6	112	376.5

Source: Field Survey 2022

DISCUSSION

Socio-demographic and Professional Characteristics of the Respondents

The results indicate that the majority of respondents (employees) were from Chad Basin National Park (CBNP). This predominance may be attributed to the size of the park, which spans 2,258 square kilometers. CBNP extends across Maiduguri and Yobe State, necessitating more staff than Kamuku National Park, which is less than half the size of CBNP at 1,120 square kilometers.

A large percentage of respondents were involved in Ecology and Resource Management (ERM). This is likely because most rangers, who are typically part of the Department of Environmental Resource Management, are employed in this area. Furthermore, most respondents were male, which aligns with the findings of Ogunjobi et al. (2010), who reported that a greater proportion of park staff are male. This trend may be influenced by the demanding nature of park protection work in Nigeria, which requires a degree of ruggedness that is often considered challenging for females. Additionally, gender inequality in recruitment practices within the National Park Service or a lack of female applicants due to the job's demands could also contribute to this disparity.

Interestingly, the highest percentage of respondents were married, which is consistent with the findings of Sher et al. (2013), who noted that most staff in Saif-ul-Malook National Park, Pakistan, were also married. The largest group of respondents had completed tertiary education, supporting the report by

Ogunjobi et al. (2010), which stated that most respondents in a study on job perception among staff in Cross River National Park, Nigeria, had secondary education.

Senior park inspectors were the most represented group among respondents. This could be attributed to a significant number of junior staff who were promoted to senior positions or to the high number of diploma holders employed in the inspectorate cadre. Respondents with ten years of service within the National Park Service represented the highest percentage, indicating potential job scarcity among them.

Moreover, the largest group of respondents reported a monthly income in the range of ₦61,000 to ₦90,000. This finding contrasts with the report by Ogunjinmi et al. (2014), which indicated that employees earning between ₦5,000 and ₦25000 monthly were the most common in a study on personnel characteristics and training opportunities affecting organizational commitment among employees in Nigerian National Parks. This discrepancy may arise from changes that occurred after the National Park Service was upgraded to a paramilitary salary scale.

As expected, rangers comprised the largest group of respondents, reflecting their primary responsibility for protecting the parks. Their significant numbers are essential for effective patrolling, considering the extensive size of the parks.

Employee's Awareness and Level of Awareness of COVID-19 Pandemic

The result showed that almost all the respondents were aware of the COVID-19 pandemic. This is in line with the data from the World Health Organization (2020) which show that Africa confirmed its first COVID-19 case in Egypt on 14th February 2020. Since then, every African country has been affected and more than one million cases have been reported. A larger percentage of the respondents agreed that the coronavirus was the probable source of the COVID-19 pandemic. The highest percentage of the responses shows that family and friends of the respondents were not infected by the COVID-19 pandemic.

Sources of Awareness of COVID-19 Pandemic

The study shows that social media was the highest source of awareness of the COVID-19 pandemic. This is not surprising because social media is the fastest medium of information dissemination globally, with Facebook, Instagram, WhatsApp, and others playing prominent roles during the pandemic.

Perception of the Impact of COVID-19 on Ecotourism in the Park

The perception of the impact of covid-19 on ecotourism in the Park was high with the mean ranging from 2.68 to 4.15. The highest perception was that COVID-19 brought about changes in sanitation and health-related protocols at these destinations (Mean = 4.15). This is consistent with the finding of Waithaka (2020), who showed that National Parks operations were scaled down or suspended, visitor facilities closed to the public, workplaces shut, "non-essential National Parks staff" withdrawn from their duty stations, and important supply chains disrupted, all significantly affecting critical day-to-day operations in National Parks.

COVID-19 Preventive Measures Adopted at the Destination (Park)

Chad National Park's highest responses revealed that the extent to which the pandemic impacted ecotourism was low while in Kamuku National Park, it was moderately high. This indicates that at the time of this research, COVID-19's impact on ecotourism has begun to reduce as shown in Chad Basin National Park even though it was moderately high in Kamuku National Park. The largest respondents in Chad Basin and Kamuku National Park stated that COVID-19 vaccine was the park took the vaccine to reduce the spread of the COVID-19 pandemic. This shows that the staff of the parks received COVID-19 to avoid being infected at the same time to partake in curtailing its spread. The highest number of responses in Chad Basin and Kamuku National Park revealed that tourists and the public complied with the COVID-19 preventive measures. The majority of the responses in Chad Basin and Kamuku National Park revealed that the extent of compliance with COVID-19 preventive measures was very high. Almost all the respondents in Chad Basin and Kamuku National Park revealed that the parks' staff complies with the COVID-19 preventive measures. The largest percentage of the respondents in the two parks (Chad Basin and Kamuku) showcased that the extent of staff compliance with COVID-19 preventive measures was very high. The highest respondents revealed that the impact of insecurity on ecotourism activities in the park was low.

Conclusion and Recommendation

The study found that the majority (54.6%)of the respondents (staff) were from Chad Basin National Park (CBNP). The respondents were mostly in the Ecology and Resource Management (E.R.M) department and they are rangers (role). The majority of them were males, married, and had tertiary education with monthly salaries between ₦61,000-and 90,000. The study concluded that the employees perceived that COVID-19 brought about changes in sanitation and health-related protocols at the ecotourism destination. COVID-19 vaccine was the measure the park has taken to reduce the spread of COVID-19. The study also concludes, the results from interviews indicate that ecotourism-linked

businesses were halted due to the negative impact of the COVID-19 pandemic. More research should be done to evaluate the state of ecotourism following the COVID-19 outbreak, as well as the perception of risk associated with ecotourism by potential visitors.

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