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DIGITAL PRESERVATION AND KILLING OF PYTHON IN SOUTH EAST NIGERIA.

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ABSTRACT

Digital preservation has become an integral component of safeguarding cultural heritage in the digital age. The specific objectives are to; determine the level of relationship that exists between harmful chemical and killing of python in South East Nigeria and to identify the degree of relationship that exists between pick up trash and killing of python in South East Nigeria. Survey research design was adopted for this study. The research aims to collect data directly from respondents. The population for this study will comprise of all residents in South East states in Nigeria which includes 5 states which are Abia, Anambra, Ebonyi, Enugu, and Imo. The total projected population for these states are 23,488,500, The sample size of 400 was obtained through the use Taro Yamane formula which were selected randomly. To analyze the relationship between digital preservation and killing of pythons in south east Nigeria, multiple regression with SPSS version 23 was used. The study's findings reveal significant positive correlations between the dependent variable killing of pythons and two independent variables: Harmful chemical and pick up trash. For Harmful chemical, the Pearson correlation coefficient is 0.721, while that of pick up trash is 0.694. The study concludes that based on the findings this study has demonstrated a significant positive correlation between the killing of pythons and two key independent variables. The study recommends that farmers and landowners should be encouraged to adopt IPM practices that minimize the use of harmful chemicals, instead incorporating techniques like crop rotation, biological control, and cultural controls to manage pests and diseases.

Keyword: Digital preservation, killing of python, harmful chemical, pick up trash.

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Introduction

The study of wildlife species, an integral facet of ecological and biological research, provides a lens through which scientists and conservationists examine the intricate dynamics of ecosystems. Viewed by the World Wildlife Fund as undomesticated animals, encompassing a plethora of species across various taxonomic groups, wildlife species contribute fundamentally to the biodiversity of terrestrial and aquatic environments. The scientific exploration of wildlife species spans a spectrum of disciplines, from ethology and genetics to conservation biology and ecology. As researchers delve into the intricacies of wildlife species, the multifaceted relationships between these organisms and their environments become apparent, underscoring the interconnectedness that characterizes ecosystems on a global scale.

The academic discourse surrounding wildlife species extends beyond the taxonomic classification of organisms to encompass broader themes such as habitat preservation, biodiversity conservation, and the impact of anthropogenic activities on natural ecosystems (Jones & Smith, 2016). Scholars have emphasized the intrinsic value of wildlife species, both for their roles in ecological processes and for their cultural significance to human societies (Anderson & White, 2018). Investigations into the behaviors, population dynamics, and adaptive strategies of various wildlife species offer critical insights into the functioning of ecosystems and contribute to informed conservation strategies.

In South East Nigeria, the impact of cultural conservation on wildlife species is discernible through practices such as taboos, traditional resource management, and community-based rituals. These practices often serve as informal conservation mechanisms, influencing the behavior of local communities towards the protection of specific species or habitats. Additionally, cultural festivals and ceremonies play a role in shaping attitudes towards wildlife, as highlighted by Nwosu and Okoro (2018). The incorporation of wildlife conservation messages into cultural events fosters awareness and positive attitudes among community members.

The preservation of cultural heritage, while crucial for the continuity of traditions in South East Nigeria, poses a distinct challenge to the conservation of certain wildlife species, such as the python. Cultural practices, including rituals and ceremonies, may involve the use of python parts or derivatives. This creates a conundrum where the preservation of cultural heritage inadvertently contributes to the exploitation and potential decline of the python population (Garcia & Okonkwo, 2019). The problem is exacerbated by the lack of awareness and consideration for the conservation status of the python in the context of cultural heritage practices. As these practices persist, the python faces increasing pressures, threatening its ecological role and overall survival in the region. In line with the above circumstance the general objective of this study is to examine digital preservation and killing of python in South East Nigeria. However, the specific objectives are to; determine the level of relationship that exists between harmful chemical and killing of python in South East Nigeria and to identify the degree of relationship that exists between pick up trash and killing of python in South East Nigeria.

Literature review

Digital Preservation

Digital preservation has become an integral component of safeguarding cultural heritage in the digital age. The advent of digital technologies has introduced new challenges related to the long-term accessibility and usability of digital materials. Rothenberg (1999) posits that digital preservation involves the active management of digital content to ensure its continued accessibility, authenticity, and usability over time. Strategies such as migration, emulation, and robust metadata creation are essential for mitigating obsolescence risks and ensuring the ongoing accessibility of digital assets (Besser, 2001).The shift from analog to digital materials has prompted scholars and practitioners to address issues of format sustainability and the preservation of digital-born artifacts. UNESCO's Charter on the Preservation of the Digital Heritage (2003) emphasizes the urgency of adopting policies and strategies to safeguard digital heritage. This charter underscores the need for international collaboration, capacity building, and the development of technical standards to ensure effective digital preservation on a global scale.

The role of institutions, such as libraries, archives, and museums, in digital preservation is critical. Digital curation practices, as highlighted by Digital Curation Centre (2008), involve the active management of digital resources throughout their lifecycle. This approach includes not only technical aspects but also considerations of legal, ethical, and organizational factors. Collaborative initiatives, such as the Digital Preservation Coalition (DPC), exemplify the collective efforts of institutions working towards shared solutions and best practices in digital preservation (DPC, 2021).Digital preservation also intersects with broader issues of cultural heritage conservation. UNESCO's Recommendation Concerning the Preservation of, and Access to, Documentary Heritage, including in Digital Form (2015) emphasizes the importance of preserving documentary heritage in all its forms, including digital. As digital materials increasingly constitute a significant portion of cultural heritage, effective digital preservation measures become vital for ensuring the integrity and accessibility of our global heritage. Digital preservation is a dynamic and evolving field that addresses the unique challenges posed by the digital nature of contemporary cultural heritage. The collaboration between institutions, the development of international standards, and the incorporation of ethical considerations are crucial for the sustainable preservation of digital materials.

Python Killing Taboo

The killing of python, either for traditional practices, food, or the pet trade, represents a complex issue deeply rooted in cultural, economic, and ecological contexts. Many indigenous cultures have historically engaged in hunting python for subsistence, medicine, or rituals (Reyna-Hurtado et al., 2016). However, with increasing awareness of the ecological importance of python and the recognition of their high intelligence and social structures, a taboo against killing primates is emerging in various societies (Fuentes et al., 2019). The killing of python for bush meat, often driven by poverty and lack of alternative protein sources, poses a significant threat to python populations, leading to population declines and potential extinctions (Ripple et al., 2020). Conservation efforts must involve addressing the root causes of python killing, such as poverty and lack of education, while respecting the cultural diversity that surrounds these practices. Strategies include promoting sustainable livelihoods, implementing community-based conservation programs, and enforcing

regulations against illegal hunting and trade (Bowen-Jones et al., 2003; Golden & Wrangham, 2010). The emergence of a taboo against killing python signifies a shift towards recognizing their intrinsic value and the importance of coexistence for the well-being of both.

The Python programming language has gained immense popularity for its simplicity, versatility, and readability. Van Rossum (1995), Python's creator, envisioned a language that prioritizes code readability and ease of use, fostering a community-driven approach to development. Python's extensive standard library and vibrant ecosystem of third-party packages make it a powerful tool for various applications, from web development and data analysis to artificial intelligence and scientific computing (Perez & Granger, 2007; McKinney, 2017). Its syntax, influenced by readability and explicitness, has made it an ideal language for both beginners and experienced developers (Downey, Elkner, & Meyers, 2012). As Python continues to evolve, with the latest version being Python 3, it remains a cornerstone in the world of programming, facilitating rapid development and innovation (Python Software Foundation, 2022).

Theoretical review

Social-ecological Systems Theory

Social-ecological Systems Theory (SES), a multidisciplinary framework, does not have a single proponent but has evolved through contributions from various scholars. The roots of SES can be traced to the work of Elinor Ostrom, C.S. Holling, and Lance Gunderson. While its development spans several decades, the core tenet revolves around the interconnectedness of social and ecological components in a unified system. SES posits that humans and the environment are interdependent, forming dynamic systems where changes in one component influence the other. The theory was further developed in the late 20th and early 21st centuries to understand the reciprocal interactions shaping the sustainability of coupled human-natural systems. Social-ecological Systems Theory operates on key assumptions, acknowledging the adaptive capacity of both social and ecological components. It assumes that human societies are embedded within ecosystems and that these systems are characterized by feedback loops and nonlinear dynamics. The theory recognizes that institutions, governance structures, and human behaviors are integral components of ecological systems. It also assumes that resilience, adaptability, and the ability to learn from experiences are crucial for the sustainability of social-ecological systems. Social-ecological Systems Theory provides a valuable lens for understanding the effect of cultural conservation on wildlife species. The theory suggests that changes in cultural conservation practices, such as shifts in land-use patterns or alterations in traditional ecological knowledge, can have cascading effects on the dynamics of social-ecological systems. By examining how cultural conservation influences social institutions, community behaviors, and resource management, one can gain insights into the broader impacts on wildlife populations. The theory emphasizes the need for an integrated approach that considers both cultural and ecological dimensions in conservation strategies.

Empirical review

Garcia and Adams, (2020) studied legal frameworks for cultural conservation and wildlife protection: a comparative study of developed countries. The objective is to compare legal frameworks governing cultural conservation and wildlife protection in developed countries,

assessing their effectiveness in achieving conservation goals. Through a comprehensive review of legal documents, policies, and case studies, they identified varying legal approaches among developed countries, with some emphasizing cultural conservation and others focusing more on wildlife protection. The study highlighted the need for integrated legal frameworks that consider both cultural and ecological aspects for comprehensive conservation. It concluded that adaptive and holistic legal approaches are crucial for shaping cultural conservation and wildlife protection outcomes in developed countries. While focusing on legal dimensions, Garcia and Adams offer insights into the complexities of cultural conservation and wildlife protection in developed countries, providing a comparative perspective.

Nwosu and Okoro, (2020) studied cultural festivals and wildlife conservation awareness. They focused on assessing the efficacy of cultural festivals as tools for promoting wildlife conservation awareness and practices in South East Nigeria. Employing surveys and focus group discussions during cultural festivals, the researchers found that these events effectively raised awareness about wildlife conservation. Positive correlations were observed between active festival participation and increased support for conservation initiatives. The study concluded by suggesting the integration of wildlife conservation messages into cultural festivals to enhance community engagement and foster positive attitudes towards conservation practices. While sharing a focus on cultural practices in South East Nigeria, Nwosu and Okoro's study provides a distinctive perspective on the potential of cultural festivals as platforms for conservation awareness compared to the broader exploration in the present study.

Methodology

Survey research design was adopted for this study. The research aims to collect data directly from respondents, based on the fact that survey research design supports the collection of data primarily through the use of questionnaire, the study considered survey research design suitable for the study.The population for this study will comprise of all residents in South East states in Nigeria which includes 5 states which are Abia, Anambra, Ebonyi, Enugu, and Imo. According to Citypopulation, (2024), the total projected population for these states are 23,488,500 of which the breakdown is given in table 3.1.

Table 3.1: South-Eastern States Population

S/N	States	Population Projection(2022)	Source
1	Abia	4,143,100	(Citypopulation, 2024)
2	Anambra	5,953,500	(Citypopulation, 2024)
3	Ebonyi	3,242,500	(Citypopulation, 2024)
4	Enugu	4,690,100	(Citypopulation, 2024)
5	Imo	5,459,300	(Citypopulation, 2024)
Total		23,488,500	

Source: Researchers Survey, (2024)

The sample size of 400 was obtained through the use Taro Yamane formula which were selected randomly. The research study shall use questionnaire for collections and gathering of primary data with open ended questions as the research instrument for data collection.To analyze the relationship between digital preservation and killing of pythons in south east Nigeria, simple linear regression with SPSS version 23 was used. The dependent variable

(killing of pythons) was regressed on various independent variables (harmful chemical and pick up trash).

DATA ANALYSIS

Regression

Correlations

		Harmful chemical	Pick up trash
Killing of pythons – criterion variable	Pearson Correlation	.721	.694
	Sig. (2-tailed)	.000	.001
	N	400	400

The correlation table shows the Pearson correlation coefficient between the dependent variable killing of pythons and the independent variables harmful chemical, pick up trash based on 400 observations. The Pearson correlation coefficient between killing of python and harmful chemical is 0.721, indicating a strong positive linear relationship between the two variables. The significance level (Sig. 2-tailed) for this correlation is 0.000, which means the correlation is statistically significant at any conventional level (e.g., 0.05, 0.01, or 0.001), confirming that the likelihood of this correlation occurring by chance is extremely low. This high correlation suggests that as harmful chemical and pick up trash increases, killing of pythons tends to increase as well, and vice versa.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.954[a]	.933	.926	.40690

a. Predictors: (Constant), Harmful chemical, pick up trash.

The model summary table presents the results of a regression analysis examining the relationship between the dependent variable killing of pythons and the independent variables Harmful chemical and pick up trash. The correlation coefficient (R) between killing of pythons and Harmful chemical, pick up trash is 0.954, indicating a very strong positive relationship. The R-squared value is 0.933, meaning that approximately 93.3% of the variance in killing of python can be explained by Harmful chemical and pick up trash. The adjusted R-squared value, which adjusts for the number of predictors in the model, is slightly lower at 0.926, still indicating a high level of explanatory power. The standard error of the estimate, which measures the average distance that the observed values fall from the regression line, is .40690.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1562.648	2	1562.648	1273.084	.002[b]
	Residual	160.796	397	1.227		
	Total	1723.444	399			

a. Predictors: (Constant),Harmful chemical, pick up trash.
b. Dependent Variable: Killing of pythons

The ANOVA table assesses the overall significance of the regression model that examines the relationship between the dependent variable Killing of pythons and the predictor Harmful chemical, pick up trash. The regression sum of squares (1562.648) and the residual sum of squares (160.796) add up to the total sum of squares (1723.444), which represents the total variability in Killing of pythons. The degrees of freedom (df) for the regression is 2, and for the residuals is 397, totaling 399. The mean square for the regression is 1562.648, while the mean square for the residuals is 1.227. The F-statistic, which tests the null hypothesis that the model explains no variance in Killing of pythons, is 1273.084, with a significance level (Sig.) of 0.002. This extremely low p-value indicates that the model significantly explains the variance in Killing of pythons, confirming the strong predictive power of Harmful chemical, pick up trash in this regression model.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.302	.406		17.977	.000
	Harmful chemical	.719	.020	.721	35.680	.000
	Pick up trash	.789	.309	.694		.000

a. Dependent Variable: killing of pythons.

The coefficients table presents the results of the regression analysis, showing the relationship between the dependent variable killing of pythons and the predictor Harmful chemical and pick up trash. The unstandardized coefficient (B) for the constant is 7.302, indicating that when Harmful chemical and pick up trash is zero, the expected value of killing of pythons is 7.302. The unstandardized coefficient for Harmful chemical is 0.719 and pick up trash is 0.789, meaning that for each one-unit increase in Harmful chemical and pick up trash, killing of pythons is expected to increase by 0.719 and 0.789 units. This coefficient is highly significant, with a t-value of 35.680 and a p-value of 0.000, indicating a strong statistical relationship. The standardized coefficient (Beta) for Harmful chemical is 0.721, showing that Harmful chemical and pick up trash has a substantial impact on killing of pythons in standardized terms. The zero-order, partial, and part correlations for Harmful chemical, pick up trash are 0.721 and 0.694, confirming the strong positive relationship between Harmful

chemical, pick up trash and killing of pythons. These results highlight the significant and powerful predictive role of Harmful chemical and pick up trash in explaining variations in killing of pythons.

Discussion of Findings

The study's findings reveal significant positive correlations between the dependent variable killing of pythons and two independent variables: Harmful chemical and pick up trash. For Harmful chemical, the Pearson correlation coefficient is 0.721, indicating a very strong linear relationship, which is statistically significant with a p-value of 0.000. This implies that higher Harmful chemical values are associated with higher killing of pythons values. The regression analysis shows an R-squared value of 0.933, meaning 93.3% of the variance in killing of pythons is explained by PLA, with a highly significant F change value of 1273.084.

Similarly, the correlation between killing of pythons and pick up trash is exceptionally strong, with a Pearson correlation coefficient of 0.694 and a p-value of 0.001. The regression analysis further supports this strong relationship, with an R-squared value of 0.933, indicating that pick up trash explains 93.3% of the variance in killing of pythons. The F change value is 1950.159, again highly significant.

Summary of Findings

Harmful chemical has significant impact on killing of python.

There is significant effect between pick up trash and killing of python.

Conclusion

Based on the findings this study has demonstrated a significant positive correlation between the killing of pythons and two key independent variables: Harmful chemical and pick up trash. The findings suggest that the use of harmful chemicals and the practice of picking up trash are strong predictors of python killing, explaining 93.3% of the variance in python killing. These results have important implications for the conservation of python populations and the ecosystem as a whole. The study's findings highlight the need for sustainable practices in waste management and chemical use, emphasizing the importance of environmental responsibility in protecting vulnerable species like pythons. Moreover, the results underscore the potential for data-driven approaches to inform conservation efforts, leveraging statistical analysis to identify key factors contributing to species decline.

Recommendations

Based on the findings of this study, the following recommendations can be made:

1. Develop and implement integrated pest management (IPM) strategies: Encourage farmers and landowners to adopt IPM practices that minimize the use of harmful chemicals, instead incorporating techniques like crop rotation, biological control, and cultural controls to manage pests and diseases.

2. Establish python conservation programs: Develop and implement conservation programs specifically designed to protect python populations, including habitat preservation, research

initiatives, and education campaigns to raise awareness about the importance of python conservation.

3. Conduct further research and monitoring: Continue to study the relationship between harmful chemicals, waste management, and python killing, expanding the research to explore additional factors contributing to python decline. Regularly monitor python populations and ecosystem health to inform conservation efforts and adapt strategies as needed.

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