ASSESSMENT OF FACTORS INFLUENCING THE ECOSYSTEM SERVICES OF COASTAL LANDSCAPES AND ITS SOCIETAL IMPACTS IN SELECTED AREA OF ILAJE, ONDO STATE.

ABSTRACT

Background: It had been noted that the global population is to reach almost 10 billion by 2050 with increase in human activities along the world coastal areas. This population challenge become more imperative as increasing human activities have significantly altered the natural ecosystem and consequently, the services they provide.

Study Aim: The aim of study is to investigate the factors that influences the ecosystem services of coastal landscapes and its societal impact of Ilaje Local Government Area, Ondo state.

Methods: The study adopted quantitative research method i.e., cross-sectional community-based survey was used to gathered quantifiable data. The procedure for data collection was the administration of a structured questionnaire. Sample size was 505 respondents and purposive sampling method to select three (3) main communities namely Mahin, Ugbo and Ugbonla for the study. Both descriptive (Mode) and inferential statistical methods (Chi-square, Spearman's rho CorrelationCoefficient and Ordinal regression analyses) for analysing the quantitative data research objectives was adopted using the statistical package for social sciences (SPSS).

Results: The study discovered the following factors affecting the ecosystem services of coastal landscapes in the study area: widespread and increasing pressure on marine and coastal resources, the prohibited use of these resources for places like the hideouts of militants, kidnappers, and smugglers, the misuse of these resources for public markets, and the abandonment of rickety and spoilt ships and boats. The results showed that illegal uses, such as hiding places for terrorists, kidnappers, and smugglers, had a detrimental effect on ecosystem services' ability to provide clean water, air to people in the environment and detrimental influence on the environment's ability to promote human well-being and healthy living.

Keywords: Coastal landscapes, Factors Influencing Ecosystem Service, societal Impact.

1. Introduction

The dynamic and varied environment where land meets the sea is referred to as the coastal landscape. It is a segment of shoreline that includes a variety of coastal characteristics, including erosional and depositional features (Bolarinwa, Fasakin, Emmanuel, & Fagbenro, 2015). It includes a variety of habitats, such as estuaries, rocky shorelines, salt marshes, sandy beaches, and dunes (Hang & Yang, 2021). The physical structure of the landscape (geology, landforms, and soils) is the result of natural processes, and the various patterns and kinds of land covers that reflect human endeavors to survive are the result of cultural processes (Maes, Liquete, Teller, Erhard, Paracchini, & Barredo, 2016).Coastal landscapes are home to a variety of natural coastal and marine resources, including fish, crude oil, and other aquatic life, in addition to sharing borders with large bodies of water like seas (Dai, Johnson, Luo, Yang, Dong, Wang, Liu, Li, Lu, & Ma, 2021). Because they offer a wide range of ecosystem services, coastal landscapes are among the most important and productive ecosystems (Burton, 2017). According to the Millennium Ecosystem Assessment, ecosystem services are the

advantages that humans derive from ecosystems. In a nutshell, marine and coastal ecosystems are significant natural settings(Huertas, 2015).The regulating services, which include protection from cyclones, storms, floods, tsunamis, prevention of soil erosion, pest and disease control, water quality maintenance, carbon sequestration, etc., are also well known, in addition to the production of valuable provision services like food fisheries, fuel wood, fodder, pharmaceuticals, nutraceuticals, fresh water, timber, and energy (Luo, Yan&Wang, 2018). Additionally, over a billion people benefit from and make a living from cultural services like recreation and tourism, aesthetics and wellbeing, spiritual and inspirational education, and research, as well as supporting services like providing habitat and nurseries for the majority of commercially important marine fish and shellfish species (Council, 2021). The aforementioned indicated that the world's coastal ecology is essential to life on the planet, which is why people are drawn to this little area of the earth's surface. With a rise in human activity along the world's coastlines, it has been predicted that the world's population would approach 10 billion people by 2050 (United Nations, 2012; Edwin and Odanwu, 2024). Growing human activity has drastically changed the natural ecosystem and, in turn, the services it provides, making this population dilemma even more urgent. For instance, 29% of sea grasses, 30% of coral reefs, 35% of mangroves, and 50% of salt marshes are either gone or in a degraded state globally (Douglas, Niner& Garrard, 2024).Additionally, there has been a 50% decrease in the ecosystem services of salt marshes, a 33% decrease in fisheries, a 69% decrease in nursery habitats, a 63% decrease in wetlands, and a 63% decrease in filtering and detoxifying services (Supratman et al., 2024). The dangers connected with the coastal landscape are the greatest threats to global prosperity because of the aforementioned factors, among others, which have greatly exacerbated biological invasions, deteriorating water quality, and diminished coastal protection from floods and storm events. Accordingly, 2018–2028 has been designated by the UN as the Decade for Action on Water (Coast) for Sustainable Development (United Nations, 2020).The 180-kilometer-long coastal ecosystem in Nigeria's Ilaje Local Government Area is not an exception to the previously indicated broad and quick decline, as well as the subsequent degradation of ecosystem services brought on by intensive and growing human activity. It is necessary to evaluate the elements that affect the ecosystem services of coastal landscapes and their social effect in Ilaje Local Government Area, Ondo state, as the upcoming decades would see a rise in and intensification of human activity.

1.1 Coastal Landscapes

Coastal landscape is a stretch of shoreline with a variety of coastal features, some depositional and some erosional, according to Nadaf (2019). Huang *et al.* (2020) state that the following factors define the variables of coastal landscapes: atmospheric conditions, human use of the coast and sea, surface water features, coastal processes, sunken and buried characteristics of the coastal landscapes, soil, topography, land cover, hydrology, cultural development, and historic sites. In general, the coastal landscape is seen as an environment that is open (Glover et al., 2024). It has energy from waves, wind, tides, and currents, as well as input silt that has been carried in in a variety of methods. Sediment departing due to wave action, accumulation, and transit is part of its production. Erosion, weathering, movement, and sedimentation are all examples of its fluxes and exchanges (Cabana et al., 2023).

1.2 Ecosystem Services

The concept of Ecosystem Services (ES) is relatively recent— being introduced in the late 1970s—and has its roots in the recognition

that ecosystems provide irreplaceable goods and services (Ouyang et al., 2016). It is worthy to note, that both the conservation and economic development communities have embraced ES for at least a decade before the 1970s, without explicitly labeling them as such but, the melding of two distinct agendas of conservationists and development agencies led to the emergence of ES (Folke et al., 2021). The conservationist assumes a connection between nature and human well-being and seek to increase public support for biodiversity protection by integrating economic development (Watson et al., 2016). The development agencies on the other hand seek to provide support for the stewardship of nature under the mantra of sustainable development (Asmus, Nicolodi and Anello, 2019). The aforementioned moves about ES concept as noted by Bai, Ochuodho and Thapa (2024) generally lack a formal foundation of ecosystem service science but, they all are motivated by the general hypothesis that nature provides humans with benefits and that nature typically portrayed as resources that are necessary for human well-being and sustainable development.The earliest ideas behind ES concept emerged in 1970s but not until 1997 that ES concept received high importance when Daily (1997) published his paper "Nature's Services: Societal Dependence on Natural Ecosystems" and used the concept to emphasize how strongly humans depend on nature. This publication was subsequently followed by Costanza, d'Arge, de Groot, Farber, Grasso, Hannon, Limburg, Naeem, Oneill, Paruelo, Raskin, Sutton, and van den Belt (1997) who also published their paper "The value of the world's ecosystem services and natural capital" after theyperformed an economic valuation, intending to assign a monetary value to all ecosystem services world-wide (Postel et al., 20212). Ecosystem services (CES) concept as affirmed relates to services provided by ecosystems in terms of their life-enriching and life-affirming contributions to human well-being(Fish, Church & Winter, 2016).

1.3 Factors influencing the performance of the ecosystem services

The ecosystem's service performance can be influenced by both direct and indirect influences. According to Luo et al. (2024), oil exploration in the continental shelf, poor farming practices, sea level rise, and changes in the global climate all have a direct impact on Nigeria's coastal ecosystems. Sea level rise in particular affects coastal ecosystem at varied speeds, amplitude, and orientations depending on the coastal morphology and the marine process taking place at that segment of the coast (Liu et al., 2021). The influence of fishing pressure resulting to ocean-based pollution, habitat loss etc. might alter the performance of ecosystem service. Changes in the water regime, such as those that occur after the construction of big dams, can result in pollution having an adverse effect on ecosystem services and the extinction of species (You et al., 2018).

1.3.1 Indirect factors

Among the indirect factors are: The performance of ecological services is influenced by population change, which includes both migration and population expansion. In the past 60 years, the global population has doubled, reaching 7 billion in 2000 (Liu et al., 2021). Population shifts can have an impact on the ecosystem service provided by an area by increasing the number of trees that fall, clearing land for the development of transportation infrastructure, increasing farming and fishing operations, etc. The expansion of the global economy has changed economic activity in various domains. As capital income rises, so does the need for several ecosystem services. Changes in the structure of consumption may also have an impact on the performance of ecosystem services (Popoola, Olajide,& Ajayi, 2019). The performance of ecosystem services in an

area can be impacted by the cultural and religious customs of a place. The performance of ecosystem services in that location would undoubtedly be impacted when a place has a culture that discourages activities that will change the ecosystem rather than being friendly to it. Valuation is another indirect aspect that affects how well an ecosystem performs. According to You et al. (2018), valuation is the process of evaluating trade-offs in order to achieve a goal, and valuation is involved implicitly or overtly in each decision including trade-offs (Liu et al., 2021). The proportionate contribution of ecosystems to that objective determines the value of ecosystem services. Effective management benefits from an understanding of the importance of ecosystem services (Popoola, Olajide, & Ajayi, 2019). Raising awareness, national income and well-being accounts, targeted policy analysis, urban and regional land use planning, payment for ecosystem services, complete cost accounting, and common asset trusts are some of the possible applications of ecosystem services valuation (You et al., 2018). Environmental performance has been shown to be significantly influenced by national education levels, as noted by Alvarez, Rubio, and Ferrero (2018). Other significant aspects are the population density and the political system. According to Guo, Zhu, Wu, and Yan (2017) and Kumar, Giridhar, and Sadarangani (2019), per capita GDP, industrial structure, and degree of economic growth are additional elements that affect environmental performance. According to Ahononga, Gouwakinnou, Biaou, Biaou&Sonounameto (2020), the perception of providing services was higher than that of cultural and regulatory services. Young people felt that services were less controlling and supportive. Seniors also expressed the greatest perception of cultural services. The poverty index and education level have an impact on how services are perceived to be provided and regulated, respectively. The state of the environment is rapidly declining, and the creation and enforcement of international environmental laws have an impact on the state of the environment.

1.3.2 Empirical evidence

Empirical evidence indicates that the adoption of environmental policies, such as the Climate Change Act, positively affects EP. Additionally, it is advised that policies pertaining to climate change include measurable sustainability targets for lowering greenhouse gas emissions (Haque&Ntim, 2018). He et al. (2019) notes, for instance, that the imposition of a carbon price can increase businesses' knowledge of environmental issues and lower their carbon dioxide emissions. In a similar vein, Shi et al. (2019) discovered that the adoption of a pollutant charges policy led to increased resource efficiency, better air quality, and concurrent achievement of EP and economic growth. This demonstrates how environmental taxes have a double benefit. Eight Western Chinese regions were ranked and their dynamic performance analyzed by Li, Bai, and Alatalo (2020). Their findings demonstrated that decreasing investments in environmental protection causes ecosystem performance to decline, even in areas with higher ecosystem performance. Government support and incentives for businesses encourage them to take an active role in environmental management initiatives and successfully enhance their environmental performance and environmental control. According to research by Ren et al. (2019), China's adoption of the environmental subsidy program by the government resulted in a considerable improvement in environmental performance through involvement in environmental protection initiatives.

1.4 Study Area

The study area was Ilaje Local Government Area. The local government is said to have the longest beachfront in the country. It is one of

Nigeria's coastal regions. With a land area coverage of over 1,318 km2, it is the largest LGA in Ondo State, spanning approximately 180 km (Cheng et al., 2021). The population of Ilaje is 290,615 according to the census numbers from 2006, which are given by Bello and Ajayi (2015). However, it is possible that the population was undercounted because of the area's riverine terrain and lack of road access on land. The fact that rivers comprise almost 75% of the land contributes to this (Tian et al., 2020). According to Cheng et al. (2021), the population is expected to expand at a 3.2% annual rate, meaning that 404,494 people will live in Ilaje Local Government in 2020. This is due to the fact that Nigeria has not conducted a census in over a decade, and the nation has been relying on an estimated projected population figure derived from statistical calculations. The Ilaje research region is home to two (2) major kingdoms, the Mahin and Ugbo kingdoms, and two (2) smaller kingdoms, Etikan and Aheri, for a total of four kingdoms. There are twelve (12) political wards in the Ilaje LGA (Bello & Ajayi, 2015). In Ilaje, the main economic pursuits include fishing, canoe building, logging, farming, fishing nets, and trading. Ilaje's natural surroundings are especially conducive to the growth of the commercial fishing sector.

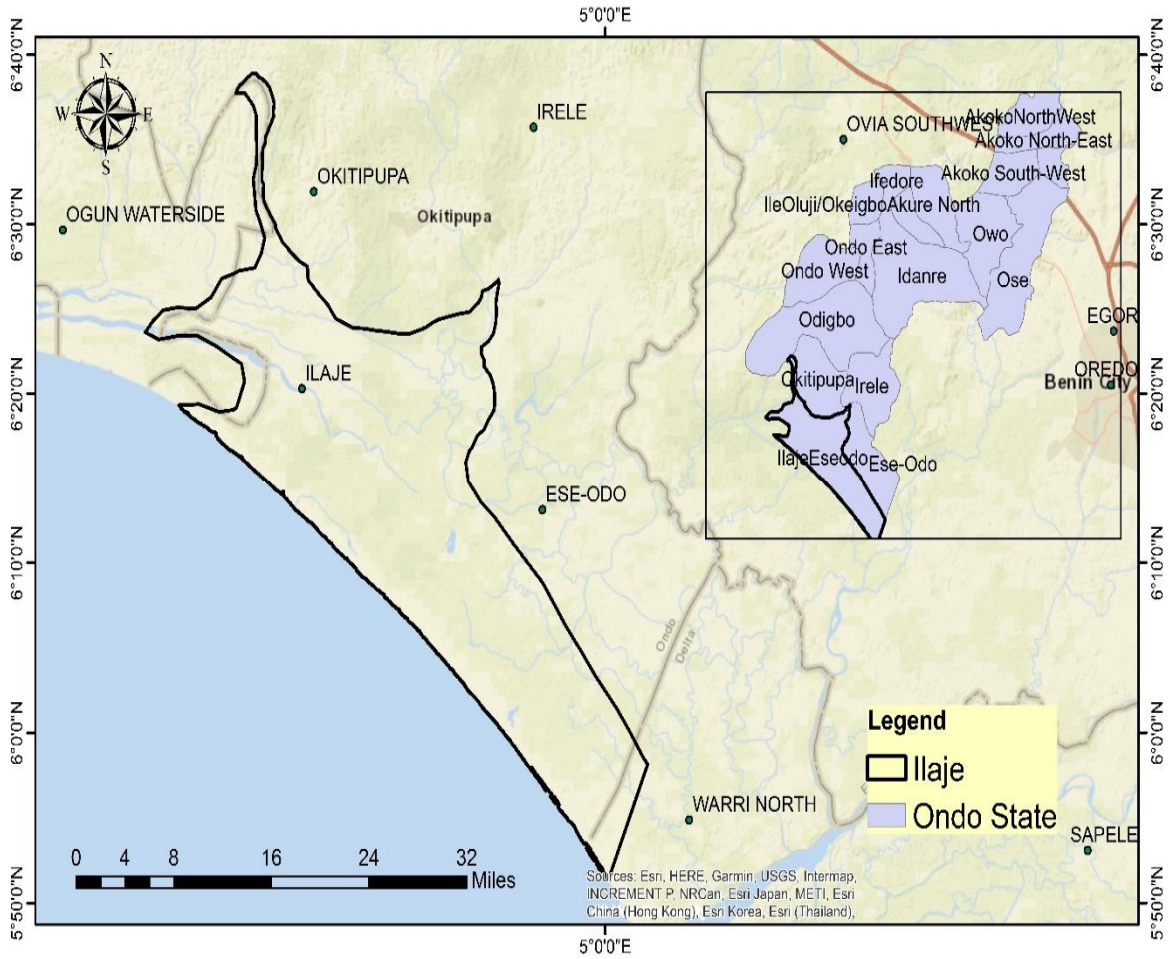

Figure 1: Map showing the coastal area in Ondo state.

2. Research Methods

The study adopted quantitative research method i.e., cross-sectional community-based

survey was used to gathered quantifiable data. The method not only enable the researcher to elicit data from the respondents to ascertain the numerical descriptive and explanatory components of the prevailing condition in a study area (Vigentini et al., 2020). Purposive sampling method to select three (3) main communities namely Mahin, Ugbo and Ugbonla for the study. The sample size determination method has been seen to be representative, flexible reasonable, reliable and consistent with a safe level of accuracy for any research work (Guetterman et al., 2015). For the purpose of this study, consideration was given to the method of Kothari (2008) in determining sample size from a finite population, because of its simplicity and clarity (table 1). Thus, the total population which consists of a fixed number of elements and the researcher's site reconnaissance backed with street maps formed the basis for an estimated number of dwellings upon which quantitative information were obtained in Mahin, Ugbo and Ugbonla community. Equation 1 shows the universal minimum returned sample size scale for continuous and categorized data. As a result of population size of the study area, based on a table designed by Krejcie, and Morgan (1970) using the formula in equation 1, the sample size i.e., 379 respondents were chosen from 30,220 (based on the projection at 0.03% from year 2000 to 2023) people that are domiciled in the community at a confidence level and interval of 95% and 5% respectively. A sample size (s) of 379 was gotten which served as this study sample size.

$$s = X^2NP(1-P) + d^2(N-1) + X^2P(1-P) \quad \ldots. (1)$$

Where: s = required sample size,

X^2 = the table of chi-square for 1 degree of freedom at desired confidence level (3.841)

Value (e.g. 1.96 for 95% confidence level);

N = Population size;

P = population proportion (expressed as decimal) – assumed to be .5 (50%);

d = degree of accuracy (5%), expressed as a proportion (0.05) merging of error.

Equation 1: Determination of a sample size population (**Source:** Krejcie, and Morgan, 1970).

Table 1: Frequencies of sample size for a given population

Population size (N)	10000	15000	20000	30000	40000	5000
Sample size (S)	370	370	377	**379**	380	357

Source: Krejcie & Morgan (1970).

A sample size (n_0) of 379 was gotten but, in order to achieve more representation, the outcome of the calculated sample size, 379 was increased by 32.70 % giving a total of 505 which eventually was the overall sample size for this study.

2.1 Procedure for Data Collection

The procedure for data collection was the administration of a structured questionnaire to respondents according to the distribution in the study area in order to gather quantitative data. The questionnaire was collected with the help of six (6) research assistants (students from the Department of Architecture, Federal University of Technology, Akure and students from Olusegun Agagu University of Science and Technology, Okiti-Pupa, Ondo State) and the researcher. Considering the availabilities of the potential participants, the data collection was slated for weekends, i.e., from Friday to Sunday, for a duration of two (2) months. The time apportioned for the

collection of data during the stipulated days of the week was between 4:30 and 6:00 p.m. In the course of the distribution of the questionnaires. The Cronbach's alpha coefficient for the instruments on the questionnaire was 0.954 (Table 2), indicating excellent internal consistency. This suggests that the items within the questionnaire are highly correlated and reliably measure the targeted construct.

The researcher employed both descriptive and inferential statistical methods for analysing the quantitative data research objectives using the statistical package for social sciences (SPSS) version 22 software. Mode was the employed as the descriptive statistical tools, while Chi-square and Spearman's rho Correlation Coefficient and Ordinal regression analyseswere employed as the inferential statistical tools.

2.2 Method of Data Analysis

2.3 Reliability of Instruments of the questionnaire

Table 2: Result of reliability Test of the instrument of the questionnaire

Reliability Statistics

Cronbach's Alpha	N of Items
.954	51

3. Results and Data Analysis

3.1 Socioeconomic demographic Characteristic of Respondents

Table 3: Status of the Users of Ilaje LGA Ecosystem Services of Coastal Landscapes.

Status Variable	Categories	Frequency (f)	Percentage (%)
Gender	Male	300	59.41
	Female	205	40.59
Age	less than 26 years	148	29.31
	26-35 years	58	11.49
	36-45 years	5	0.99
	46-55 years	3	0.59
	56 years and above	291	57.62
Educational status	No Formal Education	8	1.58
	Primary Education	50	9.9
	Secondary Education	204	40.4
	Tertiary Education	243	48.12
Occupational status	Unemployed	150	29.7
	Self Employed	252	49.9
	Others	103	20.4
Marital status	Single	201	39.8
	Married	297	58.81
	Widow or widower	5	0.99
	Divorced	2	0.4
Religion	Islamic	54	10.69
	Christianity	398	78.82
	Traditional	50	9.9
	Others	3	0.59
Year of Stay	1-5 Years	151	29.91
	6-10 Years	13	2.57
	11-15 Years	6	1.19
	15-20 Years	3	0.59
	Over 20 Years	332	65.74
Annual Income	Less than 50,000	206	40.79
	50,000-99,000	239	47.33
	100,000-149,000	55	10.89
	150,000-199,000	2	0.4
	200,000 and above	3	0.59
Self-classification	Environmental expert	454	89.91

Primary personal engagement with the coastal landscape	Non expert	51	10.09
	Crop farming	37	7.33
	Fish farming	195	38.61
	Animal husbandry farming	68	13.47
	Timber harvesting	81	16.04
	Coastal recreation	1	0.2
	Coastal tourism/ sight-seeing	65	12.87
	Others	58	11.49

Table 3 presents the results of the Socioeconomic demographic information of the respondents. The result shows that, for gender distribution, male respondents 300 (59.4) were more than female respondents 205 (40.6). The majority of the respondents, 291 (57.6) were between the ages of 56 years and above, with the lowest distribution of age 3 (0.6) being respondents between ages 46 and 55years. Regarding the distribution of the respondents' occupation, a great number of the respondents 252(49.9) were self-employed, and lowest number of participants fell into the other categories of occupation. The result also demonstrated that the largest number of the respondents 243 (48.1) had Tertiary Education, only 8(1.6) of respondents have no formal education. It is also shown in Table 7 that the highest distribution of the respondents 297(58.8) were married, with the lowest distribution 2(0.4) being the respondents who have divorced their spouse. Majority of the respondents, 398(78.8) practice Christianity as a religion, whereas 3(0.6) respondents in the lowest distribution practice other forms of religion. A greater number of respondents 332(65.7) have stayed in their respective communities for over 20years, only a few 3(0.6) of respondents have had 15 – 20years of stay in their respective communities. In terms of monthly income, the majority of the respondents 239(47.3) had monthly income fall within N50,000 – N99,000. The majority of the respondents 454(89.9) were classified as environmental experts. The primary personal engagement with the coastal landscape of the highest distribution of the respondents 195(38.6) was fish farming, with coastal recreation having the lowest respondent 1(0.2) in terms of Primary personal engagement with the coastal landscape. Ugbonla community has the highest distribution of respondents, 180(35.6).

3.2 Chi square Goodness-of-Fit Test on the Status Variables

Table 4: Results of Chi-Square Goodness of Fit test of Status Variables

Status variables	Chi Square	Df	Asymp. Sig.	Remarks
Sex	17.871[a]	1	0.000	Statistically significant
Age	583.941[b]	4	0.000	Statistically significant
Occupation	68.939[c]	2	0.000	Statistically significant
Education Level	312.655[d]	3	0.000	Statistically significant
Marital Status	513.923[d]	3	0.000	Statistically significant
Religion	792.655[d]	3	0.000	Statistically significant
Years of stay	814.198[b]	4	0.000	Statistically significant
Monthly Income	510.792[b]	4	0.000	Statistically significant
Self-classification	321.602[a]	1	0.000	Statistically significant
Primary personal engagement with the coastal landscape	301.303[e]	6	0.000	Statistically significant

To be sure that the sample drawn is true representative of the population, Chi-square Goodness-of-Fit test was carried out on the status variables. Table 4 shows that the Chi Square Goodness-of-Fit test result is significant ($p<0.05$) for gender, age,

occupation, educational level, Marital status, Religion, Years of stay and Monthly Income. Since the p-value (0.000) is less than the significance level (0.05), it is accepted that observed differences cannot be due to error.

3.3 To assess the factors influencing the ecosystem services of Ilaje LGA and its societal impacts.

Table 5: Showing responses on factors influencing the performance of the ecosystem services

Status Variables	Strongly disagree Freq(%)	Disagree Freq(%)	Undecided Freq(%)	Agree Freq(%)	Strongly Agree Freq(%)	Total Freq(%)	Mode
Widespread and growing pressures on marine and coastal resources are having negative effect on the performance	178(35.2)	14(2.8)	1(2.8)	168(33.3)	144(28.5)	505(100)	Strongly disagree
Intense depletion due to human activities affects performance	135(26.7)	101(20.0)	2(0.4)	203(40.2)	64(12.7)	505(100)	Agree
Prohibited usage such as militants' hideouts is affecting the ecosystem service performance of my area negatively.	43(8.5)	55(10.9)	33(6.5)	164(32.5)	210(41.6)	505(100)	Strongly Agree
Prohibited usage such as kidnappers' hideouts is affecting the ecosystem service performance of my area negatively	42(8.3)	87(17.2)	53(10.5)	201(39.8)	122(24.2)	505(100)	Agree
Prohibited usage such as terrorists' hideouts is affecting the ecosystem service performance of my area negatively	27(5.3)	32(6.3)	50(9.9)	200(39.6)	196(38.8)	505(100)	Strongly Agree
Prohibited usage such as smugglers' hideouts is affecting the ecosystem service performance of my area negatively	61(12.1)	58(11.5)	10(2.0)	190(37.6)	186(36.8)	505(100)	Agree
Prohibited usage such as military invaders' hideouts are affecting the ecosystem service performance of my area negatively	287(56.8)	9(1.8)	11(2.2)	188(37.2)	10(2.0)	505(100)	Strongly disagree
Prohibited usage such as illegal migrants' hideouts are affecting the ecosystem service performance of my area negatively	97(19.2)	123(24.4)	136(26.9)	108(21.4)	41(8.1)	505(100)	Undecided
Misuse of the coastal landscapes of my area for public market negatively affects the ecosystem service performance.	230(45.5)	22(4.4)	146(28.0)	48(9.5)	59(11.7)	505(100)	Strongly disagree
Misuse of the coastal landscapes of my area for unauthorized dumpsites for refuse and sewage negatively affects the ecosystem service performance.	25(5.0)	74(14.7)	40(7.9)	230(45.5)	136(26.9)	505(100)	Agree
Misuse of the coastal landscapes of my area for public market, unauthorized dumpsites for refuse and sewage, negatively affects the ecosystem service performance.	127(25.1)	114(22.6)	46(9.1)	110(21.8)	108(21.4)	505(100)	Disagree
Misuse of the coastal landscapes of my area for abandonment of spoilt and rickety ships and boats negatively affects the ecosystem service performance	5(1.0)	83(16.4)	78(15.4)	227(45.0)	112(22.2)	505(100)	Agree

Table 5**s**hows responses to factors influencing the performance of ecosystem services. It demonstrates that the majority of the respondents, 178(35.2) disagree that widespread and growing pressures on marine and coastal resources are having a

negative effect on the performance of ecosystem services in their area. Meanwhile, highest distribution of the respondents, 203(40.2) agree that intense depletion due to human activities affects the performance of the ecosystem services of the coastal landscape. The majority of the respondents 210(41.6) strongly agree that prohibited usage, such as militants' hideouts, is affecting the ecosystem service performance of their area negatively. Meanwhile, majority of the participants 201(39.8) agree that prohibited usage such as kidnappers' hideouts is affecting the ecosystem service performance of their area negatively. Also, highest distribution of the respondents 200(39.6) agrees that prohibited usage, such as terrorists' hideouts, is affecting the ecosystem service performance of their area negatively. Similarly, the majority of the respondents 190(37.6) agree that prohibited usage such as smugglers' hideouts is affecting the ecosystem service performance of their area negatively. On the other hand, the majority of the respondents 287(56.8) strongly disagree that prohibited usage such as military invaders' hideouts are affecting the ecosystem service performance of my area negatively. The majority of the respondents, 136(26.9) are undecided whether prohibited usage such as illegal migrants' hideouts, is affecting the ecosystem service performance of their area negatively. Greatest number of respondents, 230(45.5) strongly disagree that misuse of the coastal landscapes of their area for the public market negatively affects ecosystem service performance. However, the majority of the respondents 23(45.5) agree that misuse of the coastal landscapes of their area for unauthorised dumpsites for refuse and sewage negatively affects ecosystem service performance.On the other hand, the majority of the respondents 127(25.1) strongly disagree that misuse of the coastal landscapes of their area for public markets and unauthorised dumpsites for refuse and sewage, negatively affects the ecosystem service performance. Meanwhile, greatest number of the participants 227(45.0) agrees that misuse of the coastal landscapes of their area for abandonment of spoilt and rickety ships and boats negatively affects the ecosystem service performance. Highest distribution of the respondents, 280(55.4) strongly agree that the demonstration of cultural mixed values, conservation of cultural heritage and natural resources between the host communities and the visitors positively influences the performance of ecosystem service in their area.Meanwhile, the majority of the respondents 297(58.8) agree that the continuous threat due to coastal erosion and tidal floods, destruction of sources of livelihood of the host communities will affect the ecosystem service performance of their area. Lastly, majority of the respondents 287(56.8) strongly agree that policies by the government and concerned authorities on proper management of the Ilaje Areas of Ondo's coastal landscapes will positively affect the ecosystem service.

Table 6: Showing the responses on the types of coastal ecosystem services of Ilaje Local Government Area, Ondo State.

Status Variables	Strongly disagree Freq(%)	Disagree Freq(%)	Undecided Freq(%)	Agree Freq(%)	Strongly Agree Freq(%)	Total Freq(%)	Mode
Function as a means of water distribution for the people in the environment.	54(10.7)	63(12.5)	2(0.4)	142(28.1)	244(48.3)	505(100)	Strongly Agree
Function as food supplies for the people in the environment	4(0.8)	38(7.5)	34(6.7)	219(43.4)	210(41.6)	505(100)	Agree

Provides economic input for the Ilaje community	2(0.4)	52(10.3)	0(0.0)	208(41.2)	243(48.1)	505 (100)	Strongly Agree
Provides a platform for fishing (as profession or recreation for therapy)	0(0.0)	1(0.2)	2(0.4)	210(41.6)	292(57.4)	505(100)	Strongly Agree
Provides supports human health through provision of requisite herbal plants as natural medicine by the ecosystems	3(0.6)	58(11.5)	18(3.6)	175(34.7)	251(49.7)	505(100)	Strongly Agree
Function as a liveable habitat for the people in the environment	108(21.4)	3(0.6)	1(0.2)	93(18.4)	300(59.4)	505(100)	Strongly Agree
Function as nutrient for the people in the environment	4(0.8)	51(10.1)	1(0.2)	149(29.5)	300(59.4)	505(100)	Strongly Agree
Function as supports human wellbeing and healthy living for the people in the environment-	55(10.9)	33(6.5)	39(7.7)	261(51.7)	117(23.2)	505(100)	Agree
Provide supports human health through provision of all daily natural needs like clean air and water from the ecosystems	47(9.3)	29(5.7)	50(5.7)	234(46.3)	145(28.7)	505(100)	Agree
Function as chemical cycle for the people in the environment	40(7.9)	96(19.0)	5(1.0)	164(32.5)	200(39.6)	505(100)	Strongly Agree
Function as effluent purifier for the people in the environment	90(17.8)	1(0.2)	57(11.3)	113(22.4)	244(48.3)	505(100)	Strongly Agree
Green areas in Ilaje LGA constituted by trees serve to make outdoor environments elements comfortable during hot weather conditions.	41(8.1)	97(19.2)	1(0.2)	187(37.0)	178(35.2)	505(100)	Agree
Provides aesthetics for the environment	87(17.2)	3(0.6)	53(10.5)	162(32.1)	200(39.6)	505(100)	Strongly Agree
Provides recreation for the environment	2(0.4)	50(9.9)	7(1.4)	245(48.5)	201(39.8)	505(100)	Agree
Provides spiritual therapy for the Ilaje community residents	1(0.2)	49(9.7)	55(10.9)	341(67.5)	59(11.7)	505(100)	Agree
Provides an avenue to learn about the history of the Ilaje community	1(0.2)	48(9.5)	1(0.2)	262(51.9)	192(38.0)	505(100)	Agree
Provides supports human health through provision of socially peaceful environment	21(4.2)	40(7.9)	40(7.9)	180(35.6)	224(44.4)	505(100)	Strongly Agree

Table 6 shows the responses on the types of coastal ecosystem services in Ilaje Local Government Area, Ondo State.The result demonstrates that the majority of respondents 244(48.3) strongly agree that the coastal ecosystem functions as a means of water distribution for the people in the environment. Majority of the participants, 210(41.6) strongly agree that the coastal ecosystem functions as food supplies for

people in the environment, but only 4(0.8) respondents that strongly disagree. Meanwhile, 243(48.1) which represents the majority of the participants, strongly agree that the coastal landscape provides economic input for the Ilaje community. Also, 292(57.8) of the respondents, which represent the highest distribution, strongly, agree that the coastal landscape provides a platform for fishing (as a profession or for therapy). Lastly, Majority of the respondents 251(49.7) strongly agreed that the coastal landscape supports human health through the provision of requisite herbal plants as natural medicine by the ecosystems.The result also shows that a great number of the respondents 300(59.4) strongly agreed that the coastal ecosystem functions as a livable habitat for the people in the environment and a nutrient forthe people in the environment, respectively. The table also shows that majority of the respondents, 261(51.7), agreed that the coastal ecosystem supports human wellbeing and healthy living for the people in the environment. Lastly, 234(46.3), agree that the coastal landscape supports human health through the provision of all daily natural needs like clean air and water from the ecosystems.The highest number of respondents 200(39.6) strongly agree that the coastal ecosystem functions as a chemical cycle for the people in the environment. Inlike manner, the majority of the respondents 244(48.3) strongly agree that the coastal ecosystem of Ilaje, Ondo State, functions as an effluent purifier for the people in the environment. Greatest number of participants, 187(37.0) strongly agrees that the green areas in Ilaje LGA constituted by trees serve to make outdoor environments comfortable during hot weather conditions.The result also demonstrates that the majority of the participants, 200(39.6), strongly agree that Ilaje, Ondo State's coastal landscape provides aesthetics for the environment. A great number of the respondents, 245(48.5), agree that the coastal landscape provides recreation for the environment. A high number of the respondents 245(48.5) agree that the coastal landscape provides recreation for the environment. Majority of the respondents, 341(67.5) agree that the coastal landscape provides spiritual therapy for the Ilaje community residents, just 1(0.2) respondents strongly disagree. Also, 262(51.9) of the participants agree that the coastal landscape provides an avenue to learn about the history of the Ilaje community. Lastly, the majority of the respondents 224(44.4) strongly agree that the coastal landscape supports human health through the provision of a socially peaceful environment.

3.4 Testing Hypothesis three

3.4.1 Hypotheses Null (H_0): There are no significant factors influencing the ecosystem services of the coastal landscapes of Ilaje LGA.

Table 7: Result of Spearman's rho Correlation Coefficient of factors influencing the ecosystem services of the coastal landscapes of Ilaje.

Status Variables	Widespread and growing pressures on marine and coastal resources	Intense depletion due to human activities	Prohibited usage such as militants' hideouts	Prohibited usage such as kidnappers' hideouts	Prohibited usage such as terrorists' hideout	Prohibited usage such as smugglers' hideouts	Prohibited usage such as military invaders' hideouts	Prohibited usage such as illegal migrants' hideouts	Misuse for public market	Misuse for unauthorized dumpsites for refuse and sewage	Misuse for public market, unauthorized dumpsites for refuse and sewage	Misuse for abandonment of spoilt and rickety ships and boats
Water distribution	.066	.345**	-.139**	-.179*	-.061	-.128**	.226**	.037	-.090*	-.087	.227**	-.048
Liveable habitat	-.171**	.242**	-.132**	-.205*	-.020	-.169**	.126**	-.003	-.172**	-.060	-.006	-.135**
Nutrients	-.164**	.256**	-.145**	-.196*	-.044	-.190**	.078	.009	-.161**	-.059	-.022	-.115**
Support for	.041	-.039	.023	-.041	-.011	.046	.063	-.103*	.015	.008	.001	-.076

human wellbeing and healthy living												
Food Supplies	.007	.012	.027	-.041	-.079	.130**	.036	-.020	-.067	.008	.041	.056
Chemical cycle	.294**	.597**	-.168**	-.108*	-.062	-.102*	.347**	.039	-.157**	-.025	.482**	-.020
Effluent purifier	.150**	.594**	-.030	-.035	.096*	.002	.423**	.008	-.096*	-.047	.409**	.005
Provides aesthetics	.417**	.722**	-.116**	-.067	.031	-.014	.546**	.028	-.197**	.006	.655**	.002
Provides recreation platform	.045	.321**	.012	-.071	.076	.009	.196**	-.009	-.106*	-.026	.305**	-.077
Provides economic input	.060	.414**	-.002	-.096*	.093*	.024	.351**	.016	-.124**	-.063	.315**	-.072
Provides spiritual therapy	-.233**	.169**	-.040	-.049	.018	-.016	-.228**	-.022	.028	-.041	.183**	-.090*
Provides life sustenance	.424**	.723**	.039	.052	.197**	.160**	.659**	-.002	-.179**	-.001	.713**	-.004
Provides avenue to learn history	-.078	.211**	-.087	-.116**	-.017	-.127**	-.019	.024	-.045	-.051	.142**	-.086
Provides platform for fishing as a profession or therapy	.321**	.599**	.091*	.062	.182**	.144**	.544**	-.015	-.082	-.036	.591**	.028
Provides support for human health through provision of socially peaceful environment	-.001	.046	-.025	.020	.022	.059	.014	.002	-.006	.063	.015	.084
Provides support for human health through provision of all daily natural needs like clean air and water from the ecosystems	-.013	.025	-.007	-.014	-.032	-.003	.042	-.093*	-.032	.088*	.010	.045
Provides supports human health through provision of requisite herbal plants as natural medicine by the ecosystems	.007	.054	.101*	.026	.065	.071	-.009	-.025	-.014	.092*	.082	-.018
Green areas in Ilaje LGA constituted by trees serve to make indoor environments of buildings where they are located comfortable during hot weather conditions	-.077	-.101*	.026	-.066	.003	.000	-.092*	-.059	-.041	.052	-.048	-.028

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 8: Showing result of Spearman's rho Sig.(2-tailed) of factors influencing the ecosystem services of the coastal landscapes of Ilaje.

Status Variables	Widespread and growing pressures on marine and coastal resources	Intense depletion due to human activities	Prohibited usage such as militants' hideouts	Prohibited usage such as kidnappers' hideouts	Prohibited usage such as terrorists' hideout	Prohibited usage such as smugglers' hideouts	Prohibited usage such as military invaders' hideouts	Prohibited usage such as illegal migrants' hideouts	Misuse for public market	Misuse for unauthorized dumpsites for refuse and sewage	Misuse for public market, unauthorized dumpsites for refuse and sewage	Misuse for abandonment of spoilt and rickety ships and boats
Water distribution	.142	.000	.002	.000	.174	.004	.000	.406	.044	.052	.000	.286
Liveable habitat	.000	.000	.003	.000	.648	.000	.004	.938	.000	.180	.896	.002

Nutrients	.000	.000	.001	.000	.323	.000	.080	.832	.000	.183	.622	.010
Support for human wellbeing and healthy living	.356	.379	.614	.356	.804	.302	.160	.020	.744	.856	.983	.089
Food Supplies	.880	.796	.544	.355	.077	.004	.422	.660	.131	.863	.352	.206
Chemical cycle	.000	.000	.000	.015	.165	.021	.000	.387	.000	.571	.000	.662
Effluent purifier	.001	.000	.504	.427	.031	.957	.000	.853	.030	.297	.000	.904
Provides aesthetics	.000	.000	.009	.135	.485	.747	.000	.525	.000	.891	.000	.955
Provides recreation platform	.310	.000	.785	.113	.090	.840	.000	.833	.017	.565	.000	.085
Provides economic input	.175	.000	.972	.032	.038	.595	.000	.713	.005	.161	.000	.107
Provides spiritual therapy	.000	.000	.367	.273	.694	.723	.000	.619	.533	.360	.000	.043
Provides life sustenance	.000	.000	.385	.245	.000	.000	.000	.961	.000	.979	.000	.929
Provides avenue to learn history	.081	.000	.050	.009	.701	.004	.670	.584	.315	.255	.001	.054
Provides platform for fishing as a profession or therapy	.000	.000	.041	.167	.000	.001	.000	.736	.065	.415	.000	.532
Provides support for human health through provision of socially peaceful environment	.982	.297	.576	.652	.628	.183	.753	.964	.901	.160	.730	.060
Provides support for human health through provision of all daily natural needs like clean air and water from the ecosystems	.763	.570	.868	.751	.475	.953	.349	.036	.478	.048	.830	.312
Provides supports human health through provision of requisite herbal plants as natural medicine by the ecosystems	.876	.223	.023	.555	.142	.112	.847	.571	.748	.038	.066	.681
Green areas in Ilaje LGA constituted by trees serve to make indoor environments of buildings where they are located comfortable during hot weather conditions	.083	.023	.558	.137	.938	.999	.038	.189	.358	.242	.282	.529

Tables 7 and 8 shows the results of the Spearman's rho correlation coefficient and p-value to analyse factors influencing the ecosystem services of the coastal landscapes of Ilaje LGA. The results of the significance are both based on the 0.01 and 0.05 significant levels. It demonstrates that ecosystem service function as a means of water distribution for the people in the environment is positively impacted by intense depletion due to human activities, prohibited usage such as military invaders' hideouts and misuse for public markets, and unauthorised dumpsites for refuse and sewage (p-values < 0.01) at p-values 0.000 respectively. Meanwhile, the function of

ecosystem services as a means of water distribution for people in the environment is negatively impacted by prohibited usage such as militants' hideouts, kidnappers' hideouts, smugglers' hideouts (p-value <0.01) at p-values = 0.002, 0.000, 0.004 and misuse for the public market (p-value < 0.05) at p-value = 0.044.Ecosystem service function as a means of liveable habitat for the people in the environment is positively impacted by intense depletion due to human activities, including prohibited usage such as military invaders' hideouts (p-values < 0.01) at p-values 0.000 & 0.004 respectively. Meanwhile, ecosystem service function as a means of liveable habitat for the people in the environment is negatively impacted by widespread and growing pressures on marine and coastal resources, prohibited usage such as militants' hideouts, kidnappers' hideouts, smugglers' hideouts, misuse for public markets, and misuse for abandonment of spoilt and rickety ships and boats (p-value < 0.01) at p-values = 0.000, 0.003, 0.004 and 0.002 respectively. Ecosystem service function as a means of nutrient for the people in the environment is positively impacted by intense depletion due to human activities (p-value < 0.01) at p-value = 0.000. Meanwhile, ecosystem service function as a means of liveable habitat for the people in the environment is negatively impacted by widespread and growing pressures on marine and coastal resources, prohibited usage such as militants' hideouts, kidnappers' hideouts, smugglers' hideouts, misuse for public markets, and misuse for abandonment of spoilt and rickety ships and boats (p-value ≤ 0.01) at p-values = 0.000, 0.001 & 0.010 respectively. Ecosystem service function as a means of support for human wellbeing and healthy living for the people in the environment is negatively impacted by prohibited usage such as illegal migrants' hideouts (p-value < 0.05) at p-value = 0.020.Ecosystem service function as a means of food supplies for the people in the environment is negatively impacted by prohibited usage such as smugglers' hideouts (p-value < 0.05) at p-value = 0.004. Ecosystem service function as a means of chemical cycle for the people in the environment is positively impacted by widespread and growing pressures on marine and coastal resources, intense depletion due to human activities, prohibited usage such as military invaders' hideouts and misuse for public markets, and unauthorised dumpsites for refuse and sewage (p-values < 0.01) at p-values = 0.000 respectively. Meanwhile, ecosystem service function as a means of chemical cycle for the people in the environment is negatively impacted by prohibited usage such as militants' hideouts, misuse for the public market (p-value < 0.01) at p-value = 0.000 respectively, and prohibited usage such as smugglers' hideouts, kidnappers' hideouts (p-value < 0.05) at p-value = 0.020 and 0.015.Ecosystem service function as a means of effluent purification for the people in the environment is positively impacted by widespread and growing pressures on marine and coastal resources, intense depletion due to human activities, prohibited usage such as military invaders' hideouts, misuse for the public market, unauthorised dumpsites for refuse and sewage (p-values < 0.01) at p-values =0.001, 0.000 respectively, and prohibited usage such as terrorists' hideouts(p-value < 0.05) at p-value = 0.031. Meanwhile, ecosystem service functions as a means of effluent purification for people in the environment are negatively impacted by misuse for the public market (p-value < 0.05) at p-value = 0.030.Ecosystem service function as a means of aesthetics for the people in the environment is positively impacted by widespread and growing pressures on marine and coastal resources, intense depletion due to human activities,

prohibited usage such as military invaders' hideouts, misuse for the public market, and unauthorised dumpsites for refuse and sewage (p-values < 0.01) at p-values = 0.000 respectively. Meanwhile, ecosystem service function as a means of aesthetics for the people in the environment is negatively impacted by prohibited usage such as militants' hideouts and misuse for the public market (p-value < 0.01) at p-value = 0.000. Ecosystem service function as a means of recreation for the people in the environment is positively impacted by intense depletion due to human activities, prohibited usage such as military invaders' hideouts, misuse for the public market, and unauthorised dumpsites for refuse and sewage (p-values < 0.01) at p-values = 0.000 respectively. Meanwhile, ecosystem service function as a means of recreation for people in the environment is negatively impacted by misuse for the public market (p-value < 0.05) at p-value = 0.017.Ecosystem service function as a means of economic input for the people in the environment is positively impacted by intense depletion due to human activities, prohibited usage such as military invaders' hideouts, misuse for the public market, unauthorised dumpsites for refuse and sewage (p-values < 0.01) at p-values = 0.000 respectively, and prohibited usage such as terrorists' hideouts (p-value < 0.05) at p-value = 0.038. Meanwhile, ecosystem service function as a means of recreation for the people in the environment is negatively impacted by misuse for the public market (p-value < 0.01) at p-value = 0.005 and prohibited usage such as kidnappers' hideouts (p-value <0.05) at p-value = 0.032.Ecosystem service function as a means of spiritual therapy for the people in the environment is positively impacted by intense depletion due to human activities, misuse for the public market, and unauthorised dumpsites for refuse and sewage (p-values < 0.01) at p-values = 0.000 respectively. Meanwhile, ecosystem service function as a means of spiritual therapy for the people in the environment is negatively impacted by widespread and growing pressures on marine and coastal resources, prohibited usage such as military invaders' hideouts (p-value < 0.01) at p-value = 0.000, and misuse for abandonment of spoilt and rickety ships and boats (p-value < 0.05) at p-value = 0.043.Ecosystem service functions as a means of life sustenance for people in the environment are positively impacted by widespread and growing pressures on marine and coastal resources, Intense depletion due to human activities, prohibited usage such as terrorists' hideouts, prohibited usage such as smugglers' hideouts, prohibited usage such as military invaders' hideouts, and misuse for the public market, unauthorised dumpsites for refuse and sewage (p-values < 0.01) at p-values = 0.000 respectively. Meanwhile, ecosystem service function as a means of spiritual therapy for people in the environment is negatively impacted by misuse for the public market (p-value < 0.01) at p-value = 0.000.Ecosystem service function as a means of learning the history of Ilaje for the people in the environment is positively impacted by intense depletion due to human activities and misuse for the public market, unauthorised dumpsites for refuse and sewage (p-values < 0.01) at p-values = 0.000 & 0.001 respectively. Meanwhile, ecosystem service function as a means of learning the history of Ilaje for the people in the environment is negatively impacted by prohibited usage such as kidnappers' hideouts and prohibited usage such as smugglers' hideouts (p-value < 0.01) at p-value of 0.009 & 0.004 respectively. Ecosystem service functions as a means of fishing as a profession or therapy for people in the environment are positively impacted by widespread and growing pressures on marine and coastal resources, Intense

depletion due to human activities, prohibited usage such as terrorists' hideouts, prohibited usage such as smugglers' hideouts, prohibited usage such as military invaders' hideouts, misuse of the public market, unauthorised dumpsites for refuse and sewage (p-values < 0.01) at p-values = 0.000 and 0.001 respectively, and prohibited usage such as militants' hideouts (p-value < 0.05) at p-value = 0.041.Ecosystem service function as a means of support for human health through provision of all daily natural needs like clean air and water from the ecosystems for the people in the environment is positively impacted by misuse of unauthorised dumpsites for refuse and sewage (p-values < 0.01) at p-values = 0.048. Meanwhile, ecosystem service function as a means of support for human health through the provision of all daily natural needs like clean air and water from the ecosystems for the people in the environment is negatively impacted byprohibited usage such as illegal migrants' hideouts (p-value < 0.05) at p-value = 0.036. Ecosystem service function as a means of supporting human health through the provision of requisite herbal plants as natural medicine by the ecosystems for the people in the environment is positively impacted by prohibited usage such as militants' hideouts and misuse of unauthorised dumpsites for refuse and sewage (p-values < 0.05) at p-values = 0.023 and 0.038. Green areas in Ilaje LGA constituted by trees serve to make indoor environments of buildings where they are located comfortable during hot weather conditions for the people in the environment, which is negatively impacted by intense depletion due to human activities and prohibited usage such as military invaders' hideouts (p-values < 0.05) at p-values = 0.023 and 0.038.

Table 9a: Ordinal regression analyses of the factors influencing performance of the ecosystem services of the coastal landscape (Independent/predictors) and its impact on societal values (dependent/outcome).

Factors affecting Ecosystem service of coastal landscape	Model Fitting Information					Pseudo R-Square		
	Model	-2 Log Likelihood	Chi-Square	Df	Sig.	Cox & Snell	Nagelkerke	McFadden
Widespread and growing pressures on marine and coastal resources are having negative effect on the performance.	Intercept Only	1074.46						
	Final	83.17	991.294	113	.000	.860	.975	.921
Intense depletion due to human activities affects performance.	Intercept Only	1241.11	--					
	Final	100.76	1140.350	113	.000	.895	.979	.919
Prohibited usage such as militants' hideouts is affecting the ecosystem service performance of my area negatively.	Intercept Only	1003.53						
	Final	4.65	998.884	113	.000	.862	.999	.995
Prohibited usage such as kidnappers' hideouts is affecting the ecosystem service performance of my area negatively.	Intercept Only	961.22						
	Final	107.50	853.714	113	.000	.816	.958	.888
Prohibited usage such as terrorists' hideouts is affecting the ecosystem service performance of my area negatively	Intercept Only	1310.44						
	Final	1160.23	150.207	113	.011	.257	.278	.115
Prohibited usage such as smugglers' hideouts is affecting the ecosystem	Intercept Only	1151.88						
	Final	889.75	262.123	113	.000			

service performance of my area negatively						.405	.451	.227
Prohibited usage such as military invaders' hideouts are affecting the ecosystem service performance of my area negatively	Intercept Only	1305.77						
	Final	512.39	793.376	113	.000	.792	.857	.607
Prohibited usage such as illegal migrants' hideouts is affecting the ecosystem service performance of my area negatively	Intercept Only	1264.92						
	Final	2276.53	.000	113	1.000	.000	.000	.000
Landscapes of my area for public market negatively affects the ecosystem service performance.	Intercept Only	1314.58						
	Final	118.88	1195.697	113	.000	.906	.979	.910
Misuse of the coastal landscapes of my area for unauthorized dumpsites for refuse and sewage negatively affects the ecosystem service performance	Intercept Only	1038.04						
	Final	2599.83	.000	113	1.000	.000	.000	.000
Misuse of the coastal landscapes of my area for public market, unauthorized dumpsites for refuse and sewage, negatively affects the ecosystem service performance.	Intercept Only	983.05						
	Final	1544.12	.000	113	1.000	.000	.000	.000

Link function: Logit.

Ordinal regression analysis was carried out to estimate the factors influencing the performance of the ecosystem services of the coastal landscape and its impact on societal values. Accordingly, model fitting information and Pseudo R-Square were generated for each identified factor, as shown in Table 9a&b. The factors influencing the performance of the ecosystem services of the coastal landscape are regarded as independent variables or predictors, and its impact on societal values is dependent dependent/outcome. 1 is equal to strongly disagree, 2 equal to disagree, 3 equals to neither agree nor disagree, 4 equal to agree and 5 is equals to strongly agree. Since the dependent or outcome variable is ordinal, and the satisfaction factors, SF (independent or predictors), are measured as ordinal variables (SF is equal 1 if the respondent is very unsatisfied with the factors influencing the ecosystem of the coastal landscape on the SF under consideration, 2 for unsatisfactory, 3 for fairly satisfactory, 4 for satisfactory, and 5 for very satisfactory), the ordinal regression model is used to estimate the factors that influence the satisfaction of the users about factors influencing the ecosystem service of their coastal landscapes. The results indicate that each overall model of factors influencing the ecosystem of the Ilaje LGA coastal landscape is statistically significant at the 0.01 significance level, 99% confidence level (i.e., Sig. = 0.000). Theoretically, the maximum value of Cox and Snell is less than 1, meanwhile, Nagelkerke is known to be the adjusted version of Cox and Snell, R^2 to cover the full range from 0 to 1, and McFadden's (based on the log-likelihood kernels for the intercept-only model and the full estimated model) pseudo-R^2, since it is not possible to compute a single R^2 statistic that has all of the characteristics in the linear regression model for regression models based on ordinal data. For example, Cox and Snell of Pseudo R^2 in Table 9a demonstrate that the model predicts that the satisfaction factors

for widespread and growing pressures on marine and coastal resources are having a negative effect on the performance [chi-square = 991.294, df= 113, p = 0.000, -2Log Likelihood at final row = 83.172], accounting for 92.1% of the variance in the perception on factors influencing the performance of ecosystem services of the coastal landscape in Ilaje Communities.Other results show that Intense depletion due to human activities accounts for 97.5% (p<0.005) of variance of ecosystem services; Prohibited usage such as militants' hideouts is affecting the ecosystem service performance of my area negatively.97.9% (p<0.005); Prohibited usage such as kidnappers' hideouts is affecting the ecosystem service performance of my area negatively, 99.9%; Prohibited usage such as terrorists' hideouts is affecting the ecosystem service performance of my area negatively, 95.8% (p<0.005). Furthermore, prohibited usage such as illegal migrants' hideouts are affecting the ecosystem service performance of my area negatively by 85.7% (p<0.005).

Table 9b Ordinal regression analysis of the factors influencing performance of the ecosystem services of the coastal landscape (Independent/predictors) and its impact on societal values (dependent/outcome).

Factors affecting Ecosystem service of coastal landscape	Model Fitting Information					Pseudo R-Square		
	Model	-2 Log Likelihood	Chi-Square	Df	Sig.	Cox & Snell	Nagelkerke	McFadden
Misuse of the coastal landscapes of my area for abandonment of spoilt and rickety ships and boats negatively affects the ecosystem service performance	Intercept Only	1006.106						
	Final	581.071	425.035	113	.000	.569	.659	.422
The continuous threat due to coastal erosion and tidal floods, destruction of sources of livelihood of the host communities will affect the ecosystem service performance of my area.	Intercept Only	979.819						
	Final	.000	979.819	113	.000	. 856	1.000	1.000

Link function: Logit.

Misuse of the coastal landscapes of my area for unauthorized dumpsites for refuse and sewage negatively affects the ecosystem service performance 97.9% (p<0.005); Misuse of the coastal landscapes of my area for abandonment of spoilt and rickety ships and boats negatively affect the ecosystem service performance by 65.9% (p<0.005); the continuous threat due to coastal erosion and tidal floods, destruction of sources of livelihood of the host communities will affect the ecosystem service performance by 100% (p<0.005) (table 9b).

4. Discussion of the findings

Following the examination, the following information was found: The use of ecosystem services for illegal purposes, such as hiding places for kidnappers, smugglers, and militants, has a detrimental effect on the ecosystem's ability to distribute water to humans. The ability of ecosystem services to provide a livable habitat for humans in the environment is severely harmed by the increasing and pervasive demands placed on marine and coastal resources, as well as by illegal uses like terrorist hideouts. hiding places for kidnappers and smugglers, public markets, and the disposal of frail and spoiled ships and boats are some examples of misuse. Prohibited applications, such as

terrorist hideouts and improper use for the public market, have a detrimental influence on ecosystem services, which serve as a means of chemical cycle for humans in the environment. Prohibited uses, such as the hiding places of illegal migrants, have a detrimental influence on the environment's ability to promote human well-being and healthy living. The ability of ecosystem services to provide a livable habitat for humans in the environment is severely harmed by the extensive and increasing pressures placed on marine and coastal resources, as well as by illegal uses such as the hiding places of terrorists, kidnappers, and smugglers. abuse in relation to public marketplaces as well as the abandoning of fragile and damaged ships and vessels. Prohibited uses, including smugglers' hideouts, have a detrimental influence on ecosystem services that provide food supplies for humans. Ecosystem services, on the other hand, promote human health by providing all basic natural necessities, such as clean water and air, to individuals living in the environment. These services are adversely affected by illicit usage, such as the hiding places of illegal migrants. The presence of trees in Ilaje LGA's green spaces helps to cool down the interior spaces of buildings for occupants during hot weather. which is severely depleted as a result of human activity and illegal use, such as the hiding places of military invaders. The public market's exploitation of ecosystem services has a detrimental effect on people's ability to enjoy themselves in the environment. The fundamental tenets of integrated coastal management may be compromised by detrimental human activity (Hamid et al., 2021). The principle of sustainability is the first to be compromised, as over-dredging of coastal resources may jeopardize future resource stock availability, hence undermining the idea of sustainability. The second is equity, which states that if some parties take advantage of the seashore, thus the idea of equality cannot be realized since only those parties benefit from the coast while other communities do not (Aly et al., 2021). The third principle is the integration principle, which states that when an individual, group, or government acts in a way that goes against the integration principle among stakeholders, it cannot be properly accomplished (Subagiyo et al., 2017). Adeniran, Otokiti, and Faturoti (2017) draw alarming conclusions on the inadequate infrastructure development in Ondo State's coastal settlements, pointing out that these communities lack access to power. In addition, about half of the population lacks pipe-borne water access, housing units are in extremely bad shape, and despite being linked to the national grid, some areas lack access to energy. According to Bernat (2022), the pandemic boosted the value of recreational areas. They observed that people's perceptions of landscapes also evolved, with a growing appreciation for the benefits of picturesque vistas, nature, and the landscape's healing properties. Olasunmbo, Joseph, and Dorcas (2021) discovered, in accordance with this study, that the contributions of local stakeholders and the development of the cultural landscape are significantly correlated. They also showed that, although they should serve as a channel for distributing water to the populace in the surrounding area, stakeholders are not as involved in the decision-making process, which is adversely affected by forbidden uses, such as the hiding places of smugglers, kidnappers, and militants. The ability of ecosystems to provide a habitable habitat for humans is threatened by a number of factors, including the widespread and increasing pressure on marine and coastal resources; illegal uses such as terrorist hideouts, kidnapping dens, and smugglers' lairs; misuse for public markets; and misuse for the abandonment of

dilapidated and rickety ships and boats. Prohibited uses, such as terrorists' hideouts and improper use for the public market, have a detrimental influence on ecosystem services, which serve as a means of chemical cycle for humans in the environment. Prohibited uses, including the hiding places of illegal migrants, have a detrimental influence on ecosystem services' ability to promote human well-being and a healthy lifestyle for those who inhabit the area. The ecosystem service function, which provides a livable habitat for humans in the environment, is negatively impacted by a number of factors, including the widespread and increasing pressure on marine and coastal resources, the prohibited use of these resources for places like the hideouts of militants, kidnappers, and smugglers, the misuse of these resources for public markets, and the abandonment of rickety and spoilt ships and boats. Prohibited uses, including smugglers' hideouts, have a detrimental influence on ecosystem services that provide food supplies for humans. In the interim, ecosystem services, which are adversely affected by forbidden usage such as the hiding places of illegal migrants, serve as a means of supporting human health by providing all basic natural necessities, such as clean air and water, for people in the environment. The trees that make up Ilaje LGA's green spaces help to cool down the interiors of buildings for people who live there during hot weather. These spaces are severely depleted by human activity and illegal uses, such as hiding places for military invaders. The public market's exploitation of ecosystem services has a detrimental effect on people's ability to enjoy themselves in the environment. The fundamental tenets of integrated coastal management may be compromised by detrimental human activity (Hamid et al., 2021). The principle of sustainability is the first to be compromised, as over-dredging of coastal resources may jeopardize future resource stock availability, hence undermining the idea of sustainability. The second principle is equity, which states that if certain parties abuse the coast, only those parties will benefit from it while other communities would not, making the equity principle impossible to uphold (Aly et al., 2021). The third concept is the integration principle, which states that when an individual, group, or government acts in a way that goes against the integration principle among stakeholders, it cannot be accomplished in a suitable manner (Subagiyo et al., 2017). Adeniran, Otokiti, and Faturoti (2017) draw alarming conclusions on the inadequate infrastructure development in Ondo State's coastal settlements, pointing out that these communities lack access to power. Furthermore, despite being connected to the national grid, many villages lack power, approximately half of the population lacks access to pipe-borne water, and housing units are in extremely bad shape. According to Bernat (2022), the pandemic boosted the value of recreational areas. They observed that people's perceptions of landscapes also evolved, with a growing appreciation for the benefits of picturesque vistas, nature, and the landscape's healing properties. According to this research, Olasunmbo, Joseph, and Dorcas (2021) discovered a strong correlation between the contributions of local stakeholders and the development of the cultural landscape. They also disclosed that stakeholders do not participate in the decision-making process to the full extent that they ought to.

5. Conclusion and Recommendations

The study was conducted to assess the factors influencing the ecosystem services of coastal landscapes and its societal impact of Ilaje Local Government Area, Ondo state. The results showed that illegal uses, such as hiding places for terrorists, kidnappers, and

smugglers, had a detrimental effect on ecosystem services' ability to provide water to people in the environment. Prohibited uses, such as the hideouts of militants and abuse for the public market, have a detrimental effect on ecosystem services, which serve as a means of the chemical cycle for people in the environment. Prohibited uses, such as the hiding places of illegal migrants, have a detrimental effect on ecosystem services' ability to promote human wellbeing and healthy living for those in the environment. The following recommendations were made based on the findings of the study:

- The administration of Ondo State should work with the Ministry of Blue Economy to combat the unauthorized use of Ilaje LGA's coastal landscapes in order to develop them for tourism and hospitality enterprises and generate income as a consequence of economic diversification.
- The implementation of appropriate trash collecting techniques and traditional sewer reticulation systems for sewage collections should be used to combat marine littering and oceanpollution.
- The executive branch of Ondo state should station naval patrol security guards to keep an eye on the coastline and deter illegal migrants, extremists, and traffickers from using it as a hiding place.
- To prevent improper exploitation of the coastal environment as a marketing arena, the administration of Ilaje Local administration Area, Ondo State, should establish a body that oversees the operation of public markets along the coastline.

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