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EROSION AS A FACTOR OF LANDSCAPE DESTRUCTION IN ILARO, YEWA SOUTH, SOUTHWEST NIGERIA

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Abstract

The study focuses on land erosion threat which has remained a major factor of landscape destruction in Ilaro, Yewa South, Ogun State, Nigeria. The study was wheeled by four objectives with the aim of examining the environmental impact of land erosion in the Ilaro town (the study area) with the view to curtailing the aged challenge through a research collaboration effort. Methodologically, the population for the study comprises of household population of Ilaro area covering 16 neighbourhoods within Ilaro community divided into five strata and a sample size of 397 estimated through Taro Yamane's method of sample selection. The data generated through the use of questionnaire instrument were analysed using both descriptive and inferential statistical analysis methods to depict the information on erosion as it affects different segments of the study area. Findings from Ilaro building conditions revealed that 49% (percent) of the houses were built with cement blocks, and 27 percent were plastered. Investigation revealed that 46 percent of all the houses' walls were found with cracks which might be as a result of soil erosion effects on the structures. Geologically, laterite soil was found to be most dominant at 48.8% among other soil types in the study area. From the study, the solution of erosion menace could be salvaged through the long-term and short-term measures involving full commitment of the government and private organisations within the state. The study recommends that: erosion channels should be diverted to critical areas of hydrological system and there should be a regular maintenance of road channels to keep drains clean so as to prevent flooding and also installing diversion at drains and culverts where runoff velocity can trigger erosion; massive public awareness through campaign on the problems and consequences of land erosion, as well as enacting environmental laws and serious penalties for offenders; community efforts and commitments should be advised to contribute their quota through local means.

Keywords: Soil erosion, Landscape destruction, Environment, Rainstorm control

INTRODUCTION

The loss of soil from land surface by erosion is widespread globally and adversely affects the productivity of all natural ecosystems as well as agricultural, forest, and rangeland ecosystems (Wang, et al, 2025). Concurrent with the escalating human population, soil erosion, water availability, energy and loss of biodiversity rank as the prime environmental problems throughout the world. The changes inflicted on soils by human-induced erosion over many years are significant and have resulted in valuable land becoming unproductive and often eventually abandoned (Kwang,

et al, 2023). Generally, soil erosion diminishes soil quality and thereby reducing the productivity of natural, agricultural, and forest ecosystems (Pimental, 2001). Erosion is an environmental phenomenon that is widespread across the world. It progressively causes devastating ecological havocs by destroying lives, properties, agricultural products, infra structural and social amenities. The threats posed by such bewildering gullies to farmlands, townscape - roads and houses are enormous. Erosion occurs within the tropical zone (where Nigeria lies) which is caused by various agents of denudation and catalyzed by man feature into wind and water forms. This is the usual phenomenon along the topographical slopes and open spaces with little or no vegetation cover. Moreover, the terrain nature of any area determines the extent devastation caused by erosion.

Within the middle latitudes factors such as high amounts of animal and plant matter decomposition, the veracity and volume of water that permeate the soil structure in order to creates good resistance to erosion are considered desirable to mitigate this menace. Fine sand, silty and loamy soils have good resistance to erosion comparable to other soils with a poor resistance. Study has revealed that urbanization processes culminating into multifunctional settlements have been identified to have some influences on erosion occurrence (Bradshaw & Brook 2014). The urban areas are characterized by various developmental activities by man, which commences by felling of trees and removal of the vegetative cover which prevents the direct contact of both water and wind with the soil.

The commonest type of erosion in Nigeria has been traced to sheet and gully erosions which stand as perennial problems to some of the rural communities and their urban centres counterparts, such as Ilaro, Ayetoro, Molete in Ibadan (Southwest) and the entire Southeast, just to mention few. The spectacular damages and catastrophic features caused by erosion readily attract attention. Over the years, erosion has become a great threat to the economy as it diminishes soil quality and thereby reduces the productivity of natural, agricultural and forest ecosystems. The threats posed by such bewildering gullies to farmlands, roads and houses are enormous (Abdulfatai, et al., 2014. Obaje, 2009). Absolutely, increased downstream flooding can occur due to the reduced capacity of eroded soil to absorb water. Sediment can accumulate on down-slope and contribute to road damage. Sediment that reaches streams or watercourses can accelerate bank erosion, obstruct stream and drainage channels, fill in reservoirs, damage fish habitat and degrade downstream water quality (Osadebe & Enuvie, 2008).

The study in a sense has examined soil erosion as a factor of environmental degradation, causes, categorization, impacts and ways of curbing the menace within Ilaro municipal space, Yewa South Local Government Area of Ogun State. In a nut-shell, the set aim of this study is to critically examine the environmental impact of soil erosion in Ilaro town, located in Yewa South Local Government Area of Ogun State. This has been achieved through four objectives namely: to identify the socio-economic characteristics of the residents of the town; to identify the soil types and their relationship with erosion, and the causes of erosion in the study area; to examine the effects of erosion in the area, and lastly it is to identify the efforts made to control soil erosion in the study area. The study is justified on two grounds: first, the urgency to critically investigate the source, causes and the exact solution to the erosion in the town especially Modeolu, Ona-Ola, Ona Otun, Ona Osi, Gbogidi, Orita Pahayi, Iga-Bada, Sabo and Ona-Egbo neighbourhood of lIaro town. The second is in order to protect the environmental resources - water, soil and physical structure (including road, housing, rail, etc) with a view to preventing unfavourable consequences which their deterioration could have directly or otherwise on the various sectors of national economy namely: agriculture, water and management and housing environment at large.

Theoretical Clarification

Generally, the wearing away of the top soil, the loosing and transportation of rock debris at the earth's surface is called Erosion. Erosion cannot take place without some agents such as wind, raining water, water glacier, wave and tide temperature, underground water and the action of man (Brown,1997). Consequently, these agents of erosion work by moving earth materials physically and chemically. The physical movement is the movement without changes in the chemical composition of the materials. While chemical the movement is done in such a way that the rock materials have been dissolved or decomposed (Bradshaw & Brook, 2014). Soil being one of the earth's most precious resources, a such the loss of the resources through land degradation process in an urban area such as soil erosion, is one of the most serious environmental problems we are faced with as a gradual process that occurs when the actions of water wind, and other factors eat away and wear down the land causing the soil to deteriorate or disappear completely.

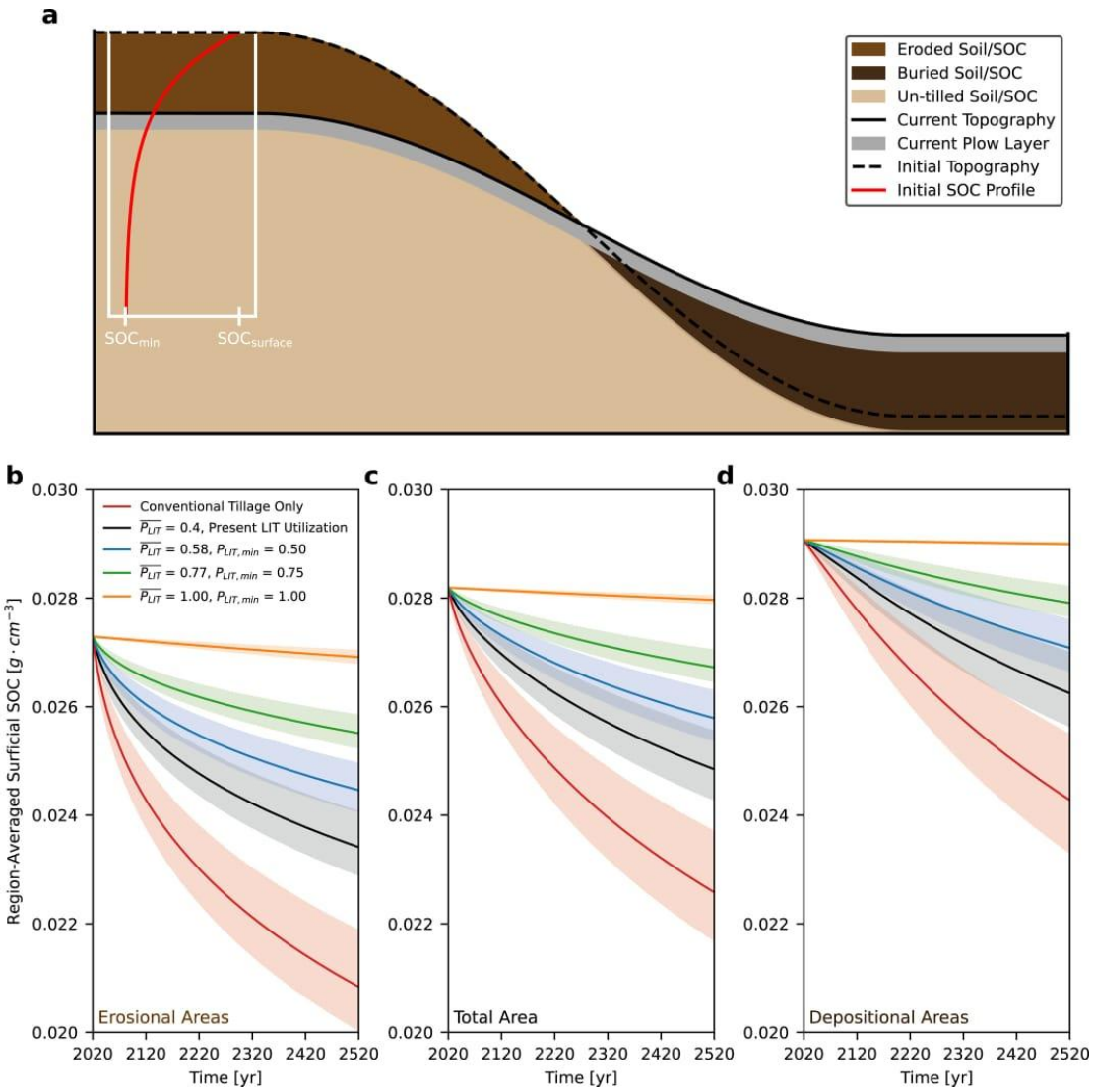

Figure 1 (a & b): Graphical representation of different topographical areas for soil retention using a remote sensing modelling
(After Wang, et al, 2025)

The model of Wang and his collaborators as presented in figure 1 revealed the nature of soil in different topographical areas with variation of soil retentions under erosional forces. The terrain which includes slope, slope length, aspect, and shape, is an essential factor affecting soil erosion. As a result of the proximity in relation to the boundary conditions for the model, soil will not leave the domain, and the volume or aggregate of eroded and deposited soil are equal. Therefore, to evaluate the magnitude and rate of soil and soil components (SOC) redistribution, the analysis should focus on two segments of the landscape, that is erosional areas with convex-upward topography and areas where soil is deposited within a concave-upward topography (see Figure 1a). This basic model provides critical scientific insights for developing effective policies and implementing targeted preventive measures.

Soil erosion is one form of soil degradation along with soil compaction, low organic matter, and loss of soil structure, poor internal drainage, Salinization, and soil acidity problems. These other forms of soil degradation, serious in themselves, usually contribute to accelerated soil erosion; therefore, humans

obviously need to be more informed about this problem. According to Zhang, et al (2010) and Singh (2020) models, soil erosion is the process of soil transfer within a specific time and place and is influenced by both natural factors and human activity. However, Onyegbule, (2010) emphasized that soil erosion involves a process whereby the surface layer of the soil is detached and carried by agents of denudation and a lower in the soil is exposed leaving a topographic roughness on the resulting landscape.

Soil erosion only becomes a problem when its rate accelerated above that of other landscape development processes, because it becomes visible, it becomes a river management problem when it constrains agricultural production and leads to river and reservoir sedimentation Erosion is not the only way in which exploitation of river basin can damage soil. Because soil erosion rates are commonly accelerated by human intervention in the soil formation/denudation process, its identification and control involve the social as well as the physical science (AL-Ahmadi, 2019).

The development activities by man commence from deforestation which is as a result of mechanized farming and invariably commercial agriculture. Production of food crops and other prim ary output led to industrialization which also continue with the development activities on land and create ways for erosion to penetrate into human habitation (Yu, Niu & Xu, 2004). According to Albert, Samson, Peter and Olufunmilayo (2006), soil erosion reduces the farm output by washing away the surface topsoil and likewise depositing such soil on a valley which is being used for agricultural purpose will also destroy the planted crops and thereby give way to rural-urban migration by the rural dweller in the process of securing a good and stable financial stand.

Furthermore, erosions stand as threat to the urban dwellers by destroying the surface of the earth that man could develop for dwelling and commercial purposes (Nwafor, 2006).

The havoc caused by erosion is not limited to the soil alone but to the available water bodies and its environment by carrying debris that prevent the main flow of the river and creating meanders, ox-bow lake as well as delta as the case may be (Pimentel, 2006). The topography of the land is a major determinant of the level of erosion that will affect such an area or region, thereby in situations where rivers and streams that could be used for recreation activities lies in between two valleys, the effect of the valleys may lead to flood and destroying such recreation facilities

In solving the incidence of land erosion in Ogun State, Southwest Nigeria. Many previous studies have served as illuminators into many aspects ecological factors such as erosion, drainage system and flood control in the urban and rural settlements in Ogun State. However, most findings of those studies ended in the library's shelves as there was no substantial fund to implement them. As a result of poor favourable disposition of government to solving erosional problem, erosion has wrecked so much havocs on many urban- centers in Ogun state and the effects cut across the entire state. For examples, the Ikala Gully in Ijebu-ode stand as a treat to the entire settlement which include life, properties and infrastructural facilities. In Yewa North Local Government most of the houses abutting gully erosion areas are under a continuous threat of collapsing with several infrastructural facilities already destroyed.

For forty-two (42) year's period, between 1933 and 1974, there had been disastrous flooding in Lakuta and Shokori areas of Abeokuta metropolis. Besides, Obada market location was constantly flooded during heavy rainfall through which properties of great values were lost (Ministry of Works and Transport, 1989). The establishment of subcommittee on ecological problem renewed the interest in solving erosion problems in Ogun State. This was due to the flood which occurs in Abeokuta in July 1986 during which water works was cut off as a result of washing away parts of the bridge linking to the rest of the town. A disaster was recorded at Odeda (within Ogun State) where two earth dams and government fish farm were washed away (OGEPA, 1993). Two decades ago, the disastrous Ogburu gully in lIaro was properly channeled by Ogun State government with a view to reduce the havoc of soil erosion (Ezenekwe, 2010). Principally, erosion is influenced by topographical features such as degree of slope, length of slope, size and shape of the water shed. The existence of steep slopes in an area will trigger a high velocities of storm water thereby causing serious erosion by scour and by sediment transportation.

MATERIALS AND METHODS

Study area

The maps presented in Figures 2.1, 2.2 and 2.3 reveal some details of the study area (Ilaro town, Southwest Nigeria) both in location and in physical elevation within the context of Yewa South Local Government of Ogun state including the town's existing road-networks. Ilaro as a municipal township has a population figure of 57,850 (NPC 2006) and

approximately located within 50km from Abeokuta, its next higher order metropolitan city. Other adjourning administrative states, geographical wise includes Oyo state (province) in the north, Lagos state in the south and Republic of Benin in the west. With a total land area of approximately 8,500 hectares (8.5sq.km), Ilaro land size is comparable with many highly ranked cities within the same Southwest Nigeria. As a multifunctional middle-ranked township, Ilaro is notable for its higher academic institution's accommodation including the prestigious Federal Polytechnic, and few other tertiary educational institutions.

By physiographical evaluation, Ilaro possesses some degrees of uncoordinated landscapes with littered hills, rivers and streams which altogether have a deep climatic impact on the township. The township's topographical nature depicts an array of undulating and step-sloppy towards the flowing direction of the major streams and their tributaries. The hills cover area from Oteyi locality along Papalanto -Ilaro axis, then westward within Iweke area, along Owode - Ilaro corridor. The serene and aesthetic views around these hilly areas make Ilaro landscape a good tourist potential site. River Yewa, the major river in the entire area rises from Imeko area and flows southward through the center of llaro division through Idogo before it discharges into the lagoon near Badagry (in Lagos state). The river is navigable by canoes from the northern end of Ajilete to Eggua during the rainy season. The Yewa River also passed through other towns and villages within the watershed. Few more streams flow throughout the whole year to define the hydrological system of Ilaro, they serve as sources of water to ~~many~~ of the communities whose major occupation is farming.

From the backdrop of the physical setting the weather condition of Ilaro by all aggregate measures looks more desirable throughout the whole year: with the raining season commencing in April, and lingers till December while the dry season dominates from December month to April or May. Generally, the mean monthly temperature is between 28°c and 32°c. Generally, both the soil and the climate conditions are suitable for food and cash crop types of agricultural farming all the year round.

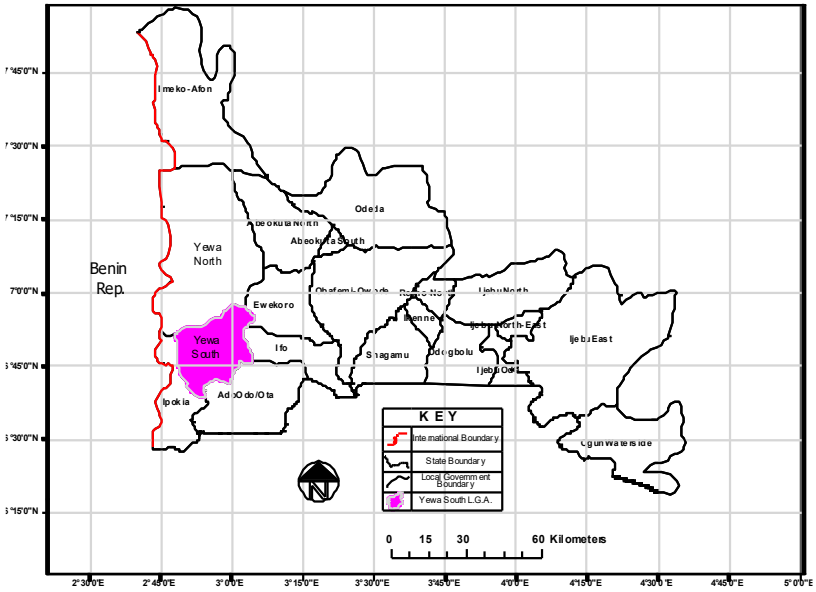

Figure 2.1: Yewa South L.G.A Location in Ogun State Map
Source: Ogun State Ministry of lands and Survey (2016)

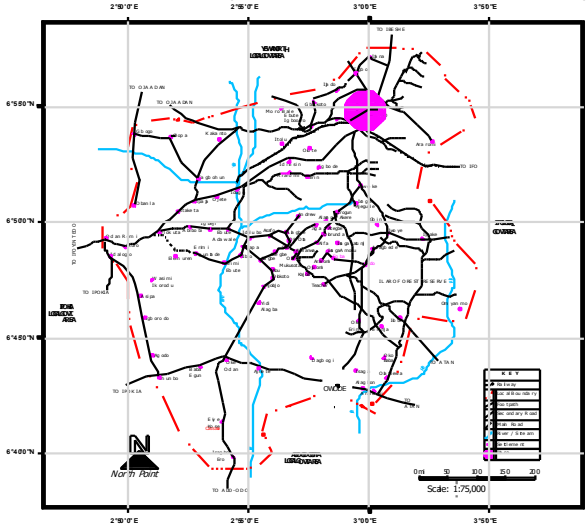

Figure 2.2: Map of Yewa South L.G.A showing Ilaro Town
Source: Ogun State Ministry of lands and Survey (2016)

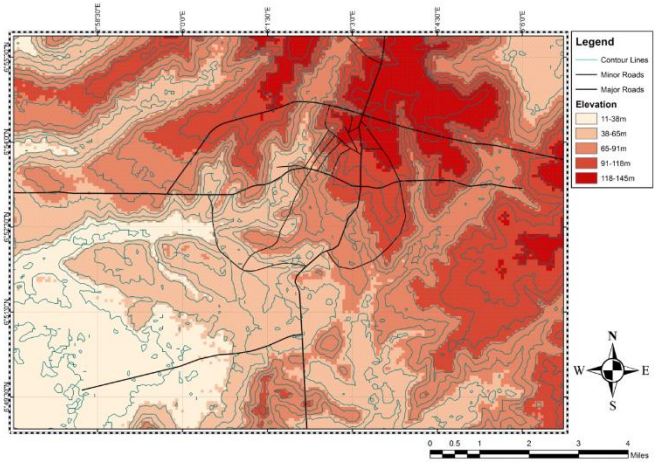

Figure 2.3 Elevation Map of Ilaro
Source: Survey and Geo-Informatics Dept, Federal Polytechnic Ilaro

The study employed majorly primary source of data collection through questionnaire administration. As shown in Table 1, the study area population comprises of household population of Ilaro covering 16 neighbourhoods (traditional core and exterior developing zones) with Ilaro town further divided into five (5) strata from where a sample size of 397 was estimated using Taro Yamane's method of sample selection.

The Formula is given as: $\mathbf{n = N/ (1+N (e)^2)}$. *Where:* 'n' signifies the sample size; 'N' signifies the population under study and 'e' indicates the margin error.

The data collection for this study involved the use of primary data through the use of questionnaire, personal interview, direct observation and the use of photograph, which further present the study area in pictorial form. The study with its descriptive survey design was able to analyze the collated data using the frequency and percentage count to show the number of people that belong to each category of responses, the simple percentages was adopted to present the explanation so that the outcome can be generalized for the whole population.

Sample size of three hundred and eighty-one (381) respondents were used. Analysis was carried out using the Statistical Package for Social Sciences (SPSS) Version 20 (IBM Inc.).

Table 1 Distribution of Residents Socio-Demographic Information

Neighbourhood	Respondents	Percent
Ona Ola	29	7.6
Modeolu	42	11.0
Ona Otun	28	7.3
Ona Osi	34	8.9
Oke-Ibeshe	38	10.0
Papanla	23	6.0
Oju-Okeke	30	7.9
Ona-Egbo	18	4.7
Aderogun	17	4.5
Gbogidi	25	6.6
Sabo	20	5.2
Ileba	20	5.2
Oke-Ola	12	3.1
Oke-Ela	16	4.2
Orita	13	3.4
Pahayi	16	4.2
Total	381	100

***Source**: Authors' fieldwork and computation, 2024*

RESULTS AND DISCUSSIONS

Table 2.0 depicts the frequency and percentage distribution of residents' socio-economic information. It can be seen from age item that majority of the residents were between 41-50 years old with 31.5% of the total responses, followed by age range of 31-40 years with 29.4% of the total response respectively.

Table 2: Residents Socio-Economic Characteristics

Variables		Frequency	Percent
Age	20-30 years	61	16.0
	31-40 years	112	29.4
	41-50 years	120	31.5
	51-60 years	64	16.8
	Above 60 years	24	6.3
	Total	**381**	**100.0**
Educational Qualification	No formal Education	34	8.9
	Primary Education	83	21.8
	Secondary Education	114	29.9
	Tertiary Education	150	39.4
	Total	**381**	**100.0**
Marital Status	Single	97	25.5
	Married	204	53.5
	Widow	60	15.7
	Divorce	20	5.2
	Total	**381**	**100.0**
Occupation	Farming	42	11.0
	Student/Apprentice	106	27.8
	Civil servant	126	33.1
	Trading	107	28.1
	Total	**381**	**100.0**
Average monthly income	Less than ₦20,000.00	26	6.8
	₦20,000.00-₦30,000.00	34	8.9
	₦31,000.00-₦40,000.00	55	14.4
	₦41,000.00-₦50,000.00	62	16.3
	₦51,000.00-₦60,000.00	60	15.7
	Above ₦60,000.00	144	37.8
	Total	**381**	**100.0**
Nationality	Nigerian	320	84.0
	Foreigner	61	16.0
	Total	**381**	**100.0**
Ethnicity	Yoruba	234	61.4
	Hausa	74	19.4
	Igbo	42	11.0
	Other tribes	31	8.1
	Total	**381**	**100.0**
Household Size	1-3	123	32.3
	4-6	154	40.4
	7-9	62	16.3
	10 and above	42	11.0
	Total	**381**	**100.0**
Length of stay in the area	0-5 years	118	31.0
	6-10 years	125	32.8
	11-15 years	97	25.5
	16 years and above	41	10.8
	Total	**381**	**100.0**

Source: Authors' fieldwork and computation, 2024.

It can also be evidenced that majority of the residents (39.4%) have education up till tertiary level followed by those that acquire secondary education, contributing to 39.9% of the total residents.

Those with no formal education constitute the minors at 8.9%. Analysis also revealed that majority of the residents were married constituting 53.5% followed by the single ones (25.5%) while the minors were divorced which constitute 5.2%. Frequency and percentage analysis of residents' occupation vary from diversity of residents. It is clear that majority (at 33.1%) of the residents were civil servants while minority (at 11%) of them are farmers. Analysis equally showed that the average income of the respective residents falls within ₦60,000.00 and above per month.

Huge numbers of the respondents at 84% are Nigerians of which Yoruba ethnic nationals making 61.4% amongst other ethnic groups, and the foreigners constituting 16% of the respondents.

Distribution of participants' household size can be seen on item 8 of table 2. Analysis indicates that 40.4% (majority) of the respondents confirmed that their household size is within the range of 4-6, whereas 32.3% had a household size of between 1 and 3. Meanwhile other residents indicated a much larger household sizes ranging from 7-9 and above 10.

Item 9 (on the table) unveils resident's length of stay in the study area. It shows that the bulk of the respondents have stayed consistently in the town from 6 to10 years constituting 32.8% of the total residents while minority of respondents have only stayed for 15 years and above.

Table 3: Distribution of residents' Perception to Erosion in the study area

Variables		Frequency	Percent
Soil type in the area	Clay soil	60	15.7
	Sandy soil	51	13.4
	Loamy soil	84	22.0
	Laterite soil	186	48.8
	Total	381	100.0
Type of accessibility	Tarred road	74	19.4
	Untarred road	213	55.9
	Footpath	94	24.7
	Total	381	100.0
Provision of drainage in the area	Yes	105	28.1
	No	276	71.9
	Total	381	100.0
If yes, drainage type	Open drainage	53	50.5
	Close drainage	52	49.5
	Total	105	100.0
Drainage condition	Good	37	35.6
	Fair	42	40.4
	Poor	25	24.0
	Total	105	100.0
Is your house/property affected by erosion?	Yes	273	71.7
	No	108	28.3
	Total	381	100.0
Causes of soil erosion in the area	Rainfall or runoff	123	32.3
	Slope gradient	74	19.4
	Deforestation	23	6.0
	Poor drainage channel	161	42.3
	Total	381	100.0
Problems of erosion in the community	Foundation eroded	105	27.6
	Wall cracked	166	43.6
	Building collapse	110	28.9
	Total	381	100.0

Source: Authors' fieldwork and computation, 2024

This implies that in the last two decades, the study area (Ilaro) had experienced the influx of people, this was linked to the establishment of the Nigeria's Dangote Cement factory at Ibeshe, a neighbouring town to the subject site. This obvious growth in the population has greater impact on the socio-economic activities of the study area. Moreover, this urbanization trend has a great impact in the current growth of Ilaro town. Essentially, it can be inferred to have helped to boost the social and economic influence on the overall good living of the inhabitants within the study area.

Residents' perception on erosion in the study area, table 3 depicts the distribution of soil types found in the study area. The table reveals that laterite soil was found to be the most dominant soil in the area with 48.8% responses gotten from the residents, 13.4% of the location were found to be dominated with sandy soil while 15.7%, and 22.2% were dominated with clay and loamy soil respectively. However, many of the roads linking the study area were untarred with 55.9% mean responses perceived from the residents. Only 19.4% of the roads linking parts of the locations in the study area were tarred while 24.7% of the roads were footpath. This can be evidenced that the study area is not rapidly growing as expected which might be as a result of unexplained variations.

As high as 71.9% of respondents in all living locations indicated a non-existence of drainage facility while only 28.1% of the residents affirmed otherwise in their respective locations. Drainage types available in the study area were either open (40.5%) or closed (49.5%) with majority (40.4%) of them in fair condition and lack maintenance culture. This might be as a result of alarming erosion in the area when there is heavy downpour. On whether residents' houses and/or properties are affected by erosion, 71.7% of the respondents said that their properties were affected while minority constituting 28.3% said it was not affected. The composite pictures shown in figure 3 (a-d) reveals the many havocs of erosion within and around Ilaro township.

Figure 3(a-d): Pictorial erosion destructive impact across Ilaro township landscapes. Source: Authors' fieldwork survey, 2024.

On the probe into the causes of soil erosion in the location concerned, about 32.3% of the respondents affirmed that rainfall and runoff were contributing factors to erosion phenomenon. Whereas 19.4% confirmed that slope or gradient triggered erosion, 6% agreed that it was due to deforestation; High percentage at 42.3%, constituting the majority attributed erosion menace to existence of poor drainage channel. This simply indicates that poor drainage channel is the major cause of soil erosion in Ilaro Yewa-South Local Government of Ogun state, Nigeria. Also, the aforementioned erosion threats have led to much colossus damages to many building foundations, wall crack ing and buildings failures in the community as evidenced by 27.5%, 43.6% and 28.9% of the respondents.

By deduction therefore, the study has established firmly that poor drainage channel provision or management is the leading causes of erosion leading to landscape or environmental destruction in Ilaro Township in Southwest Nigeria. However, having interrogated these challenges, the real task is vested on the Development Control unit of Urban Planning department in the Local Government Council, to propose either an action or subject plan on drainage channel/canal. Additionally, to investigate erosion prone areas (spots) with an intent to stop physical development activities within such areas pending the preparation of the action or subject plan. It will be a good measure taking that the Department of Environmental control unit in the local government area ensure the clearing of blocked drainage to ameliorate these challenges.

Table 4: Effects of Erosion in the Affected Area

Variables	SD	D	U	A	SA	WF	WM	Decision
Destruction of landscape	4	15	12	96	254	1724	4.52493	SA
Destruction of bridges/culvert	0	27	12	144	198	1656	4.34646	A
Destruction of roads	0	51	12	148	170	1580	4.14698	A
Destruction of utilities and services	0	39	117	126	99	1428	3.74803	A

Results presented as number of participants. Scale of performance was assessed by allocating weights viz: 1 to SD, 2 to D, 3 to U, 4 to A, and 5 to SA. Reversed questions were coded otherwise.
***Source**: Authors' fieldwork and computation, 2024*

The weighted mean intervals and decision rules on Likert Scale Question are expressed here as follow:
Strongly Agree (SA) = 4.5 - 5.0; Agree (A) = 3.5 - 4.4; Undecided (U) = 2.5 - 3.4
Disagree (D) = 1.5 - 2.4; Strongly Disagree (SD) = <1.5
WF = Weighted Frequency; WM = Weighted Mean

The effects of erosion in the affected study area as depicted in table 4 were subjected to Likert scale through which respondents' opinions were collated. Weighted mean scores were computed and the upper limit concerning the effect variables were 4.5 - 5.0 while the lower limit is <1.5. Applying the decision rule, the residents Strongly Agreed that soil erosion in the community has destructive effect on the landscape with a weighted mean of 4.52493. Also, erosion in the area under investigation was found to have destroyed bridges/culverts, roads utilities and services as confirmed (agreed) by majority of the residents to this fact. This goes to indicate that erosion has become a key problem confronting the community economically as it affects the residents in their daily activities. However, for this destruction of the landscape to be curtailed there should be general enlightenment campaign on the dangers posed by erosion and human activities that promote it, so that the general public will be more conscious of their anti-environment friendliness activities and by so doing helping to combat the prevailing erosion problem.

Table 5: Mean response on Efforts put in place to reduce erosion in the area

Variables	SD	D	U	A	SA	WF	WM	Decision
Community residents have been using lands according to capacity	4	6	17	187	167	1650	4.33	A
Contributing and working in hands to protect the soil surface with some form of cover	0	27	12	144	198	1656	4.35	A
Residents in the community retain trees planted in the neighbourhood to control erosion in their environment	0	51	12	148	170	1580	4.15	A
Construction of drainage system and maintaining the available ones for direct flow of water	2	17	12	96	254	1726	4.53	SA

Results presented as number of participants. Sales Performance was assessed by giving 1 to SD, 2 to D, 3 to U, 4 to A, and 5 to SA. Reversed questions were coded otherwise.

Source: Authors' fieldwork and computation, 2024.

Table 5 indicates the residents' mean response in solving the community from erosion. Analysis shows that residents have been using lands according to capacity with a mean response of 4.33. This result has further buttressed the fact that majority of the residents significantly agreed on the item analyzed. Analysis also reveals that there have been a jointly working hands to protect the soil surface with some forms of cover and retaining the trees planted in the community to aid the control of erosion phenomenon. However, weighted mean of 4.53 was found to be significant and affirms that 'construction of drainage system and maintaining the available ones for direct flow of water was achieved majorly through the efforts put in place in order to ameliorate the menace of erosion.'

CONCLUSION AND RECOMMENDATION

This study in summary is quite revealing. First, it has unveiled the socio-economic characteristics of Ilaro residents in which the analysis revealed that 84% of the residents were Nigerians, of Yoruba ethnic extraction. Additionally, most of the sampled population (at 39.4%) had a formal education up to tertiary level and of which the middle-income earners constitute 37.8% within which was found a household size averaging 5 person per household. Based on this finding, it can be deduced that socio-demographic information of the respondents is a valid tool to evaluating the menace of erosion as a valid factor of landscape destruction in Ilaro, Yewa South.

Findings from the perception of residents on socio-economic features of the study area revealed that majority (46.7%) of the houses were occupied by owners, erected with blocks (48.8) and plastered (27.3%) with majority of the wall found to be cracked (45.9%), which might be as a result of erosion effects. In effect, laterite soil was found to be the most erosion pruned soil type constituting 48.8% of the different soil types in the study area. Analysis revealed that large portion of the roads (55.9%) in the community were un-tarred and those with poor drainage (24.0%) system was under a serious threat of uncontrollable erosion in the area. Observation further revealed the effect of erosion which indicates that soil erosion has resulted to a complete destruction of Ilaro township landscape including most of installed township bridges/culvert, roads utilities and services.

This study identified that the problems of soil erosion in Ilaro area are readily increasing and causing destruction of the landscape. This means that the erosion problems did not receive adequate attention. However, through the administration and analysis of questionnaire it was concluded that major cause of landscape destruction in the study area is erosion; this is due to the topography of the study site, poor drainage system and lack of maintenance.

However, the empirical analysis of the study indicates that with the intervention of the community residents in curbing the menace, there is restriction in land usage as they use it according to capacity, contributing and working hand in hand to protect the soil surface with some form of cover, for examples. sand-bag, broken blocks, retaining trees planted in the neighbourhood for erosion control, construction of drainage system and maintaining the available ones for direct flow of water. It is therefore hoped that the soil erosion causing landscape destruction in the study area may soon be halted or reduced to minimal level through government intervention and other interest groups.

The utmost task to achieving a true sustainability and land erosion-freed environment requires some levels of dedication with a highly coordinated but holistic efforts of every member of our community, Hence, it is reasonable to draw suggestions from this study upon which workable recommendations can also be

implemented to the curtailment of erosion particularly within the landscape of Ilaro township and its arable land. In a nutshell the solutions are embedded in both long-term and short-term measures which the government, public and private individual can adopt in order to arrest the destruction of the landscape of Ilaro environment sustainably. These recommendations are:

i. The erosion channels should be diverted from critical areas to areas with little or no risk as well as construction of concrete canals and culverts where applicable to channel the erosion water.
ii. There should be regular maintenance of roads to keep drains and culvert clean so as to prevent flooding. It is pertinent to consider installing diversion at drains and culverts where runoff velocity can cause erosion;
iii. There should be massive public awareness campaign on the problems and consequences of gully erosion, as well as enacting environmental laws and serious penalties for offenders. This will go a long way in enforcing the inhabitants to complying to existing environmental best practices thereby assisting to mitigating the menace;
iv. Ilaro community members should be encouraged and advised to contribute their quota in addressing the problem through local means and other methods such as agro-forestry system, planting trees along the streets and corridors of the town landscape;
v. Landlords and property owners in the study area should be mandated to construct drainage at the front of their property in order to enhance the free flow of run-off water as this will help to reduce the emergence of too many shallow wells or catchment pits.

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