

Maintenance Culture and Sustainable Development in Nigeria: A Study of Selected Government Secondary Schools in Ikot Ekpene LGA of Akwa Ibom State

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Abstract

This study examined maintenance culture and sustainable development in Nigeria. Maintenance involves the repair and maintenance of all facilities that belong to a particular organization or system to currently acceptable standards and to sustain utility and value. In other words, it is the act of keeping and or restoring the functional state of properties and services therein to sustain utility and value. There are lofty facilities and developmental projects delivered by successive administrations in Nigeria, but such facilities are abandoned because of lack of regular maintenance that could guarantee the life span of the facilities for sustainable development. The lack of and poor maintenance culture has remained a bane to sustainable development in Nigeria occasioned by corruption, attitudinal problem, unfavourable government policies and diversion of funds meant for project implementation that incorporated maintenance policies. The system theory was adopted, applying the Systems Theory to maintenance culture and sustainable development; people are seen as parts or subsystems that make up the society and the sum total or collective intrinsic attitude of these individuals influences and defines the societal attitude. The study used a descriptive survey research method as its research design. A ten item questionnaire called Maintenance Culture and Sustainable Development Questionnaire (MCSDQ) was used for data collection. A sample size of 284 was used, while simple percentage, age and frequency tables as statistical method for analyzing and interpreting the responses from the questionnaire were used along with the Chi-square (χ^2) to test the formulated hypotheses for this study and determine the effect of Maintenance Culture and Sustainable Development in Nigeria: A Study of Selected Government Secondary Schools in Ikot Ekpene LGA of Akwa Ibom State. Findings of the study revealed amongst others that lack/poor maintenance culture in Nigeria, characterized by neglect of public infrastructure and facilities, severely hinders sustainable development by causing rapid decay of assets, high replacement costs, and increased operational inefficiencies. It was equally recommended amongst others that: A national campaign on attitudinal

re-orientation should be launched by government on TV, Radio and also incorporating the maintenance culture in school curriculum at all levels of education; which will go a long way in inculcating maintenance culture in Nigeria's national consciousness, thereby supporting sustainable development.

Keywords: Maintenance, Maintenance Culture, Development, Sustainable Development

INTRODUCTION

Maintenance culture is almost a fundamental issue in Nigeria, it represents foundational challenges that, if left unaddressed can cause systemic failures. Maintenance culture which encompasses provision for adequate care of the hard earned infrastructure have not gained ground in the consciousness of resource managers in the country over the years, and consequently, you see government buildings at the verge of collapsing, abandoned factory plants and machinery, dilapidated school buildings, pot-holes and chasms on the constructed highway roads, deserted vehicles with minor problems, moribund industries and a host of other property belonging to the country which have little or insignificant problem. These actions in myriad ways have resulted in a colossal waste of scarce resources. It is really one of the major problems, hitherto ravaging and undermining the developing countries, especially Nigeria. Bamgboye (2006) cited in Uma, Obidike and Ihezukwu (2014) posits that maintenance is the art of bringing back the operating condition of an asset into normal functioning at a minimal cost capable of enhancing the life span of the item. In other words, maintenance is the ability and skill of keeping infrastructures available for normal use and the designed life span of many infrastructures are at present very low in Nigeria. Life span enhancement necessitates a culture of adequate maintenance.

Maintenance involves the repair and maintenance of all facilities that belong to a particular organization or system to currently acceptable standards and to sustain utility and value. In other words, it is the act of keeping and or restoring the functional state of properties and services therein to sustain utility and value. All elements of building, equipment, and facilities deteriorate at different rates, depending on the qualities of materials, method and quality of construction workmanship, environmental conditions and the intensity and type of usage of the facilities, hence, the utmost need for a maintenance culture in the Nigeria consciousness. (Olanrewaju, Apanisile, & Omiata, 2024). In the same vein, Suwaibatul et al in (Umar, Momsiri, & Ndoya, 2024), sees Maintenance culture as the values, way of thinking, behaviour, perception and the underlying assumptions of any person or group or society that considers maintenance as a matter that is important (priority) and practices it in their life. When a person or group has a maintenance culture, they would have the attitude to maintain, preserve and protect the public facilities.

Although maintenance culture is not universal in nature, it is systemic, depending on the climes. This is to say that some climes have already maintained culture in their national consciousness in such a manner that it's not an issue to be discussed or overemphasized. But Nigeria due to the total negligence of maintenance of public facilities and even in private organizations, gained the attention of the public for the need for a maintenance culture which is a way of ensuring sustainable development in the society.

A poor maintenance culture in Nigeria, characterized by neglect of public infrastructure and facilities, severely hinders sustainable development by causing rapid decay of assets, high replacement costs, and increased operational inefficiencies. This deficiency, rooted in lack of planning, funding, and a reactive rather than preventive mind set, undermines economic growth, safety, and public service delivery. Nigeria's lack of maintenance has rendered many vital assets: roads, public buildings, schools, and health facilities non functional, leading to colossal waste of resources.

Consequently, Poor infrastructure maintenance, such as road deterioration and power outages, significantly

increases operational costs for businesses and hampers economic growth. Neglect often leads to structural failures, such as building collapses and dangerous potholes on roads, threatening lives. The prevailing culture could be attributed to poor leadership, lack of maintenance policy, corruption, and inadequate funding. Hence, a shift toward preventive maintenance, incorporating maintenance costs into projects, and implementing a national maintenance policy is required.

Development entails growth, a change and a transformation from one state to the other in terms of infant mortality and maternal mortality rate; shifts in social status; employment opportunity; life expectancy; decrease in fertility; housing; water supply; nutrition and education would improve the well-being of all citizens. Development is not just the delivery of all the developmental facilities, it equally connotes the preservation, maintenance of such developmental facilities for a continuous usage by the people, hence the need for sustainable development which can equally be guaranteed through maintenance culture in the socio-economic lives of the people.

Sustainable development therefore implies development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. It acts as a framework for balancing economic growth, social inclusion, and environmental protection to ensure long-term viability. (UN, 2015). In the context of this study, sustainable development is not just through delivery of quality projects and facilities, but the maintenance culture.

The state of conduciveness and quality of infrastructure show the concern or non-concern of the users or providers. The quality of Nigerian infrastructure, few years after its commissioning shows lack of maintenance culture which has retarded the life of valued infrastructure. (Uma, Obidike & Ihezukwu, 2014).

Many Schools in Nigeria have been provided with facilities and equipment such as class rooms, laboratories, workshops, and other relevant equipment. (ibid). Even when the facilities and equipment are not adequate, the ugly trend here is the lack of maintenance culture to preserve the once laudable and quality project delivery. Lack of maintenance culture is endemic in Nigeria. Although there is a high degree of paucity of required infrastructure in Nigerian schools, but the few ones that are available, there is no provision for sufficient maintenance. Unfortunately, many were allowed to become useless due to minor faults and so gradually lived beyond their life span without getting maximum benefit there-from.

Statement of the Problem

Nigeria is blessed with abundant resources; human, material, financial and natural resources to put Nigeria in the comity of nations in terms of development, but mismanagement of these abundant resources has remained the bane to socio-economic development of Nigeria. Most of the mismanagement of the abundant resources is as a result of lack of maintenance culture in our national consciousness.

There are lofty facilities and developmental projects delivered by successive administrations in the country, but such facilities are abandoned because of lack of regular maintenance that could guarantee the life span of the facilities for sustainable development.

Over the years lack of maintenance culture has always been identified as one of the problems of national development. Citizens' lackadaisical attitude towards protection of government's provided facilities coupled with the urge to vandalize them is worrisome considering the fact that the so-called 'government' properties are the properties of the society worthy of protection. The lack of maintenance culture in Nigeria has affected the lifespan of government infrastructural facilities and developmental provisions. There are many facilities and infrastructures that are at the state of dilapidation in Nigeria. Public buildings are rarely repainted, cleaned, furniture are carelessly handled without proper usage and care, roofing and

facial boards are eyesore, vehicles are mishandled, offices are rarely given a face-lift in both public and private organizations. In the area of national public utilities like electricity, the country frequently experiences a breakdown of the national grid, a scenario that hinders national development and impedes the Gross Domestic Product of Nigeria (GDP). Many roads are in a sorry-state due to lack of routine maintenance, companies lack the routine Turn Around Maintenance (TAM) for the sustenance of their facilities and continuous functioning of the companies. The worst scenarios could be seen in public schools, primary, secondary and tertiary institutions. School facilities and instructional materials are not maintained and cared for, laboratory equipment, classrooms, offices, workshops and the buildings are hardly taken care of because of the lack of maintenance culture in our national consciousness. This has led to the dilapidation state of our public schools, reduction in enrolment due to poor learning environment that discourages parents to send their words to such schools and eventual closure of some public primary and secondary schools in Nigeria. The maintenance culture here also includes lack of security for the facilities and equipment in schools. Some of the facilities and equipment are lost through theft. The Academic Staff Union of Universities (ASUU) in Nigeria have been embarking on industrial strikes on many occasions due to lack of functional equipment in the universities in Nigeria. Although some facilities are outdated, the few modern ones are not maintained. Besides, the buildings erected over thirty years ago at the inception of some of the universities are not maintained. Building installations such as electric fans, lights, toilets, windows, roofs and doors are in a serious deplorable state and non-functional, yet the country claims to be the giant of Africa while many Nigerians study under a non-conductive environment. There are ultra-model secondary schools in Akwa Ibom State constructed and delivered by the government that are more equipped and a sight to behold, but have started depreciating in quality and equipment abandoned due to lack of maintenance culture.

The lack of and poor maintenance culture has remained a bane to sustainable development in Nigeria occasioned by corruption, attitudinal problem, unfavourable government policies and diversion of funds meant for project implementation that incorporated maintenance policies. It is believed that the funds channelled into the procurement of new buildings, equipment, facilities etc. to replace the abandoned and uncared ones would have been used and channelled into other ventures that would contribute to the development in the society.

Objectives of the Study

The main objective of this study is to examine “Maintenance Culture and Sustainable Development in Nigeria”.

The specific objectives of this study is to:

- i. Examine the effect of lack of maintenance culture on sustainable development in Nigeria;
- ii. Examine the causes of lack of maintenance culture in Nigeria;
- iii. Proffer realistic recommendations as solutions to lack/poor maintenance culture in Nigeria’s national consciousness.

Research Questions

The following research questions guides the study to achieve the stated specific objectives:

- i. Are there possible effects of lack of maintenance culture on sustainable development in Nigeria?
- ii. Are there causes of maintenance culture in Nigeria?
- iii. Are there possible solutions to the problem of lack/poor maintenance culture in Nigeria?

Research Hypotheses

In line with the statement of the problem, specific objectives and research questions, the following hypotheses are stated to guide the study empirically:

- i. Lack of maintenance culture has adverse effect on sustainable development in Nigeria;
- ii. Lack of maintenance culture is majorly caused by corruption in Nigeria's public life;
- iii. The solutions to the problem of lack of maintenance culture requires a paradigm shift from the present norms.

CONCEPTUAL/ EMPIRICAL REVIEWS

The Concept of Maintenance Culture

According to Seeley (cited in Oyeniyi et al, 2023), "maintenance is the sum of all technical, administrative, and supervisory operations designed to keep an object in or bring it back to a state where it can perform a necessary function. Restoring an item to its initial state so that it can function is another definition of maintenance". They further opined that maintenance can be done through repair, part replacement, or complete replacement of the object. For them, it also means the work done to maintain or restore every facility, or every component of a site, structure, and contents, to an acceptable condition.

The British Standard Institute (1974), in Yusuf (2023) sees maintenance as the combination of technical and administrative actions taken to preserve or protect a structure, system or equipment to function properly. It could be deduced from the above that maintenance is prevention and preservation of anything to avoid failing and degradation in value. It connotes repairs, rehabilitation or renovation of equipment or facility that have experienced degradation to keep or restore it into proper working order. (Yusuf, 2023). Maintenance of public infrastructure therefore involves the process of preserving the infrastructure in its state of continuous use and to make them function above a minimum acceptable level of performance, over the infrastructure's design lifespan.

On the other hand, culture, though without a universal acceptable definition, has various definitions in different contexts and perspectives. What is morally acceptable in one country may be abominable in another. Culture is that complex which includes knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society (Tyler, 1870 cited in Uma et al, 2014). Culture consists of patterns, explicit and implicit, of and for behaviour acquired and transmitted by symbols, constituting the distinctive achievements of human groups, including their embodiment in artefacts. The essential core of culture consists of traditional (historically derived and selected) ideas and especially their attached values. (Uma, Obidike & Ihezukwu, 2014).

Culture systems may, on the one hand, be considered as a product of action or as conditional elements of future action (Kroeber & Bluckohn, 1952 cited in Umar, 2014). Culture is a fuzzy set of basic assumptions and values, orientations to life, policies, procedures and behavioural conventions that are shared by a group of people, and that influence (but do not determine) each member's behaviour and one's interpretations of the 'meaning' of other people's behaviour. Therefore, culture consists of (overall activity of) attitudes, values, basic assumptions, arts, customs, belief, and embodiments that shape the behaviour of individuals in a given society. In simple terms, people's culture is the summation of their complete way of life. (ibid, 2014).

Maintenance culture therefore, is the value, way of thinking, behaviour, perception and the underlying assumptions of any person, group or society that considers maintenance as a matter that is important and practices it in their life (Suwaibatul, 2012) cited in Ishiwu et al (2024). When this definition is applied to public infrastructure, it implies that when an organization has a maintenance culture, such an establishment

would have the attitude to maintain, preserve and protect the public infrastructural facilities. This connotes that maintenance culture is something that is learned through an individual making maintenance a day by day practice that can be followed and emulated by others.

From a simple parlance, one could express maintenance culture as the culture of maintaining something. This is the inbuilt attitude of reviewing; planning and implementing routine checks on facilities no matter how small, to maintain its present or original state to justify its life span. If culture is said to be a way of life it follows that maintenance culture should be a way of life with maintenance practices. At this level, maintenance would have become attitudinal. The cultivation or formation of attitude to maintain facilities or items will enhance the following among other things: (i) Protection (ii) Restoration (iii) Ensuring adequate and consistent functionality (iv) Evaluation (v) Projection for the future (vi) Formulation of policies in respect of the object being maintained (vi) Achievement of results Maintenance culture is one of the instruments by which development can be driven. Driving development is even not enough but its sustenance should be ultimate and to achieve this is to be mindful, conscious and committed to the cause of checking on what we have on a routine basis to ascertain their condition and provide necessary intervention to put right what is wrong. (Adelakun, 2012).

Ishiwu, Okwueze, Udentia & Eze (2024), conducted a study titled: “Maintenance Culture and Socio Economic Development in Enugu State Nigeria”. The study was carried out in Enugu state in South-East, Nigeria and adopted the descriptive survey design. The study made use of primary and secondary sources of data. The population of the study was 278. The purposive sampling technique was used to draw the individual respondents such that different cadres of staff were considered. A sample of 278 respondents was selected. The collected data was analysed through the use of a Mean score while a t-test was used to test the hypotheses.

The findings of the study were as follows: That the nature of maintenance culture does significantly affect positively the life span of public facilities in Enugu state, Nigeria with observed challenges such as poor leadership, corruption, lack of commitment and dedication on the part of maintenance personnel; poor budgetary allocation for maintenance; lack of patriotism etc. it was equally shown that Maintenance culture has a significant positive effect on quality of lives and sustainable development in Enugu state, and that Policies and programmes adopted by Government do significantly affect positively maintenance culture in Enugu State, Nigeria.

Similarly, in a study conducted by Adedokun (2011) on “Education for maintenance culture in Nigeria: Implications for community development”, the result indicated that there was a significant relationship between maintenance of facilities and development and that education has a significant impact on maintenance culture. It was equally recommended that people should be educated and encouraged to adequately and properly maintain facilities in their care so as to facilitate rapid process of development. The survey design used for the study was a sample of 120 men and women at various governmental levels which were randomly selected from Oyo State Ministry of Agriculture, Department of Works and Services Ibadan North Local Government and the Ministry of Commerce and Industry. A 12-item questionnaire called Maintenance Culture for Development scale was constructed on a four-point Likert-type scale and used for data collection. The data was analysed using the chi-square statistical tool.

According to the study on “Factors Affecting Residential and Public Buildings Maintenance in Nigeria” by Olanrewaju, Apanisile & Omiata (2024), it was revealed amongst others that: Preventive maintenance is vital to any building maintenance process as it helps extend the lifespan of the building and its components, residential and public building maintenance is the process of restoring the quality of the building to perform its intended use, there is the need for the professional bodies to engage on public

enlightenment on the effect of building maintenance abandonment or lack of knowledge on the use skilled professional in building maintenance to avoid building collapse and waste of resources. Data for the study were collected through well-structured questionnaires administered randomly within the populace in south-western states of Nigeria with 120 forms approved out of the 180 distributed. The Likert scale involving rating on interval scale of 5 and 1 developed for application in social sciences and management researches for quantification of qualitative variables were used. It elicited information from the building construction professionals concerning the causes of rivalries among professionals in Nigeria construction industry. The responses of the items on the questionnaire were obtained on a 5-point scale ranging from 1 to 5. "Very Important" were scored 5, "Important" were scored 4, "Medium" were scored 3, "little" were scored 2 and "scarcely" were scored 1.

Maintenance of Public Infrastructure via inculcation of Maintenance Culture

The need to maintain public infrastructure is aimed at the inculcation of maintenance culture in the Nigerian public service. According to Yusuf (2023), "firstly...maintenance of public infrastructure is essential for the following reasons":

- i. Rigid adherence to maintenance will take care of the breakdown or malfunction of the facilities;
- ii. It will keep the facilities in utmost working condition in order to minimize disruption of infrastructural services;
- iii. It will keep the facilities in a state of good repair for the owner's safety;
- iv. it will keep the facilities from deteriorating and retain the aesthetics of the facilities;
- v. it will enable the facilities achieve its optimal and full potentials service life;
- vi. ensure efficient functioning of the facilities;
- vii. enable the infrastructure to satisfy the citizenry;

The second reason is that maintaining public infrastructure in good condition is critical in the sense that public infrastructure wears out with time and use. Therefore, lack of maintenance culture and neglected public infrastructures often result in degradation and it has a negative effect on the nation's economy because huge costs will be required to reconstruct such infrastructures over time thereby thwarting sustainable development. The major objective of maintenance of public infrastructure is to preserve such facilities. The aim of maintaining public infrastructure is not to upgrade it, rather, the aim is to repair and improve the depreciating state to eliminate the cause of defects and to avoid excessive repetition of periodic maintenance effects. (Yusuf, 2023).

Manjo (2020) cited in (Yusuf, 2023), his submission is that:

The amount allocated in the annual budgets for maintenance in Nigeria is often insufficient to meet even a minimal level of periodic maintenance". In some cases, the appropriated fund for maintenance may not be released in the course of the budget implementation cycle, thus making the actual maintenance works a mirage. The long years of neglect of maintenance of many public infrastructures has led to the dilapidation of most public infrastructure in the country. (Yusuf, 2023).

The primary purpose of the government's provision of public infrastructural facilities such as road, rails, electricity, hospitals, schools, etc. is to satisfy social and economic and welfare of the citizenry. Despite these objectives, maintenance of public infrastructure has not been given the deserved attention by governments at all levels. As a result, national development becomes an illusion by a gaping infrastructural deficit and decay, occasioned by the apparently poor maintenance of existing public infrastructural

facilities or lack of maintenance culture in the public life. (ibid).

Writing on some of the accruable benefits if maintenance culture is embraced in our society, Tijani et al (2016) enumerated the following:

- i. Keeping assets in utmost working condition in order to minimize downtime and disruption to services
- ii. Keeping facilities in a state of good repair for the owner's health and safety
- iii. Keeping assets from deteriorating in appearance and aesthetics
- iv. Keeping facilities so as to optimally achieve their full potential service life
- v. Leveraging efficiencies that can be reflected on the owner's statement of financial position
- vi. Satisfying a legislated duty that is owed to owners, occupants and guests on the property

Preventing unnecessary damage to assets or facilitation that may result in their performance failure.

Causes of Poor/ Lack of Maintenance Culture

There are several problems adduced by many scholars as causes of poor and lack of maintenance culture in Nigeria. Though maintenance culture is not a universal phenomenon, findings conducted in Nigeria; coupled with experiences has shown that maintenance culture has causes not limited to the following:

a. Leadership

The inability to have a policy on maintenance that could inculcate the right discipline on people is a direct defect of good and visionary leadership. Good and effective leadership is essential to national development. Ability to formulate policy, transform potential to reality and proper leadership to subordinate are the major features of a sound leader. (Umar et al, 2024). Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives (Yukl, 2006 cited in Umar et al, 2024).

According to Umar et al, (2024):

Few among our leaders are up to the tasks whereas the majority of them really have no ingredient of effective leadership which may account for why most of the Nation's facilities are in shambles and decay. It is a general belief that one cannot give what one doesn't have. Most of our leaders lack maintenance culture, vision, passion and empathy (Omotehinshe et al., 2015b) which are some of the leadership ingredients required to influence and stimulate people's behaviour towards maintaining and sustaining existing facilities. Attitudinal problem: More worrisome is Nigerians attitude towards government property as well as their private properties.

The above submissions show that ineffective and inefficient leadership is capable of undermining the development strides of any country. All other causes of lack and poor maintenance culture may be attributed as emanating from poor, ineffective and inefficient leadership.

b. Corruption

Corruption is one of the causes of lack of maintenance culture because corruption can breed institutional malfunction. This assertion is evidenced in Nigeria due to the attitude of political office holders. Corruption has threatened our national development because there is no effective and functional mechanism that can control the menace. A sitting government awards projects

(without means of its completion) only to be abandoned by its successor due to personal gain. One government would award projects and build infrastructural facilities while successive governments who should maintain and consolidate on existing ones would totally abandon them because they believed that awarding new projects at inflationary cost would benefit the administration rather than the public. (Umar et al, 2024 & Yusuf, 2023)

c. *Unavailability of Maintenance Policy*

Public policies are a purposive course of action followed by government officials in dealing with problems of social concerns. It is equally an instrument that guides government actions. This implies that there should be a policy that guides maintenance culture in the Nigerian system.

Yusuf (2023) stated:

The vast majority of the nation's public infrastructural facilities are in total state of disrepair due to absence of maintenance policy in most of the supervising ministries and agencies. Presently, there is no deliberate policy, programme or plan at both state and federal levels on how public infrastructural facilities should be maintained. The practice is for the executive arm of government to adopt a fire brigade approach to maintaining and rehabilitating the nation's public infrastructural facilities, because the legislatures are yet to promulgate any maintenance law that will address the major problems facing the public institutions in the administration of public infrastructure in Nigeria.

d. *Organizational Ineptitude to Maintenance*

Numerous public organizations fail to make long-term arrangements for the supply of essential parts due for replacement in infrastructural facilities under its control and supervision. This normally results in inappropriate and inadequate maintenance of facilities, plants and equipment due for maintenance operations. In some cases, some public organizations are often reluctant to provide innovation support for the maintenance of its facilities. Likewise, the scale of efforts and resources for the maintenance of facilities by many public agencies is exceptionally very low and inadequate. (Yusuf, 2023).

e. *Indiscipline*

Persistent breakdown of some infrastructural facilities occurred due to indiscipline and ignorance of maintenance staff in operating these facilities. In some cases, vandalism and theft pose great threat to effective maintenance of some critical infrastructure such as oil pipelines, electricity cable etc.

f. *Lack of inculcation of maintenance culture from the family*

People in both public and private organizations come from different families and it is a known fact that maintenance culture is hardly or rarely inculcated in the family. Admittedly, the attitude exhibited towards maintenance issues is a fallout from family lack of inculcation of maintenance culture from the family level.

According to Ajayi et al. cited in Aliyu et al (2025), the following are Practices inhibiting maintenance of Public Building in Nigeria:

Variables	Indicators
Institutional Factors	Lack of maintenance policy and framework
	Lack of maintenance organizations and institutions
	Lack of maintenance standards and regulations
	Lack of monitoring and evaluation of maintenance
Financial Factors	Lack of funds for maintenance
	Lack of access to funds for maintenance
	Lack of affordability of funds for maintenance
Technical Factors	Low quality of design and construction of public housing
	Lack of appropriate and adequate materials and equipment for maintenance
	Lack of skilled and competent personnel and contractors for maintenance
	Lack of effective and efficient techniques and methods for maintenance
Socio-cultural Factors	Poor maintenance culture and awareness among public housing residents and society at large

Source: Ajayi et al.(2023) cited in Aliyu et at (2025)

Theoretical Framework

The systems theory is employed in this study as a framework for analysis. Systems theory was first introduced in the 1940s by biologist Ludwig von Bertalanffy (1901 -1972) and further popularized by various other scholars like W. Rose Ashby (1956) and George Bateson (1979) and David Easton in social sciences. System theory is based on the principle that the component parts of a system can best be understood in the context of the relationships with each other and with other systems, rather than in isolation. It posits that a system is more than the sum of its parts by expressing synergy or emergent behaviour and may be possible to predict these changes in patterns of behaviour. That is, the real systems are open to, and interact with their environments. The theory's main focus is on the arrangement as well as the complex interrelationships among its constituent parts which connect them into a whole. (Skyttner, 2005).

The Systems Theory is applied to maintenance culture and sustainable development in that people are seen as parts or subsystems that make up the society and the sum total or collective intrinsic attitude of these individuals influences and defines the societal attitude. When an individual as a subsystem is propelled to produce a positive attitude or culture within his/her domain of existence, it will definitely influence others in the subsystem and the continuous expansion of such imbibed attitude will shape the entire system. Consequently when the individuals and government work together to produce positive and strong culture of maintenance individually on themselves as the passion is ingrained, the life of public facilities will be sustained and the entire system will enjoy the optimum performance of such facilities, but when the interactions of the parts that makes up the system produce high percentage of poor/negative attitude toward maintenance, the facility will definitely not live out its life-span. Consequently, individuals using the

public facilities and the government providing such facilities should interact as part of the whole system positively to model and produce a compact societal culture of maintenance to enhance the performance condition of the facilities for the well-being of the general public. Therefore, for the public facilities to enjoy longevity or to always perform at its peak and provide the expected services for socioeconomic development, the individuals and government within the society must develop this strong passion so as to apply the imbibed culture while performing their function in the facility maintenance domain for perfect functioning of the society. Failure of the sum total of an individual's attitude to shape the societal attitude to the positive side leads to poor maintenance culture observable in the society now. (Ishiwu et al, 2024).

METHODOLOGY

This study used a descriptive survey research method as its research design. The survey research refers to a process of eliciting data from a target population through either questionnaire or interview instruments and subjecting such data to statistical analysis for the purpose of drawing conclusion, and theories to espouse the study: "Maintenance Culture and Sustainable Development in Nigeria: A Study of Selected Government Secondary Schools in Ikot Ekpene LGA of Akwa Ibom State". The survey method is important here, because it will make it possible to measure what a person knows (Knowledge or information), what a person likes and dislikes (values and preferences), and what a person thinks (attitudes and beliefs). The survey also helps to accumulate information from individuals at relatively low cost.

The location of this study is Akwa Ibom State in South-South, Nigeria and adopted the descriptive survey design. This was deemed appropriate for the study because it allows for easy determination of the behaviour of people in a natural setting and compares variables. The study made use of primary and secondary sources of data. The stratified random technique was used to select respondents among teaching and non-teaching staff as follows:

Summary of Proportion Sample from the Four Secondary Schools

S/N	Schools	Population	Sample Size
	State College	504	142
	Modern High School	282	78
	Graben Secondary School	165	47
	Lutheran High School	74	21
	Total	1025	288

Source: Field survey (2026).

The questionnaires were administered in groups, the respondents answered the questions to the best of their understanding. A total of two hundred and eighty-eight questionnaires were administered. Out of this number, only 284 were retrieved. However, two out of the 284 were not properly filled and therefore had no useful information for inclusion in the study.

The raw data collected from the questionnaire were organized by adding the positive and negative responses respectively, using the numerical values assigned to each item. Data collections were used to answer all the research questions and to test the hypotheses that were formulated.

Data Presentation and Analysis

Analysis of Research Questions

Table 2.1 Respondents' Views on whether Lack of maintenance culture has Adverse Effects on Sustainable Development in Nigeria.

Responses	Frequency	Percentage (%)
SA	136	57.7
A	88	21.7
D	36	12.7
SD	22	7.7
Total	282	100

Source: Field survey (2026)

Research Question 1: Are there possible effects of lack of maintenance culture on sustainable development in Nigeria? This question was posed to get the responses of respondents to determine whether lack of maintenance culture has any effect on sustainable development in Nigeria.

Table 2.1 showed that 136(57.7%) of the respondents strongly agreed and 88(21.7%) agreed that lack of maintenance culture has adverse effects on sustainable development in Nigeria, while 36(12.7%) and 22(7.7%) of the respondents disagreed and strongly disagreed respectively. Thus, with the preponderance of 57.7% and 21.7% who strongly agreed and agreed respectively, we can therefore conclude that respondents were aware of the importance of maintenance culture as one of the major factors that could enhance sustainable development.

Table 2.2: Respondents' views on whether there are causes of Maintenance Culture in Nigeria?

Responses	Frequency	Percentage (%)
SA	200	71.9
A	44	14.4
D	25	9
SD	13	4.7
Total	282	100

Source: Field survey (2026)

Research Question 2: Are there causes of maintenance culture in Nigeria?

The analysis of Table 2.2 revealed that 200 (71.9%) of the respondents strongly agreed and 44 (14.4%) agreed that there are numbers of reasons affect maintenance culture which include: corruption, ineffective and responsive leadership, absence of appropriate technological know-how, absence of policies on maintenance culture, attitudinal problem and lack of monitoring and evaluation as major causes to lack of maintenance culture while 25 (9%) of the respondents and 13 (4.7%) disagreed and strongly disagreed with the proposition. Thus, with an overwhelming majority 200 (71.9%) who strongly agreed, we can conclude that lack of maintenance culture is a man-made phenomenon which can be prevented and institutionalized in our system and national consciousness.

Table 2.3: Respondents' views on the possible solutions to the problem of Lack/Poor Maintenance Culture in Nigeria

Responses	Frequency	Percentage (%)
SA	178	64.0
A	70	25.2
D	20	7.2
SD	14	3.6
TOTAL	282	100

Source: Field survey (2026)

Research Question 3: Are there possible solutions to the problem of lack/poor maintenance culture in Nigeria?

An analysis of the above frequency Table 2.4 revealed that 178(64.0%) and 70(25.2%) of the respondents strongly agreed and agreed respectively while 20(7.2%) and 14(3.6%) of the respondents disagreed and strongly disagreed with the statement. Thus, we conclude that problems of lack/poor maintenance culture in Nigeria are surmountable for sustainable development in Nigeria.

Test of Hypothesis

Hypothesis 1: Lack of maintenance culture has adverse effect on sustainable development in Nigeria

Table 3.1 Chi-Square Analysis of the Lack of Maintenance Culture as it Diversely Effect Sustainable Development in Nigeria

Fo	Fe	Fo-Fe	$(Fo - Fe)$	$\frac{(Fo-Fe)^2}{Fe}$	Cal. χ^2	Crit. χ^2
240	196.67	43.33	1877.5	9.55	62.16	5.991
42	85.33	-43.33	1877.5	22.00		
154	196.67	-42.67	1820.7	9.26		
128	85.33	42.67	1820.7	21.34		
198	196.67	-0.67	0.449	0.002		
86	85.33	0.67	0.449	0.005		
				$\chi^2 = 62.16$		

Source: Field survey (2026) Significance $p < 0.05$, $d/f = 2$, crit. $\chi^2 = 5.991$

The result of Table 3.1 revealed that the calculated χ^2 The value of 62.16 was greater than the critical value 5.991 at 0.05 level of significance with the degree of freedom at 2. The null hypothesis was thus rejected. This implies that maintenance culture has a positive effect on sustainable development in Nigeria.

Hypothesis 2: Lack of maintenance culture is majorly caused by corruption in Nigeria's public life.

Table 3.2: Chi-Square Analysis of Corruption in Nigeria being the Major Cause of Lack of Maintenance Culture

Fo	Fe	Fo-Fe	$(Fo - Fe)^2$	$\frac{(Fo-Fe)^2}{Fe}$	Cal. χ^2	Crit. χ^2
250	202.3	47.7	2275.29	11.25	64.23	5.991
32	79.7	-47.7	2275.29	28.54		
167	202.3	-35.3	1246.09	6.16		
115	79.7	35.3	1246.09	15.63		
190	202.3	-12.3	151.29	0.748		
92	79.7	12.3	151.29	1.898		
				$\chi^2 = 64.23$		

Source: Field survey (2026) Significance $p < 0.05$, $d/f = 2$, crit. $\chi^2 = 5.991$

The result of Table 3.3 showed that the calculated χ^2 valued at 64.23 was greater than the critical value of 5.991 at 0.05 level of significance with the degree of freedom at 2. Here the null hypothesis was rejected, this implies that corruption in Nigeria's public life has majorly contributed to lack of maintenance culture in Nigeria.

Hypothesis 3: The solutions to the problem of lack of maintenance culture requires a paradigm shift from the present norms.

Table 3.4: Chi-Square Analysis of a Paradigm Shift from the Present Norms as the Solution to the Problem of Maintenance Culture

Fo	Fe	Fo-Fe	$(Fo - Fe)^2$	$\frac{(Fo-Fe)^2}{Fe}$	Cal. χ^2	Crit. χ^2
210	186	24	576	3.097	19.83	5.991
72	96	-24	576	6		
160	186	-26	676	3.36		
122	96	26	676	7.042		
188	186	2	4	0.022		
94	96	-2	4	0.042		
				$\chi^2 = 19.83$		

Source: Field survey (2026) Significance $p < 0.05$, $d/f = 2$, crit. $\chi^2 = 5.991$

The result of Table 3.4 indicates that the calculated χ^2 of 19.83 was greater than the critical χ^2 values of 5.991 at 0.05 level of significance with the degree of freedom at 2. Here the null hypothesis was rejected, but the alternative hypothesis was upheld which stated that the solutions to the problem of lack of maintenance culture requires a paradigm shift from the present norms.

DISCUSSION OF FINDINGS

In the first hypothesis, the researcher found out that maintenance culture has a positive effect on sustainable development in Nigeria. This was supported by the study by Ishiwu, Okwueze, Udentia & Eze

(2024), conducted a study titled: “Maintenance Culture and Socio Economic Development in Enugu State Nigeria”. their findings were as follows: That the nature of maintenance culture does significantly affect positively the life span of public facilities in Enugu state, Nigeria with observed challenges such as poor leadership, corruption, lack of commitment and dedication on the part of maintenance personnel; poor budgetary allocation for maintenance; lack of patriotism etc. it was equally shown that Maintenance culture has a significant positive effect on quality of lives and sustainable development in Enugu state, and that Policies and programmes adopted by Government do significantly affect positively maintenance culture in Enugu State, Nigeria.

The second hypothesis revealed that corruption in Nigeria’s public life has majorly contributed to the lack of maintenance culture in Nigeria. This corroborated the study of Umar et al, 2024 & Yusuf, 2023 that corruption is one of the causes of lack of maintenance culture because corruption can breed institutional malfunction. This assertion is evidenced in Nigeria due to the attitude of political office holders. Corruption has threatened our national development because there is no effective and functional mechanism that can control the menace. A sitting government awards projects (without means of its completion) only to be abandoned by its successor due to personal gain. One government would award projects and build infrastructural facilities while successive governments who should maintain and consolidate on existing ones would totally abandon them because they believed that awarding new projects at inflationary cost would benefit the administration rather than the public.

In the third hypothesis, it was revealed that the solutions to the problem of lack of maintenance culture requires a paradigm shift from the present norms, this was in line with Adedokun (2011) study on “Education for maintenance culture in Nigeria: Implications for community development”, the result indicated that there was a significant relationship between maintenance of facility and development and that education has a significant impact on maintenance culture. It was equally recommended that people should be educated and encouraged to adequately and properly maintain facilities in their care so as to facilitate rapid process of development. This by implication means the inculcation of maintenance culture from the family. People in both public and private organizations come from different families and it is a known fact that maintenance culture is hardly or rarely inculcated in the family. Admittedly, the attitude exhibited towards maintenance issues is a fallout from family lack of inculcation of maintenance culture from the family level.

The paradigm shift can equally be through responsive leadership that can make policies that support maintenance culture. According to Umar et al (2024), Good and effective leadership is essential to national development. Ability to formulate policy, transform potential to reality and proper leadership to subordinate are the major features of a sound leader.

CONCLUSION

Based on the findings of this study, it is concluded that lack/poor maintenance culture in Nigeria, characterized by neglect of public infrastructure and facilities, severely hinders sustainable development by causing rapid decay of assets, high replacement costs, and increased operational inefficiencies. This deficiency, rooted in lack of planning, funding, and a reactive rather than preventive mind set, undermines economic growth, safety, and public service delivery. Nigeria’s lack of maintenance has rendered many vital assets: roads, public buildings, schools, and health facilities non functional, leading to colossal waste of resources.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made to support the findings of

other previous studies to ameliorating the issue of lack of maintenance culture in Nigeria:

- i. A national campaign on attitudinal re-orientation should be launched by the government on TV, Radio and also incorporating the maintenance culture in school curriculum at all levels of education. This campaign will go a long way in inculcating maintenance culture in Nigeria's national consciousness, thereby supporting sustainable development;
- ii. There should be a concerted effort by policy makers in making policies to incorporate maintenance of public facilities to avoid taming the tide of negligence of public infrastructure by any administration. There should equally be adequate budgetary provisions for public facilities and infrastructure being part of the policy. With these policies in place, maintenance culture will be inculcated in the public institutions. Such policies should go with stringent penalties to deter defaulters. This put in place will promote sustainable development and equally check waste and corruption in relation to infrastructural facilities in Nigeria.
- iii. With policies in place for maintenance culture, an intense national campaign on maintenance culture, 80% of the problem of lack of maintenance culture could be checked. The implication of these recommendations is that the people will know that it is an offense before the law to neglect public facilities and infrastructures.

Besides the above recommendations, local contents should be taken into cognisance because most of the facilities, equipment, machineries are sometimes abandoned as a result of unavailability of spare parts or lack of expertise to take care of the maintenance of such public facilities. So where local raw materials or indigenous materials (or even technology) are being used to provide certain infrastructure, it will be easy and possible to maintain, compared to having foreign technology or raw materials that will even be triple time costlier than building or providing such infrastructure anew. This can be incorporated into the policy for maintenance culture and also to ensure the availability of accessible expertise to handle such maintenance.

There should be adequate, effective and efficient project monitoring to ensure that sub-standard materials are not used. Lack of project monitoring is one of the banes of a successful implementation. Project monitoring can only be effective if it is carried out by the planners or initiators of such a project.

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