

This article is published in Open Access and distributed under the terms of the Creative Commons Attribution-NoDerivatives 4.0 International licence (CC BY-ND 4.0): <https://creativecommons.org/licenses/by-nd/4.0/>

p-ISSN 1733-1218; e-ISSN 2719-826X

<https://doi.org/10.21697/seb.5904>

Research Article

The Role of Aesthetic Value and Productivity in Human-Environment Interaction

Rola wartości estetycznej i produktywności w interakcji człowiek–środowisko

Edor John Edor, Thomas Egaga Ushie, Charles Effiong*, and Timothy Adie Okpe

University of Calabar, Nigeria

ORCID: E.J.E. <https://orcid.org/0000-0002-9523-4509>; T.E.U. <https://orcid.org/0009-0004-3599-8779>; C.E. <https://orcid.org/0000-0002-8208-226X>; T.A.O. <https://orcid.org/0000-0001-5214-7707> • charles.effiong@gmail.com

Received: 2026-03-28; Revised: 2026-08-24; Accepted: 2026-09-01; Published Online First: 2026-09-09

Abstract

This article examines the relationship between environmental aesthetics, productivity, and human–environment interaction from the perspective of environmental philosophy and environmental ethics. It argues that aesthetic value plays an important role in shaping how individuals and societies perceive, use, and respond to the natural environment. When nature is experienced as beautiful, meaningful, and worthy of care, aesthetic appreciation can encourage environmental stewardship, sustainability, and more responsible patterns of conduct. At the same time, productivity influences the environment through the use of natural resources, the organization of labour, and the management of land, capital, and entrepreneurship. The paper therefore explores the double relationship between aesthetics and productivity, showing that productive activities may either support environmental well-being or intensify ecological degradation, depending on the values that guide them. By combining environmental aesthetics with a broader reflection on production and sustainability, the study argues that aesthetic awareness should not be treated as secondary or decorative, but as a significant factor in environmental education, environmental management, and the pursuit of sustainable development. In this way, aesthetic value can help orient productive action toward both ecological responsibility and long-term human flourishing.

Keywords

environmental aesthetics, aesthetic value, productivity, human–environment interaction, sustainability, environmental stewardship, factors of production, environmental ethics, environmental philosophy, SDG 12 – Responsible Consumption and Production, SDG 13 – Climate Action

Streszczenie

Artykuł analizuje relacje między estetyką środowiskową, produktywnością a interakcją człowieka ze środowiskiem z perspektywy filozofii środowiska i etyki środowiskowej. Autorzy dowodzą, że wartość estetyczna odgrywa istotną rolę w kształtowaniu sposobu, w jaki jednostki i społeczeństwa postrzegają środowisko naturalne, korzystają z niego i reagują na nie. Postrzeganie przyrody jako pięknej, wartościowej i godnej troski może sprzyjać odpowiedzialnemu podejściu do środowiska, zrównoważonemu rozwojowi oraz bardziej odpowiedzialnym wzorcom postępowania. Jednocześnie poprzez działalność gospodarczą człowiek oddziałuje na środowisko poprzez wykorzystywanie zasobów naturalnych, sposób organizacji pracy, gospodarowanie ziemią i kapitałem, a także rozwój przedsiębiorczości. W artykule zbadano zatem dwukierunkową relację między estetyką a produktywnością, wykazując, że działania produkcyjne mogą – w zależności od kierujących nimi wartości – wspierać dobrostan środowiska lub nasilać jego degradację. Łącząc estetykę środowiskową z szerszą refleksją nad gospodarką i zrównoważonym rozwojem, opracowanie wskazuje, że świadomość estetyczna nie powinna być traktowana jako kwestia drugorzędna, lecz jako istotny czynnik w edukacji ekologicznej, zarządzaniu środowiskiem i dążeniu do zrównoważonego rozwoju. W ten sposób wartość estetyczna może pomóc ukierunkować działalność gospodarczą zarówno na odpowiedzialność za środowisko, jak i na długofalowy dobrostan człowieka.

Słowa kluczowe

estetyka środowiskowa, wartość estetyczna, produktywność, interakcja człowiek–środowisko, zrównoważony rozwój, odpowiedzialna troska o środowisko, czynniki produkcji, etyka środowiskowa, filozofia środowiska, Cel Zrównoważonego Rozwoju 12 – Odpowiedzialna konsumpcja i produkcja, Cel Zrównoważonego Rozwoju 13 – Działania w dziedzinie klimatu

Introduction

The relationship between aesthetics, productivity, and the environment has been a subject of considerable debate within environmental philosophy, ethics, and education. While aesthetics has traditionally been concerned with questions of beauty, taste, and the value judgment of objects or experiences, in terms of their being good or bad, right or wrong, its application in environmental contexts is an emerging field (Brady 2024; Berleant 2025). However, it is worthy of note that the discipline known as environmental aesthetics emerged as a distinct philosophical subdiscipline in the late 20th century, primarily evolving out of traditional environmental philosophy and applied aesthetics to shift the focus of art appreciation from human-made objects to active experience of natural and built environments. In this study, the interaction between aesthetic value and human productivity in relation to the environment is explored to address a fundamental yet underexplored question: How do our perceptions of beauty and value in nature influence human productivity and environmental behaviour, and vice versa?

Aesthetic values often shape how individuals and societies perceive and engage with their surroundings, motivating behaviours that either promote sustainability or contribute to environmental

degradation. The lens of aesthetics provides a framework for understanding how human appreciation of the natural world can influence ecological attitudes and actions, particularly in the context of environmental ethics. The point being made here is that aesthetic values influence how people feel about and treat their environment. When people see a place as beautiful, meaningful, or inspiring, they are more likely to protect and sustain it. When environments are viewed as unattractive or disposable, people may neglect or damage them. For example, clean parks, tree-lined streets, and attractive waterfronts often encourage people to avoid littering, recycle, and support conservation projects. Again, communities that value natural beauty may protect forests, beaches, or wildlife through eco-tourism and environmental laws. In the same vein, traditional architecture that blends with nature can promote sustainable building practices and cultural respect for the environment. On the contrary, areas filled with pollution, abandoned buildings, or excessive waste may encourage careless behaviour such as dumping refuse or vandalism. Similarly, consumer cultures that value luxury and constant new products can promote overconsumption, fast fashion, and environmental degradation. From the foregoing, one notices that aesthetic values shape both personal behaviour and society's environmental choices (Carlson 2000, 55-74; Kaplan and Kaplan 1989, 9-14). Thus, as environmental issues such as climate change, biodiversity loss, and resource depletion continue to escalate, the role of aesthetics in shaping environmental attitudes and fostering sustainable practices becomes ever more critical (UNESCO 2024; Orr 2024).

Conversely, productivity—often viewed through the lens of economic output—has direct and indirect consequences for the environment. Human productivity, from agriculture to industry, both relies on and affects the natural world. The way humans interact with their environment for productive purposes can lead to either positive outcomes, such as increased efficiency in resource use, or negative consequences, such as overexploitation of natural resources. This dual interaction between aesthetics and productivity presents an opportunity to explore their interdependence and assess how one might influence or guide the other.

In the study of the environment, educationally and philosophically, there is a need to examine the relationship between aesthetics and the environment as well as the relationship between productivity and the environment. This is so because human conduct in relation to the living environment can be motivated and indeed guided by aesthetic perceptions. Aesthetics, being an axiological field of study, beams its searchlight upon the environment to ascertain the nature of the value accorded to nature and the environment. An axiological field means a branch of philosophy concerned with the study of values and value judgments.

Axiology examines questions such as: What is valuable? Why is it valuable? How should humans value things? So, when aesthetics is described as an axiological field regarding the environment, it means aesthetics studies the value and appreciation humans assign to nature and the environment. For example, seeing forests, rivers, wildlife, or landscapes as beautiful, meaningful, worthy of protection, or spiritually important. These values then influence how people relate to and treat the environment (Carlson 2009, 1-17; Deigh 2010, 1-8). Similarly, productivity affects man and his environment. This work outlines the core concepts of aesthetics and productivity in relation to the environment, providing a foundation for understanding their intricate connection. It also highlights the importance of integrating these domains to achieve a more comprehensive, sustainable approach to environmental management and policy-making. Thus, we proceed with the explication of the concepts of aesthetics and production.

1. Meaning of Aesthetics

The study of the feelings, concepts, and judgments arising from our appreciation of the arts or of the wider class of objects considered beautiful or sublime is known as aesthetics (Cooper 2009). Aesthetic theory concerns itself with questions such as: What is a work of art? What makes a work of art successful? Can art be a vehicle of truth? Does a work of art express the feelings of the artist? What is the role of the imagination in the production or appreciation of art? And so on. Apart from appreciating works of art, aesthetics is also concerned with the appreciation of nature, beauty, taste, human experience, and sensory perception. It examines how people respond emotionally and intellectually to things they encounter in everyday life and in the environment. In this regard, some of the major questions aesthetics entertains include: What is beauty? (Is beauty objective, existing in itself, or subjective, depending on personal opinion?) Why do people find certain things beautiful or ugly? What makes something aesthetically valuable? (For example, why do people value natural landscapes, architecture, music, or fashion?) How do aesthetic experiences affect human behaviour and society? (How do beautiful environments encourage peace, care, and environmental protection?) Can nature itself be appreciated aesthetically apart from art? (Do mountains, forests, oceans, and wildlife possess beauty deserving respect and preservation?) Thus, aesthetics goes beyond art to study beauty, perception, value, and human interaction with both natural and human-made environments (Ozumba and Alabi 2007).

Aesthetics is thus that branch of philosophy that examines the nature of art and the character of our experiences of art and of the natural environment. It is mostly subsumed under axiological studies of values.

It also refers to the branch of philosophy which concerns itself with art appreciation, criticism, and judgment of the beautiful, the ugly, art creation, and intention. In fact, aesthetics is the philosophical study of or reflection on art, its nature, and man's experience of it.

2. Meaning of Production

Production is defined as the process of growing or making materials, especially in large quantities. Production of goods means the making of goods or the rendering of any service that satisfies a human want. Based on this conception of production, carpenters, farmers, doctors, teachers, etc., are involved in one form of production or another. In fact, production involves the making of tangible goods, for instance, and the transportation of goods from the place of production to where they are needed, as well as the preservation and storage of goods, which enable us to use them in the future. Following this, productivity refers to the rate at which a worker, a company, or a country produces goods and services compared with how much time, money and how many people are needed for production.

Having explained the meaning of aesthetics and production and the sense in which they are used here, the question then is: What is the role of aesthetics in the conservation and sustainability or otherwise of the environment? What about production? Is it significant to the need for the protection of an already depleting and degrading environment? We shall examine these questions beginning with aesthetics.

3. Aesthetics and Environmental Interaction

Aesthetics, as a philosophical field, involves the study of beauty, art, and sensory experiences. Within environmental contexts, it goes beyond the surface appreciation of natural landscapes and delves into the ethical and intrinsic value of nature itself (Carlson 2000). Philosophers such as John Dewey (1934) have posited that aesthetic experiences are deeply rooted in human interaction with the environment, where beauty is not merely a subjective experience but is also a significant aspect of how we relate to nature. The appreciation of nature's beauty often leads to a deeper recognition of its value, which can motivate pro-environmental behaviour (Clayton et al. 2021; Washington 2018).

According to Iain McGilchrist (2009), the aesthetic experience of nature allows individuals to connect with the world in a non-abstract, non-linear manner, fostering a sense of unity with the environment. This connection is not limited to personal pleasure but extends to a broader ethical commitment to protect and preserve the natural world. When individuals value the beauty of nature, they may be more inclined to engage

in behaviours that protect or enhance the environment, such as supporting conservation efforts or adopting sustainable lifestyles (Norton 2005).

In recent years, scholars have emphasized the importance of aesthetics in shaping environmental policy and education. By emphasizing the aesthetic qualities of nature, educators and environmental activists can foster a deeper respect for the natural world, which may lead to more responsible environmental stewardship. Studies have shown that when people experience positive aesthetic encounters with the environment, such as spending time in green spaces or witnessing wildlife, they are more likely to engage in sustainable practices and advocate for environmental causes (Kaplan and Kaplan 1989; IPBES 2019).

The point being made here is that the role of aesthetics in the protection, sustenance, and development of our environment cannot be overemphasized, especially as aesthetics deals with values. Human conduct in relation to the living environment can be motivated and indeed guided by aesthetic perception. Thus, aesthetic judgment about the environment would demand that we appreciate the human environment and its teeming problems, and this is to be done through the power of observation. Aesthetics deals with the sensible, the perceptible, and the observable, hence, man needs to be sensitive and observant of his environment. Only then would he be able to discover or identify possible factors that may hinder the sustainable growth of the environment, and as such, destroy the beauty of the environment.

Man's ability to do this will cause him, if he values the environment, to search for possible remedies to such identified environmental hazards, but if not, the environment will continue to be depleted and degraded. One must not forget at this point that the environment is an object of aesthetic concern.

It is in the process of appreciating, admiring, and experiencing the beauty of nature as exemplified in the environment that man is able to discover certain problems bedevilling the society and proffer possible solutions. It is noteworthy that the nature of appreciation of the environment is in large part a function of the value, individual interest, and perception placed on life forms and other support systems.

In other words, men tend to appreciate only those aspects of reality or the environment that they consider valuable and strive to protect and conserve them. However, our aesthetic realizations or appreciation may change, when man receives a new awareness of himself and the environment. Nevertheless, the way in which we appreciate and value our environment as a work of art must be in line with the need for sustainable living and development. This is why Andrew Forge was right when he asserted that "for human influenced

environments such as for example, the landscapes of agriculture or industry, what is relevant to appropriate appreciation is information about their histories, their functions and their roles in our lives” (1973, 20).

4. The Role of Productivity in Environmental Interactions

Productivity refers to the capacity of human beings to generate output, whether in the form of goods, services, or resources. In the context of the environment, productivity has traditionally been measured in terms of economic growth, with natural resources often viewed as raw materials to fuel industrial processes (Hardin 1968). However, this narrow view of productivity overlooks the broader environmental impacts of human activities (Raworth 2024; UNEP 2019). For example, agricultural productivity relies on soil health, water resources, and biodiversity, while industrial productivity can lead to pollution, habitat destruction, and the depletion of non-renewable resources.

Environmental productivity is also tied to the efficiency of human engagement with the environment. A productive interaction with nature does not solely involve maximizing output but should also prioritize sustainable practices that ensure the longevity and health of ecosystems (Costanza et al. 2014; OECD 2024; World Bank 2025). Thus, sustainable productivity refers to practices that not only meet human needs but also preserve environmental quality for future generations.

The link between productivity and environmental degradation is evident in the modern challenges of resource depletion and climate change. Industrialization, with its focus on maximizing productivity, has led to significant environmental harm, including deforestation, pollution, and greenhouse gas emissions that contribute to global warming (Beder 1993; IPCC 2023). These impacts, however, have prompted a growing emphasis on integrating sustainability into productivity, encouraging businesses and governments to consider the long-term environmental costs of short-term economic gains (Sachs 2015; Dasgupta 2021; Stern 2025).

The relationship between productivity and aesthetics is less often explored, but it holds potential for guiding more sustainable practices. When productivity is not solely defined by output but also by the aesthetic value of processes—such as the beauty of sustainable farming or green architecture—there is an opportunity to reframe productivity in a way that aligns more closely with environmental well-being. This holistic approach to productivity incorporates both the functional and aesthetic aspects of human interaction with nature, potentially leading to outcomes that are not only efficient but also ecologically responsible.

4.1. Aesthetic Influence on Productivity

The intersection of aesthetics and productivity can be understood in terms of human motivation and behaviour. Aesthetic experiences are known to influence emotions, perceptions, and actions, and these effects extend to productivity in various ways. For instance, research suggests that environments that are aesthetically pleasing can enhance cognitive function, creativity, and motivation (Kaplan and Kaplan 1989; Terrapin Bright Green 2015). When individuals work or engage in productive activities in settings that are visually attractive, they tend to be more focused and productive.

The aesthetic qualities of the workplace or productive environment can foster a sense of well-being, contributing to higher levels of engagement and performance. In agricultural and industrial settings, aesthetic considerations, such as incorporating green spaces or promoting ecological design, may not only improve workers' morale but also lead to more sustainable and efficient practices. For example, urban farming initiatives that incorporate aesthetic elements such as landscaping or community gardens have been shown to boost both productivity and environmental consciousness (FAO 2024; UN-Habitat 2024).

Moreover, the aesthetic value of environmental resources can influence economic decisions. For example, tourism based on the aesthetic appeal of natural landscapes can drive local economies while simultaneously encouraging the preservation of those landscapes (Garrod and Fyall 2000). The economic benefits derived from the aesthetic value of nature demonstrate how aesthetics can influence productivity in ways that support both human well-being and environmental conservation.

Environmental aesthetics and productivity are closely related because the quality, beauty, and sensory character of an environment significantly influence human psychological states, cognitive performance, motivation, and physical efficiency (Kaplan and Kaplan 1989, 177-189; Ulrich et al. 1991, 201-230). The relationship can be established through philosophical, psychological, and socio-economic arguments.

At the philosophical level, environmental aesthetics concerns how humans perceive and experience their surroundings, especially the beauty, harmony, order, and symbolic meaning of natural or built environments (Carlson 2000). Productivity, on the other hand, refers to the efficiency and effectiveness of human activity in generating desired outcomes. The argument is that human beings do not work in isolation from their environment; rather, environmental conditions shape emotional disposition, concentration, creativity, and willingness to engage in productive activity (Kaplan and Kaplan 1989, 177-189).

One major argument is that aesthetically pleasing environments reduce psychological stress and mental fatigue. Natural landscapes, clean surroundings, organized architecture, greenery, and adequate lighting create emotional comfort and cognitive restoration. When individuals experience less stress and anxiety, they are more capable of sustained attention, innovation, and efficient task performance (Ulrich et al. 1991; Kaplan 1995, 169-182). For example, workers in offices with natural light, plants, and visually appealing designs often demonstrate higher concentration and lower absenteeism than those in dull or polluted environments (Bringslimark, Hartig and Patil 2009, 422-433).

The relationship can also be explained through the theory of environmental determinism in a moderate sense: the environment influences human behaviour and capacities (Rapoport 1982, 13-29). A degraded, noisy, overcrowded, or polluted environment produces discomfort, frustration, and exhaustion, which diminish productivity. Conversely, environments characterized by beauty, balance, and ecological harmony stimulate positive emotions that encourage active participation in work and social life.

Aesthetic environments also enhance creativity and intellectual productivity. Beauty inspires reflection, imagination, and innovation. Educational institutions, research centres, and creative industries often invest in aesthetically enriching spaces because such environments encourage deeper thinking and originality (Florida 2002, 249-261; McCoy and Evans 2002, 409-426). The relationship here is not merely physical but cognitive and existential: humans naturally respond positively to environments that possess aesthetic value.

Furthermore, environmental aesthetics promotes a sense of belonging and moral responsibility toward one's environment. When people perceive their surroundings as valuable and beautiful, they are more likely to maintain, protect, and productively utilize those spaces. This contributes to sustainable productivity because environmental care preserves the ecological conditions necessary for long-term human flourishing (Orr 2004). Thus, environmental aesthetics and productivity are interconnected because aesthetically enriching environments positively affect human mental health, emotional stability, creativity, motivation, and social responsibility. A beautiful and well-ordered environment is therefore not merely decorative; it is a functional condition for human productivity and sustainable development (Orr 2004).

The socio-economic argument establishing a relationship between environmental aesthetics and productivity is based on the idea that the quality and beauty of an environment directly affect economic behaviour, social well-being, labour efficiency, and sustainable development. For instance, aesthetically

pleasing environments increase economic productivity by improving workers' efficiency and organizational performance. Industries, offices, schools, and commercial centres located in clean, beautiful, and well-planned environments tend to experience higher worker motivation, lower stress levels, reduced absenteeism, and greater job satisfaction (Bringslimark, Hartig and Patil 2009, 422-433). These factors translate into increased output and economic efficiency. A polluted or visually degraded environment, by contrast, generates fatigue, illness, and psychological dissatisfaction, which reduce labour productivity and increase economic costs (World Health Organization 2016).

Also, environmental aesthetics contributes to public health, which is a major socio-economic factor in productivity. Clean landscapes, green spaces, proper urban planning, and pollution-free surroundings reduce the spread of diseases and improve physical and mental health. A healthier population possesses greater working capacity and incurs lower healthcare expenses. Thus, societies that invest in aesthetically sound environments indirectly strengthen their productive workforce and economic stability (United Nations 2015). Again, environmental aesthetics stimulates tourism and local economic development. Beautiful environments attract visitors, investors, and businesses. Cities and communities known for aesthetic appeal through parks, architecture, cultural heritage, and environmental cleanliness generate employment opportunities and commercial activities (UNESCO 2021). Tourism industries flourish in aesthetically attractive environments, thereby increasing revenue generation and improving standards of living.

Another socio-economic argument is that environmental aesthetics enhances social harmony and community cooperation. Well-maintained environments encourage social interaction, civic pride, and collective responsibility. In communities where people value and preserve their surroundings, there is often lower crime, stronger communal identity, and better cooperation in economic activities. Social stability is essential for sustained productivity because productive economies depend on peaceful and organized social relations.

Furthermore, aesthetically degraded environments reinforce poverty and underdevelopment. Areas characterized by waste accumulation, pollution, overcrowding, and infrastructural decay often experience reduced property values, unemployment, low investment, and social alienation. Environmental ugliness can therefore become both a symptom and a cause of economic stagnation. In contrast, investment in environmental beautification can revitalize communities, create jobs, and improve socio-economic conditions.

In fact, the socio-economic argument demonstrates that environmental aesthetics is not merely about beauty or visual pleasure. It has direct economic and social consequences because aesthetically enriching environments improve health, encourage investment, strengthen social cooperation, stimulate tourism, and enhance labour productivity (UN 2015; WHO 2016). Therefore, environmental aesthetics functions as an important foundation for sustainable socio-economic development and human productivity.

4.2. Factors of Production and the Environment

The point of focus here is that, since the success of production in any economy is dependent on the availability of raw materials, every organization or entrepreneur should develop methods for ensuring that whatever materials are used do not constitute environmental hazards or an eco-crisis. Thus, they should be carefully exploited so as to maintain these environmental resources. For instance, timber for lumbering should be replaced through an intensive re-forestation exercise. However, a proper understanding of the place of production in the philosophy of environment will be achieved by examining the significance of the factors of production, namely, land, labour, capital, and the entrepreneur for the environment.

4.2.1. Land

Land can be defined as the material resources or gifts of nature. Land includes space, rivers, seas, trees, wildlife, mineral resources, etc. The following are some of the essential features of land: (a) It is subject to the law of diminishing returns. (b) It is limited in supply. (c) It has no cost of production. Land is the surface of the earth that is not sea. In other words, it is an area of ground outside the sea and used for a particular purpose.

The relationship between land and the environment showcases the relevance of one to the other, since both are part and parcel of each other. This includes the following: (i) The fertility of the soil affects the output of farmers. If the land is hilly, cultivation of some crops will be difficult, and this will also affect the keeping of animals. (ii) Deposits of minerals will have a big influence on the productive capacity of the country and, when exploited, will raise the standard of living of the citizenry. (iii) Availability of minerals can affect the nature of industrial development. (iv) Existence of forests can be of immense benefit to a nation; forests can be replaced unlike other resources. (v) Wildlife creates economic advantages to developing countries by encouraging tourists to visit zoos and parks. (vi) The relief of a country is economically significant in a number of ways.

In spite of these advantageous roles of land in an economy, if it is not properly managed like any other

factor of production, it will soon run out. Thus, all exploitation of natural resources must be geared towards sustainable development (UN 2024; African Development Bank 2025).

4.2.2. Labour

This is the human aspect or factor of production. It can be both physical and mental. Man works on land because something is produced to satisfy a human want. The two major kinds of labour are skilled and unskilled labour. While skilled labour requires some level of education and involves professionally trained personnel, unskilled or untrained labour refers to jobs that require no formal education, specialized trade skills, or extensive prior experience. For example, cleaners, labourers, and messengers, can typically learn these roles through basic, on-the-job verbal instructions in a matter of days or weeks.

Environmental hazards can be reduced in relation to the use of labour in production through the following steps: (1) More people should be trained in all works of life to serve as environmental educators. (2) Efforts should be made to ensure sustainable development through the ability of labour to manage available resources prudently so as to leave some for posterity. (3) More awareness campaigns and activities should be created to keep every category of labour conscious of the need for conservation of plants and animal species. (4) Since one of the key elements in environmental education is environmental health, there should be adequate healthcare facilities for the workers because sickly workers would be less productive. Moreover, in line with environmental health, labour should be trained to properly dispose of refuse and ensure high sanitary conditions around the factory and at home. (5) Labour should not rigidly hold to traditions and cultural practices which are counterproductive and therefore inimical to environmental conservation and sustenance. These include shifting cultivation, monoculture instead of polyculture and nomadic instead of settled hardship. In fact, a healthy and well-educated labour force will, at whatever positions they find themselves, serve as a vanguard for environmental protection.

4.2.3. Capital

Capital simply refers to anything that has been made by man for the purpose of using it as an aid when producing other goods and services. For instance, the purpose of manufacturing a printing machine is to use it to make books. Therefore, a printing machine is clearly a capital good. Because money can be used to purchase any goods, it is also regarded as capital. It is the most desired type of capital because it can be used to purchase any kind of capital good. The opposite of capital goods is consumer goods produced solely for

consumption (e.g., bread, cosmetics, etc).

Types of Capital

There are three major types of capital, namely, fixed capital, circulating capital and social capital.

Fixed Capital: This refers to durable goods such as machines, buildings, furniture, factories, and vehicles that serve as aids in the production of goods and services.

Circulating Capital: This has to do with the stock of raw materials in the hands of businessmen (Lawal 1971, 92). Raw materials such as cotton, wood, steel, etc., are used up in production, while money is used for paying salaries, wages, bills, repairs, etc. Without the two, production is stalled.

Social Capital: By social capital we mean the infrastructure provided by the government or communities. Examples include roads, railways, airports, seaports, hospitals, water supply, etc. All these, help in the production of goods and services; for instance, roads help to transport raw materials to the factory.

5. Relevance of Capital as an Aspect of Production to Environmental Philosophy and Education

Environmental education is interested in capital accumulation because it is a necessity for material development and because educational reflection should connect ecological responsibility with the long-term conditions of human flourishing (Orr 2004). Capital accumulation refers to the process whereby the stock of capital goods increases. The more capital a country has, the greater the volume of goods and services it will be able to produce. Capital accumulation is also called capital formation. In the actual process, capital accumulation calls for some basic sacrifices, which include a reduction in the level of consumption. People must save part of their earnings to be used in acquiring goods. The rate of capital accumulation in West Africa is generally very low because of two major factors, namely, unwillingness to save and low per capita income.

Environmental education and philosophy play an important role in ensuring capital accumulation. If the fixed capital comprising machines and factories is not duly maintained, it will break down in a short while; it will not make for sustainable development. Circulating capital, as noted earlier, involves raw materials and money. If the nation must truly develop, then it must not only tap raw materials but should also address the environmental hazards attendant on their extraction. Oil exploration involves many hazards, including oil spillage that destroys aquatic life, among other things.

Nigeria, for instance, has become a debtor nation as a result of mismanagement of its economy or production services. It is therefore imperative that, since natural resources will not last ad infinitum, there is a

need to diversify the income arising from each mineral into other sectors of the economy like agriculture, industrialization, etc. This will certainly enhance rapid accumulation of capital and economic growth.

Capital, as an aspect of productivity, relates to environmental aesthetics because aesthetically valuable environments influence the creation, attraction, preservation, and efficient utilization of economic resources. In economic terms, capital refers not only to money but also to assets, infrastructure, investment opportunities, and productive resources used in generating wealth. Environmental aesthetics affects how these forms of capital are produced and sustained.

One major relationship is that aesthetically appealing environments attract financial investment and economic capital. Investors are more likely to invest in regions, cities, or institutions that possess clean surroundings, organized landscapes, modern architecture, green spaces, and environmental stability. Beautiful environments signal order, security, health, and long-term sustainability, all of which encourage economic confidence. For example, urban centres with attractive environmental design often experience higher property values, increased commercial activities, and stronger economic growth than environmentally degraded areas (UNEP 2021).

Environmental aesthetics also contributes to human capital development. Human capital refers to the skills, health, creativity, and productive capacities of individuals. Aesthetic environments improve mental well-being, concentration, and creativity, thereby enhancing workers' and students' productive abilities. Educational institutions and workplaces designed with aesthetic considerations, such as natural lighting, greenery, and spatial harmony, often produce more innovative and efficient individuals. Thus, environmental aesthetics indirectly strengthens the quality of human capital (WHO 2021).

Furthermore, environmental aesthetics protects natural capital. Natural capital includes forests, rivers, land, biodiversity, and other environmental resources that support economic activity. When societies value the beauty and integrity of nature, they are more likely to conserve these resources instead of exploiting them destructively. This preservation ensures long-term economic productivity because industries such as agriculture, tourism, fishing, and renewable energy depend heavily on healthy ecosystems.

Another important relationship is that environmental aesthetics enhances cultural and tourism capital. Historic landscapes, cultural heritage sites, and aesthetically attractive communities generate revenue through tourism and cultural industries. The beauty of the environment becomes an economic asset capable of

generating employment, foreign exchange, and infrastructural development. In this sense, aesthetics itself becomes a form of productive capital. On the other hand, environmental degradation weakens capital formation. Polluted, disorganized, or visually unpleasant environments discourage investment, reduce property values, increase healthcare costs, and damage natural resources. Economic capital is therefore lost when environmental aesthetics is neglected (World Bank 2021).

Indeed, capital relates to environmental aesthetics because beautiful and well-maintained environments increase investment opportunities, strengthen human and natural resources, stimulate tourism, and preserve economic assets. Environmental aesthetics therefore functions not merely as decoration, but as an economically productive force that contributes to capital formation and sustainable development.

6. The Environment and Entrepreneurship as an Aspect of Production

This is the fourth factor of production which is also referred to as organization. This is so because other factors such as land, capital and labour must be brought together before they can contribute to production, and this is the work of the entrepreneur. The entrepreneur provides the money for procuring land, capital, and labour. The entrepreneur also bears the risk; for instance, a peasant farmer in the village is an entrepreneur because he takes some risks and provides the needed materials for his work. Therefore, whether, one is a big or an insignificant entrepreneur, his activities certainly have an impact on the environment. He must therefore be very careful in the way and manner he combines his factors of production to lessen the eco-crises generated by his outfits.

The significance of the entrepreneur to the environment is too profound to be neglected. The entrepreneur, before embarking on any of his production activities, must cause an environmental impact assessment (EIA) (World Bank 2024; UNEP 2009) to be made available to enable him to realize the nature and extent of environmental hazards associated with his outfit. Further, waste and pollutants are generated in the course of production. Therefore, the entrepreneur has to design effective measures to readily contend with the situation. The entrepreneur has to be aware of the immediate and long-term effects of the hazards from his organization and evolve appropriate strategies to cushion their effects.

Again, the entrepreneur has to ensure regular maintenance of fixed capital such as machines and capital in the form of a road leading to his establishment in order to ensure sustainable development. The entrepreneur has to exert some measures of control over his labour force so as to ensure that safety standards within the

establishment are maintained. If the entrepreneur is involved in agroforestry activities, he must liaise with the relevant government agencies for replacement or re-forestation of the affected resources. For instance, regular cultivation of new trees to replace those hewn down.

Similarly, if the entrepreneur is involved in construction activities like roads or if he is involved in establishing an industrial outfit, there is the need for proper design to control biodiversity loss and land degradation in the form of erosion. Finally, it is important to note that a lot of harm is done to the environment through numerous economic activities. It is therefore the duty of those in production to have an inbuilt mechanism for conserving resources; otherwise, the law of diminishing returns will set in to prevent the anticipated or expected gains.

Conclusions

The relationship between aesthetics, productivity, and the environment is multifaceted, involving ethical, philosophical, and practical dimensions. Aesthetic values shape our perceptions of the natural world, motivating pro-environmental behaviour and promoting environmental stewardship. At the same time, productivity shapes the way we interact with and use natural resources, often leading to environmental degradation if not managed sustainably. From the perspective of environmental ethics, aesthetic appreciation of nature should therefore be understood not only as a subjective experience of beauty but also as a source of moral reflection on human responsibility toward the natural world. Recognizing aesthetic value in nature can strengthen ethical attitudes based on care, respect, and responsibility toward both human communities and non-human forms of life. By exploring the intersections between these two domains, this study aims to show that integrating aesthetics into the discourse on environmental productivity can lead to more sustainable and ethical interactions with the natural world. As we confront the challenges of environmental degradation and climate change, the integration of aesthetic values into productive activities and environmental policies may offer a pathway to more sustainable futures. By fostering a deeper connection between human productivity and the aesthetic appreciation of nature, this research seeks to contribute to the ongoing dialogue on how to achieve a balance between human needs and environmental preservation.

Statements

Author Contributions:

Conceptualization, T.E.U; C.E.; T.A.O. and E.J.E.; Methodology, E.J.E.; C.E. and T.E.U.; Software, E.J.E; C.E; T.A.O.; and T.E.U.; Formal Analysis, T.E.U; T.A.O.; C.E.; and E.J.E.; Investigation, E.J.E.; T.A.O.; C.E. and T.E.U.; Resources, T.E.U.; C.E.; T.A.O. and E.J.E.; Data Curation, Writing – Original Draft preparation, E.J.E., T.A.O., C.E. and T.E.U.; Writing – Review and Editing – E.J.E., C.E., T.A.O. and T.E.U.; Supervision, E.J.E., T.A.O., T.E.U. and C.E.; Project Administration, E.J.E., T.E.U., C.E., T.A.O. All authors have read and agreed to the published version of the manuscript.

Funding:

This research received no external funding.

Institutional Review Board Statement:

Not applicable.

Informed Consent Statement:

Not applicable

Data Availability Statement:

Not applicable.

AI Tools Declaration:

During the preparation of this manuscript/study, the authors used ChatGPT, version 5.3 created by OpenAI for the purposes of formatting the manuscript's references according to the Chicago author-date citation style. The authors have reviewed and edited the output and take full responsibility for the content of this publication.

Conflicts of Interest:

The authors declare no conflicts of interest.

References

- African Development Bank. 2025. *African Economic Outlook 2025: Sustainable Industrialization and Natural Capital Management*. African Development Bank.
https://www.afdb.org/sites/default/files/documents/publications/afdb25-01_aeo_highlights_english_020625.pdf.
- Beder, Sharon. 1993. *The Nature of Sustainable Development*. Earthscan.
- Berleant, Arnold. 2025. *The Social Aesthetics of Human Environments: Critical Themes*. Bloomsbury.
- Brady, Emily. 2024. "Environmental Aesthetics and Climate Change." In *Handbook on the Philosophy of Climate Change*, 395–414. Springer.

- Bringslimark, Tina, Terry Hartig, and Grete Grindal Patil. 2009. "The Psychological Benefits of Indoor Plants: A Critical Review of the Experimental Literature." *Journal of Environmental Psychology* 29 (4): 422–433. <https://doi.org/10.1016/j.jenvp.2009.05.001>.
- Carlson, Allen. 2000. *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture*. Routledge.
- Carlson, Allen. 2009. *Nature and Landscape: An Introduction to Environmental Aesthetics*. Columbia University Press. <https://cup.columbia.edu/book/nature-and-landscape/9780231140416>.
- Clayton, Susan, Christie Manning, Kati Krygsman, and Melinda Speiser. 2021. *Mental Health and Our Changing Climate: Impacts, Inequalities and Responses*. American Psychological Association and ecoAmerica.
- Cooper, David E. 2009. "Aesthetic Attitude." In *A Companion to Aesthetics*, 2nd ed., edited by Stephen Davies, Kathleen Marie Higgins, Robert Hopkins, Robert Stecker, and David E. Cooper, 111–13. Wiley-Blackwell.
- Costanza, Robert, Rudolf S. de Groot, Paul Sutton, Sander van der Ploeg, Sharolyn J. Anderson, Ida Kubiszewski, Steven Farber, and R. Kerry Turner. 2014. "Changes in the Global Value of Ecosystem Services." *Global Environmental Change* 26: 152–158. <https://doi.org/10.1016/j.gloenvcha.2014.04.002>.
- Dasgupta, Partha. 2021. *The Economics of Biodiversity: The Dasgupta Review*. HM Treasury.
- Deigh, John. 2010. *An Introduction to Ethics*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511750519>.
- Dewey, John. 1934. *Art as Experience*. Minton, Balch and Company.
- FAO (Food and Agriculture Organization of the United Nations). 2024. *The State of Food and Agriculture 2024*. FAO.
- Florida, Richard. 2002. *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life*. Basic Books. <https://www.basicbooks.com/titles/richard-florida/the-rise-of-the-creative-class/9780465024773>.
- Forge, Andrew. 1973. "Art/Nature." In *Philosophy and the Arts, Royal Institute of Philosophy Lectures*, vol. 6 (1971–1972), edited by Godfrey Vesey, 228–241. Macmillan. <https://doi.org/10.1007/978-1-349-01342-5>.
- Garrod, Brian, and Alan Fyall. 2000. "Managing Heritage Tourism." *Annals of Tourism Research* 27 (3): 682–708. [https://doi.org/10.1016/S0160-7383\(99\)00094-8](https://doi.org/10.1016/S0160-7383(99)00094-8).
- Hardin, Garrett. 1968. "The Tragedy of the Commons." *Science* 162 (3859): 1243–1248. <https://doi.org/10.1126/science.162.3859.1243>.

- Intergovernmental Panel on Climate Change. 2023. *Climate Change 2023: Synthesis Report*. IPCC. <https://doi.org/10.5927/IPCC/AR6-97891691647>
- IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services). 2019. *Global Assessment Report on Biodiversity and Ecosystem Services*. IPBES Secretariat. Accessed March 29, 2026. <https://www.ipbes.net/global-assessment>.
- Kaplan, Rachel, and Stephen Kaplan. 1989. *The Experience of Nature: A Psychological Perspective*. Cambridge University Press.
- Kaplan, Stephen. 1995. "The Restorative Benefits of Nature: Toward an Integrative Framework." *Journal of Environmental Psychology* 15 (3): 169–182. [https://doi.org/10.1016/0272-4944\(95\)90001-2](https://doi.org/10.1016/0272-4944(95)90001-2).
- Lawal, Olayiwola A. 1971. *O'Level Economics of West Africa*. Onibonje Press.
- McCoy, Janetta M., and Gary W. Evans. 2002. "The Potential Role of the Physical Environment in Fostering Creativity." *Creativity Research Journal* 14 (3–4): 409–426. https://doi.org/10.1207/S15326934CRJ1434_11.
- McGilchrist, Iain. 2009. *The Master and His Emissary: The Divided Brain and the Making of the Western World*. Yale University Press.
- Norton, Bryan G. 2005. *Sustainability: A Philosophy of Adaptive Ecosystem Management*. University of Chicago Press.
- OECD (Organisation for Economic Co-operation and Development). 2024. *Green Growth and Productivity Report 2024*. OECD Publishing.
- Orr, David W. 2004. *Earth in Mind: On Education, Environment, and the Human Prospect*. 10th Anniversary ed. Island Press. <https://islandpress.org/books/earth-mind>.
- Orr, David W. 2024. "The Missing Politics in Environmental Education, Revisited." *Australian Journal of Environmental Education*, 40(3): 382–89. <https://doi.org/10.1017/aee.2024.42>.
- Ozumba, Godfrey O., and Salami Y. Alabi. 2007. *Landmarks in Aesthetic Studies: A Book of Readings*. MicroTeacher and Associate.
- Rapoport, Amos. 1982. *The Meaning of the Built Environment: A Nonverbal Communication Approach*. Sage Publications. <https://uapress.arizona.edu/book/the-meaning-of-the-built-environment>.
- Raworth, Kate. 2024. *Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist*. Penguin.
- Sachs, Jeffrey D. 2015. *The Age of Sustainable Development*. Columbia University Press.
- Stern, Nicholas. 2025. *The Growth Story of the 21st Century: The Economics and Opportunity of Climate Action*. LSE Press. <https://doi.org/10.31389/lsepress.tgs>.

- Terrapin Bright Green. 2015. *Human Spaces: The Global Impact of Biophilic Design in the Workplace*. Terrapin Bright Green and Interface Inc.
- Ulrich, Roger S., Robert F. Simons, Barbara D. Losito, Evelyn Fiorito, Mark A. Miles, and Michael Zelson. 1991. "Stress Recovery during Exposure to Natural and Urban Environments." *Journal of Environmental Psychology* 11 (3): 201–230. [https://doi.org/10.1016/S0272-4944\(05\)80184-7](https://doi.org/10.1016/S0272-4944(05)80184-7).
- UN (United Nations). 2015. *Transforming Our World: The 2030 Agenda for Sustainable Development*. United Nations. <https://sdgs.un.org/2030agenda>.
- UN (United Nations). 2024. *The Sustainable Development Goals Report 2024*. United Nations. <https://unstats.un.org/sdgs/report/2024/The-Sustainable-Development-Goals-Report-2024.pdf>.
- UN-Habitat. 2024. *World Cities Report 2024: Cities and Climate Action*. UN-Habitat. Accessed March 29, 2026. <https://unhabitat.org/world-cities-report-2024-cities-and-climate-action>.
- UNEP (United Nations Environment Programme). 2009. *Vulnerability and Climate Change Impact Assessment for Adaptation*. UNEP.
- UNEP (United Nations Environment Programme). 2019. *Global Environmental Outlook 6: Healthy Planet, Healthy People*. UNEP. <https://wedocs.unep.org/resources/global-environment-outlook-6>.
- UNEP (United Nations Environment Programme). 2021. *Making Peace with Nature: A Scientific Blueprint to Tackle the Climate, Biodiversity and Pollution Emergencies*. United Nations Environment Programme. <https://www.unep.org/resources/making-peace-nature>.
- UNESCO (United Nations Educational, Scientific and Cultural Organization). 2021. *Culture 2030 Indicators*. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000373570>.
- UNESCO (United Nations Educational, Scientific and Cultural Organization). 2024. *Global Education Monitoring Report 2024/5*. UNESCO.
- Washington, Haydn. 2018. *A Sense of Wonder Towards Nature: Healing the Planet through Belonging*. Routledge. <https://doi.org/10.4324/9780429490910>.
- WHO (World Health Organization). 2016. *Urban Green Spaces and Health: A Review of Evidence*. WHO Regional Office for Europe. <https://iris.who.int/handle/10665/345751>.
- WHO (World Health Organization). 2021. *WHO Global Air Quality Guidelines: Particulate Matter (PM_{2.5} and PM₁₀), Ozone, Nitrogen Dioxide, Sulfur Dioxide and Carbon Monoxide*. World Health Organization. <https://www.who.int/publications/i/item/9789240034228>.
- World Bank. 2021. *The Changing Wealth of Nations 2021: Managing Assets for the Future*. World Bank. <https://openknowledge.worldbank.org/handle/10986/36400>.
- World Bank. 2024. *World Development Report 2024*. World Bank. Accessed March 29, 2026. <https://openknowledge.worldbank.org/handle/10986/41919>.

World Bank. 2025. *World Development Report 2025: Standards for Development*. World Bank.
<https://doi.org/10.1596/978-1-4648-2275-9>.