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Abstract: This review was set in the context of African spirituality and ecology. Specifically, the review addressed issues of African spirituality and the environment from a Kenyan context. Through analyses on existing literature, we examined African worldviews, determined how African spirituality was communicated through the environment, evaluated African ways of regulating the use of the environment, and explored challenges facing African spirituality and ecology today. Results show that African spirituality has been enhanced through the environment where humanity worshipped and venerated everything under the earth, on earth, between the earth and heavens and in the heavens above. Consequently, various methods to restrict the utilization of certain natural resources are employed as a way of conserving the environment. Additional findings demonstrate that African spirituality and ecology are currently facing a number of challenges, hence a major challenge of sustainability of African spirituality in regard to environment. From a spiritual point of view, it is therefore recommended that environmental diversity should be conserved through sustainable development where every person from grassroots level is involved in protecting and maintaining God’s creation. We conclude that African knowledge and belief systems on environmental sustainability could be revitalized and used in environmental conservation.

Keywords: communication; ecology; environment; African spirituality; African; worldviews
1. Introduction

Environment refers to the totality surrounding a substance or a person’s existence and the way they relate to the world. This covers the social, political, economic, spiritual and natural environment which comprises living and non-living things, including water, air, land, all plants, man and other animals and the existing inter-relationships [1]. Environment is all the external conditions, both biotic and non-biotic, that affect an organism or groups of organisms [2]. Ecology is the science of the mutual relationship of organisms to their environment. It is the relationship of living things to one another and their environment or the study of such relationships [2]. Spirituality means attitudes, beliefs and practices which animate people’s lives and help them reach out towards super-sensible realities” [3]. ‘Spirituality” includes several interrelated levels of reference such as the level of lived experience, which means the attitudes and behaviors of human beings which are typically influenced by their “ultimate values,” and therefore their “spirituality” [4].

On the communal level, “spirituality” may be used to refer to the shared “ultimate values” and ideals promoted by a particular group or tradition. On the academic level, “spirituality” refers to the emerging scholarly discipline which studies the lived communal and individual experience of that “energy, power, or force”.

1.1. African Spirituality and Humanity

Indigenous African spirituality involves deeper human values, attitudes, beliefs and practices, based on various African worldviews. These arise from the experiences of black people, south of the Sahara, articulated and lived in the African context, shaped by African problems, needs and aspirations, expressed using symbols derived from the immediate African environment, and handed down by African forebears before colonialism. However, these worldviews are changing with changing times due to the influence of secularization and modernization. Consequently, a new hybrid of African spirituality has been developed consisting of traditional African beliefs and practices, Christianity, Islam and the culture of modernization. However, it must be noted that African traditional religions continue to influence the lives of many people today, including some of the highly educated, as well as many African Christians and Muslims. It must also be noted that African religions are not static. Just as [5] Mbiti remarks, “Although Christianity and Islam have added distinct elements to African religions, each has been and continues to be adapted to and shaped by Africa’s indigenous religious heritage.”

We speak of African traditional spirituality as the indigenous spirituality of Africans that has been communicated down from one generation to another by the forebears of the present generation of Africans. It is not spirituality of the past but spirituality that Africans have made today by living it and practicing it. African spirituality is traditional, not because it is a fossil, static and incapable of adaptation to new situation and changes, but because it is a spirituality that originated from the people’s environment. It is a culture which is learned and imitated by all belonging to various specific spiritualities. Consequently, an African spirituality is one where an African is inserted into his/her traditional beliefs and practices through a well-defined system of rites of passage which make up a culture. Each person is born into it, lives it, practices it and is proud to make it his/her own. Thus, the word ‘traditional’ serves the purpose of distinguishing between African spirituality from any other spirituality that has been brought to the people through
missionary zeal and by propagation [6]. The generation of African spirituality referred to herein is the kind that was and is still in existence despite the influence of Christianity and Islam. However, it is imperative to note that the nature of God in Africa is neither homogeneous nor an expression of a people’s relationship with Him. The way in which African spirituality is practiced varies from one community to another, explaining why African worldview is expressed in plural terms—African worldviews.

Africans exercise their spirituality in all of their daily activities. Just as Mbiti notes; “Africans are notoriously religious. Whenever the African is, there is religion. He carries it to the fields where he is sowing seeds or harvesting a new crop; he takes it with him to the beer party, or to attend a funeral ceremony; and if he is educated, he takes religion with him to the examination room at school or in the university; if he is a politician, he takes it to the House of Parliament” [7].

According to various African spiritualities, humanity lives in a religious universe, so that natural phenomena and objects are intimately associated with God. Accordingly, humanity, animals and other natural phenomena not only originate from God but also bear Him witness. Humanity’s understanding of God is strongly colored by the universe of which humanity is a part. Humankind sees in the universe not only the imprint but the reflection of God; and whether that image is marred or clearly focused and defined, is nevertheless an image of God, the only image known in traditional African societies. The majority of Africans visualize God as the father, both in terms of his position as the universal creator, and provider and in the sense of his personal availability to them in time of need. This idea of God being the father of creation in general is reported among other African people, only some of whom hold the sole or major personal name for God as simply ‘father’ [8].

Humankind, according to the African thought and belief, is not an isolated creature. Humanity is only part of the universe which is full of animals, plants and inanimate objects. All these components are related to each other in various ways, and all these are dependent on the Supreme God for their appearance and their continued existence. The relationship between humanity and the surroundings are in different categories, depending on the use to which humankind puts them, and on the beliefs which developed in the creation of myths. African philosophy on resource utilization and environmental protection is spiritually-based. Major conservation efforts and the control of resources are influenced by this spirituality. Religious beliefs and taboo systems are at the centre of life as a whole. The African spiritual worldviews create respect for nature, reverence for hills, forests, animals, and rivers. This practice is still held by some African communities, especially among the Luhya of Kenya who use their African spirituality to conserve the Kakamega Forest.

We will use the concept of communication as a conceptual tool to understand how African spirituality is exercised among African traditionalists. We might say that communication consists of transmitting information from one person to another. Communication is so deeply rooted in human behaviors and structures of African society that it is difficult to think of social or religious behavioral events that lack communication. There is a ritual process of communication that cannot be artificially abstracted from a particular historical and social context. The conceptualization of communication is that it is shared among all or most of the people who belong to a particular community. Communication is a social setting important in understanding the dynamics of a people’s culture and religiosity. Language as a mode of communication is therefore very important in the process of communicating African spirituality embedded in their belief systems. Hence through diversity of African languages, African spirituality was passed on from one
generation to another. This promoted the process of transmission and the context in which the message on African spirituality was interpreted.

1.2. The African Spirituality and Ecology: Challenges and Prospects

Under African spirituality and ecology, we specifically examined African worldviews as expressed in plural terms, and explored how African spirituality was communicated through the environment. We additionally assessed the African ways of regulating the use of the environment, examined challenges of ecology and African spirituality and provided recommendations on environmental sustainability. While acknowledging that Africans use their spirituality to conserve their diverse environments, we present arguments that it is equally important that they also disengage in their contribution towards environmental degradation.

To help us provide informative key points, both library and field data collection methods were conducted for this study for a period of one year. Materials were selected from a variety of sources. These included primary and secondary sources of data. Primary data were derived from first-hand information through interview-questionnaire, independent interviews and focus group discussions (FGDs), which formed the core of our data. Whereas relevant library data were gathered from published and unpublished books, articles in journals, Government records, local diaries and websites, these were only used as supplements to our primary data. We explored the key areas under the following topics:

2. African Worldviews on Environment Conservation

A worldview is a way of understanding natural resources and humanity’s place in the upkeep of natural resources. This implies attitudes, values, perception, beliefs and practices, based on society with regard to the natural environmental resources of the cosmos. African worldviews in this sense represent the same worldview exercised by different Africans and practiced differently by different African communities. Therefore, in trying to define African worldview, it is important to note that there are numerous different people in Africa, each having a very different religious system of beliefs, ceremonies, rituals and their own religious symbols. Although variation exists, there is a basic worldview which fundamentally is the same everywhere [9]. However, because of the varieties in belief systems, African worldview will be referred to herein as ‘African worldviews’. It is spiritual and realizes God’s omnipresence. It presents God as the creator of all natural phenomena. African spiritualism (the belief in the supernatural) creates respect for animals, reverence for forests, rocks, mountains, and rivers. It gives an explanation as to why certain places are revered and certain activities tabooed. It opines that natural phenomena have spirits that define the relationship between humans and nature that is inter-linked and interdependent [10].

The information on worldviews can be retrieved from various sources, such as myths, legends, metaphors, riddles, proverbs, rites, taboos, and songs. Myths include cosmic, theogonic, anthropogenic, and stereological myths. Myths refer to the historical explanations about the origin of a people, their traditional customs and beliefs as practiced by various African communities. Specifically, the emphasis of the African worldviews comes about in anthropomorphism, ancestral veneration, mystic powers, ritualism, and totems. Humility and respect for nature is a characteristic of African worldviews. Conservation values have grown out of the
awareness that natural resources are part of that which ordinary humans do not control, invent or create. Consequently, Africans do not tamper with what they do not understand or control [10]. Factually, they relate all this to a Superhuman Being, and an Omnipresent God who controls its processes. The preceding leads to respect for natural environmental resources. This belief is strongly held by the Luhya of Kakamega District, Kenya, who continue to use their spirituality to conserve the Kakamega Forest [11]. The idea of the Luhya selecting a specific place used for their spirituality was a normal practice of their religiosity. However, in trying to respond to the current global call on environmental conservation, the Luhya’s way of spirituality has been recognized as a way of environmental conservation. Consequently, because God is in nature, human life is seen as being sustained by natural resources that also demand his efforts to sustain them. This gives the participatory nature of the world of which the Africans are subjected to, hence, they see their religion as life [12].

African worldviews are based on the relationship between God and the ontology. Everything is seen in terms of its relation to humanity. God is the originator and sustainer of humankind. God, as far as the African traditionalist is concerned, is the ground of all being. Humanity is inseparably bound together with all of God’s creation since they both derive their lives from God, the source of all life. This strong belief in God appears to be universal in traditional societies. On the other hand, spirits explain the destiny of man, while man is at the centre of this ontological hierarchy. Animals, man, plants, and natural phenomena constitute the environment, which provide a means of existence. If need be, man tends to establish a mystical relationship with natural phenomena that promote the conservation of resources of environmental significance.

African communities accept the interdependence between nature and humans. This means that everyone accepts responsibility in making sure that resources are not dissipated. It opines that conservation is a group phenomenon as it grows out of the cumulative knowledge of millions of people. They comprehend that life is only possible if natural environmental resources continue to be available for human use. To them, conservation values and practices do not come from law enforcement but from both spiritual and social responsibility that has grown from the desire to survive in an attempt to evade punishment from the spiritual world. The antecedent that varies from community to community, leads to the stipulation on how nature should be utilized in the traditional society [13]. Various African worldviews observe that soil fertility and rain frequencies are contingent upon the vitality of certain wildlife populations. The killing of sacred animals, felling of sacred trees and destruction of sacred spaces in the forest only meets with spiritual disapproval, which manifests itself in the form of great droughts or disease outbreaks. Degradation of natural resources used for spirituality, for example deforestation and unexpected fire breakage, would naturally destroy traditional shrines set aside for spirituality. This notion instigates African people to struggle to maintain the linkage between the spiritual world and humanity by avoiding interfering with nature [13].

Taboos, religious beliefs, sacred rites and totems provide a framework for defining acceptable resource use. Their base is linked to the spiritual world that streamlines these practices [12]. Taken together, these traditional practices create an ecological balance, which ensures rational use of animals and plants for food and other purposes. They guide the philosophy of resource utilization, conservation, and environmental protection. Their worldviews indicate that Africans respect some natural phenomena. To their understanding, a place or a natural phenomenon is declared sacred, either because it is believed that supernatural beings reside there, or it is deemed suitable for religious worship or that the supernatural has abolished human
beings from being in touch with this sacred phenomenon. Such sacred places or phenomena can never be abused and, as a pay-off, the biodiversity of the surrounding ecosystem becomes protected. All this is met by instilling feelings of dread into those utilizing the natural resources’ psychology [12].

African worldviews are accompanied with a series of beliefs, practices, and norms related to the utilization of natural environmental resources. These norms and beliefs bring to bear social pressures that control individual and group behavior. These traditional practices are enforceable as customary law, and this collective social responsibility finds expression as common property resource regimes. Individual interests are subordinated to those of the community that tries to maintain its relationship with the spiritual world [10].

3. Communicating African Spirituality through the Environment

It is generally believed all over Africa that the universe was created and that the creator is God. God is therefore the explanation for the origin of the universe, which consists of both visible and invisible realities. The invisible world presses hard upon the visible: one speaks of the other and African people ‘see’ the invisible universe when they look at, hear or feel the visible and tangible world [8]. When people explain the universe as having been created by God, they are automatically looking at the universe in a religious way. The African view of the universe is profoundly religious. However, humanity has been put at the centre of the universe [14]. Humankind is also like the priest of the universe, linking the universe with God, its Creator. Humanity awakens the universe, speaks to it, listens to it, and tries to create harmony with the universe. It is humanity who turns parts of the universe into sacred objects and who uses other things for sacrifices and offerings. These are constant reminders to people that they regard it as a religious universe.

Since communalism was encouraged, communal environmental resources were collectively looked at with a lot of carefulness and thought. Rules and regulations were crafted about how to use and take care of them. Communal resources included land, water masses, grasslands, shrines and wetlands. All individuals in the community were required to be actively involved in the maintenance of these resources [13]. African communalism should be taken as a moral basis for interaction between humanity, the environment and nature. African communalism made it imperative for society to regard the earth and all that it carries with respect. In the communal system of ownership, the land belonged not to an individual, but to the entire community. Such collective ownership meant that land and all its resources had to be harnessed for the dead, the living and those yet to be born [15].

A good example comes from the Luhya community from western Kenya. In traditional Luhya thought, there is a deep respect for nature as an important part of the universe [16]. According to them, Were [God] turned Himself into objects of nature such as trees, rocks, hills, mountains, rivers after completing creation. The foregoing gives the reason why the Luhya have an important place for nature in their thought system and believe that there was an ancient covenant between human beings and nature which compels mutual respect. They believe that each object of nature has an ancient name that is used to communicate with it and to command it to do His will. At a certain level of understanding in Luhya thought, there is no such thing as a non-living thing. Every object and creature of this earth can be made to come alive and participate in an important endeavor. They believe that there are many aspects of nature, especially those linked with the
supernatural that are higher than human beings and whom they must bow to in appreciation of their eternal qualities.

3.1. Heavenly Bodies

Many concepts in the African worldview associate God with natural objects and phenomena. It is generally assumed that God created the heaven and earth. Heaven is the counterpart of the earth, and it is considered by African people to be the dwelling place of God. There are stories told all over Africa, of how heaven and earth were originally either close together or joined by a rope or bridge, and how God was close to humanity. All African people associate God with the sky or heaven in one way or another. There are those who say that God reigns and lives in the sky and some even identify Him with the sky or consider it to be his chief manifestation. There are many people whose names for God mean sky, heaven or simply ‘the above’. For example, the Turkana word for God, Akay means up above. Thus God and heaven cannot be separated [15].

The majority of African religious thought forms is based on the notion that heavenly bodies such as the sun, moon and stars communicate the magnificence of God. The regularity of day and night and the constant rhythm of the seasons illustrate the unfailing sustenance of God’s providence. The sun, moon and stars feature in the myths and beliefs of many people. Most Kenyan societies consider the sun to be a manifestation of God himself. For example, the Luhya, Luo, Nandi and Turkana personify the sun as a divinity or spirit and the sun is thought by some to be one of God’s sons. There is no concrete indication that the sun is considered to be God, or God considered to be the sun, however, these may be closely associated. At best, the sun symbolizes aspects of God such as his omniscience, his power, his everlasting endurance and even his nature.

Similar concepts exist concerning the moon, although on the whole, there are fewer associations with God than is the case of the sun. Among the Luo, the moon is personified as a female divinity, or a companion of God, or the mother or sister of the sun, or simply as a spirit. However, a number of Kenyan societies like the Teso, Isukha and Kalenjin hold religious ceremonies monthly especially when a new moon appears. A few societies personify the stars as spirits. For example, the Gikuyu take them as God’s manifestations.

Rain is regarded by African people to be one of the greatest blessings of God. For that reason, He is commonly referred to as ‘The Rain Giver’. Some people like the Elgeyo and Marakwet personify rain as a divinity, a supernatural being, or a son of God. Others, like the Akamba, consider rain to be the saliva of God, this being a symbol of great blessings. Many societies make sacrifices, offerings and prayers to God in connection with rain, especially during periods of drought. Rainmakers are reported in all parts of the continent, their duty being to solicit God’s help in providing rain or in halting it if too much falls [17]. The Banyore of Western Kenya, for example, are believed to be able to manipulate rain. They have the ability to cause rain or stop it from raining [18].

Thunder is taken by many to be God’s voice. Others like the Gikuyu and Embu interpret it to be the movement of God. The Abanyala and Samia regard thunder as an indication of God’s anger. Thunder is personified as a divinity among the Abaluhya, Luo and Kisii. The Gikuyu take lightning to be God’s weapon by means of which He clears the way when moving from one sacred place to another [16].
In a few cases, the wind is associated with God. Some people describe him metaphorically as being like the wind or air, or moving like the wind while others think that the wind is one of the vehicles by which God travels in great power through the sky. The Nyala, Hayo, Samia, and Marachi consider wind and storms to be God’s manifestations while The Wanga consider wind as the movement of God [16].

3.2. Earthly Bodies

Like the heavens, the earth has many natural objects and phenomena and various concepts associate them with God or give them other religious meaning. In some areas, rivers and streams are personified or attributed to divinities. These beliefs are also held by the Luo, Nyala, and Samia [19]. Oceans, seas, lakes and permanent ponds are often thought to be inhabited by spirits or divinities that generally have to be propitiated when people use the water in one way or another. The Nyala believe that Lake Victoria is inhabited by the Great Spirit called ‘nakhabuka’, hence offer sacrifices along the lake to appease the spirit.

The symbolism of water appears in rituals of blessings, marriages, healing and purification. The stream is a receptacle of cosmic forces and therefore, a preferred location for certain rituals. Rivers and streams are often accorded religious significance, especially when they are believed to be dwelling places of spirits. Water is responsible for the germination of seeds and sprouting of plants and therefore offers assurance for the formation of all new life. The Luo and Luhya consider River Nzoia sacred, hence holy for ritual purposes. The Giriama and Digo consider the Indian Ocean as sacred, hence it is venerated.

Animals and plants constitute human food and their importance is obviously great. African people have many religious associations with them, some of which are linked with concepts of God, such as the beliefs that he has absolute power over the universe [20]. The religious significance of a particular animal or plant may differ from one community to another. For example, the Luhya of Busia District, Kenya have religious practices often binding oaths or purification rites, which involves the use of certain animals [19]. Hens and cocks may be used as sacrifices to God or mediators between God and humanity, including ancestors. Burnt offerings are widely considered to be essential. There are myths which tell how domestic animals originated at the same time or in the same way as man himself. Cattle, sheep and goats are found for sacrificial and other religious purposes and examples of this are found in most Kenyan communities. Many people have a sacred attitude towards their animals. Every day, the Nandi, Pokot, Samburu and Maasai pray to God for the safety and prosperity of their cattle [8].

The snake is thought by some people, like the Luo, to be sacred, especially the python which may not be killed by people. A recent example was the ‘Omweri’ which was located in Nyakach, Nyanza, Kenya. A considerable number of societies associate snakes with the living dead or other human spirits and such snakes are given food and drink when they visit people’s homes. As per previous observations [21], Taita Towett notes that if a snake visited a Kipsigis family with a pregnant woman, it would not be killed. The Kipsigis give it milk as a courtesy, then a hole is made somewhere on the wall where it could be passed through while people recited some words to send it off in peace. The Kipsigis think that ancestors take the form of living things, such as animals, reptiles or birds. Furthermore, among the Luhya, the common python is not killed as it is believed to bring more harvest to the community, whereas the green bush viper is believed to take care of sacred bushes in the forest. However, some snakes are associated with the devil and
therefore, their appearance represents a bad omen. Of the birds, chickens are used in most societies for religious purposes, or thought of as lower spiritual beings and part of the living dead [8].

Some plant and tree species are conserved due to their significance to the community, while some are treated with reverence and protected for future use due to their sacred value. Some are protected for their medicinal value, while others are utilized for rituals. Mythical trees feature in a number of stories. The symbolism of vegetation in black Africa centers on trees, which 'speak' the language of life and death. Some speak of their 'tree of life' to be the source from which all life emanates. For example, the Meru in Kenya talk about the forbidden tree whose fruit God forbade the early men to eat. When men broke that law and ate the forbidden fruit, death came into the world and God withdrew Himself from men. The fig tree is considered sacred by many societies all over Africa, and people make offerings, sacrifices and prayers around or under it. There are sacred groves and other trees, including the baobab tree used for religious purposes or associated with God and other spiritual beings. The Kikuyu consider the mugumo tree as sacred and prayers and offerings are performed under it. The Swahili consider the neem (mwarubaine) to be medicinal. The leaves, barks and roots of neem tree can be used to cure forty diseases, giving it the name 'mwarubaine', meaning forty. The Maasai and Meru use grass in performing rituals, and also when reciting prayers and making offerings to God [8]. The Luhy and Luo of western Kenya use some special grass (manyasi) for purification and cleansing purposes.

Some people hold that rocks are a manifestation of God. The Akamba believe that the first men were brought by God out of a rock, an area they have kept sacred to date. They claim that God left His footprints on Nvaiti. These are rocks considered to be sacred and are used for religious rites and observances. Sacred stories are often employed in rainmaking ceremonies. Many consider rocks and boulders to be the dwelling places of the spirits, the departed or the living dead [8]. The Luo consider 'Kit-Mikayi’ rocks sacred and a special place for ritual observances. Clay is said by some communities to be or to have been used by God to form human beings. Therefore, the Wanga and the Bukusu use special clay during circumcision ceremonies. The initiates apply clay all over their bodies to symbolize unity with the ancestors [22].

Outstanding mountains and hills are generally regarded as sacred and are given religious meaning. For example, the Luo consider Got Ramogi and Got Alila to be the place of God’s special manifestation and as such are sacred and viewed as the dwelling places of God when he visits the earth. The Nyala and Samia consider the Wanga and Odiado hills, respectively, as God’s abode. A study portrays Mount Kenya and the fig tree (mugumo tree) as phenomena conserved by the Gikuyu ethnic community [23]. People worship while facing these two phenomena and it is the role of this community to preserve them since they believe God lives on Mount Kenya. There are particular points where people do not cut trees or hunt on the mountain for reasons of sanctity. Mugumo trees are conserved through taboos and beliefs. The tree gives a site for communal meetings, worship and ceremonies. The Saboowaet in Western Kenya consider Mount Elgon to be sacred.

The Gikuyu make prayers facing Mount Kenya, the chief of their sacred mountains. Mountains, hills and other high standing earth formations are in no way thought to be God; they simply give a concrete manifestation of his being and his presence. Furthermore, they are physically ‘closer to the sky’ than ordinary ground and in that sense, it is easy to associate them with God. They are on earth next to the sun and to a lesser extent the moon and stars are in heaven. They are points of contact, drawing together not only
people in a given region, but also men, spiritual beings and God. Among many societies, mountains and hills are associated with spirits or divinities. Thus, for example, the Akamba say that they see fumes of the spirits at night on the sides of some hills [8].

Certain caves and holes are given religious meaning. In many societies like the Akamba, it is said that God brought the first men out of a hole or cave. The Bukusu legend claims that once God lived in a deep hole on Mount Elgon which is volcanic [8].

Different religious meanings and uses are given to various colors. However, different colors are considered sacred according to different communities. A number of people regard black as their sacred color; for example, the Luo and Luhya communities in western Kenya, while white is sacred to some other communities. Among the Luo, Nandi, Teso Bukusu and Kisii, black animals are sacrificed to God or used in religious ceremonies. Most Kenyan communities offer white and black animals and birds for sacrificial purposes. Among the Luhya, black and white represent ancestors whereas spotted hyenas represented evil ancestors.

Space in relation to humans is equally important. Throughout Africa, the four cardinal points of the compass enter into the play of symbols in daily life. Men and women sleep in directions appropriate for each and are also buried in the same way. However, the specific symbolism of directions is linked to the particular set of values in each society. For example, the Bukusu turn their dead towards the west where God withdrew after the drama of the primordial separation [24]. Most communities, for example the Luos and Luhyas, bury female on the left side of the house, whereas men are buried on the right.

Soil in itself signifies life and attachment to the supernatural. The Luhya, Luo and Nandi believe in red ochre soil to be able to drive out evil spirits. It is smeared on objects or people to signify purity, fertility and sanctity. After death, the corpses were smeared with the soil to supply blood for life after death. The Bukusu also use some special soil from a special river during the circumcision ceremony. In the Bukusu, the initiates are smeared with the soil to signify unity with forefathers/ancestors. The soil is collected about 40 kms in an underground tunnel referred to as ‘the tunnel of spirits’ in Nandi district. Indigenous trees of medicinal importance surround it, and nobody is supposed to cut down any of the vegetation around the sites as it belongs to the ancestors.

Clans were responsible for taking care of and protecting their land, sacred sites and their members’ welfare. Some sites were conserved for special rites, such as circumcision, worship, and hunting. The forest was central to people’s existence and all community members were obliged to protect it against ruin. The most common form of protection was through religious taboos and the restricted use of forest products [25]. The soil was also used during or when taking oaths/cursing ceremonies and when blessing and making covenants. This provides support for the reasons why ancestral land is highly protected, since it is believed that it is God-given. All produce from land and the first fruits were first offered to God as a sign of thanksgiving for a bumper harvest. Land was also spiritually utilized by making libations and pouring blood onto the ground as a sacrifice(s) to appease God. The buried sacrifices would then produce smoke which ascends to heaven, implying that God has gratefully accepted the sacrifices offered.

Each ancestor has specific objects dedicated to them individually, for which reason they are considered sacred. The objects can be anthropomorphic (human like) images of the ancestor or can be an emblem. Some of the objects remain in the shrines, only to be brought out during festivals, when they are carried in
procession with great ceremony and dignity. The examples of the common symbols and emblems are calabashes, stone carved images, pots, axe-heads, metal snakes and those objects carried to resemble gods or ancestors or which have meaning only in connection with the worship of the ancestors. These objects are believed to contain certain supernatural powers and are signs of the gods’ or ancestors’ presence. In themselves, the objects are not important, nor do they possess any meaning, except for the association with the ancestors. Similarly, among the Baganda, as outlined in Benjamin Ray’s work titled "Myth, Ritual and Kingship in Buganda", only the ‘Katikkiro’, a spiritual leader amongst the Baganda, was allowed to visit the shrine where the spirits of the royal ancestors dwelled [26].

Most African communities in general are divided into clans and each clan is named after certain totem animals or plants to create respect for some totemic animals, reverence for sacred forests, rocks, mountains and rivers. Totemism is a complexity of ideas, practices, legends, fears and kinship patterns which refer to the connection of human beings and animals and plants. It is the practice of taking a particular natural object or animal and making it the symbol (totem) of a particular special group/clan. Totemism is a worldview which holds that the environment is dominated by human beings who maintain spiritual relationship in which there is no sharp distinction between humans and other things, such as animals, plants and minerals. At the core of totemism is the belief that the whole world has spirits. The totem object provides categories by which relationships are based. The recognition of this relationship leads to special social groupings and also rituals, binding together a particular human group. For example, the Samia, Nyala, Marachi Teso, Luo, Kisii and Bukusu have certain totem animals. It is the role of each clan to protect their totem animals and plants. All the clans have different myths explaining how the relationship with their totem animals and plants started [27].

African spirituality is expressed in shrines and sacred places where sacrifices can be offered. A shrine is a place marked off for religious objects and where sacrifices could be offered [28]. As per previous observations [14], it is noted that some shrines belong to a family, such as those connected with departed family members or their graves. Others belong to the community, and these are often in groves, rocks, caves, hills, mountains, and under certain trees. People respect such places and in some societies no bird, animals or human being may be killed if it or he or she is hiding in such places. At the shrines and sacred places, people make or bring sacrifices and offerings, such as animals, food, utensils, tools and fowls. They regard such places as holy and sacred where people meet with God. These places are protected from desecration or misuse by unauthorized individuals. Religious articles and objects are found in many religious places. They are of different shapes, kinds, sizes and colors. Some are kept in the houses while others are kept in the forests. The graves of ancestors usually serve as shrines. These objects are material expressions of religious ideas, beliefs and practices like praying, making offerings and sacrifices and major ceremonies and rituals [14].

Most African communities believed that the environment was the abode of the spirits, the living dead and ancestors. Natural phenomena have spirits that define the relationship between humans and nature, which is linked and are interdependent [10]. In some communities, rites of passage were connected to the environment. For example, among the Bukusu, during the circumcision ritual, initiates are bathed in a stream, river or swamp to wash away childhood. Special soil is then applied on the body before circumcision to symbolize entry into adulthood. During circumcision, blood flows into the soil. This signified the
symbolic binding of the initiates to the ancestors. While at birth, the placenta was buried in the ground and upon death the body was buried in the same ground, meaning that life emanates from the soil which is fertile and continues to produce life. Land was therefore used responsibly and with much respect and reverence [22].

God used the environment to communicate messages to the people. For example, the movement of animals and birds to herald rain, the noise of insects, swellings of the soil, a rainbow, the movement and color of clouds and utterances from domestic animals all symbolized important aspects of God’s communication. For example, among the Luhya, the appearance of a black African duck brings rain to the community, the olive pigeon brings blessings from ancestors while the cape grass owl indicated that a person was to die [22].

4. African Ways of Regulating the Use of the Environment

4.1. Taboos

Taboo is a cultural or religious custom that forbids people not to do, touch, use or mention certain things/words. The word is derived from the Polynesian word tapu, meaning “tied”. It refers to any ritual prohibition to which an automatic sanction—religious or magical—is attached. According to Shorter, taboos exploit an innate and irrational fear in the human psyche. Culturally, they are used to inculcate practical attitudes, for example religious respect, or human precaution, through dramatic symbolism. Taboos are passed orally from generation to generation, and have a functional role to the society. They vary from place to place due to environmental determinism, depending on the social, cultural and economic organization of a particular community [9].

Taboos in African community touch on all-important aspects of life. They are associated with birth, initiation, marriage, food, death, socialization, economic activities, agriculture, and hunting. They influence relationships between human beings, humanity versus animals, humans versus plants, and humans versus the supernatural world. In most Kenyan communities, taboos are accompanied by reasons and a belief. Among the functions of taboos in African community is natural environment resource conservation. By use of taboos, natural environmental resource utilization is conserved. Africans have formulated a variety of taboos associated with plants, animals, snakes, sacred sites, religious specialists, and birds. By employing the preceding taboos, some trees and places where trees are found were protected. This promoted ecological biodiversity, since animals residing in the ecological niches were conserved were not disturbed. Therefore, in African spirituality, taboos are employed as techniques to natural environment resource conservation.

4.2. Totems

A totem is a natural object, an animal or plant regarded as a symbol by a given tribe or family [29]. A totem is a living thing such as a bird, animal, or a plant that people regard with special awe, reverence, and respect. It is a class of material objects regarded with superstitious respect, believing that an intimate obligatory and altogether special relationship exists between individual members of the society [27]. It is a
symbol that binds people who believe themselves to be of one blood, descended from one ancestor and bound together by a common responsibility to each other.

According to Africans, every person is born into a clan and each clan is given the name of an animal, or fish, or plant. The totems include those animals, birds, or plants that they do not kill or touch due to their religious significance [30]. It is sacrilegious for a clan member to eat the flesh of an animal of their clan, or cut a totem plant. Clan members protect their clan animals and plants, because the survival of the clan depends on them. In this way, animals are protected. Members of one totem refer to themselves by the nickname of their totem. In such circumstances, humans treat their totem with reverent respect. The totem being an animal or plant, one is not allowed to destroy its life. For instance, some Luhya clans hold the bushbuck (*Imbongo*) as their totem animal. It is forbidden to eat the flesh from this animal, and it is believed if eaten, the whole body would swell. Totems can be kept as pets and thus treated with religious respect with the belief that they are connected with the Supernatural being. The Luhya take the palm tree (*Olukhindu*) as their totem plant. It is forbidden to cut the tree. Swearing is done under the plant to prove whether one is lying or not. It is believed that if one lied, the totem could bring him or her bad luck or kill him [30]. Palm trees were considered as totem plants and were not destroyed, hence, conservation.

4.3. Knowledge of the Sacred and Mundane

A previous study [31] defines sacred as those things, situations, and places that are set apart, very special, and emit an aura of the holy. It means all sorts of collective states, common traditions, emotions and feelings, which have a relationship to objects of general interest. For the purpose of this study sacred means places regarded with respect as they are connected with the supernatural and thus considered ‘super ordinary’. By mundane means ‘the ordinary’. A prominent feature of such systems is the setting aside of patches of forest by traditional authorities for sustainable resource use and the preservation of vital biodiversity, in most cases they are intended to protect watersheds, fragile ecosystems, as well as plants and animals of conservation importance to the local community [13]. Traditional authorities are titleholders of such areas, and exercise general administrative functions over them. The management, defense, and preservation of such lands are the responsibility of the entire community. The main reason for the protection of these sites was the fear of annoying the living dead. Religious specialists and elders protect these sacred sites through the enactment of rules and regulations governing the utilization of resources found there. Religious specialists and elders protect these sacred sites through the enactment of rules and regulations governing the utilization of resources found in these sites.

The habit of hindering the frequent use of the foregoing sites facilitates maximum ecological biodiversity at the same sites. The social control of the use of natural resources found at these sites makes sure that degradation, pollution or contamination are minimized or avoided. The concept of ‘sacredness’ extends to plants, animals, birds and snakes. Some specific flora and fauna species are regarded sacred by the majority of African communities. These plants and animals are conserved for religious functions. The sacredness of a phenomenon in African culture is passed on from generation to generation. It is believed to be a command from ancestors. Failure to give sacrifices and offerings from the community is believed to influence disasters. If community members allow the destruction of sacred spaces, it is believed that ancestors would curse the
living. Therefore, the belief that specific sites in the forest are sacred promotes sustainable ecological conservation.

4.4. **Belief that some African Natural Phenomena Have Mystic Powers**

Mystic powers are the forces beyond ordinary occurrences, as they influenced human affairs either positively or negatively. Africans believe that the universe is full of powerful forces that directly connect physical objects, animals, and plants. The source of the powers is not well known because its nature is not well grasped, although they are believed to have vast effects on human affairs. However, some people tend to opine that the forces are the living dead. Most African communities classify mystic forces into two: those whose influence is for good, and those whose influence is evil. To them, these supernatural forces have a place of residence in the cosmos and come into human sight in the form of spirits. The fear of mystic powers validates their religious practices and beliefs about the natural environment.

Community members view the living dead as their representatives in the supernatural world; therefore, they have to act morally upright as per the direction of ancestors. Africans explain the mystic world as consisting of a hierarchy in relation to control of the natural world. The community classifies mystic beings as gods, divinities, spirits, and ancestors. God is the most powerful and in charge of all other mystic powers. Second in power vestment are divinities followed by spirits as the third in hierarchy. Later, ancestors follow spirits, while man is ranked last. Spirits are further categorized into evil spirits and good spirits. Evil spirits manifest themselves in destructive people, including witches and sorcerers. Once they possess a person, he or she may become insane or terribly sick. African people fear coming into contact with evil spirits. This gives reason why they fear any phenomena believed to belong to evil spirits. Ancestral spirits are regarded as guardians of natural environmental resources. If one destroys what is portended as sacred, ‘ancestors punish him or her with death or misfortunes’ [16].

Some environmental resources are dreaded because they are portended to be artefacts of evil people; hence, no one destroys them. If one interferes with them, it is believed that he or she will die or be affected negatively by the mystic forces concerned. By fearing getting in touch with certain plants or animals, they are not disturbed by humans; hence, left as natural as possible leading to maximum ecological biodiversity. Hence, varied sites were protected through various beliefs, although there has been a radical change in regard to the way African spirituality is currently being practiced, consequently influencing African Religion. Mystic forces are still feared by those practicing African spirituality and those who have embraced enculturation.

4.5. **Influence from Religious Specialists**

A specialist is a person who is an expert in a particular branch of work. African religious specialists are those people who are experts in particular branches of religion such as worship, medicine, divining, prophecy, soothsaying, rainmaking and initiation [7].

In African communities, religious specialists assist in promoting the conservation of natural environmental resources. This is achieved by their command for conservation of certain natural resources. They are believed to have accumulated their powers from the creator. They act as mediators between man
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and ancestors. Therefore, their commands for environmental resources to be conserved are followed. It is believed that failure to submit to their commands could invite curses to oneself or the whole clan. Through the preceding, certain aspects of flora and fauna were conserved.

Some religious specialists have their own sacred sites. They ensure that the places are well taken care of in order to facilitate efficacy in their work. They ensure liturgy is well met during functions to promote the religiosity of rituals. Medicine men enact rules, beliefs, and taboos to regulate the utilization of herbs from certain trees. Herbalists prohibit the local population from getting to certain places of the forest by claiming that they will be infested with evil spirits. Diviners have powers to communicate with the supernatural world. They know the language of the living and of the dead. They helped in the conservation of certain plants, animals and reptiles through the idea of mystic powers. They forbid people from going to some particular places with a claim that, they would be infested by evil spirits [32].

4.6. Rituals

A ritual is an action that is always done at a fixed time in the same way as part of a religion or a community. A religious ritual is a prescribed performance of a conventionalized act manifestly directed towards engagement of non-empirical or supernatural agencies in the affairs of the actors [33]. Rituals in African communities are communicated in one’s life from birth, initiation, marriage, and death. Rites of passage as a way of celebrating life accompany each stage of life. Most rituals entail the natural environment where people live. Due to environmental determinism, rituals vary from one part of the universe to another. African communities have a series of rituals that are related to the environment from cradle to grave. To them, almost all rituals involve aspects of flora and fauna. These flora and fauna species are protected for future purposes as the rituals recur after a given period at specific sacred sites. Environment-related rituals in African ethnic groups are communicated at child birth, during initiation, during marriage, at burial, after death, once someone has offended the ancestors or God, giving thanks, worship, making judgment, before wars, before journeys and before planting. Various rituals had designated specific sites preserved for their transmission from one generation to another [13].

4.7. Initiation Rights

Initiation is a major rite of passage that protects natural environmental resources in all African communities. It is the most effective method that has been communicated and applied by African religionists to conserve natural resources. In the forest, some spaces have been set aside for initiation purposes [32]. These areas are protected by a series of taboos. Nobody is allowed to go to these sites, as it is believed that he or she will be cursed. Flora and fauna found at these sites should never be disturbed. During seclusion, the initiates are provided with future survival tactics and natural environmental resource conservation techniques. At this stage, youths are taught about their totems and their expected relationship with the totems [13]. Initiation as a rite conserves natural environmental resources by ensuring that some sites are conserved for the practice. It also offers a chance to the initiates to be conversant with environmental conservation techniques. By setting aside specific sites for initiation in the forest, communities ensure that these places are protected against destruction through taboos, beliefs and practices. Whereas Turner acknowledges the works
undertaken by Van Gunnep on the significance of rituals amongst African traditional communities, he supports Van Gunnep’s assertion of structural similarity of rites of elevation, initiation, healing, incorporation and transience, as a way of making life processes through initiation rites. Turner further states that the Ritual Process has acquired the status of a small classic and demonstrates how the analysis of ritual behavior and symbolism may be applied as a key to understanding social structure and processes [34].

5. Challenges of Ecology and African Spirituality

It is becoming increasingly clear that what has been named ‘the ecological crisis’ is perhaps the number one problem facing the world wide community of our times [17]. It is a global problem concerning all human beings regardless of where they live or their social class. It is a problem that is not simply to do with the wellbeing of humanity, but with the very being of humanity and perhaps of creation as a whole [17].

Currently, there is widespread deforestation and erosion caused by human activity. Swamps have been drained and man began his agricultural pursuits in earnest. African spirituality and ecology are facing many challenges that interfere with the way that spirituality is currently being practiced. The following are factors that challenge the sustainability of African spirituality in relation to the environment.

5.1. Population Increase

Population growth is a major problem hindering steadfast environmental conservation in many African countries today. Pressure on land in the areas surrounding the forest is extremely high and will be even more severe in the future [35]. The high population density relies on the forest in terms of grazing, harvesting honey, collecting firewood, mining, fishing, social gatherings, worship, and charcoal burning, among others. This has immensely affected African spirituality in relation to the environment. The current high population is a threat to the conservation of the forest, since the population cannot sustain itself without intense utilization of forest resources [25]. This has led to encroachment of religious sites due to human population growth and poverty.

5.2. Pressure from Other Religions

The establishment of other religions, especially Christianity and Islam, has drastically affected African spirituality. As conversions took place, Africans were compelled to relinquish their indigenous practices and beliefs. This partly changed the African worldviews into European and Arabic worldviews. However, despite the influence of Christianity and Islam, some Africans have held onto their traditional beliefs and practices, whereas others have embraced enculturation.

5.3. Urbanization

The migration of people from rural to urban areas exposed most Africans to a mode of change which hindered the development of their spirituality. Urbanization detached people from their traditional environment [8]. Most young people migrate from rural areas to urban areas in search of employment and better social amenities. Due to ethnic pluralism in towns, cultural development was affected. Urbanization
led to lack of space for African spirituality, language distortion, and therefore a noncommittal attitude to African beliefs and practices.

5.4. Secularization

According to a previous report [36], secularization means to transfer something from a religious to a nonreligious use, or from control by a religious body to control by the state or lay people. This is life without a belief in the supernatural. It is the growing tendency of humility to do without religion. Secularization came with scientific discoveries, influence from foreign religions, modern education and industrialization. This has influenced people not to take their religion as their yardstick. In turn, African religion and all that goes with spirituality is considered primitive, savage, archaic, animistic, and ancestor worship [37]. Secularization propagates the liberalism, individualism, evolutionalism and freedom of expression that have led to the theodicy debates. This has tremendously affected African spirituality and its expression in today’s world.

5.5. Modernization

Modernization means to change something in order to make it conform to modern tastes, attitudes, or standards. For the purpose of this study, modernization means new lifestyles imparted to African people with the belief that African indigenous beliefs and practices are archaic. The adoption of current lifestyles has endangered African spirituality in the conservation of the natural environment. Modern development has brought many hazards and problems to the original environmental equilibrium which African religionists conserved. People have diverted their minds towards the new lifestyles at the expense of their indigenous beliefs and practices. This is attributed to lack of communalism in the African way of culture which brought all in one single community of believers, propagating the same cultural ties and practices.

5.6. Formal Education and Foreign Religiosities

The formal education system has affected the African socialization processes which subject recipients to cultural ethics. Few traditional beliefs are easily absorbed into the formal education. However, some have clashed with the approaches used in the formal education systems and have therefore been abandoned or shelved only to be referred to by the older generations. In the same vein, missionary-founded churches condemn traditional beliefs and practices, including the belief in taboos and totems. This has affected the African worldview on environmental conservation as well as the socialization process in the religious spaces. It is, however, commendable that the locals still uphold their culture and especially their religious belief system. This has consequently led to revitalization and proliferation of new religious movements. Whereas some of them purely practice African culture, others have inculturated African beliefs to the missionary teachings. Among them are Dini ya Msambwa, African Holy Spirit Church, African Believers, Roho Israel, African Divine Church, African Israel Nineveh Church, among others. Although these groups are making an effort to revive lost African beliefs and practices, we cannot underestimate the fact that missionary Christianity and Islam have negatively interfered with African indigenous knowledge systems that may contribute towards environmental ethics.
5.7. Other Factors

Other Factors include; change in economic trends which have led to detachment of people from their motherlands, scientific discoveries and thought forms, corruption, government policies, political interference, regional atmospheric changes, such as global warming, natural disasters, such as soil erosion due to land degradation, floods, drought and death of both the flora and the fauna. Forest fires also continue to destroy ecological biodiversity.

6. Recommendations for Environmental Sustainability

It is highly recommended that there is a continuous need to improve living conditions for all people while maintaining a healthy environment in which natural resources are not overused and excessive pollution is not generated. This should be done by meeting the needs of the world’s poor, because unless their needs are met, there can be no overall sustainability. The world does not contain nearly enough resources to sustain everyone at the level of consumption as enjoyed in the US, Europe and Japan. However, suitable strategies exist to reduce these levels of consumption without concurrently reducing the real quality of life [2].

6.1. Building a Sustainable Society

Sustainable development must promote real improvements in the quality of human life. For growth to be sustainable, major efforts must be made to protect the environment. At the same time, it must maintain the life support systems on which our lives and the lives of all other species are based. To build and maintain a sustainable society, it is necessary to preserve the productive natural systems that support us. These can be done by changing individual attitudes and practices at the local community level. Getting the best available information to rural communities is essential to help the people who live there make the most appropriate choices for themselves. Once attitudes have shifted at the individual and community levels, then national strategies can be devised that safeguard the ecological capital of each country for the future [2]. Alliances among communities are also necessary to preserve the land and waters on which our livelihoods depend.

6.2. Changing Personal Attitudes and Practices

Any long term improvement in the condition of the world must start with individuals—our values, attitudes and practices. Each of us makes a difference and it is ultimately our collective activities that make the world what it is. If each human being acts as a person, in a personal relationship with creation, then we not only lift creation up to the level of the human but can also see creation as a totality; not just a collection of unrelated things which are good, bad or indifferent, according to what they do for us, but as a community or a body, in which each part is related to the others and has its own role to play. Creation is thus able to fulfill the unity which as natural science observes today is inherent in its very structure [17].

Human beings have an awesome responsibility for the survival of God’s creation. We recognize that creation does not belong to us but to God, who is its only ‘owner’. By recognizing God’s ownership, we believe that creation is brought into relation with God. In this way it is not only treated with reverence as befits what belongs to God, but it is also freed from its natural limitations and is transformed into a bearer of
The world is regarded as sacred because it stands in relationship with God, thus the spiritual world and the material world are inseparable.

6.3. Enabling Communities to Care for Their Own Environments

By acting together, people become a strong and effective force, regardless of whether their community is wealthy or poor. Developing effective local leadership at the community level where village elders, sub chiefs and chiefs are involved in environmental conservation is imperative. The local leaders should be responsive to the need for sustainable community development. This is an essential element in achieving overall success. Each community must learn to take care of itself; to make and use at least the great majority of what it consumes locally and to dispose of it locally. In addition to approaching local self-sufficiency in the production of goods and the disposal of waste, a community must maintain the vitality of its local ecosystems. Various governments should empower local communities toward sustainability by accessing education and training and the right to participate in decision-making. If individual nations empower communities in these ways, their local communities will function well and so will the world as a whole [2].

IUCN reports that African religion can help to provide direction and motivation by forming new values that would motivate individual responsibility towards nurturing the environment. A previous report [38] proposes that environment action plans should involve community members by looking at the beliefs and practices of individual communities in relation to national environment resource utilization, which influences their attitudes towards the same. Sibanda notes that some African religions resource utilization practices can contribute greatly to natural resource management. He points out that African religion should not be ignored, since it infiltrates deep into people’s attitudes and consumerism patterns [10]. However, it must also be noted that Africans are, to some extent, destroying their environment through deforestation, a major factor in land degradation with serious consequences for food production, drought, and permanent climate change. These processes have continuously led to a massive loss of tree cover and original wildlife habitat. Destruction of the environment means destroying fertile grounds for communicating African spirituality. The environment is very useful to African spirituality.

Africans believe that environmental conservation is a command from the supernatural. Failure to conserve certain natural resources can lead to curses from the Spiritual world which takes place in the form of disasters, such as droughts. Africans perceive that nature and humanity are related and interdependent; thus, justifying why humanity should be concerned with nature conservation. They further comprehend that they should not tamper with what they do not understand in terms of origin.

7. Conclusions

This paper has shown that Africans used their environment for their spirituality in various forms. In the process of communicating their spirituality, most Kenyan societies worshipped and venerated everything below the earth, on the earth, between the earth and heaven and in the heavens. Most African communities believed that the environment was the abode of the spirits, the living dead and ancestors. The natural environment has spirits which define the relationship between humans and nature, which is linked and is interdependent. Therefore, taboos, religious beliefs, sacred rites and totems provide a framework for defining
acceptable use. The findings also revealed that there are various ways of regulating the use of the environment. These include the use of taboos, totems, knowledge of the sacred and profane, mystic powers, influence from religious specialists, rituals, and initiation rites, among others. It was established that an environmental crisis is one that is best felt in its various interlocking manifestations of industrial pollution, resource depletion, and population explosion. One of the contemporary challenges to African spirituality, then, is how to respond to environmental crises which have been perpetuated by the enormous inroads of materialism and secularization. However, for policy purposes, sustainable environmental conservation should involve the community as a whole from the grassroots where policy makers, professionals, extension workers, researchers, teachers and students are engaged in the conservation process. African traditional ways of environmental sustainability should be revitalized and used accordingly. Traditional knowledge about environmental conservation should be used by infusing it into the present curriculum. The valuable knowledge should be integrated into interdisciplinary projects dealing with links between culture, the environment and development, in areas such as conservation of biological diversity, management of natural resources, understanding of natural hazards and mitigation of their impact.

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References


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