

**THE ECOLOGICAL BALANCE BETWEEN LAND USE, LAND RESOURCES  
AND ENVIRONMENTAL ISSUES IN AFRICA**

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**Abstract**

*This study investigates the intricate connection between African environmental issues, land use, and resource use. A significant problem in land management is the variety of landscapes, growing population, and economic development. The research illuminates unsustainable land practices, deforestation, soil degradation, and urbanisation that have resulted in the destruction of ecosystems and the modification of natural habitats. These anthropogenically generated changes aggravate environmental problems such as soil erosion, water scarcity, biodiversity loss, and climate change. Land resources significantly shape ecological circumstances. The varied landscapes of Africa have priceless resources such as fertile soil, freshwater, and mineral resources. Sustainable land management policy frameworks call for cooperation between governmental institutions, civil society organisations, academic institutions, and local communities to solve these environmental concerns. Understanding the complex interactions between land use and African resources requires useable strategies. This work argues that creating protected areas, zoning laws, encouraging good agriculture and forestry practices, and promoting environmental education at all levels of schooling can help Africa achieve sustainable land use. Further integration of indigenous knowledge and customary land management techniques is required. As a result of this integration, African communities will become much more closely knit. The current issue requires immediate attention. Fostering interdisciplinary cooperation and using a comprehensive approach are necessary. A healthy and prosperous future for Africa is possible when economic development is combined with environmental preservation.*

**Keywords:** Land, Resources, Africa, Environment, Authorities

**Introduction**

A rich tapestry of ecosystems that have long supported the continent of Africa's people and wildlife are found in this region of unparalleled natural beauty and diverse terrain. It is impossible to overstate the importance of land use and land resources in Africa, which not only serve as the basis for the livelihoods of millions of people but also serve as the foundation for the region's environmental well-being. The continent of Africa is home to a diverse range of habitats, including lush rainforests, vast savannas, arid deserts, arable farms, clean wetlands, and steep mountain ranges. Astonishingly diversified fauna finds habitat in these varied settings, which also support the agricultural activities that support communities throughout the continent. Land resources constitute the backbone of African economies, from small-scale subsistence farming in rural communities to large-scale commercial agriculture that sells to international markets and feeds entire nations. While

land use provides these immediate crucial satisfactions of human needs, it also leads to alteration of lots of functions of the ecosystem, such as provision of potable water, maintenance and regulation of climatic cycles, maintenance of soil fertility and others. As a part of the ecosystem that holds an intricately webbed relationship between humans and the rest of the biodiversity, lands must, therefore, be handled with care and utmost caution, as continued wanton destruction of land in particular and the ecosystem in general will not augur well with humanity. The reason is simply because there is an interdependence of life and living of the whole of the biodiversity. There is no single life that is self-sufficient and independent as everything in nature has an interwoven web of existence. About this, Eboh notes that “every single species serves a useful purpose. If some of them should disappear, Edward Wilson says, new sources of scientific information will be lost. Vast potential biological wealth will be destroyed.”<sup>1</sup> Poor handling of this relationship that exists among all the biodiversity by human agents has led to the destruction of the ecosystem, causing near and actual extinction of certain species of the flora and fauna, denying the ecosystem the benefit of the contribution of these species in its overall good and life. The consequences of these nixious actions have been dire, as disastrous natural phenomena like erosion, earthquake, volcanic eruption and other related disasters, which clearly indicate the destabilization of nature and its cosmic relationship with humans<sup>2</sup> have become almost regular occurrences. In Africa, as in many parts of the world, the complex relationships between concerns relating to land use, land resources, and the environment provide a pressing dilemma that requires our immediate attention. The sustainability of land use practises in Africa, however, is challenged by a variety of problems. The continent's limited amount of arable land is under intense pressure from population expansion, urbanisation, and agricultural expansion. This pressure, along with soil erosion, climate change, deforestation, and water scarcity, creates hazardous conditions. The deterioration of once-vibrant ecosystems, the loss of biodiversity, and the worsening of climate-related issues are all visible, highlighting the tenuous connection between land usage, land resources, and environmental challenges.

Solving these issues is essential for Africa's sustainable development; failing to do so is not merely bad for the environment, but will ultimately lead to *ecocide*.<sup>3</sup> The way we utilise the land in the future will have an impact on our ability to fight poverty, provide food security, protect biodiversity, and slow down climate change.

In light of this, we need to make an effort to fully understand the challenges and opportunities that African land use and land resources present. This series of articles will look at the different facets of land use and land resources in Africa, as well as the challenges of sustainable agriculture, conservation efforts, urban planning, and the laws necessary to encourage harmonious cohabitation between people and the environment. We endeavour to raise awareness of the critical issues facing the continent in order to inspire people from all walks of life to collaborate in conserving its unique land resources for future generations and elicit a dialogue that transcends all barriers. The following chapters will examine the pressing environmental problems that Africa is currently facing, the innovative solutions being implemented, and the necessity of taking coordinated action to ensure that the intricate relationships between land use, land resources, and environmental sustainability are acknowledged and addressed. Acting now will help ensure that Africa

<sup>1</sup>M.P. Eboh (2001), “Ecofeminism: A Politico-Revolutionary Discourse.” *Journal of Gender Studies*, (1, 3), 26.

<sup>2</sup> M. Elechi (2023), “Ecogynism as Unspoken Dialogue between Humans and Nature.” *Dialogue and Universalism: Journal of the International Society for Universal Dialogue*, (33, 2), 208.

<sup>3</sup>M.P. Eboh (2000), “Eco-Violence against Women and Nature,” Maria Pauline Eboh (ed.), *Philosophical Criticisms: Anthology of Gender Issues*, (Port Harcourt: Pearl Publishers), 87.

and its breath-taking landscapes have a more prosperous and peaceful future.

### **Land Use in Africa: Patterns and Implication**

Land use in Africa is characterised by intricate patterns and significant implications for the environment and sustainable development. Agriculture is the most prevalent land use because it provides a living for the majority of the population. However, using conventional farming techniques can lead to soil erosion and deforestation, which can have long-term negative effects. Africa is getting more urbanised, which is causing cities to expand and the demand for land to rise. Due to this conversion of agricultural land into urban areas, the availability of food may be jeopardised. Unplanned urban growth, which also puts a burden on resources, exacerbates the lack of infrastructure and pollution. Mining and industrial activity considerably speed up the alteration of the land. Natural resource extraction results in habitat destruction, soil contamination, and water pollution. The local communities that depend on the land for their survival may be impacted by these acts, which may also disrupt ecosystems and endanger wildlife. Land use in Africa is a complex combination of agriculture, urbanisation, industrialization, and mining, these come with significantly unintended implications for the ecosystem, which ultimately lead to environmental hazards. Sustainable land management and moral development methods are necessary to achieve a balance between human requirements and environmental preservation and to ensure the continent's future. Corroborating this, Stephen Kendie avers that:

Population growth and the increasing economic and technological push to exploit the land and land-based resources have accelerated the breakdown of traditional value systems. In most African countries, over 70% of the population derive their livelihood from the land. This extreme dependence on nature in subsistence farming, fuel wood extraction, hunting, etc. is also associated with growing poverty and is one reason for the reported high rates of land degradation in the African continent. The other reason is the ever-present urge by national governments to export more in the search for foreign exchange to redeem growing national debts.<sup>4</sup>

The need for a proper guide for the use of land in Africa is even more pertinent at this time than ever as Africa has the record of the highest pressure on land than any other part of the world. Due to limited employment options in Africa, with the astronomical rise in population, and the quest for increased generation of foreign exchange by the national governments, lands in Africa are exposed to unprecedented pressure than ever experienced.<sup>5</sup>

For BakuttswahBakut, as the population of the world increases, so also have the levels of human economic activities. Thus, the increase in population and the corresponding increase in human economic activities with their consequent impact on the environment are visibly retarding the condition of life on earth. It is obvious that there is a cause-and-effect relationship between human economic activities and the damage done to the environment. In essence, the ecosystem was being degraded by the human pursuit of development and modernity. It is also clear that most of the seas and oceans of the world are

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<sup>4</sup>B.S., Kendie, "The Planning And Management of Land Resources in Africa," *Encyclopaedia of Life Support Systems (EOLSS), (Regional Sustainable Development, (vol. 1),*

<sup>5</sup>B.S., Kendie, "The Planning And Management of Land Resources in Africa,"

<sup>6</sup>B.T., Bakut (2020), *The Environment, Peace and Conflict in Africa, in Introduction to Peace and Conflict*

over-fished, and the soil is being degraded and eroded on a large scale throughout the world due to man's economic activities.<sup>6</sup> Observing the events and following the debate between scientists on the nature and impact of the crisis on the entire world, in 1972 the United Nations organised an International Conference on the Human Environment in Stockholm (later to be called the Stockholm Conference).

The conference was aimed at establishing an international framework to promote a more coordinated approach to pollution and other environmental problems. But fundamentally, the Stockholm Conference made the link between the need to develop by the developing countries (the South- all African countries and the other non-Western developed countries) and the price of such development-further destruction of the ecosystem,- was made. How will

African countries and the rest of the developing world develop, without further destroying the environment?<sup>7</sup>

### **Land Resources in Africa: Potential and Challenges**

Land resources in Africa offer significant potential for economic development and livelihoods, but they also come with a host of challenges that must be addressed to ensure sustainable and equitable use. Here, we will explore both the potentials and challenges associated with land resources in Africa.

Potentials of Land Resources in Africa:

**Agricultural Potential:** Africa possesses vast tracts of arable land, making it capable of significantly increasing agricultural production. With the right investments in technology, infrastructure, and sustainable farming practices, the continent can boost food security and reduce poverty.

**Natural Resources:** Africa is rich in natural resources, including minerals, oil, and gas. These resources are essential for both domestic consumption and export, providing revenue for governments and fostering economic growth.

**Renewable Energy:** The continent has abundant renewable energy sources, including solar and wind. Harnessing these resources can reduce energy poverty and promote sustainable development.

**Biodiversity:** Africa is home to diverse ecosystems and wildlife, attracting tourism and providing opportunities for conservation and eco-friendly tourism.

**Urbanization:** As Africa urbanizes, its land resources offer opportunities for infrastructure development, real estate, and industrial growth, driving economic expansion.

Challenges Associated with Land Resources in Africa:

**Land Degradation:** Destructive practices like deforestation, logging, urbanization and unsustainable farming practices, have led to land degradation in many regions, reducing

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<sup>17</sup> B.T. Bakut (2020), *The Environment, Peace and Conflict in Africa, in Introduction to Peace and Conflict Studies in West Africa* .

agricultural productivity and threatening food security.

**Land Conflicts:** Land disputes are common in Africa, often due to unclear land tenure systems and competing claims. These conflicts can lead to violence and hinder investment.

**Inadequate Infrastructure:** Poor infrastructure, including roads and irrigation systems, limits the efficient utilization of land resources for agriculture and other economic activities

**Climate Change:** Africa is vulnerable to climate change, with rising temperatures and erratic rainfall patterns affecting agriculture and water resources. Adaptation strategies are necessary to mitigate these impacts.

**Land Grabbing:** There could be displacement of some individuals or even local communities, as a result of investors, whether foreign or local, and governments acquiring large tracts of land for agricultural or extractive purposes. This could lead to social unrest and environmental concerns.

**Land Use Planning:** Many African countries lack comprehensive land use planning, leading to indiscriminate and disorderly infrastructural sitings on the land, thus, resulting in haphazard development that can harm ecosystems and lead to inefficient land use.

**Poverty and Inequality:** High levels of poverty and income inequality in Africa can hinder equitable access to and benefits from land resources, exacerbating social tensions.

**Environmental Conservation:** Balancing the need for economic development with environmental conservation is challenging. Unsustainable practices can threaten fragile ecosystems and biodiversity.<sup>8</sup>

Even though Africa has great land resources for economic and agricultural growth, these resources face threats and their sustainability can only be achieved through good stewardship. Land resources in Africa hold immense potential for economic growth and development, but realizing this potential requires addressing the associated challenges. Additionally, addressing poverty and inequality is crucial to ensuring that the benefits of land resources are shared more equitably among all segments of society.

### **Ethical Issues on Land Use and Land Resources**

Environmental philosophers have seen a need to improve on our present ethical codes in order to take into account our behaviour towards the environment. This has developed into a branch of ethics called environmental ethics. Although some philosophers believe that the present ethical codes are adequate to include non-humans simply by extension, some have seen the need to create a completely new ethical and metaphysical description that is human-centred or anthropocentric. To avoid anthropocentrism philosophers have developed an ethics termed 'biocentric ethics'. Biocentric ethics refers to any theory that views any life as possessing intrinsic value. Aldo Leopold (1949) argues that a thing is right where it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise. The moral theory of Aldo Leopold is an invitation for a visit to our interrelationships with nature in which humans have the responsibility and the

<sup>8</sup>Open Ai.(2023). ChatGPT(Mar 14 version) [Large language model].

stewardship towards care.

Although practical solutions are being found to some environmental problems nothing can be done really effectively without a coherent theory to underpin practical decision-making. However, one way to promote any idea is through education, creating literacy on the subject matter. It is fundamental now that environmental education is taught from the Nursery to the Secondary sections of every school and by government mandate a compulsory subject and in the Tertiary institutions, environmental philosophy is made a compulsory course for all faculties in all tertiary institutions. By introducing environmental education to our school curriculum across all page levels, we will be establishing the sustainability of every solution that will be proffered toward environmental preservation because posterity will always be informed. Given that environmental issues have become a global issue, several earths submit have been held to address environmental issues and this study encourages us to adopt their recommendations where necessary. Rio+20 is one of the earth summits organised by the United Nations with the aim of identifying and recommending problems and solutions to humanity's pressing challenges and obstacles to development and a better life. Since 1992, the summit has paid more attention to the environment as a sure way to sustainable development, after all, without it we cannot even be. The purpose of the Rio+2012 issues briefs is to provide a channel for policymakers & other interested stakeholders to discuss and review issues relevant to the objective and themes of the conference, including a green economy in the context of sustainable development and poverty eradication. The goal is to ensure that while we are 'developing we are not also 'dying', that is our methods and models of development must be all-embracing like that of the 'green economy' which includes renewable energy, green buildings, sustainable transport, water management, waste management. The implementation of a green economy guarantees the survival and continuity of biodiversity. The green economy is defined as an economy that aims at making issues of reducing environmental risks and ecological scarcities and that aims for sustainable development without degrading the environment. A study of ecological and environmental issues reveals that the national as well as international survival of our world depends on our involvement in the very survival of the human species and the natural endowments by which man, through its proper management, improves his standard of living and makes this global village a better place to live in.<sup>9</sup>

### **Environmental Education as a Means for Sustainable Development**

The greatest lesson in environmental philosophy, therefore, is that man is bound to face, or rather, is facing an environmental crisis, that human life is in great danger if he does not change his ways, the ways man relates with other 'members' of their environment. As posited by J.U. Emeh: "Philosophy of Environmental education is the logical reflection on and of the essential values or meanings of the educational process as a means of environmental conservation and sustainability."<sup>10</sup> When we engage the tool of philosophy (which is to question) on the issues of environmental degradation and climate change in order to ascertain the what, why, and how of the problems, we find out that it is a result of

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<sup>9</sup>B.C.Berebon and J.G. Gwatana,(2022) Environmental Philosophy: Revisiting the Paradigm shift and Environmental Preservation, *Aquino Journal of Philosophy*,(Nsukka: University of Nigeria) 58-59

<sup>10</sup>B.N. Elijah, (2019), Environmental Philosophy: Its Practices as seen in the life Prof. B.E Nwigwe, *Ramifications of Wisdom, Festschrift in honour of Prof. Boniface E. Nwigwe* (Port Harcourt: University of Port Harcourt Press) 255

certain incautious human activities. For several decades and centuries, issues of values, good, bad, right, and wrong have been limited within the horoscope of the human space, ignoring the presence and importance of other biomes in our ecosystems, therefore our attitude and activities toward this other biomes is the reason for the destruction of both our environment and our very selves. Thus, the ethics of value has had to be redirected from anthropocentrism to more holistic ethics of values for the entire ecosystem. This new paradigm is expressed in environmental ethics or what some call 'anti-anthropocentrism', which is seeking the value for and the protection and preservation of our environmental forces. In a bid for survival in situations of lack and scarcity, people resort to various safe and unsafe means of surviving, therefore, poverty is not left out as it has contributed to the further destruction of the environment. Environmental deterioration has exacerbated the paucity of resources and forced people to adopt survival strategies that are harmful to the environment. Philosophy has the potential to salvage and rehabilitate the environment, and biodiversity through an imperative critical appraisal. Environmental and development policymakers who ignore indigenous environmental philosophy can never achieve the success they desire, Since the environmental movement began four decades ago, there have been many different opinions as to what roles humans should play in protecting and preserving the environment, whether it is important (ethical viewpoint), and also the environment's impact on animals, economics, and creation change. Many people assume that the environment is in no danger and that we do not need to worry about recycling, protecting animal rights, and preserving the environment for future generations. We seem to overlook the fact that, humans are just another living being on the planet and have an equal part in the ecosystem as other living things. Therefore, life on earth should be treated as a single living system that includes interdependent living beings with their own rights. On the other hand, the destruction of the scenery, water pollution, air pollution, and similar environmental problems due to the increase in technology is not only affecting human beings (increase in health problems like asthma), but is also affecting other living things and changing the natural environment we live in. However, if science and technology can create these problems, they should also have a solution to them. For the past few years, humans have been blamed for their domination and greed toward nature.<sup>11</sup> For Tete, at the heart of the environmental crisis is a crisis of education, that is, the failure of modern education to improve “the incredible intricacies of plant and animal community”. Human relation to nature has been largely destructive because available education has been decisively anthropocentric, that is, characterized by undue emphasis on human economic interest to the neglect of environmental health. The environmental education in vogue still considers nature important only for human purposes. The purpose of an ecological education is to fill this gap and thus inspire a new civilization of environmental protection.<sup>12</sup> The environmental education should not just stop at the classroom, the grassroots and communities are called to take local actions to address the environmental crisis.

The government and corporations within communities should take the initiative and a holistic approach to environmental issues, leading to cultivating values and attitudinal approaches, and developing innovative solutions to the environment rather than destroying it. The advocacy is a call for a systemic change towards an eco-friendly

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<sup>11</sup>B.C.Berebon and J.G. Gwatana, (2022) *Environmental Philosophy: Revisiting the Paradigm shift and Environmental Preservation*, 57-58

<sup>12</sup>F. Tete, (2023) *Environmental Ethics, A Multidisciplinary Introduction*, (Akwa Ibom: Inela Ventures and Publishers Ltd) 162

environment, paving the way for a more sustainable harmony with the natural world.

### **Environmental Policy on Land Resources and Land Use**

In order for the African Union to assist member countries in addressing land issues that underpin the sustainable and inclusive development of the continent, there is a need for all stakeholders and the continent's development partners to have a shared vision regarding the need for land policy development as an important process in national development. Throughout Africa, therefore, there is no doubt the need to inform land-related legislation or institution building with an assessment of policy concerns in that sector. What the vision statement set out above offers is a set of parameters, drawn from emerging best practices, within which the comprehensive and systematic development of new or revision of existing land policies, laws, and institutions ought to occur. That land policy development has already become a major item in Africa's economic and political reconstruction agenda is no longer in doubt. Central to that exercise is the conviction that past policies, many of which have been ad hoc or sector-specific have failed to resolve fundamental problems underlying the sustainable development of the land economy and those of related sectors.<sup>13</sup> Face to the alarming threats related to land degradation, the earth's resources have become a major challenge both for environmental reasons (stability of ecosystems, geochemical cycles) and socioeconomic (food, agriculture, fisheries, industrial application) that simply for ethical reasons, as to know the intrinsic value of life. The international community is gradually adopting an arsenal of legal and normative instruments designed primarily to regulate the exploitation of different forms of land use and preserve specific elements of biodiversity. These policies seek to reconcile the conservation of natural resources and economic development. Conservative policies are aimed to protect natural and built resources, including built heritage, by limited access or by an outright denial of access. These policies usually lead to the creation of conservation areas and spaces. Governments take several steps and are equipped with various instruments relating to land use towards the conservation of different forms of land use, including soil, water, vegetation and habitats. Conservation of land and soil By adopting land use plans based on scientific studies, as well as local knowledge and experience and capacity classifications of land use. In this context, agricultural policies and land reforms are essentially aimed: At improving soil conservation including the introduction of farming methods and sustainable forest in order to ensure land productivity in the long term; and fight against erosion caused by the misuse and mismanagement of land that can cause a loss of soils and vegetation surface; - Fight against pollution caused by agricultural activities, including aquaculture and animal husbandry; Conservation policies relating to non-agricultural forms of land use (relating to public works, mining, waste disposal, etc.) are establishing standards and practices that do not support the erosion, pollution or other forms of land degradation. b- Conservation of water resources These policies include the rational management of water resources to ensure: - Maintenance of essential ecological processes and hydro-protection of human health against pollutants and waterborne diseases; - Prevention of damage that may have harmful effects on human health or natural resources by the discharge of pollutants; - Prevent excessive abstraction, to the benefit of downstream communities; - Implement planning policies, conservation, management, use and development of groundwater and surface water, as well as collection and use of rainwater, in order to ensure to people a

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<sup>13</sup>Framework and Guidance on Land Policy in Africa: A Framework to Strengthen Land Rights, Enhance Productivity and Secure Livelihoods, [https://www.un.org/en/land-natural-resources-conflict/pdfs/35-EN-%20Land%20Policy%20Report\\_ENG%20181010pdf.pdf](https://www.un.org/en/land-natural-resources-conflict/pdfs/35-EN-%20Land%20Policy%20Report_ENG%20181010pdf.pdf) (retrieved 11<sup>th</sup> October,2023)

sufficient and continuous supply of suitable water; - Rational management and water conservation in irrigated agriculture, to ensure greater food security and durable agro-industrialization. c- Conservation of vegetal cover These policies aim adoption of plans scientifically established, based on judicious traditions in the conservation, use and management of forests, woodlands, grasslands, wetlands and other areas of vegetation, taking into account the social and economic needs of populations and importance of vegetation to maintain the water balance of an area. Other measures are taken to control fires, forest exploitation, land clearing, grazing by domestic animals and wildlife, and invasive species, and to create forest reserves and implement reforestation programs where they are needed. d- Conservation of species and genetic diversity Implementation of conservation policies of genetic diversity are made under land use plans and sustainable development, particularly the conservation of species and their habitats, with a social, economic and environmental value, or those found only in particular areas.<sup>14</sup>

### **Conclusion**

Africa is confronted with a complex and diverse challenge that demands thoughtful, long-term solutions. This predicament revolves around the intricate interplay among land use, resources, and environmental issues. The continent's cultural, economic, and ecological systems are deeply intertwined with its varied and abundant landscapes. However, this delicate balance is currently under immense strain due to rapid urbanization, population growth, agricultural development, and resource extraction. To address these pressing concerns comprehensively, Africa must employ a holistic land management plan. Such a plan should promote sustainable agriculture practices while prioritizing ethical land utilization and the preservation of vital ecosystems. In addition to implementing new plantings and reforestation efforts, it is imperative to provide ample funding for robust environmental education initiatives that encourage active community involvement. By empowering individuals and communities to safeguard their natural heritage through informed decision-making processes, the foundations will be laid for a brighter future in Africa.

To ensure significant progress in land use planning and resource management, it is essential for governments, local communities, NGOs, and international partners to cooperate. Understanding the inherent connection between land, resources, and environmental well-being allows Africa to strive towards a future where its distinctive landscapes are protected, its people prosper, and its ecosystems flourish. This future not only benefits the continuity but also safeguards the planet's invaluable biodiversity while combating climate change globally. Although addressing complex interactions between land usage, resources, and environmental challenges presents a difficult task for Africa, it also provides an opportunity to pave the way for a resilient and sustainable future on this extraordinary continent.

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<sup>14</sup>INTOSAI WGEA research project Land use and Land management practices in Environmental perspective, <https://www.environmental-auditing.org/media/1219/land-use-research-project-draft.pdf> (retrieved 11<sup>th</sup> October,2023)

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