

Disasters and Child Education in Eastern Africa: Towards an Epistemology of Disasters

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Abstract: This study examines how natural disasters like earthquakes, floods, and droughts as well as man-made disasters like wars and conflicts impact children's education in Eastern Africa. Getting an education is a basic human right that should be available to all children without discrimination or interruption. However, disasters pose a major threat to education and economic development in this region. While several other researches have discussed the consequences of disasters on the human society, this research looks specifically at how disasters force children out of secondary schools, denying them educational opportunities. It aims to develop deeper understanding of how to reduce the negative impacts of disasters on education. The study used qualitative method of inquiry for the determination of the extent of the consequences of natural and man-made disasters in East Africa. The findings show that about one million children per year in disaster-prone areas of Eastern Africa have their schooling severely disrupted by various disasters. Discussions are supported with the sacred Scriptures of predominant religions (Christianity and Islam) where the religious principles underscore the moral imperative to ensure children's safety and well-being, especially during crises. The study recommends that countries in the region develop shared policies for disaster management that prioritize continuing children's education during emergencies. This includes quickly rebuilding damaged schools after a disaster occurs.

Keywords: Natural Disasters, Disasters, Child Education

1. Introduction

Natural and man-made disasters have been affecting education in Eastern African countries, and in recent years, the occurrence of these disasters has increased in this region (Sikulu, 2015). There is growing concern that more and more people in Eastern Africa are becoming vulnerable to the adverse impacts caused by natural disasters like earthquakes, floods and droughts, as well as man-made disasters like wars and conflicts (Sikulu, 2015). Catastrophes happen when institutions are unprepared, and physical infrastructure is inadequate or overwhelmed. This causes disruptions in education, destruction of livelihoods, displacement of communities, and setbacks to development by impacting human development factors, including high the probability of affecting children's educational outcomes (Conteh, 2015).

Schools in the region face challenges in operating when natural and man-made disasters occur. In recent years, many schools were forced to close due to flooding, landslides, wars, earthquakes, and droughts. Students had to transfer to other schools, while others dropped out entirely (Conteh, 2015). Consequently, access to quality education is disrupted, along with economic development opportunities, depriving the population of a decent standard of living (Sikulu, 2015). This study investigates the devastating disasters in the region and analyzes their impact on education.

The most frequent natural disasters in Eastern Africa are flooding, landslides, earthquakes, and droughts, while the primary man-made disaster is civil war. The destruction caused by these disasters is massive. In Eastern

African countries, disaster management is often underdeveloped, similar to most developing countries. As a result, exposed populations are more frequently subjected to severe catastrophes, consequently disrupting education, causing economic losses, and in the worst cases, loss of life (UNEP, 2002). This research considers the impact of these catastrophes on children's lives and their education. The work looks at the countries within the East African Community: Tanzania, Kenya, Uganda, Rwanda, Burundi, the Democratic Republic of Congo, and South Sudan, which share many similarities (Gebremeskel Haile et al., 2019).

2. Literature Review

In Eastern Africa, floods, landslides, drought, disease and conflicts are some of the major factors that trigger disasters that cause people to flee from their homes. These natural and man-made disasters pose a huge threat to the education and economic development of the region. According to Ben Wisner and colleagues (2003), East Africans remained vulnerable to natural and man-made hazards due to factors associated with a lack of resources, lack of knowledge, and technology to adapt or adequately respond to the effect of natural and man-made disasters.

The ongoing drought in the East Africa region, the 5.9 magnitude earthquake that hit North West Tanzania, the flood in South Sudan, the flood in Western Kenya, the floods in Dar es Salaam in Tanzania, and the Mount Elgon landslide are some of the recent disasters whose impacts were still being felt in the region. Eastern Uganda, Northern Kenya, South Sudan, and some parts of Tanzania are experiencing one of the severest droughts in history. The drought's intensity varies across locations but their negative effect on agriculture cannot be overemphasized. This greatly impacts children's educational outcomes in the affected areas (World Bank, 2017). The farmers who depend entirely on agriculture and experience drought suffer from decreases in income and food access, which decreased the health and nutrition of the children (WHO, 2008). It also affects household resource allocation and they are unable to meet school obligations while exposing parents and children to stress and uncertainty. The drought also led to a significant decline in academic performance; is assorted with hunger, a child who is hungry cannot concentrate in class and can understand or misses school often thus their academic performance becomes poor (Osman, 2018).

The ongoing wars Democratic Republic of Congo and South Sudan are some of the man-made disasters in the region and affect the education and economic sectors more (Mateche, 2011; Gracia & Newman, 2018; Palterman, 2014). Additionally, environmental degradation, growing human populations, unsustainable exploitation of environmental resources, poor land use, and poor disposition of plastic bottles and plastic bags are some of the factors affecting stability in the region (Palfreman, 2014). The region is also predisposed to man-made disasters such as urban fires, wars, water pollution, HIV and AIDS, and outbreaks of disease epidemics like Ebola and Covid-19. Floods in cities and major towns affected populations who are generally poor and unable to pay for more secure pieces of land and build stronger houses. The combination of highly informal infrastructure and climate hazards makes flood risk a critical challenge in cities and urban areas (Start, 2011). Heavy rainfall frequently causes flooding, particularly in the unplanned settlements of high-risk flood areas. The poor also move into areas prone to natural hazards, particularly urban centers on floodplains, rivers exposed to floods, and along coastlines exposed to cyclones and storms (Ocha, 2020).

Studies disclosed data on displacement in the East African Community region indicates that the internally displaced populations in Uganda are 95,000 the highest number of people who live as internal refugees due to natural disasters, next is South Sudan with 75,000 people displaced by disaster, while Kenya comes in third with 35,000. Tanzania at 1,900, is the lowest number of people displaced by disaster, which experts say has to do with the country's favourable terrain, more trees, and lower population density when compared with the other East African Community states. According to Asiimwe (2019), there were no statistics for Burundi and Rwanda. Research shows that the impact of climate change on the frequency and intensity of extreme weather events and environmental degradation will increase displacement risk further; as rainfall patterns become more unpredictable and more intense and sea levels rise, causing more coastal flooding. These variations in climate will also translate into more frequent and/or severe storms, rain, flooding, and drought cycles in East African Community (IPCC, 2018).

Heavy rainfall led to the flooding of the river Nile has a devastating effect in South Sudan and due to heavy rain, which led to floods also had a devastating effect in Western Kenya and Eastern Uganda destroying a number of schools. Good numbers of schools had to be used as an affected community as shelters; preventing the normal operation of the school. The damage to the school's infrastructure, and bridges linking schools and villages sometimes damaged often interrupt child's education. This is even more devastating in Eastern Africa where the resources are already strained; the damaged school infrastructure and bridges are not repaired in time.

3. Statement of the Problem

Access to education in East African countries has been severely impacted by natural and man-made disasters, particularly prolonged civil conflicts (Selby & Kagawa, 2012). The ongoing civil wars in South Sudan and the Eastern Democratic Republic of Congo (DRC) have resulted in the destruction of school infrastructure, rendering many educational facilities inoperational. Similarly, the internal conflict in Northern Uganda led to the abduction and forced recruitment of children into warring groups, displacement of approximately 400,000 people into Internal Displaced Camps (IDPs), and the loss of countless lives (Selby & Kagawa, 2012; Kanu & Agbo, 2023). These conflicts have had devastating effects on the educational sector, denying countless students access to schooling.

Moreover, the experiences endured by children in war zones are highly traumatizing, with many witnessing the killing of loved ones, being forced to sleep in the bush out of fear, or being compelled to commit acts of violence themselves (Rappaport, 2012). These profound traumas can lead to chronic issues and serious problems with learning and behaviour. Rappaport (2012) notes that trauma poses a significant challenge for educators, as children often do not express their distress clearly, manifesting instead in aggressive behaviors or withdrawn demeanour. Traumatized children face difficulties in learning due to a lack of concentration, forgetfulness, and unfriendly behaviour, hindering their academic performance and the attainment of educational objectives (Kanu et al., 2024). In light of these challenges, this research seeks to examine the fate of children who have been displaced and denied educational opportunities in secondary schools due to natural and man-made disasters in the East African region. The study aims to investigate the effects of these disasters on child education, with the goal of informing strategies and policies to mitigate the adverse impacts and ensure continued access to quality education for affected populations (Kanu et al., 2024).

4. Significance of the Study

This study highlights the significant impact of natural and man-made disasters on children's education in Eastern Africa. Around one million children per year are severely disrupted by disasters, highlighting the need for targeted interventions to ensure continuity of education during emergencies. The research can guide policymakers in developing strategies for rebuilding damaged schools, providing temporary learning spaces, and implementing distance learning solutions. It also recommends developing shared policies for disaster management that prioritize continuing children's education during emergencies, which can foster regional cooperation and collaboration. The findings can also inform the development of disaster preparedness plans and curriculum adjustments within the education sector, preparing students and staff to respond effectively during crises. The research can raise awareness among policymakers, educators, and the public about the consequences of disrupted education due to disasters, driving advocacy efforts and mobilizing resources towards initiatives prioritizing education in emergency response and recovery efforts. The integration of biblical perspectives aims to provide a holistic understanding of the issue and inform ethical considerations surrounding the protection of children's rights to education.

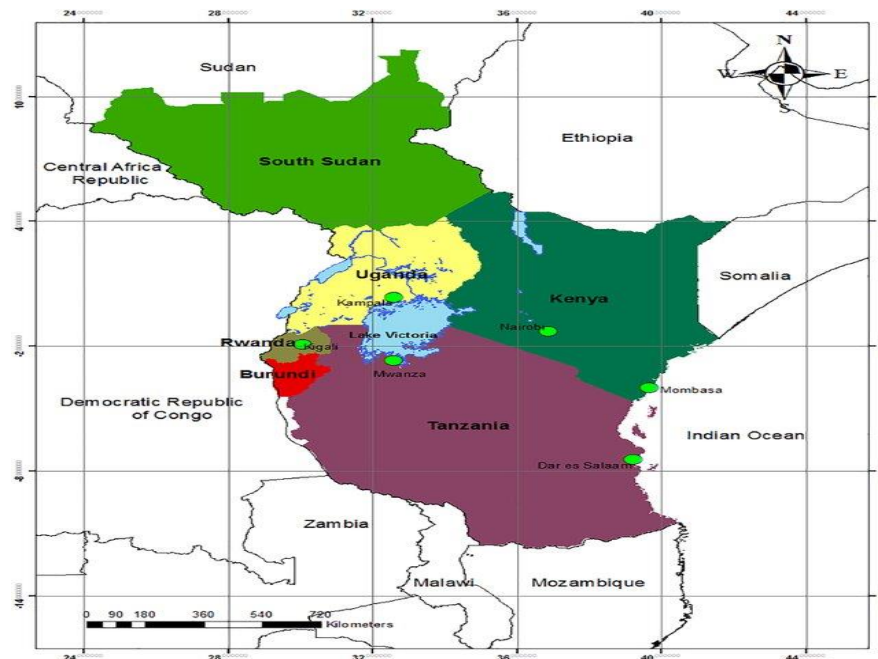
5. Research Questions

- 1- What are the effects of natural and man-made disasters on school infrastructures, teaching and learning materials, and social fabric?
- 2- How do natural and man-made disasters effects students and their education attainment in East African Countries?
- 3- What are the mitigation measures employed by the ministry of education and sport of East African Countries in managing natural and man-made disasters?

6. Research Methodology

This study employs a qualitative research design based on case study technique to examine the effects of natural and man-made disasters on education in Eastern Africa. Case studies are useful in explaining events, illustrating research questions, and raising awareness about the effects of disasters on education. They present the contributing factors of disasters and analyse the causes of these effects through a narrative overview of available data (Philips, 2014). Case studies provide valuable analyses of processes and practices in disaster risk management on education, offering an opportunity to learn from experience and identify evidence-based good practices to mitigate the effects of disasters on education (Fussell, 2018).

Figure 1: Map of Eastern Africa



Source: Telesphore, K., Wilson, D. C., and Nishimwe, H. (2019)

The study sample consisted of seven head teachers of secondary schools affected by natural and man-made disasters in Eastern Africa. The instruments used for the study were interviews and memos from the head teachers who experienced civil war, flood, landslide, and drought. The instrument was validated through submission of copies to two experts in measurement and evaluation to confirm its face validity. Ambiguous and irrelevant items were dropped, and the instrument was reviewed and improved upon. This qualitative research design provides an alternative design for retrospective learning, evaluation, and design of the effects of disasters on education, improving the quality and consistency of case studies and scientific results. Finally, biblical hermeneutical approach was utilized to interpret and apply relevant scriptural passages where the welfare of children is emphasized as ethical imperative for every human society. Moreover, Islamic sources, including the Qur'an, Hadith (prophetic traditions), and scholarly interpretations are employed to depict the nature of religious beliefs in the study area.

7. Findings

The findings from the interviews with headteachers who experienced various natural and man-made disasters in Eastern Africa reveal the devastating impact these events have had on children's education in the region. For the sake of clarity, the findings would be presented according the nature of the disasters as follows:

a. Impact of Civil War

During the civil war in Northern Uganda, schools were destroyed, educational infrastructure (buildings, bridges, teachers' houses) were damaged, and teaching/learning materials were lost, causing direct effects on education.

Students were abducted from schools by rebel groups, with some managing to escape. Entire schools had to be displaced to nearby trading centers or camps due to insecurity. Three teachers were killed, and it took years to replace a math teacher at one displaced school, severely affecting students' academic performance. Children whose parents were killed experienced traumatic experiences, manifesting in aloofness, aggression, and forgetfulness, which teachers were ill-equipped to handle.

Plate 1: Classroom used as an armory by the Congolese army in Bunagana



Source: Reuters (2012)

b. Impact of Floods

Abnormal rains and flash floods destroyed schools, homes, hospitals, bridges, shops, and crops in various regions, including Mbale and areas near Mount Elgon, leading to the destruction of infrastructure. Undamaged schools became shelters for displaced people, leading to overcrowding and disruptions in teaching and learning. In some cases, candidate classes (exam-going students) were temporarily relocated to neighbouring schools that were less affected. Outbreaks of diseases like diarrhoea and cholera due to contaminated water, as well as food shortages due to destroyed crops, posed health risks for students and the population.

Plate 2: Floded area in Kisumu, 400 kilometers west of Nairobi, Kenya



Source: Dahir 2018

c. Impact of Landslides

Landslides, particularly in mountainous areas like Mount Elgon, destroyed crops, leaving people without food and disrupting children's school attendance, leading to the destruction of crops and livelihoods. Schools, teaching/learning materials, and transportation systems (roads and bridges) were damaged or destroyed by landslides. Affected schools were closed for extended periods, disrupting the academic schedule and preventing the completion of the syllabus. During school closures, boys often roamed in groups, and cases of teenage pregnancy increased, resulting in social issues.

Plate 3: Landslides at Mount Elgon, Uganda



Source: *The Independent* 2019

d. Impact of Droughts

Droughts caused famine, leading to school closures and children dropping out, with some using school buildings as evacuation centers, causing famine and school closures. In pastoral communities, droughts led to the loss of pastures and water sources, resulting in the death of livestock, which was their primary livelihood, leading to the loss of livelihoods. Unqualified teachers were employed to keep schools open, compromising the quality of education provided to students. Drought caused declining forage resources, reduced calving rates, and loss of milk production, leading to health hazards and malnutrition among the population and students, posing health concerns.

Plate 4: Children internally displaced by drought at Kura Kalicha Camp, Ethiopia



Source: *Reuters* 2023

Additionally, the findings of this study agree with the biblical values of compassion, justice, and the protection of the vulnerable. The disruption of children's education due to disasters not only violates their fundamental rights but also hinders their overall development and potential to contribute positively to society. The Bible emphasizes the importance of providing for and nurturing children, as exemplified in passages such as James 1:27, which defines pure religion as caring for orphans and widows in their distress. Similarly, the concept of "leaving no one behind" resonates with Jesus' teachings about valuing and embracing the marginalized (Luke 14:13-14). Meanwhile, the Qur'an emphasizes the importance of cooperation and mutual support, stating, "And cooperate in righteousness and piety" (5:2), which can be applied to the collective efforts required to address the challenges posed by natural and man-made disasters.

To sum up, these findings highlight the severe impacts of natural and man-made disasters on children's education in Eastern Africa, ranging from physical destruction of infrastructure and displacement to psychological trauma, health concerns, and disruptions in academic continuity and quality.

8. Religious and the Right of Children to Education

The Bible places a strong emphasis on the value and protection of children. In Matthew 19:14, Jesus states, "Let the little children come to me, and do not hinder them, for the kingdom of heaven belongs to such as these." This verse underscores the importance of safeguarding children's well-being and nurturing their spiritual and intellectual development. Furthermore, the biblical principle of justice and compassion for the vulnerable is highly relevant to the issue of ensuring educational access for children affected by disasters. Proverbs 31:8-9 exhorts, "Speak up for those who cannot speak for themselves, for the rights of all who are destitute. Speak up and judge fairly; defend the rights of the poor and needy." This mandate resonates with the need to advocate for and protect the educational rights of children in disaster-affected regions.

Among the Muslims, the Qur'an and Islamic traditions place a strong emphasis on the value of knowledge, education, and the well-being of children. The Qur'an states, "And say, 'O my Lord, increase me in knowledge'" (20:114). This emphasizes the importance of seeking knowledge as a fundamental principle in Islam. Moreover, the Prophet Muhammad is reported to have said, "Seeking knowledge is an obligation upon every Muslim" (Ibn Majah), underscoring the importance of education for all, including children. In the context of protecting children's rights, the Qur'an emphasizes the importance of upholding justice and caring for the vulnerable. In 6:152 it states, "And do not approach the orphan's property except in the best way until he reaches maturity," When interpreted in context, this delineates the responsibility of society to safeguard the rights and well-being of children, including their access to education.

9. Discussion

The findings of this study underscore the severe disruptions caused by natural and man-made disasters to children's education in the East African region. Approximately one million children per year in disaster-prone areas experience severe interruptions to their schooling due to various catastrophic events. This violation of the fundamental right to quality education puts children at heightened risk of exploitation, child labour, and other detrimental consequences, particularly for girls who may become victims of rapes and even sexual slavery during conflicts (Sikulu et al., 2015). The research reveals that educational access is intensified by the damage or destruction of schools due to floods, wars, and landslides, as well as the use of school facilities as evacuation centers. The loss of classrooms and learning materials makes it nearly impossible to provide quality education, which in the long run contributes to the poor academic performance observed in schools located in disaster-prone areas.

The study reveals that the government disaster management policies in the region appear inadequate, as they lack proper resourcing and prioritization at various administrative levels and within communities. These policies primarily focus on emergency response under social welfare departments, with limited attention given to educational interventions (Chang et al., 2013). However, investing in education during and after disasters can have multidimensional benefits, including saving lives, protecting children, and benefiting entire communities and nations. The study highlights the potential areas schools help in strengthening humanitarian effectiveness, reducing vulnerabilities, and supporting risk mitigation for future threats. While the costs of educational

interventions during emergencies can be high, preventive measures and addressing root causes, such as climate change and man-made conflicts, could make these costs more manageable.

The findings further emphasize the need for disaster management policies to include education, authorizing investments that can enhance the resilience of national education systems and better prepare local schools to tactfully survive crises, promptly returning children to learning environments (Chang et al., 2013). The research profiles specific disasters that have impacted East African countries, including floods in Eastern Uganda and Western Kenya, landslides in mountainous regions, civil wars in the Democratic Republic of Congo (DRC) and South Sudan, droughts in Eastern Uganda and Northern Kenya, and earthquakes in Tanzania. While the scale of these disasters varies, the disruption to education remains a common consequence. In countries like the DRC, South Sudan, and Northern Uganda, ongoing civil wars have caused large-scale disruptions, with many children losing years of schooling. Even in smaller-scale disasters, such as the post-election conflict in Kenya, children were out of school for shorter periods, nonetheless impacting their educational journey (Sikulu et al., 2015). The study underscores the compounding negative impact on children's education in areas affected by conflicts, where schools remain closed, and students regularly lose school days throughout their entire educational experience. This interruption of schooling, coupled with damage to infrastructure, often necessitates critical educational support to ensure the long-term development of affected children (Chang et al., 2013). Furthermore, the research highlights the possibility for brain drain, as qualified teachers may be reluctant to take up positions in affected areas. The ripple effect of this is shortages of skilled personnel. The absence of qualified teachers, combined with dilapidated learning infrastructure, hampers the quality of education offered to students, which at the end of the day affects their academic performance (Chang et al., 2013). Finally, prolonged school closures due to disasters expose female learners to increased risks of early marriages, sexual abuse, and rape (Sikulu et al., 2015).

10. Recommendations

The findings of this study have necessitated the critical need to address the severe disruptions caused by natural and man-made disasters to children's education in the East African region. Several recommendations emerge from the discussion:

Strengthening disaster management policies and frameworks is crucial to prioritize educational continuity. Governments should review and enhance their disaster management policies to explicitly incorporate provisions for maintaining access to education during and after emergencies. Furthermore, dedicated resources and funding should be allocated for educational interventions within disaster management budgets.

Developing comprehensive school safety and resilience plans is imperative. Implementing disaster risk reduction strategies within the education sector, such as developing contingency plans, emergency response protocols, and temporary learning spaces, is essential. Additionally, investing in fortifying school infrastructure to withstand natural hazards and ensure quicker recovery after disasters is vital.

Establishing alternative education delivery mechanisms can ensure educational continuity when physical access to schools is disrupted. Exploring distance learning solutions, such as online platforms or radio-based instruction, is recommended. Furthermore, providing accelerated learning programs and catch-up classes can help students recover lost instructional time.

Strengthening teacher training and support systems is crucial. Providing specialized training for teachers to equip them with skills for teaching in emergency contexts and addressing the needs of traumatized students is necessary. Moreover, implementing incentives and support mechanisms can help retain qualified teachers in disaster-affected areas and prevent brain drain.

Enhancing regional cooperation and coordination among East African countries is essential. Fostering collaboration to share best practices, resources, and expertise in managing educational disruptions caused by disasters is recommended. Additionally, developing regional frameworks and protocols for cross-border cooperation in emergency education response is vital.

Prioritizing protection and safety measures for vulnerable groups, particularly girls, is crucial. Implementing targeted interventions to prevent gender-based violence, early marriages, and sexual exploitation during

emergencies is necessary. Furthermore, establishing safe spaces and psychosocial support systems within schools and temporary learning environments is recommended.

Promoting multi-stakeholder partnerships and community involvement is vital. Encouraging collaboration between governments, non-governmental organizations, international agencies, and local communities in disaster preparedness and response efforts related to education is recommended. Furthermore, empowering communities to participate in the development and implementation of disaster risk reduction strategies for schools is essential.

Investing in disaster prevention and mitigation strategies is crucial. Addressing root causes of disasters, such as climate change adaptation measures, conflict resolution, and peace-building initiatives, can reduce the occurrence and impact of disasters on education systems. Indeed, allocating resources for early warning systems, environmental protection, and sustainable development practices can mitigate the effects of natural hazards. These recommendations aim to enhance the resilience of education systems, ensure continuous access to quality education during and after disasters, and protect the well-being and rights of children in the East African region, in this regard, it is noteworthy that the church and other faith-based organizations can play a vital role in advocating for and implementing these recommendations, drawing inspiration from the biblical mandate to care for the least of these as presented in Matthew 25:40.

11. Conclusion

The East African region is facing a significant challenge in ensuring children's education, particularly during times of crisis. Natural and man-made disasters have caused lasting consequences on children's education, including damage to school infrastructure, displacement of communities, and trauma experienced by children. These disruptions also heighten the risks of exploitation, child labor, and gender-based violence, especially for girls in conflict-affected areas. To address these challenges, there are various approaches that involve strengthening disaster management policies, developing comprehensive school safety plans, and establishing alternative education delivery mechanisms. This is not only a moral imperative but also a strategic investment in the region's future, as education promotes socio-economic development, peace, and stability.

The study emphasizes the importance of regional cooperation, partnership of stakeholders, and community involvement in disaster preparedness and response efforts related to education. By promoting collaboration and sharing best practices, East African countries can collectively build resilient education systems that can withstand and recover from emergencies, ensuring no child is left behind. The integration of biblical and Qur'anic perspectives into this study provides a deeper understanding of the ethical and moral imperatives surrounding the protection of children's educational rights. Biblical principles of justice, compassion, and the inherent value of children serve as motivation for addressing the challenges posed by natural and man-made disasters. Islamic principles of seeking knowledge, upholding justice, and caring for the vulnerable also provide a strong foundation for addressing the challenges posed by natural and man-made disasters. In conclusion, the true measure of a society's commitment to its future lies in protecting and nurturing the potential of its youngest members, even in the face of adversity.

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