



# The Natural Resources Endowments Inside Africa: A Case-study in Triple Bottom Line (TBL) Applicative Generative Model

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## ABSTRACT

Natural resources of 40% of World's Gold, 65% of World's Arable Land, 90% of World's Platinum & Uranium & 10% of Earth's renewable Fresh Water Routes are endowments inside Africa. This is African Evidence of abundant resources in blessing to transform national economies, let alone real-time political and social unrests.

People-Politicking-Welfare (PPW) ought to be thought out for economical, sociological & environmental set-standardizations just like 'one-for-all and all for one visible Fibonacci bias in Nature optimizing spread of Resources in space. The PPW would form concise and indivisible trinity, giving meaning to inherent settlement treaty. Isolated, each signifies quantitative superficiality without qualitatively valued relevance. Put to unity-test, trinity radiates conceptual education in Economics, Sociology and Environmental Science of accountability owing to contrasting racial activities and enterprises. This is actually examined by academic analysts and synthesizers in the process of distilling the world of educational structures

Therefore, the term Triple Bottom Line (TBL) or 3BL (Three Bottom Lines) was born and has been extended to measure the impact of the Total Return Value Triad, also known as sustainability-based accounting models. Examples include the social feasibility of a country's political policies, costs, and investment decisions. TBL's applied philosophical approach deals with Africa's natural resources endowments.

By referring to TBL case-study, this Paper casts TBL shadow over resources for value-relevance in the routes of economic, social and environmental transformation ideally as the applicative generative model of universal generative grammar wherein grammar implies basic principles of any area of knowledge like TBL.

**Keywords:** Africa, Bottom, Endowments, Lines, Natural, People, Politicking, Resources, Triple, Welfare

## 1. EVERY RESEARCH HAS THE BEGINNING OF UNIQUE INDEX



### 1.1 RESEARCH METHOD & METHODOLOGY

Qualitative research is an investigative process aimed at generating comprehensive insights into various issues within their authentic contexts. It is a non-statistical approach, as stated by Alexander and Dochy (1995). The effectiveness of qualitative research relies heavily on the researcher's expertise in collecting abundant information pertaining to the subject matter from accessible sources such as contents, texts and contextual-narratives.

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## 2. INTRODUCTION

As has been referred to in the Abstract, the awareness of the one for all and all for one visible knowledge called the Fibonacci bias in the Mother Nature is described as follows in respect of what it has in store to explain.

The Fibonacci sequence is a fundamental pattern found in nature, art and mathematics. It is characterized by a series of numbers where each number is the sum of the previous two numbers (1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, etc.). This order has been observed in various aspects of nature, such as the arrangement of leaves on a stem, the branching of trees, the flowering of artichokes, and the structure of pineapples. Fibonacci bias refers to the tendency of natural patterns to follow the Fibonacci sequence. This bias is probably due to the efficient use of natural space and resources. For example, the spiral arrangement of the leaves on the stem allows each leaf to receive the optimal amount of sunlight and space, maximizing the photosynthetic capacity of the plant. Similarly, the branching of trees and the flowering of artichokes follow the Fibonacci sequence to optimize the distribution of resources and space. The Fibonacci bias is also observed in the animal kingdom, where it is thought to play a role in the formation of patterns and shapes that enhance survival and reproduction. For example, the spiral patterns of snail shells and the arrangement of seeds in the head of a sunflower follow the Fibonacci sequence. In addition to occurring in nature, Fibonacci biases have also been observed in man-made patterns such as architecture, art and music. The series is believed to create a sense of aesthetic harmony and balance, which is why it is often used in the design of buildings, sculptures and musical compositions. Although the Fibonacci bias is a ubiquitous pattern in nature, it is not a hard and fast rule. There are many cases where natural patterns deviate from the Fibonacci sequence, and the reasons for these deviations are not always clear. However, the Fibonacci bias remains an important tool for understanding and describing patterns and structures in nature.

Africa is blessed with a wealth of natural resources, including diverse wildlife, vast mineral deposits, fertile land, and breathtaking landscapes. These assets can possibly drive monetary development, further develop livelihoods, and moderate the climate. Be that as it may, their double-dealing frequently faces difficulties connected with maintainability, value, and social obligation. It could be noticed that entire practice in this piece of examination similarity shouldn't seem like old wine in new container since Regular assets @ 40% of World's Gold, 65 % of World's Arable Land, 90% of World's Platinum, 90% of World's Uranium, and 10% of Planet's sustainable New Water Courses are gifts inside Africa having a place with and in the hearts of mainland Africans.

The Triple Bottom Line (TBL) approach becomes the finest framework for assessing the impact of resources-utilization on the three interconnected pillars of the economic, the social and the environmental salience. Applying TBL frame to Africa's natural resource management implies a future where development benefits people, planet, and prosperity allowed rising hand-in-hand. Challenges and prospective opportunities concerning TBL implementation are subject to type of resource being utilized, the geographical location, and the socio-economic context. In other words, Triple Main concern (TBL) move toward natural resources offers an important structure for evaluating the effects of asset usage on the three interconnected points of support, specifically, the monetary, the social and the natural. By applying the TBL system to Africa's regular asset execution and exhaustion, one can take a stab at a future where improvement benefits individuals and the Planet. Also, flourishing remains in place and inseparable. The particular difficulties and open doors connected with TBL incorporation will change contingent upon the kind of asset being used, the geological area, and the financial setting.

Striking a balance between the three outcomes can be difficult, and in worthy cases compromises may be necessary. Open dialogues and participatory decision-making in group work can help identify and mitigate potential conflicts. Thus, the TBL approach applies not only to governments and corporations, but also to individuals. By making informed choices about what products Africa consumes and what businesses Africa supports, Africans can contribute to a more sustainable future for Africa and its natural resources.

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## 3. LITERATURE SURVEY'S BETTER-READ-BEST

*Kilton José Luis Lauter Portugal, (2016). "The impact of natural resources on economic development in Africa"*

An abundance of natural resources promotes economic growth as more foreign trade and more capital goods are imported to build the economy. Also, money from natural resources can be used to raise capital. In addition, research shows that rich countries grow faster than poor countries, a phenomenon known in the economic literature as "wealth growth." The complex and dynamic relationship between natural resources and the economy The development has long been recognized by international research and development organizations, and continues to attract the attention of experts worldwide, producing extensive research groups and documents.



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This paper investigated the relationship between economic development and environmental development in Africa. Property based on the economic conditions of the data group. Using three different indicators showing resource dependence, the results show that natural resources It is important to predict the economic growth of African countries. Some indicators have negative coefficients, others have positive coefficients, and are not statistically significant in the estimation models. Overall, the results show that natural resources are not important in predicting economic development in Africa.

This paper studied the association between economic development in Africa and natural resource wealth founded on panel data econometric techniques. With three different indicators that could proxy for resource dependence, the outcomes suggested that natural resources were important to predict economic growth in African countries. Some indicators have negative and other indicators have positive coefficients and are not statistically significant in all the models estimated. Overall, the results show that the natural resources were insignificant to predict economic development in Africa, at least over the sample period considered.

#### 4. TRIPLE PERSPECTIVES ON AFRICAN ENDOWMENTS & TBL TREADING

The TBL approach is not a one-size-fits-all solution, and its implementation will require context-specific strategies and ongoing adjustments. However, it provides a valuable compass for navigating the complex challenges and opportunities associated with Africa's natural resource wealth. By prioritizing all three bottom lines, we can ensure that Africa's resources become a catalyst for inclusive, sustainable, and prosperous development for generations to come. Here are some additional points to consider besides recalling colonial governance threats .

The specific challenges and opportunities related to TBL implementation will vary depending on the type of resource being utilized, the geographical location, and the socio-economic context. Striking a balance between the three bottom lines can be challenging, and trade-offs may be necessary in some cases. However, open dialogue and participatory decision-making can help to identify and mitigate potential conflicts. The TBL approach is not only relevant for governments and corporations, but also for individuals. By making informed choices about the products, we consume and the companies we support, we can contribute to a more sustainable future for Africa's natural resources.

<b>Colonial Governance</b>	
<b>Governance Aspect</b>	<b>Threat</b>
<b>1. Institutions &amp; power structures</b>	<b>The colonial institutions and built-in-power-sharing structures unabatedly shape African governance even now-a-days having created challenges for democracy and development of Africa.</b>
<b>2. Resource allocation and corruption</b>	<b>The legacies of colonial resource allocation patterns and corruption hindered progressive economic development and equitable distribution of resources got paralyzed</b>
<b>3. Post-colonial conflicts and instability</b>	<b>Colonial boundaries and political systems contributed to post-colonial conflicts and instability in many African countries.</b>

### Triple Perspectives on Natural Resources Endowments Inside Africa for the TBL Treading warily in

**Perspective One :** Africa is rich in natural resources, from fertile soils and rich mineral deposits to diverse wildlife and stunning landscapes. These resources have the potential to promote economic growth, improve livelihoods and protect the environment. But their operations often face challenges related to sustainability, equity and social responsibility. The Triple Bottom Line (TBL) approach creates a valuable framework for assessing the impact of resource use on interconnected pillars.

**Perspective Two :** Africa is incredibly rich in natural resources, from fertile lands and lush rainforests to mineral-rich deposits and vast coastlines. These resources have enormous potential to stimulate economic growth, reduce poverty and improve the lives of millions of people. However, their exploitation is also characterized by environmental degradation, social injustice and unsustainable practices. The Triple Bottom Line (TBL) provides a valuable lens through which to study natural resource management in Africa. It emphasizes the links between three main dimensions.

**Perspective Three :** From fertile soil and vast mineral resources to diverse ecosystems and breathtaking landscapes, Africa has an amazing array of natural resources. These resources have great potential to stimulate economic growth, reduce poverty and sustain development. But harnessing this potential requires a careful and balanced approach that takes into account not only the economic benefits, but also the environmental and social consequences. This is where the Triple Bottom Line (TBL) becomes an exploitable mechanism.

## 5. TBL GUIDE-POSTS & NATURAL RESOURCES

The use of work-based learning (WBL) in the context of Africa and its natural resources can provide significant benefits. Applying TBL to Africa and its natural resources can produce revolutionary results. The implementation of TBL in Africa and the natural resource sector will lead to the adoption of new approaches that can increase its potential. The use of TBL in the context of Africa and natural resources offers opportunities for innovative strategies and sustainable development. The application of TBL to Africa and its natural resources can pave the way for better use and management of these valuable resources. Summarized, following are the leading guide-posts.

- Utilizing Task-Based Learning (TBL) in the context of Africa's abundant natural resources can yield significant benefits.
- The application of TBL to Africa's natural resources can bring about transformative outcomes.
- By implementing TBL in the realm of Africa's natural resources, a new approach can be adopted to maximize their potential.
- The utilization of TBL in the context of Africa's natural resources presents an opportunity for innovative strategies and sustainable development.
- Applying TBL to Africa's natural resources can pave the way for enhanced utilization and management of these valuable assets.
- Paradox of Resource curse: Abundancy in resources magnifies economic stagnation or economic downfall even generating bad corruption, violent conflict, and disadvantaged negative management
- Deterioration of good Environmental: Polluted climate, truncated and de-forestations, viral pollution, and weakened biodiversity project doughtrodden sustainability owing to resource extraction overmuch than feasible.
- Social imperfections vide inequities: Unequal dispersal of benefits from resource-produced wealth will promote inequalities and fuel social agitations by haves and have-nots.

By applying the TBL framework to Africa and natural resource management, we can work towards a future where development benefits people, planet and life. For this , one needs the following input-awareness.

- ❖ Clear governance: Strong institutions and effective laws are important to prevent corruption, ensure a fair distribution of resources and hold companies accountable for their environmental and social impact.
- ❖ Community Participation: Communities must have a say in how their resources are used and benefit from the economic and social development that follows.
- ❖ Technological innovation: Investing in clean technologies, responsible extraction methods and efficient materials can reduce environmental impacts and increase economic performance.
- ❖ International Relations: Developing countries and international organizations can support Africa and its sustainable development efforts through knowledge sharing, capacity building and responsible investment. This is otherwise known to be global partnerships.







According to the Global History Faculty, Africa was colonized by the Dutch, French, and British due to the sizes of racial population, racial qualities, and arms & ammunition. In the field of African Studies, there is an understanding of geo-colonialization, which refers to the process of subjecting or subjugating a region through colonization. This phenomenon occurred between Africans and multiple non-African races, where natural resources witnessed a complex interplay between economic exploitation, political manipulation, and social upheaval. While the primary objective of colonial powers was to extract resources and maximize profits, their actions also had significant social and environmental consequences as seen hereunder.

SL No	Colonially Positive	Colonially Negative
1	Development of infrastructure, including ports, railroads, and communication networks, which facilitated trade and economic activity.	Exploitation of natural resources for the benefit of European powers, leading to depletion and environmental damage
2	Introduction of new technologies and agricultural practices, leading to increased productivity and resource extraction.	Forced labor and unfair trade practices, resulting in economic hardship for African societies
3	Creation of new markets for European goods and services	Disruption of traditional economic systems and land ownership patterns.
4	Limited spread of certain diseases through improved sanitation and medical care	Loss of cultural identity and traditions due to forced assimilation and Europeanization
5	Increased access to education and literacy programs	Social unrest and conflict due to political and economic marginalization
6	Introduction of new cultural influences and ideas	Breakdown of traditional social structures and family units
7	Introduction of conservation measures for certain species and natural resources	Deforestation and habitat destruction due to resource extraction and agricultural expansion
8	Development of agricultural techniques that improved soil quality and prevented erosion	Pollution of air and water resources from industrial activity.
9		Overexploitation of land and water resources, leading to degradation and desertification.






## 6. SWOT (STRENGTHS-WEAKNESSES-OPPORTUNITIES-THREATS) ANALYSIS OF TBL



SWOT (Strengths-Weaknesses-Opportunities-Threats) Analysis of TBL			
S	W	O	T
Share in the benefits of resource development & equitable benefits	Weak governance	Preventing exploitation by minimizing ecological footprint of resource extraction	Corruption
Transparency & accountability resourceful management	Different stakeholders to be balanced	Governments, corporations, local communities,	Competing interests
Building necessary infrastructure	Limited infrastructure and capacity	Significant investment	Decision-making processes
Sustainable resource management & Community engagement & sustainable practices	Sharing reciprocal benefits of resource utilization	Training local communities/ empowering/ benefiting present & future generations	
Creates green jobs in renewable energy, sustainable agriculture & ecotourism		Driving simultaneous & sustainable development in economic growth, social progress, and environmental protection	
Skills & equipping of populations in resource economy.			

## 7. TBL'S ANALYTICAL IMPACT ON AFRICAN PEOPLE-PROFIT-PLANET

The analysis of the Triple Bottom Line (TBL) reveals that The Triple Line (TBL) approach provides an important perspective for examining Africa and its natural resource management. It highlights the interconnection of three important areas: people, products and the planet. In other words, the triple bottom line (TBL) approach provides a valuable lens for studying natural resource management in Africa. It highlights the relationship between three key dimensions: people, profit and planet.

-  **Profit:** Economic viability and financial stability are important for asset acquisition or utilization projects.
-  **People:** The social well-being of nearby communities and the even-handed dispersion of benefits are significant for long-term victory.
-  **Planet:** Environmental protection and resource management are essential to ensure sustainable and long-term resource development.



<A helpful overview of Africa's natural resources through the lens of the TBL.>

## 8. AFRICA'S NATURAL RESOURCES SECTORS With TBL APPLIED

Let's take a look at how the TBL approach could be applied to prominent natural economy sectors within African geo-graphic environment.

### ☛ Minerals & Mining:

Africa is rich in minerals, including gold, diamonds and platinum. Mining can generate huge incomes and jobs, but it can also cause environmental damage, displacement and social conflict. Implementing responsible mining practices, investing in renewable energy sources and ensuring an equitable distribution of revenues are key to achieving a mining sector that complies with the TBL.

### ☛ Agriculture & Forestry:




Africa's fertile soils and diverse ecosystems support a variety of agricultural practices. However, unsustainable activities such as deforestation and soil erosion pose a serious threat. Promoting sustainable agriculture, forestry and land management practices can ensure food security, environmental protection and rural livelihoods.

### ☛ Tourism & Wildlife:

Africa's beautiful landscapes and abundant wildlife attract millions of people each year. But unregulated tourism can damage sensitive ecosystems and disrupt local communities. Responsible tourism, social conservation programs and ecological activities can generate economic benefits by protecting the environment and respecting local culture.



## 9. TBL INSPIRED BENEFIT SCORE

TBL Bottomline Benefit Score	
Bottomline	Benefit
 <b>Economic</b>	<b>Maximize economic returns:</b> Africa and its natural resources can make money through sustainable extraction, processing and value addition. Responsible management can create jobs, attract investment and revitalize the local economy.
<b>Social</b> 	<b>Ensure an equitable distribution of benefits:</b> resource extraction must not exacerbate existing inequalities. Local communities must participate in the decision-making process and share in the economic benefits. Investments in education, health and infrastructure can improve living standards and empower marginalized groups.
 <b>Environmental</b>	<b>Protect the ecosystem:</b> the use of resources must take into account environmental consequences such as pollution, deforestation and loss of biodiversity. Sustainable practices, renewable energy sources and waste management are important to protect ecosystems and mitigate climate change.

## 10. FAIRY DELIGHTS-CHALLENGES-COMBO IN RWANDA-GHANA-KENYA'S TBL

Among the fairy delights, worth-mentioning is the famous GKR Delight emanating from the popular news-making three African nations of Ghana, Kenya and Rwanda known internationally as Africa is second to none on the Planet in ensuring preventable exploitation of the scarce resource called environment embedded with economical and sociological intrinsic dimensionalities.

- ❖ Rwanda's Ecotourism **Delight:** The recovery of mountain gorillas in Rwanda and the success of ecotourism programs show how conservation and economic benefits can go hand in hand. Local communities are actively involved in wildlife conservation, generating income through tourism while protecting their natural heritage.
- ❖ Ghana's Cocoa Production **Delight:** Cocoa production in Ghana adhered to Fairtrade standards ensuring that ethical and sustainable practices are followed throughout the process. Cocoa is produced in Ghana under fair trade regulations, which ensure that the industry operates fairly and responsibly. Cocoa production in Ghana further ensures that the entire process is carried out in a socially and environmentally responsible manner. The Ghana Cocoa Production Board is committed to maintaining fair trade standards and promoting fair wages, safe working conditions and environmental sustainability.
- ❖ Kenya's Renewable Energy **Delight:** Kenya with thermal power generation shows the transition to clean energy sources. This not only reduces our dependence on fossil fuels, but also creates jobs and helps reduce climate change. Kenya's renewable energy sector has been making significant strides in recent years. The adoption of renewable energy sources in Kenya has been on the rise. Kenya has been actively promoting the use of renewable energy to meet its growing energy demands. The renewable energy industry in Kenya has been flourishing, contributing to the country's sustainable development goals Kenya has been embracing renewable energy solutions as a means to reduce its reliance on fossil fuels and promote a greener future.

## 11. CONCLUSION

By embracing a TBL approach, Africa can tackle its normal abundance for supportable turn of events, making a future where financial success, social value, and natural obligation remain closely connected. This will require a coordinated exertion from states, organizations, common society associations, and nearby networks to cooperate towards a common vision of a flourishing and maintainable Africa.

It is vital to recall that the TBL approach is certainly not a one-size-fits-all arrangement, and the particular difficulties and open doors will shift across various African nations and asset areas. Nonetheless, by giving an all-encompassing system to direction, the TBL approach can offer an important aide for exploring the intricate difficulties and holding onto the massive capability of Africa's regular assets. Africa's normal assets can be a strong motor for reasonable turn of events, yet provided that they are overseen dependably and impartially. By embracing the TBL approach, African countries can guarantee that their regular abundance benefits the current age, yet additionally people in the future. This requires an aggregate exertion from states,

organizations, NGOs, and neighborhood networks to cooperate towards a shared objective: a prosperous and economical Africa where everybody flourishes.

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