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(Neo)-Colonialism, globalised modernisation and global energy and environment: A review of available opportunities and their threats to globalisation

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Abstract: **This review looks at three issues which are key to the process of globalisation, namely; colonialism, modernization, energy and environment. The benefits of globalised colonialism, though very weak, may include a few of the following, viz: Increasing knowledge sharing, research, and skills; providing platforms for mutual support, and benefits to synergize at various levels; encouraging multi-cultural contributions at different levels; fostering global citizenship for greater harmony; promoting multiculturalism and acceptance to cultural diversity; facilitating multi ways communications and interactions; promoting self-employment, digital entrepreneurship, and outreach; and giving voice to everyone by promoting common language. On the contrary, the notable negative impacts of globalised colonialism include: increasing the technological gaps and digital divides; creating more legitimate opportunities for electronic colonialism; exploiting local resources and destroying local/ indigenous cultures; increasing inequalities, conflicts, and clashes; promoting cultural imperialism; strengthening a symmetrical communication, facilitating haves; contributing to jobless growth and promoting outsourcing; and, it is promoting voiceless growth and language imperialism. It important to note that energy is a driving factor in the world economic development, World energy consumption contributes to pollution and environmental deterioration and global house emissions which therefore calls upon world economist and politicians to set environmental regulations. It's also crucial to transform the current energy systems with a transition to renewable source and their efficient use. For example, globalized modernization has today has become a major sort of debate among academicians, policy makers and NGOs. Finally, our review notes the various merits of globalized modernization over weighs its demerit hence digital migration and modernization should be embraced by all.**

Keywords: **Globalisation, colonialism, modernization, energy and environment.**

1. INTRODUCTION

The concept of Globalization has become a household phenomenon whenever it comes to a global outlook for the business and professional strategies aimed at enhancing global competitiveness. More explicitly, the term globalization denotes a process of internationalization. Globalization involves the process of denationalization of markets, politics and legal systems. Goodwin (2020) asserts that the reality of globalization means that what happens "there" to "them" now affects what happens "here" to "us." The destinies of billions of people around the planet have become inextricably tied, connected by multiple networks, whether virtual, commercial, political, trans-familial, socio-cultural, or educational.

Transcending from the work of Hack (2019) who appreciates Charles Darwin's notion of decolonialism, it is imperative to refocus our attention on colonialism as a practice of domination, which involves the subjugation of one people to

another. Historically, Colonialism propelled the influx of European powers, viz. Portugal, Spain, France, Britain, and Gera number of among others to Africa, for the first time with intention to satisfy their speckled interests. According to Simmons (2020), the colonisers achieved this through a variety of ways, namely military, organisational as well as religious beliefs and customs. Colonialism, as a policy, was thus applied to facilitate the colonial power in binding the colonised to themselves through political-ties whose primary goal was to promote the economic advantage of the colonisers. Colonialism had or has to do with "the policy or practice of acquiring full or partial control over other countries, occupying them with settlers, and exploiting them economically."

2. GLOBAL COLONIALISM

Since a number of people believe that the formerly colonised attained self-rule; something that has never and may never be attained at least in the near future, it is important to distinguish between imperialism and colonialism. Imperialism is the process by which a nation or foreign power dominates another country through a variety of mechanisms, which may (but do not always) include colonization. Imperial power operates to extend national power and influence through some combination of force ("hard power") and persuasion ("soft power"). For instance, a study by Ghimire (2020) describes Canadian's imperialist policy of micro-finance which aims to bind poor women in a certain financial dependence. In effect, Edwards and Go (2019) dissects the idea of 'formal imperialism' often propelled by three conditions, namely; economic competition, militarisation, and relative power capabilities between states. Colonialism was thus perceived as a particular practice involving physical occupation and settlement of territories as well as the massive economic exploitation of the resources and labour of the occupied territories. Although the sun might have set upon the British Empire and their colonial empires, they continue to cast long shadows upon their former colonies (and present-day victims) which not only distort but obscure global relationships through neo-colonialist a number of tendencies.

The liberation from formerly dominant European colonial powers that followed World War II was superseded by a wave of neo-colonialism across the developing world including African countries that were forced to adopt the infamous Structural Adjustment Policies (SAPs) as a means to promoting neo-colonial agendas. Neo-colonialism extends previously dismantled colonial hegemonies and entitlements through international organizations such as the International Monetary Fund and World Bank. As Zondi (2020) puts it, "this is a classic case of neo-colonial continuities that haunt post-colonial Africa, rendering independence meaningless for injustice against the whole of Africa". Neo-colonialism introduces influence over a population, community, or society in the absence of direct, obvious or formal control. We thus characterize neo-colonialism as the worst form of imperialism given that to the beneficiaries, it means power without responsibility and to the victims, it means exploitation with no reimbursement, as seen in the case of the United States in the Korean peninsula (Beal, 2020).

Neo-colonialism: the concept

Neo-colonialism presupposes a practice where former colonizers and or new emerging super-powers subtly impose their interests and enforce economic, political and cultural dominance over other nations. It is a modern manifestation of colonialism that occurs when colonial powers subtly control power, the political and economic institutions of former colonies with the intention of creating perpetual dependency, hence bringing us to a new reality we are referring to as "Globalized Colonialism" (Jilani, 2020). Thus globalization becomes a clear manifest of global colonialism since the proponents tend to execute the objectives of colonialism with greater efficiency and rationalism. Globalization, through its various symbols, namely the World Bank, United Nations and International Monetary Fund as well as policies put in place by these symbols, have had a negative impact on much of Africa and its development endeavours both from the political angle and the economic angle. Also globalization, through colonization, the industrial revolution, SAPs, privatization and commercialization, devaluation of currencies and several other unfavourable conditions put in place by the international financial institutions that represent globalization, have further increased the rate of global unemployment for much of the world.

At first, the International monetary fund (IMF) and the International bank for reconstruction and development (IBRD) were formed to promote steady growth by offering unconditional loans to economics in crises and establishing mechanisms to stabilize exchange in what came to descend to what is labelled as minilateralism and informality (Fioretos, 2019). Much of these economic visions never came to reality and so it is far and wide accepted that due to a wide range of debts, poverty has become more rampant in Africa and Latin-America, due to the policies of the IMF and the IBRD). Seen in this way, African countries as well as several nations have deregulated foreign investment, liberalized their imports, removed currency

controls, and have implemented all the economic policies of IMF and World Bank (Robin, Salim & Bloch, 2019). Africa countries thought that the push for free market would improve economic conditions by creating a new middle class that would in turn bring democratic influence. In effect, Multi-National Companies (MNCs) have re-created the colonial hierarchy of spaces in new forms with the former imperialist countries on the top and the neo-colonies at the bottom.

The hitherto undemocratic process carried out within a democratic facade, is consistent with the fact that globalization has been a tool serving neo-colonial interests (Wright & Kim, 2020). Again, somewhat paradoxically, globalization promotes opportunity for growth and increase in wealth; it has also increased the socio-economic disparity between people, making nations less democratic and progressively more ruled by the wealthy multinationals. The truth of the matter is that the policies of MNCs are inherently anti-democratic (Del Gaudio, Franzato & De Oliveira, 2020). Africa is just one example where World Bank and IMF involvement have been more destructive than beneficial. This is how globalization has impacted in Africa. It is difficult to ignore the evidence that globalization undermines the struggle for the types of government that the Africa countries believe in. The motive force of the struggle for liberal democracy is the overwhelming power of the state and the possibility of its use of dominations, exploitation and oppression (Goodman, 2019).

Globalisation and neo-colonialism

Globalization in its neo-colonial form is the carrier of values, which are essentially western in character, but they are being aggressively promoted internationally as universal values. Western dominant ethos and values as part of the political practice, determine what is normal, what is not normal (Chipato, 2020). And this practice upholds western political norms and moral order as opposed to African cultures. It has been pointed out that globalization, as an agent of neo-colonialism, promotes the hegemony of western cultures, put African communities at risk in the rich western countries, increases threats to the environment, and undermines the foundation of social stability by subjecting Africans to forces of socio-cultural and political change beyond their control (Vickers, 2020). Neo-liberalism is a theory of political-economic practices that proposes that human well-being can be best advance or promoted by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade. Neo-liberalism marked the end of the welfare state.

A consideration of Friedrich Hayek's theory of cultural evolution reveals a contradiction in neo-liberalism thought between its aspiration to establish a universal market system and its dependence on particular ideas of Western cultural per-eminence (Peters, 2019). This ideological contradiction correlates with the fact that globalization produces masses of surplus populations which are of no market value. For example, Ghana's anti-colonial hero and first president is credited for coining the word neo-colonialism. Hence, the essence of neo-colonialism is that the state which is subject to it is, in theory, independent and has all the outward trappings of international sovereignty. But in reality its economic system and thus its political policy is directed from outside. To make it worst, high rate of unemployment negatively affects democratic development in Africa as it causes social vices and criminal activities, electoral violence, ethnic and religious intolerance, political corruption and poor living standard and eventually people lose trust in their government (Popoola, 2020). As a consequence, the stronghold of neo-liberal globalization has largely persisted in its power not only through the neo-colonial legacies which structure our societies, economics and political systems, but through the colonization of the mind that makes people believe that there is no alternative to the current neo-liberal capitalist global system.

The benefits of globalised colonialism, though very weak, may include a few of the following, viz: Increasing knowledge sharing, research, and skills; providing platforms for mutual support, and benefits to synergize at various levels; encouraging multi-cultural contributions at different levels; fostering global citizenship for greater harmony; promoting multiculturalism and acceptance to cultural diversity; facilitating multi ways communications and interactions; promoting self-employment, digital entrepreneurship, and outreach; and giving voice to everyone by promoting common language. On the contrary, the notable negative impacts of globalised colonialism include: increasing the technological gaps and digital divides; creating more legitimate opportunities for electronic colonialism; exploiting local resources and destroying local/ indigenous cultures; increasing inequalities, conflicts, and clashes; promoting cultural imperialism; strengthening a symmetrical communication, facilitating haves; contributing to jobless growth and promoting outsourcing; and, it is promoting voiceless growth and language imperialism. This takes us to the next section, globalised modernisation.

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3. GLOBALISED MODERNISATION

Moten (2005) defines globalization as the intensification of worldwide social relation which link distant localities in such a way that local happening are shaped by events occurring a number of mills away and vice versa. It is a technologically driven process that increased commercial and political relation between people of different countries .A globalized system is characterized largely by capitalistic competitions where goods, services, capital, ideas and even values across national boundaries' and acquire a transitional character. In short globalization refers to the process of growing interconnectedness by the world into a single place economically, politically and culturally. Martinelli (2005) notes that modernization means the sum of the processes of large scale change through which a certain society tends to acquire the economic, political, social and cultural characteristics considered typical of modernity. According to Kumar (2009), modernization as the transformation from traditional, rural, agrarian societies to circular, urban and industrial societies. Modernization refers to the processes where by society becomes modern. It implies industrialization, economic growth, increasing social mobility and political participation.

Spacey (2015) defines modernization as the process of improving things to be closer to current state of art, this involves catching up to progress as occurred in areas such as efficiency, productivity, quality of life and risk reduction. In the past two decades modernization has been accelerated and accentuated by globalization. Modern institutions like the nation-states and liberal economies with its emphasis on the creation of markets of which the world is being one. Modernization involves transformation towards progress democratic, socio-economic and scientific ideals. Modernization as a process of change requires both structural and functional changes. Mutual tolerance, respect for other's views and equality among all are the essential requisites of modernity. Modernization originated from the ideas of Gera number of socialist Max Weber (1864-1920) which provided the basis for the modernization paradigm. Consequently, Rostow (1960) puts modernization in five (5) phases or steps or stages or process through which all countries across the globe must pass to become developed as follows:

- *Traditional stage society* – Subsistence agricultural practice and production is for consumption.
- *Pre-condition for take-off* – people begin to grow food for surplus, trade expands, urban sectors begin, and centralized government emerged.
- *The take-off* – Small factories begin to shoot up, industries begin to emerge, and people begin to add little values on their products, states holds colourful functions.
- *Drive to maturity* – Technology expands to all sectors for example; computers, email, phones, people are in urban centres.
- *Age of high mass consumption* – Value for money, insurance, legal services practice, more resources for military and security, teaching, government provides social welfare to the citizens for example; Special Grant to Persons With Disabilities (PWDs), "EMYOOGA", SAGE for elderly persons.

Accordingly, the above steps of development of modernization, Uganda and other developing countries all fall in all the sector of the steps but mixing all the steps not following the sequential order.

Positive effects of globalized modernization

There are some positive effects brought with the process of globalized modernization:

- In the education sector, some of the new communication and information technologies, which are of course linked to the modernization process that have enabled students, researchers and young people in distant access ideas and information from the best libraries in the world (Newman, Hoechner & Sancho, 2020). They are able to peruse through libraries in different countries without having to travel. Globalized modernization from this point of view assists people in the dissemination of values related to knowledge, and in the promotion of values related to health care.
- In the sector of communication, globalized modernization has made communication much easier and cheaper than before the number of subscribers and users of the Internet, face book, YouTube and smart phones are now increasing remarkably (Knutson & De Soysa, 2019). The potential for people of different communities, countries, cultures and religions to know and understand one another is greater than ever before. Knowing and understanding each others are very important to promote and establish common values among people of different communities.

- In the psycho-social sector, globalized modernization also made it possible for people to demonstrate their sympathy and compassion for the victims of natural calamities and manmade tragedies all over the world regardless of religions, lands, languages, colours, and cultures.

- In the political sector, globalized modernization has also brought to the fore issues such as the rights of women, children, persons with disabilities and the elderly. As a consequence, globalized modernization promotes certain common values such as equality, human rights, justice, democracy and moral values (Birchall, 2019). Consequently, modernization encourages a country to move at pace with other developed nations, implementation of regular advancement is essential to partner with global leaders and promote globalization and effective utilization of resources.

- In the aspect of social issues, access to health care resources; modern society has access to better health care sources with all the basic and advanced systems to tackle health issues due to modern equipment and Medicare facilities at hand hence reduction in infant mortality.

- Regarding business, there is increased global trade that allows business to sell their products anywhere, but increased global production may hurt domestic business when international companies can offer products at cheaper prices because labour laws are more relaxed (Rodriguez-Satizabal, 2020). As a result modernization provides human capital which is vital to development for example skill, knowledge and values in order to perform organizational activities and create economic values in the society as well as promoting socialization and civilization.

- Regarding culture, modernization has encouraged the development of new form of creative expression such as films and Television and these forms can be easily exported and viewed all over the globe (Ullah & Yit Ho, 2020).

Negative effects of globalization

It is believed that modernization brings clashes of traditions, technological revolution may have brought drastic changes in the way of living but people with fewer resources mainly rely on traditional systems of survival and growth tend to maintain a status quo that often conflicts with new generation ideas leads to social conflicts (Ullah & Yit Ho, 2020). For instance, globalization hampers domestic business. The domestic business shrinks as more companies globalize their business targeting a wider scope of market, it goes along with the developing nations and rids their chances of development for example modern methods are accessible only for developed states and this may blind side developing states in development. Languages begin to disappear as urbanization encourages people to learn a country's domination language and culture that some cultural aspects are being lost like dialects and family traditions (Shafer, 2019). Thus, modernization looks at tradition as backward, rudimentary and yet there are some traditions which have stayed with us and have stood the test of time for example the local brews and herbal medicine in different communities and modernization only adopt the European values.

Modernization can cause economic harm as the development of equipment and technologies can reduce the need for human labour as financial mischief due to the advancement of hardware and innovation cab lessen the requirement for human work (Unemployment) (Ndjié, Ondoa & Tabi, 2019). Modernization brings technology that consumes energy and leads to air pollution and climate change and also environmental degradation leading to the destruction of ecosystem. There is rise of classes of people in the society that is high, middle and lower and this make the middle and high classes to exploit the lower class in the society.

4. GLOBAL ENERGY AND ENVIRONMENT

Energy describes all forms of fuel used in the modern world either for heating, generation of electrical energy where energy resources are classified in three categories namely. Accordingly, energy is the strength and capability required for doing activities. Lee and Yang (2020) notes that for a decade long term changes in the production and consumption of energy resources have been the focus of attention for the energy economics. Since the 1970s, the uncertainties existing in the energy markets have been of practical significance (Mabea, 2020). For example, fossil energy resource is obtained from dead plants and animal deposits created over the long history of the planet. These energies are non-renewable and basically include coal, oil and natural gases (Pegkas, 2020). Also, renewable energies are forms of energy that are naturally replenished on planet earth. They include wood, wind wave, Tidal, Solar and Geo thermal (Curran, 2019). And there is nuclear energy resources which are extracted from the deposits of certain radioactive elements on the earth crust

(Contu, Mourato & Kaya, 2020). These resources are used as fuel for nuclear fission and the amount of these elements are limited on planet earth and cannot be replenished.

It is clear that energy exists in various forms, for example petroleum, diesel fuel, electricity, uranium and solar radiation. At a global scale, energy is needed for most activities in all sectors of the economy including residential sector, commercial sector, transportation sector, and industrial sector. Also to note is the fact that in different parts of the world, we use different kinds of energy e.g., in Asia more than 50% of the energy is delivered by burning coal and the middle East, It's entirely dependent on oil and gas (Shi, Li, Zhang, Liu, Li & Zhong, 2020). Whereas the nuclear energy is predominant in France, Czech Republic, Belgium, Switzerland, Sweden certain regions of the world where hydro predominates. Countries like South and Central America, where, because of the Andes Mountains, and the long rivers that are available there, a lot of electricity is generated. Global energy consumption growth slowed down in 2019 (+0.6%) compared to an average 2%/year over the 2000-2018 period, in a context of slower economic growth (Trotta, 2020).

Energy consumption increased at a slower pace than in previous years in China (+3.2%), the world's largest consumer since 2009, in Russia (+1.8%) and in India (+0.8% only). It declined in almost all OECD countries, including the USA (-1%), the EU (-1.9%), Japan (-1.6%), Canada and South Korea (Lv, Wang & Ma, 2020). Australia was the only exception, posting a 6.3% growth (caused by soaring gas consumption from LNG plants) well above the historical average. Consumption remained dynamic in Indonesia and Algeria, continued to increase in Saudi Arabia, Nigeria and South Africa but declined in Latin America (stable in Brazil and slight decrease in Mexico). US sanctions contributed to reduce Venezuela's and Iran's consumption. World Primary energy consumption growth slowed to 1.3% last year less than half the rate of growth in 2018 (2.8%) (Shi, Li, Zhang, Liu, Li & Zhong, 2020). The increase in energy consumption was driven by renewables and natural gas, which together contributed three quarters of the expansion. All fuels grew at a slower rate than their 10-year averages, apart from nuclear, China was by far the biggest driver of energy, accounting for more than three quarters of net global growth, India and Indonesia were the next largest contributors to growth, while the US and Gera number of posted the largest declines Carbon emissions Carbon emissions from energy use grew by 0.5%, less than half 10-year average growth of 1.1% per year, partially reversing some of the unusually strong increase in 2018 (2.1%).

While it does not necessarily translate into real growth, oil consumption grew by a below average 0.9 million barrels per day (b/d), or 0.9% (Zaliminzhad & Bahramian, 2020). Demand for all liquid fuels (including biofuels) rose by 1.1 million b/d and topped 100 million b/d for the first time Oil consumption growth was led by China (680,000 b/d) and other emerging economies, while demand fell in the OECD (-290,000 b/d) Global oil production fell by 60,000 b/d as strong growth in US output (1.7 million b/d) was more than offset by a decline in OPEC production (-2 million b/d), with sharp declines in Iran (-1.3 million b/d) Venezuela (-560,000 b/d) and Saudi Arabia (-430,000 b/d). Refinery utilization fell sharply by 1.2 % points as capacity rose by 1.5 million b/d and throughput remained relatively unchanged.

Natural gas consumption increased by 78 billion cubic meters (bcm), or 2%, well below the exceptional growth seen in 2018 (5.3%). Nevertheless, the share of gas in primary energy rose to a record high of 24.2%. Increases in gas demand were driven by the US (27 bcm) and China (24 bcm), while Russia and Japan saw the largest declines (10 and 8 bcm respectively) (Irarrázaval, 2021). Gas production grew by 132 bcm (3.4%), with the US accounting for almost two-thirds of this increase (85 bcm). Australia (23 bcm) and China (16 bcm) were also key contributors to growth. Inter-regional gas trade expanded at a rate of 4.9%, more than double its 10-year average, driven by a record increase in liquefied natural gas (LNG) of 54 bcm (12.7%). LNG supply growth was led by the US (19 bcm) and Russia (14 bcm), with most incremental supplies heading to Europe.

Coal consumption declined by 0.6% and its share in primary energy fell to its lowest level in 16 years (27%). Increases in coal consumption were driven by the emerging economies, particularly China (1.8 EJ) and Indonesia (0.6 EJ). However, this was outweighed by a sharp fall in OECD demand which fell to its lowest level in our data series (which started in 1965). Global coal production rose by 1.5% (Abbas & Waqas, 2020), with China and Indonesia providing the only significant increases (3.2 EJ and 1.3 EJ respectively). The largest declines came from the US (-1.1 EJ) and Gera number of (-0.3 EJ).

Renewables, hydro and nuclear Renewable energy (including biofuels) posted a record increase in consumption in energy terms (3.2 EJ). This was also the largest increment for any source of energy in 2019. Wind provided the largest contribution to renewables growth (1.4 EJ) followed closely by solar (1.2 EJ). By country, China was the largest

contributor to renewables growth (0.8 EJ), followed by the US (0.3 EJ) and Japan (0.2 EJ). Hydroelectric consumption rose by a below average 0.8%, with growth led by China (0.6 EJ), Turkey (0.3 EJ) and India (0.2 EJ). Nuclear consumption rose by 3.2% (0.8 EJ), its fastest growth since 2004. China (0.5 EJ) and Japan (0.1 EJ) provided the largest increments.

Electricity generation grew by only 1.3% – around half its 10-year average. China accounted for more than 90% of net global growth. Renewables provided the largest increment to power generation, followed by natural gas while coal generation fell (Ayodele, Ogunjuyigbe, Durodola & Munda, 2020). The share of renewables in power generation increased from 9.3% to 10.4%, surpassing nuclear for the first time. Coal's share of generation fell 1.5 % points to 36.4% – the lowest in our data set (which started in 1985).

Global energy consumption patterns reveal that the world remains highly dependent on fossil fuels. Over the last 50 years, while energy consumption grew substantially, the world undertook a transition in its usage of fossil fuels, from solids (coal) to liquids (oil) to gases (natural gas). While coal accounted for 39% of all energy consumption in 1965, this share declined to 28% in 2016. Meanwhile, the share of oil declined as well, from 40% of energy consumption in 1965 to 33% in 2016. Natural gas is the only fossil fuel that experienced a growth of its share, from 15% in 1965 to 24% in 2016 (Kraft & Barkdoll, 2020). Of note is the recent growth of the share of renewables to 3% of all energy consumption. Still, this share remains marginal but illustrates the potential towards a more diversified and sustainable energy system. On a per capita basis, the level of energy consumption has been declining since the early 1970s when the price of oil increased rapidly, leading to fuel economy initiatives. From the 1980s to the 2000s, consumption per capita stabilized as energy consumption in developing economies expanded. However, from the 2000s, consumption per capita embarked on a downward trend, indicative of technological improvements in energy efficiency.

The facet of carbon dioxide

The increase in CO_2 emissions is a serious threat to the environment of the world (Hossain 2011). So, the nexus between CO_2 emissions and other variables has been the subject of considerable academic research over the past few decades, the trend of Global CO_2 emissions from fossil fuels from 1990 to 2013 (Martins & Cardoso, 2020). Industrial processes contributing about 78% of the total greenhouse gas emissions increase from 1970 to 2011. Agriculture, deforestation, and other land-use changes have been the second-largest contributors. Since the industrial revolution, all countries are trying to achieve to highest economic growth. This computation leads to an increase in greenhouse gasses emissions, particularly C_O2 emissions. Among the greenhouse gasses, C_O2 plays a major role in global warming and ozone depletion. The increasing threat of global warming and climate change has focused attention on the relationship between C_O2 emission and effective variables on it, that energy consumption is one of the most important effective variables.

Approximately 80% of energy consumption and C_O2 emission can attribute to consumers demands and economics activates for getting benefit from the energy consumption in economic cycle, it needs to consider the effects of energy consumption on the environment. It is also key to note that energy consumption patterns of the industrialized countries are already placing a huge burden on the earth natural resources and thus the pressing need for developing countries to create conditions in which they can meet the growing energy demands. Energy and environment is therefore an interdisciplinary inviting every Policy Analyst, Natural Scientist, Engineers and Economist to contribute to mutual understanding and learning. United Nation environmental Program (UNEP) has there worked in the UN since 1972 to determine the global environment agenda by closely tracking the world environment happening and ensuring that the world environment remains habitable for humans. Energy and environmental problems are closely related, since it's nearly impossible to produce, transport or even consume the energy without significant environmental impacts. Today the rapid increase in the population growth tend to increase energy use per capita which has increased world energy consumption which largely contributes to environmental deterioration as explained below.

a) Over exploitation of renewable energy and pollution caused by energy consumption has caused deterioration in the environment.

b) *Urban Air pollution especially in industrialized cities:* The emissions of air pollutants from Air fossils, fuel combustion in the major industrialized cities have to a larger extent caused air pollution. Air pollution has a major impact on the process of plant evolution by preventing photosynthesis in a number of cases, with serious consequences for the purification of the air we breathe. It also contributes to the formation of acid rain, atmospheric precipitations in the form of rain, frost, snow or fog, which are released during the combustion of fossil fuels and transformed by contact with water steam in the atmosphere.

c) *Water pollution:* Water pollution occurs when harmful substances often chemicals or microorganisms contaminate a stream, river, lake, ocean, aquifer, or other body of water, degrading water quality and rendering it toxic to humans or the environment. Diverse water pollution are associated with energy usage. Coal mining has also polluted water where mining operations often bring unpolluted water in contact with certain mineral contacts which are leaked from the soil and Acid mine drainage.

d) *World life Mortalities:* According to Johnson, (2017) an increasing amount of oil spilled in the world environment from crude oil is on the rise. The predominant oil types reported spilled are crude and light oils where 35% are from tankers,25% from general shipping and 18% from pipelines and 10%from well. Where all the oil spills have reported numbers of wild life mortalities especially in oceans.

e) Top soil contaminations in industrialized zones continues to be on the rise. According to Ali Akbar (2021), industrial activities have resulted to heavy metal concentration in the soil, which have caused health risks while consuming plants irrigated by coal mining wells. Pollution of surface soils materials (like vegetables, animal wastes, papers, wooden pieces, carcasses, plant twigs, leaves, cloth wastes as well as sweepings) and a number of non-biodegradable materials (such as plastic bags, plastic bottles, plastic wastes, glass bottles, glass pieces, stone cement pieces). On a rough estimate Indian cities are producing solid city wastes to the tune of 50,000 - 80,000 metric tons every day.

f) Destruction of physical features such as volcanoes and hot springs. Geothermal energy is found in areas with high thermal gradients especially in recent volcanism areas and areas marked by the thin crust such as national game parks and highlands.

g) Destruction of the soil zones hence fuelled landslides and Mad slides .the heated fuel from geothermal resources is basically tapped by drilling wells, as deep as 30,000 feet and is extracted by pumping or by natural artisan flow where the weight of the water forces it to the surface.

h) The technology to pipe water and steam to the power plant to generate electricity through pipelines buried in the grounds have destroyed the soil zones which have indirectly affected the agriculture sector such areas cannot be opened for farming.

i) *Solid waste disposal:* Solid waste is also a by-product of some forms of energy usage. Coal mining requires the removal of large quantities of earth as well as coal. Garbage arising from human or animal activities, that is abandoned as unwanted and useless is referred as solid waste. Generally, it is generated from industrial, residential and commercial activities in a given area, and may be handled in a variety of ways. Solid waste disposal must be managed systematically to ensure environmental best practices. According Whorf (2005), the main threatening impact of energy consumptions is the marked increases in atmospheric concentrations of trace gases, in particular CO2.

j) Deforestation is the permanent removal of trees to make room for something besides forest especially where timber is used for fuel. Forests cover more than 30% of the Earth's land surface, according to the World Wildlife Fund. Using the Food and Agriculture Organization of the United Nations (FAO) estimate, the countries with the highest area of deforestation during the 2010s were Brazil (18.9 million ha of net forest conversion), the Democratic Republic of the Congo (11M ha), Indonesia (8M ha), Angola (5.6M ha), and Canada (4.5M ha). Global tree cover loss rose from an average of 17.1 million hectares a year in the 2000s to 23.1 million in the 2010s. This increase reflects both deforestation in natural forests and activity within an expanding area of plantations, the bulk of which are in Asia, Europe, and North America.

k) Nuclear accidents also have global implications, both in terms of environmental consequences and in terms of changes in public perception of ‘safe’ energy especially witnessed in the Beirut explosion in Algeria.

l) Climate Change is witnessed in local environments, on the neighbourhood, on the region where energy is produced and utilized, and the other is the impact on the global environment that is on the climate. The impact on the climate is linked to emissions of greenhouse gases that have the effect of increasing the temperature of the globe. Soaring temperatures across the globe According to Nefzaoui et al (2012). For example extreme hot temperatures are experienced in nations where oil extraction is the main dominant economic activity for example Libya in Africa and in the in the Middle East countries

m) Lastly flooding that may affect the local population, requiring people to be moved to different places. It's noted that there is an impact on other sources that are normally considered clean, such as hydro, which affects the natural regime of rivers. Even for such clean sources like wind power, there have been complaints about noise, about damage to birds, and other potential damages.

Options to mitigate the impacts of energy consumption on environment

a) *Replacing fossil fuels with alternative energies like solar:* the most basic solution for air pollution is to move away from fossil fuels, replacing them with alternative energies like solar, wind and geothermal and also But equally important is to reduce our consumption of energy by adopting responsible habits and using more efficient devices like eco-friendly transportation through Shifting to electric vehicles and hydrogen vehicles, and promoting shared mobility (i.e carpooling, and public transports) in addition, monitoring air pollution levels has become very important to detect pollution peaks, better control air pollution and eventually improve air quality.

b) *Improved governance to curb degrading of forests and mismanagement of forests:* Drivers of deforestation are complex and vary from region to region depending on social, economic, political, and geographic issues but to note is that in both developed and developing countries forest have been used as a source of fuel. Its therefore important to Improve governance to curb illegal degradation of forests and reduce mismanagement of resources is one of the solutions to deforestation and also educate the public on the importance of forest ecosystems while encouraging afforestation where forests have been destroyed.

c) *Solid waste disposal:* Reuse of industrial wastes, solid waste open burning, solid wastes sanitary landfills, and disposal by ploughing into the fields can be one strategy employed to mitigate soil contamination around industrial areas.

d) *Creation of smart cities*: Smart cities reduce the risk created by having bigger population flocking into towns to carry out business transaction. Smart cities embraces technologies while transacting. From a general point of view, a SC is an urban environment that exploits ICTs and related enabling technologies, as a mean to enhance the efficiency of cities in terms of urban operations and quality of services provided to the citizens while ensuring that the needs of future generations are met considering economic, social, sustainable and cultural aspects Recent urbanization trends have been driving most of the challenges that has created the need for Smart City initiatives. In fact, it is expected that by 2050 66% of the global population will be living in urban areas. This dramatically rapid growth might negatively impact on a sustainable development with consequent significant problems of air pollution, waste management, and energy consumption. In particular, cities, although extending to only 3% of the earth's land area, are now consuming about 75% of global resources and contributing for 80% of greenhouse emissions, which result in heavy impacts on environmental conditions both locally and globally thus smart cities will cab the environmental aspects all over the world (Oyedepo, 2012).

e) *Introduction of Feed-in tariff:* this is where the government policies consider the decrease of generating cost of biomass, wind and solar power and introduction of tax based incentives on green clean energy production. Government subsidy will help in the promotion of the green energy use with less environmental effects .Also offering promotional policies, such as financial subsidy and for government to offer a road map for clean energy development in its annual plans.

f) Introduction and development of advanced fast neutron reactors and closed nuclear fuel cycle technologies will make it possible to considerably increase the efficiency of nuclear fuels and significantly reduce radioactive waste volumes. These technologies will help to efficiently transfer electricity over long distances and final consumption areas .this will reduce the effect of oil spills both on land and on sea that has resulted to high level wild life, water pollution and soil contamination.

g) *Public safety promotion especially with nuclear energy*: it's crucial to improve the security of nuclear power and establish reasonable crisis management mechanism. Additionally, if the governments decide to promote nuclear power, they need to work hard to disseminate the scientific knowledge of nuclear power to avoid accidents like that happened in Beirut and to dissipate people's suspicion on nuclear power.

h) *Green/renewable energies:* The use of energy from renewable sources – wind, biomass, hydro and solar power - is crucial for achieving a general reduction of energy consumption and the general negative effect on the environment. The complexity and relevance of the environmental issues in nowadays cities is one of the global grand challenges. In fact,

cities consume about 75% of the world resources and account for 80% of greenhouse emissions and they have serious impacts on environmental conditions. Sustainable environments are better able to provide citizens with proper urban living quality by promoting green energy consumption.

i) *People mobility:* the urban mobility of citizens is more sustainable by using alternative energy sources, soft transport systems and by optimizing public transports services hence reducing traffic congestions within cities that has encouraged gas emissions in the atmosphere hence Air pollutions. Urban mobility are important lever to improve the average travelling time, traffic congestion and then pollution.

j) *Buildings and Energy are related factors:* Buildings require a high level of energy consumption due to heating, cooling and lighting in both commercial and residential sectors thus, smart buildings that exploit solar energy may be sustainable.

k) *Introduction of prudent energy policies and research:* Prudent energy policies and research can play an important role in steering industrialization in both developed and developing countries onto more sustainable energy development paths. Need to strengthen sustainable energy consumption and development in the economy while boosting productivity and at the same time reducing indoor, outdoor pollution and remediating environmental degradation since the engine of growth and sustainable development of any nation is the nation's access to reliable and adequate energy.

Analytically, a number of benefits we get from participating in the global forum which include shared markets, technological knowledge, a unified language, financial supports among others, in actual sense, developing countries can't cope up with the speed at which developed nations are growing and expanding in their economic and political powers.

5. CONCLUSION

It important to note that energy is a driving factor in the world economic development, World energy consumption contributes to pollution and environmental deterioration and global house emissions which therefore calls upon world economist and politicians to set environmental regulations. It's also crucial to transform the current energy systems with a transition to renewable source and their efficient use. For example, globalized modernization has today has become a major sort of debate among academicians, policy makers and NGOs. The world is changing, developing in all dimensions. Technology such as face book, WhatsApp, Skypes makes it very easy and simple to know what is happening in any part of the world within shortest time possible. The merit of globalized modernization over weighs its demerit hence digital migration and modernization should be embraced by all.

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