

Laudato Si - The human roots of ecological crisis, a case of Kenya

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Abstract

If the earth is a gift, then perhaps human beings are not the primary owners since they find themselves in it. Perhaps they are just meant to be stewards. As it follows, man humanises the earth to make it habitable to him and his offspring. The consequences of these acts of creating a home for themselves is part of the reason Pope Francis wrote 'Laudato si'.

This study is a reflection of Pope Francis's encyclical, Laudato si with a focus on 'the human roots of the ecological crisis' a case of Kenya. The question to ask is 'what has been the role of the person in contributing to the challenges facing our common home – Mother earth'? The first part looks at the problems facing the earth as expressed by Pope Francis and as applied to the Kenyan scenario. The second part delves into the human roots that causes the ecological crisis. The third investigates the considerations made by the Pope as proposed way out and a conclusion. An analysis of the contents in Laudato si and other texts forms a basis of the reflection.

1. Introduction

The United Nations Environment Programme (UNEP) predicts that half the world's population growth in the next 30 years will be in Africa². This growth does come up with a host of issues that arise as a result of arguably having too many people with limited resources. This increased numbers may be planned or unplanned and can be as a result of congestion in one place, or poor house planning forcing many people in one area.

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² United Nations, Department of Economic and Social Affairs, Population Division (2015). Population 2030: Demographic challenges and opportunities for sustainable development planning (ST/ESA/SER.A/389).

In Pope Francis' Encyclical *Laudato Si* he radically states that "the present world system is certainly unsustainable" (LS, 61).³ Written in May 2015, *Laudato si* is one of Pope Francis's encyclical that subtitled as 'Care of our Common Home' presented to the world just before the Paris Conference on Climate Change December 2015. The Paris Climate Change Conference was tasked to set the world on a path to address the greatest challenge to ever face humankind, by adopting a new climate agreement⁴. In order to achieve the common goal, the Paris Climate Agreement's language called for more collaboration in terms of parties taking action to implement and support, others in policy approaches to those in conversation and sustainable management of places like forests. The conference affirmed urgency to save the environment.⁵ In *Laudato si*, Francis makes a wakeup call to the whole world, to all humanity to help them comprehend the gradual destruction man has caused the environment and his fellows that is manifesting itself currently in a most radical way that is harmful to man and the entire biodiversity.

Laudato Si has been read worldwide, with as much compliments as criticisms. Theologians, philosophers, political leaders, conservationists, educators; the young, mature and old each with something to take home, something to action or something to question.

One may quickly summarise the document as just addressing man's effect on the environment, but a deeper look and thought indicates other causes ranging from a theological, philosophical to a political and socio-cultural perspectives. As O'Neil explains, the Encyclicals contribution to public discourse is significant from mainly three world views; from a theological approach, the believers can connect their faith convictions with the environment; a philosophical perspective directs to the importance of anthropology and ethics in a scientific debate; a socio-political approach with deals with matters such as public policy, international relations and dominance by hegemony⁶. These

³ Francis, Pope. "Laudato si." *Vatican City: Vatican Press, May 24 (2015): w2.*

⁴ Savaresi, Annalisa. "The Paris Agreement: a new beginning?" *Journal of Energy & Natural Resources Law* 34, no. 1 (2016): 16-26.

⁵ Davenport, Coral, Justin Gillis, Sewell Chan, and Melissa Eddy. "Inside the Paris climate deal." *New York Times* 12 (2015): 15.

⁶ O'Neill, Eoin. "The Pope and the environment: Towards an integral ecology?" *Environmental Politics* 25, no. 4 (2016): 749-754.

threaten man's relationship to nature and to the other in totally diverse circumstance.

Francis has clearly laid down his appeal 'the urgent challenge to protect our common home includes a concern to bring the whole human family together to seek a sustainable and integral development for it is known that things can change (LS, 13). And true to the word, things have changed. The environment is constantly changing. He adds "I urgently appeal for a new dialogue about how we are shaping the future of our planet. We need a conversation which includes everyone since the environmental challenges we are undergoing, and its human roots, concern and affect us all (LS,14)". O'Neil summarises by stating that an 'underlying discourse can be described as "a recurring call for individuals to take responsibility, for civic groups to maintain political pressure, and for interdisciplinary dialogue about a more ethical and equitable way forward".⁷

In this study, the author delves into the human roots of ecological crisis in Kenya, clearly laid down in the first three chapters of *Laudato Si*. In addition, there is great reference to Wangari Maathai (1940-2011). She was the founder of the Green Belt Movement and the 2004 Nobel Peace Prize Laureate. In its citation, the Norwegian Nobel Committee noted Professor Maathai's contribution to "sustainable development, democracy and peace."⁸

2. An overview of *Laudato si*

The title '*Laudato Si, mi Signore*', comes from the canticle of Saint Francis – 'Praise be to you my Lord'. This encyclical sets a theme for a lengthy addition to the social teaching of the church. In a synthesised summary, it encompasses the statement that 'things, all things, are worth.' They have worth, and since they exist, they are real. Perhaps thus, it follows that things should be treated in a particular way.

⁷ O'Neill, Eoin. "The Pope and the environment: Towards an integral ecology?" *Environmental Politics* 25, no. 4 (2016): 749-754.

⁸Maathai, Wangari. <https://www.nobelpeaceprize.org/Prize-winners/Prizewinner-documentation/Wangari-Maathai>

What is highlighted clearly in the encyclical is that the human beings misguided free actions have led to destruction of the environment. Therein, Pope Francis brings in the question of Ethics, as man's free actions are usually done in full knowledge employing his reason and ability to choose.

Elsewhere, Pope Francis addresses anthropocentrism as a big issue, stating that there is an excess focus on man and what he can do to the exclusion of other aspects of life and environment. Thus, the intrinsic dignity of the world is threatened by man thinking he is above creation.

He further adds that integral ecology has an anthropological element. This is the recognition of each person by recognising the value of each person. – Intellect, Will and Freedom. There is therefore an urgent need to acknowledge the human capacity and the relationship to his/her surroundings, together with eco-spirituality towards a more passionate concern for the protection of the world. Closely intertwined with this chapter is the recognition of the meaning and purpose of all human dignity which is manifested in the need and right to work for growth, human development and personal fulfilment for economy.

In sum, the book is split into six chapters that address the (1) the problem in our common home; (2) the view from the Creator's perspective and the people's understanding; (3) the root of the problem – which Pope Francis asserts that they are human based, (4) the bigger picture – referring to integral ecology; (5) proposes a plan of action and (6) explains a way forward embedded in ecological education.

In Kenya, Wangari Maathai's book on *'Replenishing the Earth Spiritual Values for Healing Ourselves and the World'*⁹, written in 2010, five years before Francis's encyclical, and a year before she died (2011), embodies what Francis would later state in the encyclical. In fact, quite a lot of similarities and analogies can be deduced. Therein, Maathai states that 'It is so easy, in our modern world, to feel disconnected from the physical earth. Despite dire warnings and escalating concern over the state of our planet, many people feel out of touch with the natural world.'. Perhaps humanity is in touch with

⁹ Maathai, Wangari. *Replenishing the earth: Spiritual values for healing ourselves and the world*. Image, 2010.

superficiality, a world which man has created, making him detached from reality, from the physical earth.

3. Fundamental problems in ‘our common home’ – a reflection on Kenya

The things Francis highlights that are happening to our common home are not only happening in the world over, but also hereon the African continent, Kenya being one of the country’s most hit. These problems as highlighted in chapter one of *Laudato Si* include; pollution and climate change, the issue of water, loss of biodiversity, decline in the quality of human life and the breakdown of society, global inequality, weak responses and a variety of opinions.

3.1. Pollution and climate change

On this issue of pollution and climate change, Pope Francis is clear on how the two are intertwined. He reiterates that climate change is for the common good, since climate itself, is a common good belonging to all and meant for all. (LS, 23). He further explains how pollution affects the environment, and to a great extent, the climate.

In Kenya, pollution is high, and increasingly so, if no action is taken. Pollution originates from waste proceeding from households, institutions, hospitals and even industries. In 2017, a research on the issue of pollution in Nairobi river reveals that pollution can be a result of either geological or anthropogenic processes. Further, heavy metals released due to geological processes such as rock weathering and volcanic eruptions are discharged into water bodies via run off, erosion, and floods¹⁰. Various other studies in Pakistan¹¹, Kosovo¹²

¹⁰ Njuguna, Samwel Maina, Xue Yan, Robert Wahiti Gituru, Qingfeng Wang, and Jun Wang. "Assessment of macrophyte, heavy metal, and nutrient concentrations in the water of the Nairobi River, Kenya." *Environmental monitoring and assessment* 189, no. 9 (2017): 1-14.

¹¹ Khan, Kifayatullah, Yonglong Lu, Hizbullah Khan, Shahida Zakir, Sardar Khan, Akbar Ali Khan, Luo Wei, and Tiyu Wang. "Health risks associated with heavy metals in the drinking water of Swat, northern Pakistan." *Journal of Environmental Sciences* 25, no. 10 (2013): 2003-2013.

¹² Ferati, Flora, Mihone Kerolli-Mustafa, and Arjana Kraja-Ylli. "Assessment of heavy metal contamination in water and sediments of Trepça and Sitnica rivers, Kosovo, using pollution indicators and multivariate cluster analysis." *Environmental monitoring and assessment* 187, no. 6 (2015): 1-15.

and Turkey¹³ have shown the extent to which pollution can be damaging. Essentially, these studies indicate that anthropogenic activities such as leaching of fertilizers, improper industrial effluent disposal, accidental oil spillage, domestic sewerage, minerals mining, and rain water contaminated with heavy metals in the atmosphere are thought to significantly contribute to aquatic ecosystem pollution.

One of the key pollutants in Kenya has been the polythene material especially plastic commonly in form of packaging and carrier bags. In a research done in 2005 by the UNEP and the GoK, more than 4000 tons of these bags are produced in Kenya monthly and half of them end up into the solid waste stream.¹⁴ In 2004, while Maathai, as an assistant Minister of Environment, she was quoted saying that plastic bags provide several million habitats for mosquitoes to breed that increase the risk of malaria.¹⁵ Malaria as a tropical disease remains a menace in Kenya and if one travels in some sections of Kisumu and Homa Bay counties, it is clearly indicated on notice boards '*you are now in a Malaria zone*'. For many years, Nairobi city has had no malaria except through mosquitoes who 'travel' from out of city by night buses especially.

Other parts of the world have had to deal with the issue of plastic bags pollution too. In fact, far from being an issue of visual pollution, plastic bag waste is associated with numerous environmental problems. In a study done in Hong Kong in 1994 by Gordon, four issues emanating from the use and disposal of plastic bags that apply to Kenya are explored. First, plastic wastes block gutters and drains, creating serious storm water problems. Bangladesh, for instance, in a report by the Environment Protection and Heritage Council (EPHC) imposed a ban on plastic bags in March 2002 following flooding

¹³ Varol, Memet, and Bülent Şen. "Assessment of nutrient and heavy metal contamination in surface water and sediments of the upper Tigris River, Turkey." *Catena* 92 (2012): 1-10.

¹⁴ United Nations Environmental Programme and Government of Kenya (UNEP/GOK). *Selection, Design, Implementation of Economic Instruments in the Kenyan Solid Waste Management Sector*, Nairobi. 2005

¹⁵ AFP. *Awash in plastic, Kenya urged to ban Ximsy shopping bags*. Available from: Agence France Presse (AFP). 2005, accessed on February 23, 2021

caused by blockage of drains¹⁶. In comparison to Kenya; first, roads flood all the time because of clogged drainages. Second, consumption of plastic bags by livestock can lead to death. Growing up in the rural area over 20yrs ago, seeing a plastic paper on the ground where cattle grazed was an abomination. Third, plastic bags are non-biodegradable, as such, their presence in agricultural fields decreases soil productivity. Fourth, when burned, plastic bags release toxic gases such as furan and dioxin, and leave unhealthy residues that include lead and cadmium.¹⁷

To solve the issue of plastic bags in Kenya and elsewhere will require a concerted effort of the leaders and ruling administration of the day. For the Kenyan scenario, Njeru in 2006 demonstrated that Nairobi's plastic bag waste is socio-spatially uneven and its associated environmental problems and the lack of accountability by producers constitute a serious environmental injustice. He additionally stated that the waste scenario is an outcome of intricately intertwined political, economic, and cultural processes and associated power relationships.¹⁸

The United Nations Environmental Programme and Government of Kenya jointly agree that the issue of plastic bags was aggravated because plastic bags for many years were given either free or inexpensive, they have been widely used in business as packaging material across the country.¹⁹

Issue of water

Water is life. This statement is timely and alive in the encyclical *Laudato si*. Pope Francis affirms the fact that fresh drinking water is an essential natural resource that ensures life and sustainability of flora and fauna, and higher animals in the hierarchy of being such as man. (LS, 27). A study done in 2013

¹⁶ EPHC. Plastic shopping bags in Australia. National Plastic Bags Working Group Report to the National Packing Covenant Council. Environment Protection and Heritage Council (EPHC), Australia. 2002

¹⁷ Ng, Gordon TL. "A sustainable approach to plastic bag waste management in Hong Kong." *J. Resour. Manage. Technol.* 22, no. 3 (1994): 158-165.

¹⁸ Njeru, Jeremia. "The urban political ecology of plastic bag waste problem in Nairobi, Kenya." *Geoforum* 37, no. 6 (2006): 1046-1058.

¹⁹ United Nations Environmental Programme and Government of Kenya (UNEP/GOK). Selection, Design, Implementation of Economic Instruments in the Kenyan Solid Waste Management Sector, Nairobi. 2005

between Kenya and Ethiopia on 'Small independent water providers', reveals that deprivations in water and sanitation lie at the core of poverty.²⁰ Organisms and man can live longer without food; however, this is not the same with water which is a critical component for replenishing body fluids lost through physiological processes.²¹ Moreover, toxins in the body can only be removed by water.²²

Lots of programs to sort out the issue of water in Kenya are on the rise. This is as much in the rural as in the city. In rural Kenya, not so long ago, water was fetched from clean running streams. People from villages would say 'we are going to the river'. A wise man would direct the water using a bamboo stick so as to facilitate the harvesting. Women, men and children as well as domestic animals would benefit from such water. It was mainly mineral water. Those days are in the past now. In modern times, it is common to find this natural water contaminated by a wide range of organic, inorganic and biological pollutants as stated by Chinedu, in a study done in 2011.²³

In the present times, due to technology, a good number of homes have tap water, which is now considered safer as opposed to the stream or river water that was considered to have contained natural minerals, a vital health component.

3.2. Loss of biodiversity

²⁰ Ayalew, Mulugeta, Jonathan Chenoweth, Rosalind Malcolm, Yacob Mulugetta, Lorna Grace Okotto, and Stephen Pedley. "Small independent water providers: Their position in the regulatory framework for the supply of water in Kenya and Ethiopia." *Journal of Environmental Law* 26, no. 1 (2014): 105-128.

²¹ Igwe, Ogbonnaya, Ekundayo Joseph Adepehin, and Jemima Omonigho Adepehin. "Integrated geochemical and microbiological approach to water quality assessment: case study of the Enyigba metallogenic province, South-eastern Nigeria." *Environmental Earth Sciences* 74, no. 4 (2015): 3251-3262.

²² Olyaie, Ehsan, Hossein Banejad, Kwok-Wing Chau, and Assefa M. Melesse. "A comparison of various artificial intelligence approaches performance for estimating suspended sediment load of river systems: a case study in United States." *Environmental monitoring and assessment* 187, no. 4 (2015): 1-22.

²³ Chinedu, Shalom Nwodo, Obinna Nwinyi, Adetayo Y. Oluwadamisi, and Vivienne N. Eze. "Assessment of water quality in Canaanland, Ota, southwest Nigeria." *Agriculture and Biology Journal of North America* 2, no. 4 (2011): 577-583.

Pope Francis does not mince his words in laying the blame on human activity for the loss of biodiversity. And because of that loss, Pope Francis continues ‘thousands of species will no longer give glory to God by their very existence, nor convey their message to us. (LS, 33). He is correct in this assessment of biodiversity loss, including paying attention to the less well-recognized species that are an integral part of ecosystem functioning. He is also aware of the need to care not just for the conservation of basic resources of soil, water, and air, but considers the welfare of animal populations as well through the creation of biological corridors. Conservationists will welcome this message, even if important debates on ecological restoration and translocation of species under threat of extinction are not included.

In her book ‘unbowed’²⁴, Maathai narrates how when she was growing up as a young girl in Nyeri, there was a remarkable fig tree, immense; there were streams with clean and fresh water which they would drink from directly. There were crops planted along the stream including arrowroots, banana plants and sugarcane which formed part of food for the villagers. Years later, upon her return from studies, she noticed the fig tree had been cut, someone had acquired the land for commercial use. The rivers that would rush down now had silt – that is soil erosion. Indigenous trees replaced by exotic ones, and trees cut down replaced by cash crops – tea and coffee plants. She quotes ‘Ironically, the area where the fig tree of my childhood once stood always remained a patch of bare ground where nothing grew. It was as if the land rejected anything but the fig tree itself...’²⁵

When there is pollution, the life in water is also affected. It is believed by many people that rain is a blessing. The reverse is true. It can also be a curse because excess rains can be disastrous. Wet weather may dilute pollutant concentration while hot and dry weather may result in a high concentration. For instance, as concerns Nairobi river in Nairobi Kenya, macrophytes at

²⁴ Maathai, Wangari W. "Unbowed." (2006).

²⁵ Wangari Maathai, « Unbowed », *Field Actions Science Reports* [Online], Special Issue 7 | 2013, Online since 08 October 2012, connection on 20 April 2021. URL: <http://journals.openedition.org/factsreports/2124>

designated areas along the river were also identified to investigate Nairobi River self-purification mechanism.²⁶

The weather as observed twenty years ago has gradually changed, and is no longer predictable. In the near past rains, hot spells, dry seasons and cold periods were predictable. For instance, in Western Kenya, planting season for maize was generally in April and harvesting in August. December to February was generally hot²⁷. This was in tandem with short or long rains. Now one has to carefully be on the alert.

When Rachel Carson wrote the ‘Silent Spring’, to warn the world of the effects of insecticides, as an air pollutant and as a killer of ‘life’, upon which other lives depend; her warning was that pesticides were dangerous to human health in the end proposing that human beings could pick alternatives if they were to deal with massive insects in the air²⁸.

3.3. Quality of life

It is arguable that the quality of human life has declined. This is a paradox because as it is, with advancement in science and technology it would have followed that the quality of human life improves, and this has a lot of supporting facts, such as the mere transition of use of coal to electricity. On the other hand, it becomes interesting to interrogate the fact that ‘material things in plenty’, do not necessarily improve lives or bring happiness. The issue of quality of life is as old. Scholars as late as 70s were already discussing these issues and offering solutions, that currently seem similar, so much so that one wonders if something if at all, has been done.

Ingwe (2008) states that “the high rate of urbanization...has not resulted in improved living standards (better paying jobs, infrastructure and services,

²⁶ Njuguna, Samwel Maina, Xue Yan, Robert Wahiti Gituru, Qingfeng Wang, and Jun Wang. "Assessment of macrophyte, heavy metal, and nutrient concentrations in the water of the Nairobi River, Kenya." *Environmental monitoring and assessment* 189, no. 9 (2017): 1-14.

²⁷ Place, Frank, Jemimah Njuki, Festus Murithi, and Fridah Mugo. "Agricultural enterprise and land management in the highlands of Kenya." *Strategies for sustainable land management in the East African highlands* (2006): 191-215.

²⁸ Carson, Rachel. "Silent spring. 1962." (2009).

clean and modern electricity, portable water and so forth). Increasing urbanization of the developing world has created a large mass of urban poor".²⁹

Quality of life (QOL), according to Britannica, is the degree to which an individual is healthy, comfortable, and able to participate in or enjoy life events.³⁰ The reason for this definition is the inclusion of health, comfort and enjoyment of life, a definition seemingly radically different from the one of the World Health Organization (WHO) which defines QOL as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns"³¹

Quality of Life can be perceived oscillating from subjective to objective factors. In a 2006 research by McCrean and others state that quality of life is a multifaceted term that incorporates such notions as a good life, valued life, satisfying life, and happy life.³² In a modern scientific use, the quality of life is furthermore a broad-band concept encompassing material and social conditions, individual ambitions, experiences and evaluations, which often lead to confusion in the theoretical foundation and operationalization of empirical research. Originating in classical philosophy with its good life question with philosophers such as Aristoteles or Stoa, the concept is linked with Bentham's utilitarianism underlining individual decisions leading to joyful consequences³³.

²⁹ Ingwe, Richard, Eugene J. Aniah, and Judith Otu. "Lagos, Nigeria: Sustainable energy technologies for an emerging African megacity." In *Urban Energy Transition*, pp. 631-645. Elsevier, 2008.

³⁰Jenkinson, Crispin. "Quality of life". *Encyclopedia Britannica*, 6 May. 2020, <https://www.britannica.com/topic/quality-of-life>. Accessed 10 March 2021.

³¹ World Health Organization. "WHOQOL: measuring quality of life: World Health Organization." (2019).

³²McCrea, Rod, Tung-Kai Shyy, and Robert Stimson. "What is the strength of the link between objective and subjective indicators of urban quality of life?." *Applied research in quality of life* 1, no. 1 (2006): 79-96.

³³ Haslauer, Eva, Elizabeth C. Delmelle, Alexander Keul, Thomas Blaschke, and Thomas Prinz. "Comparing subjective and objective quality of life criteria: A case study of green space and public transport in Vienna, Austria." *Social Indicators Research* 124, no. 3 (2015): 911-927.

There are many indicators of a quality of life propounded by various scholars throughout time. One approach, called engaged theory, outlined in the journal of *Applied Research in the Quality of Life*, posits four domains in assessing quality of life: ecology, economics, politics and culture.³⁴ Elsewhere, other studies indicate that standard indicators of the quality of life include wealth, employment, the environment, physical and mental health, education, recreation and leisure time, social belonging, religious beliefs, safety, security and freedom³⁵

A study done on ‘air quality and road transport’ in 2014 indicate that in emerging and developing economies the rapid convergence of people on cities supplies human resources which contribute to potential economic growth but also intensifies the strain on already vulnerable resources such as land, water, housing and other infrastructure such as transport. This impacts quality of life in terms of congestion, accidents on roads and pollution. Transport is the greatest contributor to urban air pollution with highest levels of exposure and pollution at roadside locations.³⁶ In some cities such as Japan, Austria and parts of the United States, transport facilities are of higher quality and are well-coordinated in terms of time management that one does not need to own a personal car. And even if a person or family owns one, they do not need to use it as frequently.

A statement from the United Nations sums all the key contributors to social and environmental unsustainability found in cities “In many cities in developed and developing countries alike, congestion, pollution, shifting economic centres and demographic patterns present imminent threats to lives and livelihoods. The transport landscape in urban agglomerations is often highly inequitable, with poor and disabled people left with inadequate means

³⁴ Magee, Liam, Andy Scerri, and Paul James. "Measuring social sustainability: A community-centred approach." *Applied Research in Quality of Life* 7, no. 3 (2012): 239-261.

³⁵ Sirgy, M. Joseph. "A Quality-of-Life Theory Derived from Maslow's Developmental Perspective: 'Quality' Is Related to Progressive Satisfaction of a Hierarchy of Needs, Lower Order and Higher." *American Journal of Economics and Sociology* 45, no. 3 (1986): 329-342.

³⁶ Hitchcock, Guy, Beth Conlan, Duncan Kay, Charlotte Brannigan, and D. Newman. "Air quality and road transport: impacts and solutions." (2014).

to access the economic and social centres of the cities. The burden of climate change adds another layer of urgency and complexity to the problems decision makers must address in their quest to create sustainable cities.”³⁷

3.4. Global inequality

International inequality refers to the idea of inequality between countries. This can be compared to global inequality which is inequality between people across countries³⁸. This is manifested through various practices such as the international economy, international law, treaties and conventions, international trade. Equality of persons cannot be attained as an individual is unique in themselves. However, in other aspects of the persons being, equality can be attained. In 2020, as stipulated in the World Social Report³⁹, by the United Nations these includes areas like the (1) economy encompassing job opportunities, wealth distribution, non-exploitation of natural resources, money markets etc. (2) Inequality of opportunity (3) inequality in the application of justice.

The World report further states that inequality in a rapidly changing world comes as we confront the harsh realities of a profoundly unequal global landscape, noting that income disparities and a lack of opportunities are creating a vicious cycle of inequality, frustration and discontent across generations.

In some parts of the world, divides along the lines of identity are becoming more articulated. In the interim, gaps in newer areas, such as access to online and mobile technologies, are emerging. Except if progress speeds up, the principle promises of the 2030 Agenda for Sustainable Development, “*to leave no one behind*”, will remain a still distant goal by 2030. The disparity

³⁷ Ki-Moon, Ban. "Mobilizing Sustainable Transport for Development." *United Nation Official Publication: New York, NY, USA* (2016)

³⁸ Garcia, Frank J. "Globalization, inequality & international economic law." *Religions* 8, no. 5 (2017): 78.

³⁹ United Nations: Department of Economic and Social Affairs, Social Inclusion. UNDESA World Social Report 2020. <https://www.un.org/development/desa/dspd/world-social-report/2020-2.html>. 2020

challenge is worldwide, and closely interconnected to other major problems of our times.

3.5. Weak responses and a variety of opinions

Sometimes the frustration experienced in Kenya is lack of decisiveness, which may imply a weak response to an important issue. A country like Kenya, needs a grand strategy that will guide its activities and take it out of the narrative of ‘weak responses’ to a ‘variety of options’. This encourages focus. To have a grand strategy is to have a plan that is holistic, complete and vast in all ways. These grand plans are held and sought after by the most significant levels of a state primarily to shield the public interests. In the event that public interests are well safeguarded, they give a stage to outer projection in international relations, international strategy and foreign policies. For each country, a grand methodology is required particularly in crises, yet with a more drawn long-term projection. Currently, it can be said for Kenya, that this is ‘that particular time’, when a grand strategy is extremely necessary.⁴⁰

4. Human roots of ecological crisis

In this chapter, Pope Francis summarises the human roots of the ecological crisis (LS 101 – 136). This he does in three categories; firstly, by indicating the link between technology, creativity and power; secondly, by demonstrating how the technocratic paradigm has been globalized and the ever-changing meaning and application of techno science and thirdly, the crisis and effects of anthropocentrism. The main question that begs is; ‘What role does the human being play in advancing the ecological crisis?’

But first, what is ecology? McIntosh states that ecology is a relatively new science, first introduced by German biologist and philosopher E. H. Haeckel (1834–1919).⁴¹ Going back historically, the term is derived from the Greek word for home (*oikos*) and so strikes an explicit resonance with the subtitle of Francis’s 2015 encyclical *Laudato Si’*. On Care for Our Common Home. However, the meaning of ecology in the narrower, biological sense refers to

⁴⁰ Maingi, Caroline Shisubili. "A Grand Strategy for Kenya is Timely—Lessons from Elizabeth." *Journal of Conflict Management and Sustainable Development*, Vol 5, (1), 2020

⁴¹ McIntosh, Robert P. *The background of ecology: concept and theory*. Cambridge University Press, 1986.

the interrelationship between different organisms and their natural environment, otherwise described as “niches.”⁴² Pope Francis acknowledges human origins of ecological crisis. He proposes its focus on the dominant technocratic paradigms and the place of human beings and human action in the world. The ‘roots’ highlighted here are perhaps beyond the technology and techno science aforementioned.

4.1. Technology, creativity and power

In the last two centuries, the world has experienced an enormous wave of change through technology. Technology has almost ushered in a new era, the automated and digitalized one. As a result, Francis, making reference to his predecessor Benedict states that man has been impelled to gradually overcome material limitations⁴³. In a sense, technology has remedied countries in terms of medicine, engineering and communication not excluding transportation (LS, 102, pg. 60). Quoting his predecessor John Paul II, Francis states that ‘Science and technology are wonderful products of a God-given human creativity’⁴⁴

Immediately though, Pope Francis states that technological products are not neutral, they create a fragmentation which ends up moulding ways of life and forming social prospects along the lines dictated by the interests of certain powerful groups. Decisions which may appear to be simply instrumental are in all actuality decisions about the sort of society we need to fabricate.

When it comes to techno science, one cannot but fathom the beauty that is showcased from the final products such as skyscrapers, bridges - state of the art infrastructure. Pope Francis states that ‘in the beauty intended by the one who uses new technical instruments and in the contemplation of such beauty, a quantum leap occurs, resulting in a fulfilment which is uniquely human’, (LS, 103, pg.60). Only the human being can contemplate this beauty.

⁴² Deane-Drummond, Celia. "Laudato Si' and the natural sciences: An assessment of possibilities and limits." *Theological Studies* 77, no. 2 (2016): 392-415.

⁴³ VERITATE, CARITAS IN. "Encyclical Letter" Caritas in Veritate." (2009). 702

⁴⁴ Paul II, Pope John. "Address to Scientists and Representatives of the United Nations University." *Apostolic Journey to Pakistan, Philippines I, Guam (United States of America II), Japan, Anchorage (United States Of America II), Hiroshima, Japan* (1981): 16-27.

Whatever amount of the ills of innovation and technology, the gains are enormous, all the more so in this period when the entire world is dealing with a pandemic (LS, 107). Travel has been limited with meetings being aided by means of different kinds of 'media' e.g., zoom, teams, skype etc. so forth Colleges needed to on-board online for kept learning. Universities had to on-board online for continued learning. A research done on the 'Impact of information technology innovation on firm performance in Kenya' reveals that technology innovation influences firm performance positively. The study recommends that entrepreneurs should develop innovative strategies to actualize firm performance.⁴⁵

However, on eLearning in institutions, the results indicate otherwise... since the institutions are still transitioning, technology has posed a challenge though there is a way to counter this. That is to say that the degree to which they hinder the implementation and provision of e-Learning varies from one institution to the other. According to the e-Learning Africa Report⁴⁶; in Kenya the following challenges to e-Learning rank high in this order: limited bandwidth, lack of appropriate ICT training, lack of priority in ICT funding, ICT sustainability and pressures due to poverty. However, each of the identified challenge presents an improvement area in eLearning and as such need to be addressed.⁴⁷

Looking at the health care industry, the use of technology for public health surveillance in Kenya may have its challenges, but the opportunities supersede the challenges.⁴⁸ There is no evidence indicating that there have been studies conducted in Kenya or sub-Saharan Africa to explore the use of mobile learning technology among undergraduate medical students or its challenges.

⁴⁵ Chege, Samwel Macharia, Daoping Wang, and Shaldon Leparan Suntu. "Impact of information technology innovation on firm performance in Kenya." *Information Technology for Development* 26, no. 2 (2020): 316-345.

⁴⁶ Isaacs, Shafika, and David Hollow. "The eLearning Africa 2012 Report." Germany: ICWE (2012).

⁴⁷ Kibuku, Rachael Njeri, Daniel Orwa Ochieng, and Agnes Nduku Wausi. "e-Learning Challenges Faced by Universities in Kenya: A Literature Review." *Electronic Journal of e-Learning* 18, no. 2 (2020): pp150-161.

⁴⁸ Njeru, Ian, David Kareko, Ngina Kisangau, Daniel Langat, Nzisa Liku, George Owiso, Samantha Dolan et al. "Use of technology for public health surveillance reporting: opportunities, challenges and lessons learnt from Kenya." *BMC Public Health* 20, no. 1 (2020): 1-11.

However, there are numerous studies on mHealth innovations within sub-Saharan Africa that have been conducted and completed with positive outcomes. All indicating that use of mobile technology will continue to develop. Therefore, it's imperative that medical schools incorporate ML into medical education, otherwise there would be a looming risk of producing health care workers who are under-prepared to utilize mHealth technology fully.⁴⁹

Hannah Arendt has something to say about the basis of creativity. She states that man, by the nature of his very being, is a novelty.⁵⁰ There is no other like him. For this reason, he has something new to add to this world, be in in form of ideas or a tangible item. Creativity is from within human person, and it has either been positive and negative. Pope Francis here, emphasises on both. Due to man's creativity, he has managed to humanize his surroundings. In Kenya, many institutions channel out many creations of its members, students or otherwise.

In matters innovation, since the launch of MPesa application in 2007, a mobile money transfer service, it has offered access to banking services and its safe quick and cheap method to provide financial services as it increases economic activities in poor areas hence advancing their living standards and opportunities⁵¹.

Due to the pandemic, new ideas such as of online shopping sprouted, online marketing etc..., now blended learning. These innovations were created out of necessity, can we be innovative about the environment as well? A human being, at the natural, sensitive and rational experiences of their being, seeing and understanding the degradation before them, surely can come up with something novel.

⁴⁹ Masika, Moses Muia, Gregory Barnabas Omondi, Dennis Simiyu Ntembeya, Ephraim Mwatha Mugane, Kefa Ogonyo Bosire, and Isaac Ongubo Kibwage. "Use of mobile learning technology among final year medical students in Kenya." *Pan African Medical Journal* 21, no. 1 (2015).

⁵⁰ Cooper, Leroy A. "Hannah Arendt's political philosophy: An interpretation." *The Review of Politics* 38, no. 2 (1976): 145-176.

⁵¹ Ngugi, Benjamin, Matthew Pelowski, and Javier Gordon Ogembo. "M-pesa: A case study of the critical early adopters' role in the rapid adoption of mobile money banking in Kenya." *The Electronic Journal of Information Systems in Developing Countries* 43, no. 1 (2010): 1-16.

With great power, comes great responsibility. It is a period when humanity has such great power, yet both inherently and exteriorly, yet no one can guarantee how responsible he can use it. Nothing or no one ensures he will use it responsibly. Pope Francis quotes the writings of Guardini on ‘*The End of Modern World*’. Guardini wonders if an increase in power is in tandem with increase in progress (LS, 105). He further states that because the technological development has not been accompanied by development in human responsibility, values and conscience; the contemporary man has not been trained to use power... he has a meagre awareness of his own limitations⁵². Guardini states that modern anthropocentrism has paradoxically ended up prizing technical thought over reality, since “the technological mind sees nature as an insensate order, as a cold body of facts, as a mere ‘given’, as an object of utility, as raw material to be hammered into useful shape; it views the cosmos similarly as a mere ‘space’ into which objects can be thrown with complete indifference”.⁵³

Human beings must always remember that they are not autonomous (LS, 105). Pope Francis states that human being’s freedom has been handed over to the blind forces of the unconscious, of immediate needs, of self-interest and of violence. This is characteristic of the situation in Kenya in the recent times. The commoner is in a space where he is unable to think as such. The power in control is from elsewhere. Radically though, the power withheld by certain people is ever increasing with no way to control it.

Human beings have the tendency to extract everything they lay their hands on (LS, 106), ignoring what lies ahead, and the future of humanity that relies on it. This has led to depletion of natural resources. Continuous activity in mines, on rivers, on forests has been a disaster. Effects in the Mau and Karura forests in Kenya cannot be ignored as can be seen in patterns of rains, soil erosion and disorganisation of the order of wild life. In earlier epochs and up to till recently, as much as the human being constantly intervened in nature, he was

⁵² Guardini, Romano. *The end of the modern world*. Isi Books, 1998. Pg. 82.

⁵³ Hollowell, Anthony. *Ratio in Relatione: The Function of Structural Paradigms and Their Influence on Rational Choice and the Search for Truth*. Wipf and Stock Publishers, 2020.

in tune with it, and respected the possibilities of the things in themselves. Human beings and material objects should extend a friendly hand to each other, instead of it becoming confrontational, or with lots of tension.

There is a general diminished sense of decision making on the part of the person (LS, 108). In this point, Pope Francis brings out the idea of absolute power ‘corrupting completely’. He puts it in a way that it emanates from Technology... that even culture is held together by technology, and if one is not savvy, then it becomes difficult because it been oriented to depend on it...dominating, and excluding internal logic. He continues that it becomes countercultural to choose activities whose goals are not or are partly depended on technology – especially in these times of the pandemic...countries have even already thought of a ‘digital tax’. Guardini summarises that as a result, ‘man seizes to hold on the naked elements of both nature and human nature.’⁵⁴

There is an experience of economic and political tensions in terms bottom lines and maximization of profits, as well as hegemony dominance (LS, 109). This is an old problem of almost all business undertakings focusing on profits without worrying about the needs of the people. On the negatives, GMO and effects, WMD, Biological weapon, addition to the screens etc. With creativity, comes power... power to own and dominate that which you have created... unfortunately, this tends more towards negativity.

4.2. On human life

One can easily wonder why the issue of abortion is being discussed here. It seems so disconnected and far-fetched from the matter at hand. The first thing is to wonder how abortion as a concept and an activity relates to the matter at hand. Yet Pope Francis makes a concrete connection. Pope Francis states that if there is no value for human life as such, it becomes very difficult to value other forms of life, as the human life making reference to Aristotle, is higher in the hierarchy of being.⁵⁵ Quoting the encyclical letter ‘*Caritas in Veritate*’, Pope Francis adds that if personal and social sensitivity to accepting new life

⁵⁴ Guardini, Romano. *The end of the modern world*. Isi Books, 1998. Pg. 82.

⁵⁵ Dicastery for Laity family and life. Pope Francis: “Every human life has an inestimable value”
<http://www.laityfamilylife.va/content/laityfamilylife/en/news/2020/papa-francesco--ogni-vita-umana-ha-un-valore-inestimabile.html>. 25 March 2020

is lost, it follows that other acceptance to other forms of life will slowly wither away.⁵⁶

This is also emphasised under issues of life (LS, 113). As Wangari Maathai put it, mountains, forests, oceans etc. by themselves may not be holy, but the life sustaining they do deserve attention. From that perspective, the environment is sacred just like life is sacred. This is because, to destroy what is essential to life is to destroy life itself.

4.3. Anthropocentrism

The anthropocentrism narrative purposes that the human is superior and entitled. Human nature can be perceived in two radical ways. Negatively where man is seen as selfish, aggressive and competitive as opined by Hobbes and the other positively where human nature is perceived as godlike, ingenious, special and unique. These extremes views, left on their own have serious pitfalls. Too much of either becomes distractive. As it may follow, the two major ills of anthropocentrism include (1) the inability to discern one's limitations; where does the human being stop? And (2) the increased blind sidedness to the loss of the planet's richness and beauty. Putting the human first and the need for self-gratification has led to the ecological crisis.

The radicalistic nature of this encyclical is that Pope Francis opposes anthropocentrism, (LS, 122). He states that there has to be found an equilibrium between man as being part of nature, and man as perceived above creation because of mainly his rational nature. Pope Francis reiterates that anthropocentrism is manifested in selfishness in the way human beings treat life, not caring for the unborn as such, not caring for the elderly as such and many others in the vulnerable category. He concludes by stating that renewal of nature is greatly tied to renewal of the person.

6. Projections on addressing the challenges

'Our common home'. How did it happen that this earth human being belongs to, is a 'given'? How did it happen that human beings act entitled to it and have even decided to divide it among themselves? ... Yet human being found themselves on earth; they form a part of it? At what point did some people decide that some land, some space, some island belongs to them? If one were

⁵⁶ VERITATE, CARITAS IN. "Encyclical Letter" Caritas in Veritate." (2009).

to interrogate the principle of the ‘the universal destination of goods’, does a person really own anything? In the real sense though, this world does not belong to anyone, yet, this is man’s dominant human attitude toward nature and animals. It would be wrong to think of the natural world as existing solely to serve human beings. The earth should be looked at as having value for its own sake.

Wangari Maathai states that individuals within communities have to rediscover their authentic voice and speak out on behalf of their rights that include human, environmental, civic and political. This can be done in a more progressive democratic processes.⁵⁷ The relationship between human being and the earth is symbiotic. In the process of working to make better the earthy, man helps himself. Human beings come in handy to avert soil erosion, to sustain biodiversity, plant trees for rains to prevent protracted drought. Paradoxically though, at the end of human life, a human being is either cremated, ashes stored or spread to the world; or is buried in a very small space.

A few pointers on projections to way forward can be discussed in the following ways. First could be through a change of lifestyle. During this time of the pandemic, can human beings think of developing a new lifestyle? A lifestyle that favours the environment? A lifestyle that uses less, saves and cares for the basics to avoid depletion? The lifestyle that should be promoted should not prejudice the future. One may not be able to predict the future human needs with any precision, but can be sure that any future human development will require resources and life sustaining systems. Therefore, measures taken to minimize human impact on resources and damage to the ecosystem need support from the social fabric. Second way could be through a re-education on matter of the environment, especially embarking on new paths for authentic freedom; to think through the fact that freedom is not absolute; that the human being needs to foster harmony with oneself and with others, with nature and other living creatures. Third way could be to re-enact the key role the family plays in the society, first as a school of virtue. Teaching and learning about the care of ‘our common home’ begins in the family for example not littering

⁵⁷ Maathai, Wangari. *Replenishing the earth: Spiritual values for healing ourselves and the world*. Image, 2010.

or helping the growth in solidarity and being responsible. Fourth could be the awareness of our communion with other creatures and finally, fifth as learning to appreciate beauty in nature.

The aforementioned projections can be achieved through a reflection on the following; (a) consider doing away with obsession that everything surrounds the human being who is domineering, that one's needs are more important than others. Pope Francis points out that activities such as human trafficking or selling human organs are tied to putting individual needs before others, what he terms as 'practical relativism.' (b) Consider the need for a mental and a cultural shift, from being individual to incorporating community; what Pope Francis terms as 'a non-anthropocentric approach'. (c) Consider the need to protect employment, which also directly gives value and dignity of human person as it is tied to work. Dignity of work gives meaning to other aspects of human life, therefore one's work should not distinguish the ability to transcend. Finally, (d) Consider the marginalised especially women, children, the poor and old. There is an urgent need to protect environment for the poor who will be affected by the new biological technologies, new scientific research and genetic manipulation. Pope Francis calls for a non-separation of science and ethics.

6. Conclusion

As much as the encyclical is acclaimed as a cry to reclaim and protect earth, it is evident that it is more of a call for human beings to check their activities in the environment their impact. When Wangari Maathai speaks of replenishing the earth, it resonates with Pope Francis call for the human being to take responsibility of the environment in addressing the ecological roots to the depletion, degradation and exploitation.

Humans have a responsibility, a duty of posterity towards the future generations. Human beings should be held morally responsible for their actions since they are capable of having, knowledge of the consequences of those actions. They have the capacity to bring about these consequences and can choose to do otherwise, since these consequences have value significance. Individuals in communities need to rediscover their authentic voice, and speak out in case of a call to the leadership or authority. Here, the solutions to the

problems are beyond individual – they extend to the political, the socio-cultural and even religion.

As a result of a consciousness possessed by the human being, they have a capacity to know and appreciate beauty, creativity and innovation, or grieve over the lack thereof. Just like children marvelling at a blossoming flower, or a sprouting maize, human beings as a reaction to the natural world, can inspire a sense of wonder and beauty that in turn encourages a sense of the divine.⁵⁸

⁵⁸ Maathai, Wangari. *Replenishing the earth: Spiritual values for healing ourselves and the world*. Image, 2010.

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