

# ENVIRONMENTAL STRATEGIES FOR FIGHT AGAINST THE COVID-19 PANDEMIC IN CAMEROON: A LEGAL APPROACH

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## ABSTRACT

The natural environment host diverse potentials for human survival on earth. It is from the environment that human health and well-being are articulated. To continue benefiting from such providence, humans owe duties to carter for the environment. Even so, the expected standards of care enshrined within international legal instruments initiated from the 1972 Stockholm Conference till date remain ineffectively implemented around the world. It however remains clear that efforts to expressly integrate human health benefits of the environment within environmental legal initiatives can just be a debut towards addressing zoonotic diseases, especially what has come to be known as the COVID-19 Pandemic. No doubt, it is in the natural environment that the pathogen resides, yet it is from the same environment too that humans have their well-being articulated and when affected, hopes lie on the same for a cure or solution. It is from this prism that the UNEP and WHO adopted the Health and Environment Linkages Initiative (HELI) in 2002 as well as One Health consideration of the Manhattan Principles of 2004, though implicitly reflected within Cameroonian legislations and administrative strategies at various levels.

**Keywords:** *Environment, Law, COVID-19 Pandemic, Zoonosis, Health.*

## INTRODUCTION

The human life support-system on earth is largely anchored in the environment, that is, the biosphere's ecological and physical endowments.<sup>i</sup> With this, human well-being is guaranteed. The ecosystems, genes and diverse species assure the very possibility of life, food, health, energy, recreation, education, and spirituality to the human family, the world over.<sup>ii</sup> Nonetheless, it has been globally wished things remain this way – that nature's providence, wealth and capability to continuously satisfy human desires not be tempered with.<sup>iii</sup> That the above 7 billion people found to inhabit the earth<sup>iv</sup> keep finding it possible to satisfy their daily needs in an environment that is able to enhancing same for future generations.<sup>v</sup> This however, might have been maintained over a long period of time as human health gains turns to indicate for the past 50 years running.

The World Health Organization (WHO) however considers health as *“a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.”* Health constitute cornerstone to human rights today including the right to a healthy environment. Within the African Charter on Human and Peoples Rights, (1981), article 16 acknowledges that, *“every individual shall have the right to enjoy the best attainable state of physical and mental health.”* On its part, article 24 recognizes that, *“all people shall have the right to a general satisfactory environment favourable to their development.”*

With the above, one should not be lured to think human daily health and economic life is bed of roses, for challenges abound. In 2012 for instance, some 12.6 million global deaths were attributed to the environment, with air, food, water and ecosystems which sustains man being estimated to be responsible for nearly 23% of all deaths worldwide?<sup>vi</sup> Even so, in the last two years human health records showcase a bleaker picture, given that, from November 2019 to December 2020, more than 80.7 million people were and are still being infected and reinfected worldwide by the COVID-19 pandemic, with more than 1.7 million deaths already registered.<sup>vii</sup> Current projections further indicates that the United States of America remain hardest-hit as more than 300 million deaths have been registered, followed by Brazil and India with more than 190 and 147 million respectively.<sup>viii</sup> With these, one begins to sight with Colborn's comparative of the world to a *mine shaft*, where canaries need to be lowered in other to determine its safety.<sup>ix</sup>

COVID-19 pandemic as it has come to be known is an illness considered to be caused by a novel coronavirus called *severe acute respiratory syndrome coronavirus 2*, (*SARS-CoV-2*), found to reside in the environment.<sup>x</sup> If the natural environment is becoming unfriendly to this extent, then something must surely be fundamentally wrong with the manner in which humans relate with their environment. If accusing fingers could be pointed to the combined effects of climate change, biodiversity loss and the degradation of natural systems that support all life on earth, then it becomes even more compelling to investigate if humans are still stewards over nature, or better still, find out if the gradual shift from this position noticed over the years is not partly responsible for the calamities befalling them?<sup>xi</sup> The underlying issue here is that, it is humans that turned to render the environment harmful; hence the ‘propeller’ of the very destructive forces engendering environmental degradation. At policy circles, man is described to have ‘acquired power to transform his environment,’ and this is taking place in yet unprecedented scales.<sup>xii</sup> But then, is it not short sighted, callous and cowardice to keep posing acts that destroy the very fabric of human survival on earth – the environment, and expecting better results? Has the environment not beseeched humans enough to come to terms with the fact that if nothing is done the possibilities for future occurrences of new and even more deadly diseases and plagues continue to stir humans in the face?<sup>xiii</sup>

In the Central African Sub-Region however, Cameroon stands tall amongst countries with rich and natural environment including forests, vegetation, soil and biodiversity in general.<sup>xiv</sup> Thanks to these endowments, the country hosts parts of the natural wealth of the Congo and Lake Chad Basins.<sup>xv</sup> With these potentials, the country inhabits two major indigenous groups including the *Bororo*, largely made up of the *Fulani* and the *Forest people* who constitute the *Baka*, *Bagyeli*, *Bakola* and *Bedzang* – pejoratively called the *Pygmies*.<sup>xvi</sup> Needless to say that these communities and others act as sorts of ‘natural shock-absorbers’ in terms of sufferings from the deleterious impacts of climate change, emergence and spread of major diseases, the COVID-19 pandemic inclusive and most often are the ones who sometimes hold solutions to them. This is so given that, the knowledge these groups and others pose relating to the development of traditional medicines, food, spirituality and rites can limit diseases outbursts, spread, and offer better possibilities to adapt to the climate change phenomenon.<sup>xvii</sup> Common plants found mostly in these communities such as bitter kola (*garcinia cola*), the prunus Africana (*kirah*), *Artemisia* (*Artemisia vulgaris*), lemongrass (*cymbopogon citratus*), ginger

(zingiber officinale) and garlics (*allium sativum*) among others have been widely used by majority of the population even as dietary supplements, claimed to be effective against the COVID-19.

This write-up therefore seeks to investigate how legal dispositions aimed at protecting the environment could be the alley through which government initiatives in combating and limiting the spread of the novo COVID-19 could be effectively channeled in Cameroon. As such, findings on the legitimate questions of what went wrong that nature couldn't buffer the disease from affecting humans plus reasons why the quick response measures aimed at fighting the virus seems futile and insufficient are made.

## **FROM ZONOSIS TO HUMAN INFECTIOUS DISEASE, THE COVID-19 EXAMPLE**

More than 75% of emerging, new and reemerging infectious diseases affecting human health are considered to be zoonotic.<sup>xviii</sup> Among these include viruses, bacteria, fungi and protozoa among others. While this is so, it has been recognized that, the early and rapid detection of zoonotic pathogens is fundamental in responding to its outbreak and spread. Generally, these diseases live in wild species hosts without problems until they are transmitted to humans. The transmission of zoonotic diseases to humans can happen through a variety of ways depending upon the human direct or indirect contact with the related source. This can be through the eating of contaminated or uncooked milk, meat, and eggs including raw fruits, vegetables, especially with contamination from infected livestock. Also, the direct contact with body fluids from infected animals including those from the wild and domestic sources may account for cases of transmission.

From time immemorial, humans have turned to favour leisure activities and undertaking pleasurable trips such as outdoor camping, hiking and caving, visits to zoos and farms; water activities including Jacuzzi, canoeing and sailing.<sup>xix</sup> It is these activities plus the uncontrolled consumption of wild species that sparked up the COVID-19 which became pandemic in China and throughout the world barely over a year ago. Though the consumption of wild meat in markets in China is said to be at the origin of the spread of the disease, the emergence of the

severe acute respiratory coronavirus (SARS-CoV) in 2003 and the Middle East respiratory syndrome coronavirus (MERS-CoV) in 2012 each caused large pandemics beside others.<sup>xx</sup> At this juncture therefore, should humans starve to death merely because their food sources tend to contaminate them with infectious diseases, or better still should they eat selectively and if so what should and should not be eaten by whom and how remain worrying. However, responses to these seem to linger in existing legal instruments, yet, begging for effective implementation and respect by States around the world, Cameroon inclusive.

## **THE ENVIRONMENT AND COVID-19, A NEXUS**

The environment hosts diverse ecosystems and habitats, genes and species without which human livelihood and ingenuity would hardly be possible on earth. This awareness has been captured and succinctly expressed within the World Charter for Nature in the following words:

*“...mankind is a part of nature and life depends on the uninterrupted functioning of the natural systems...and civilization is rooted in...and living in harmony with nature gives man the best...for the development of his creativity, rest and recreation...”<sup>xxi</sup>*

It is the environment which diversity guarantees human food needs, water, energy, the air, recreation, spirituality, education and technology found to be essential to life itself. With these potentials, the environment can be considered as a sort of ‘*shield*’ that hedges humans from natural catastrophic forces that could at any time prey on them. This seemed to have been recognized from the very beginning of creation when God placed man in the Garden of Eden to *guard* it by instructing him not to eat from the ‘tree that gives knowledge of good and bad.’ Eating of the tree was to be sanctioned by death.<sup>xxii</sup> This marked the beginning of human disobedience to nature. Is it the continuation of this tendency to disobey that is bringing a curse *a novo* on humanity in the form of the COVID-19 one supposes, and if not then what has suddenly gone wrong that in barely two years more than 1.7 million people have lost their lives with more even suffocating under the grip of economic and social hardships caused by same?

***Environmental Degradation, Synonymous to Diseases Outbreak and Transmission?***

How would humans not suffer when they claim ‘not to know’ the origin of the COVID-19, calling it a novo disease? Has the human community suddenly gone deaf and blind to the ways the environment – *their home* has suddenly been transformed? Are humans ignorant of the fact that projections indicates that diverse species, genes and ecosystems are degrading and being extinct at estimated rates of 1000 times the natural on a global scale?<sup>xxiii</sup> That global warming – major player in climate change phenomenon is on the rise by 0.2 degrees Celsius every decade<sup>xxiv</sup> with land degradation and desertification spanning so rapidly to the extent that 3.6 billion hectares of arable land, that is 70% of total drylands or nearly one quarter of total land area of the world is at the threshold of being affected,<sup>xxv</sup> and that poisonous chemicals including the Bhopal incident in India is still killing thousands around the world?<sup>xxvi</sup> It is the very humble acceptance of these basic truths that would be able to rescue humanity from dreaded diseases. After all it is lack of knowledge that makes the people perish, if not its denial. Human behavior towards the environment today can only be likened to what Shrader-Frechette has termed “*cowboy*” ethics, as he describes the way in which the American cowboys raped the lands and nearly extinguished the bison, all so sadly in the name of development.<sup>xxvii</sup>

In 1992, it was solemnly agreed that human being is and should be at the centre of concerns for the enhancement of development. And for this to be met, a relationship otherwise ‘harmonious’ was required and expected to be maintained vis-a-vis nature.<sup>xxviii</sup> Even so, earlier calls had been made to mankind on the need not to interrupt the functioning of the natural systems as every civilization is noted to be rooted therein.<sup>xxix</sup> It is to fulfilling this need that recently in 2015, a Paris Agreement was adopted to seek ways to mitigate and adapt to climate change in calling to mine the needs to prevent dangerous anthropogenic interference with the climate system, aimed at being achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change.<sup>xxx</sup>

***Human Consumption Pattern, Lead Cause to COVID-19***

The environment offers humans diverse goods and services for possible livelihood, health and well-being, yet it is from this same natural environment that humans get infected and contaminated by illnesses coming sometimes from flora and fauna of diverse species. This may

find its way into the human community due to the uncontrolled manner in which humans tend to use for consumptive purposes and trade the wild in particular. Even so, international initiatives have been undertaken to guide humans enhance her food needs by encouraging states to conserve existing and well known species, explore, collect, characterize, evaluate and document genetic resources, yet, due to the desire to consume even more, humans have turned to create new species thanks to the ability to scientifically modify many, sometimes going beyond the thresholds of withdrawals especially when such species turned to be harmful both to humans and yet other species.<sup>xxxix</sup> Thus, contaminated food sources stand as major in-roots through which humans may get contaminated by plants and infections of zoonotic origins.<sup>xxxix</sup> This account for the reasons why at the Preamble of the Cartagena Protocol it has been stated that, “...modern biotechnology has great potential for human wellbeing if developed and used with adequate safety measures for the environment and human health.”<sup>xxxix</sup> More so, article 15(1), Convention on Biological Diversity (CBD) considers that it is the duty of national authorities to determine access to genetic resources. In Cameroon, this is based on the principle of precaution according to which the lack of scientific certainty would not be used as excuse for not preventing the access, use and release of harmful species which can cause irreversible damage both to the environment and human health.<sup>xxxix</sup>

The huge quest for food, financial gains and for pets is pushing humans further into the wild for capture. In Cameroon for instance, hunting for bush-meat is no longer for food and survival by the local communities as was the case before, it is now becoming a lifestyle for the city-dwellers to visit prestigious restaurants for meals prepared with rare wildlife species.<sup>xxxix</sup> While the COVID-19 is suspected to come from bats, other wildlife species are said to carry along different pathogens which become deadly to humans if uncontrolled contacts are permitted through what is generally termed the *spillover events*. The pathogens have been responsible for the emergences of different types of diseases and influenzas such as the Bird Flu, H1N1, Middle East Respiratory Syndrome (MERS), Ebola, HIV and SARS, the Zika or West Nile virus among others around the world. Is it not timely enough for governments around the world, Cameroon inclusive to start laying emphases on the strict implementation of various laws internationally engaged including the Convention on Biological Diversity (CBD) from which has been developed the *One Health Policy Guidelines*?<sup>xxxix</sup>

***Population Boom, COVID-19 Emergence, and Transmission***

The world population stands above 7 billion, threatening to meet 9 billion in the coming decades.<sup>xxxvii</sup> Also, countries in the Sub-Saharan region of Africa would impose an estimated additional 1 billion people to already existing estimates; accounting for more than half of the growth of the world's population with prospects of continues growth by 2050.<sup>xxxviii</sup> These growths would entail a struggle for food, especially given that, in the Sustainable Development Goals (SDGs), the need to end hunger, achieve food security and improve nutrition and promote sustainable agriculture has been recognized.<sup>xxxix</sup>

The Global Hunger Index (GHI)<sup>xl</sup> indicates that, many countries have higher hunger index than was the case in previous years. Cameroon happens to fall among countries with serious hunger crisis situation beside other African countries.<sup>xli</sup> Among the causes mentioned, little is said as far as population growth rate is concerned. Yet, there is global need to strongly curb the rate of hunger worldwide by 2030. While global efforts to curb hunger resulting partly from high number of people in dire need for food remain compelling, efforts toward hunger reduction could lead to environmental degradation and climate change found to be the major causes of hunger, especially when such efforts are not appropriately channeled. This may tend to represent a sort of complicated cyclical web in which human endeavors to stop hunger turned to be in-roots through which several diseases set in to affect humans. This is evident as the so-called COVID-19 started in a food market in Wuhan-China, before being carried to other parts of the world.

If some 75% of emerging infectious diseases have zoonotic origins affecting more than one billion people worldwide,<sup>xlii</sup> arguably, the quest for food may partly share the blame. This is so given that, traditional animal food sources such as bush meat and farming increase the risks of disease spillover from wild animals. Intensive animal farming creates conditions for the emergence and amplification of epidemics due to physical and genetic proximity of infectious pathogenic carriers coming from the wild. Also, uncontrolled capture for consumptive purpose and for domestication may account for high risk of human contamination. Thus, agricultural land-use expansion sometimes lead to deforestation and biodiversity loss, rendering farmed animals to act as incubators or hosts of some diseases that would have remained in the wild and sometimes unknown to humans.<sup>xliii</sup> It is for these reasons that the agreed scientific links, findings and visions for the use and conservation of the environment as a whole, biodiversity



in particular projected within the Intergovernmental Science – Policy Platform on Biodiversity and Ecosystem Services (IPBES)<sup>xliv</sup> should not only be regarded as voluntary guide for the attainment of the Aichi Targets but obligatory for governments at national, regional and global levels.<sup>xlv</sup>

## **COVID-19 EMERGENCE, SOME IMPLICATIONS FOR THE HUMAN ENVIRONMENT**

The outbreak of the COVID-19 took humans unaware. It started in a food market in the Chinese City of Wuhan and first cases were reported in December 2019.<sup>xlvi</sup> The disease was considered to have an ecological origin from the bat's species, yet its genomic sequence shows an unknown etiological background. Thus, while there are claims humans have very little interactions with bats, all indications point to the fact that the virus must have been transmitted to humans from an intermediate animal host which could have been a domestic animal, a wild animal, or a domesticated wild animal, still to be identified.<sup>xlvii</sup> Since then, the virus has contaminated humans around the world with over a million losing their lives as the consequences abound, little wonder the World Health Organization's Director General Tedros cautioned in the following words to,

*“...Make no mistake, for we have a long way to go...the virus remains extremely dangerous...and will be with us for a long time...People understandably want to get on with their lives, because their lives and livelihoods are at stake...But the world will not and cannot go back to the way things were...for there must be a new normal...”<sup>xlviii</sup>*

### ***Environmental Protection, Evolving Towards a Sustainable Approach***

The concept of environmental sustainability has evolved from mere theoretical to a concrete basis upon which human growth and development is anchored. Turning point for this approach was nurtured in the Brundtland Commission during preparatory works for the United Nations Conference on Environment and Development (UNCED).<sup>xlix</sup> *Our Common Future* as it came to be known under the World Commission on Environment and Development viewed

environmental sustainability through human development prism articulated and enshrined within diverse international legal instruments as “*development that meets the needs of the present without compromising the ability of the future generations to meet their own needs.*”<sup>1</sup>

While considering development as an issue of right, Principle 3 of the Rio Declaration (1992) upholds “*right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.*”

With the above view, it becomes legitimate to assert that the environment can play the significant role of arresting and sinking diseases known and unknown to humans, yet remaining major in producing and supplying the various goods and services for human well-being unperturbed if human stewardship toward could also be evolved from a mere moral to an obligatory legal principle. Unfortunately, in the name of development the stewardship role<sup>li</sup> has been sweepingly translated into a need to conserve the environment which full measures remained hard to be attain without excesses, extravagance and greed. After all, as creature, humans are also moulders of their environment, meaning they have as matter of right to use environmental resources for their development. It is this right to use that has today been synonymous to emergence of novo infectious diseases.

With the destruction of natural habitats for different natural species, plus the uncontrolled exploitation of these species, people are getting closer to disease vectors which when established in them, could easily spread across the interconnected world of today as seen with the COVID-19 outbreak and spread. How else can one explain the fact that viruses of the SARS-COV family including SARS-COV 1 and 2 noted to resides in animals especially the bats species would emerge without notice, kill humans and devastate their economies in yet short notice? Globally, humans must have failed to live within sustainable confines of the environment. Within the Preamble of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, (CITES), (1973), “*...peoples and states should be given the opportunities as best protectors of their own wild flora and fauna.*” This is so considered given that human health and human well-being should be at the centre of environmental and economic development.<sup>lii</sup>

### ***An Ecocentric and Anthropogenic Paradigm for Environmental Conservation against the COVID-19***

On earth, human livelihood, survival and wellbeing is largely dependent upon environmental resources. Simply put, human life would hardly be possible without nature. Thus, it is nature that enables humans to attain a state of being with others, where needs are met, where one can act meaningfully to pursue one's goals in addition to the enjoyment of a satisfactory quality of life.<sup>liii</sup> It is for this reason that, it has been considered within the World Charter for Nature that, *“every form of life is unique, warranting respect regardless of its worth to man...”* To ensure this, the law enjoins humans not to impair the processes of nature, but to respect it.

The environment is being destroyed to the extent that within the Preamble of the Stockholm Declaration (UNCE), paragraph 6 denotes that,

*“A point has been reached in history when we must shape our actions though out the world with prudent care...as ignorance or indifference can do massive and irreversible harm to the environment on which life and wellbeing depends. Conversely, through fuller knowledge and wiser action we can achieve for ourselves and our posterity a better life in an environment more in keeping with human needs and hopes...”*

It is not for nothing that intrinsic relationship needs to be established between nature and humans. Principle 1, Rio Declaration is to the effect that, *“human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.”* This call is coming at a time human are beginning to understand that the long-standing assumption that the natural world was a never-ending resource is no longer true. Barnard, H. estimates that nature is no longer immune to the human greed and destruction.<sup>liv</sup> The natural world is no longer resilient in the face of utilization of natural resources by humans across the world. The degree of the damage is not only affecting the environment but also humans themselves. It is wise to think therefore on how better the environment can be remedied, but best to question how humans regard nature. For as Aldo, L. puts it, *“...a thing is right where it tends to preserve the integrity, stability and beauty of biotic community and wrong when it tends otherwise.”<sup>lv</sup>*

Humans cannot be killed for the sake of bringing about the destruction of the integrity, stability and beauty of the biotic community, at the same time, humans cannot fold their arms and watch fellow humans being killed, economies destroyed with health challenges at the increase due to the very callous manner in which the environment is used. This is the reason why within the World Charter for Nature, governments have been persuaded to ‘ensure the acquisition of knowledge to maintain and enhance the ability to use natural resources in manner which ensures benefits to present and future generations’ even as Paragraph 6 of the UNCE Declaration holds that “...*man must use knowledge to build in collaboration with nature a better environment...*” with all these, efforts towards curbing the effects of the COVID- 19 upon humans could be channeled, yet encouraging future prevention of diseases outbreak in general, through existing environmental norms.

As of now, vaccine trials are on the rise to search for better ways to fighting the COVID-19 and other pandemics. By February 2020, world scientists met at the WHO headquarter in Switzerland to discuss ways on combating the new virus. Their discussion led to an agreement on two main goals. The first was to accelerate innovative research to help contain the spread of the epidemic and facilitate care for those affected. The second was to support research priorities that contribute to global research platforms in hopes to learn from the current pandemic response to better prepare for the next unforeseen epidemic.<sup>lvi</sup> While this is so, there are indications that, the COVID-19 therapeutic drugs might be developed from plant species. As such, about 219 plants from 83 families are already found worldwide to have antiviral activity. Yet, among these plants, close to 149 from 71 families have been screened and found to have secondary metabolites which can be effective against the disease, since they are found to contain anti SARS-CoV-2 lead molecules.<sup>lvii</sup> Hoping on plant molecules for solution is hoping on the natural environment for solution and so, the need to reconsider and take serious initiatives at protecting and conserving the environment as priority for the treatment and prevention of disease outbreaks and spread. According to Inger, A., Executive Director, United Nations Environment Programme, (UNEP), “...*if humanity gives nature a chance to breathe, it will be greatest ally to build a fairer, greener and safer world for everyone.*”<sup>lviii</sup>

## HARNESSING ENVIRONMENTAL LAW, AND HEALTH APPROACHES AGAINST COVID-19

Hopes to build better after the COVID-19 pandemic can only be certain if humans fully understand the transmission of zoonoses, and the threats they pose to health, then search for ways on how to minimize the risk of future devastating outbreaks in a compellable, but urgent manner. This is so given that, the high death toll usually recorded from zoonotic diseases can be avoidable, with many of such diseases preventable. To this, effective actions are required, beside other things to renew the moral commitment to the lofty goals of the sustainable development (SDGs) by taking firm, effective and robust political actions through international and national partnerships. With this, global knowledge-base on environment and health linkages could be translated into practical policy tools and action especially at the national levels where it is much easier to incorporate environment and health considerations into social, cultural, economic and political decisions. As such, varied identified approaches for effecting environmental-human health guarantee within legal instruments in related fields needs to be articulated and advocated as already initiated by the UNEP and WHO in the Health and Environment Linkages Initiative (HELI) of 2002.<sup>lix</sup>

### *Integrated or the Multidimensional Policy Approach, UNEP-WHO*

While the environment is noted for its myriad uses for human sustainability, it however remains that it is in the need for the same that humans are degrading the environment. As such, the WHO considers the need to detoxify the environment as means of ensuring healthy environment for human wellbeing. To this effect, it recommends a stronger focus on the sound management of chemicals emitted on the environment through what it terms life-cycle approaches and improved management and reduction of waste.<sup>lx</sup> Besides, it also calls for the need to decarbonize,<sup>lxi</sup> decouple resources use and change lifestyles,<sup>lxii</sup> enhance ecosystem resilience to protect the planet's natural systems besides others.<sup>lxiii</sup>

To enhance the above, the Rio Declaration begins by consecrating humans at the centre of concerns for sustainable development, couched against a harmonious relationship with nature in its very first Principle. This is so given that human wellbeing would only be articulated upon the ability to manage successfully the interaction between development and environmental

integrity. In other words, human health depends upon the ability to manage the interaction between the physical, spiritual, biological, economic and the social environment. As Agenda 21 – *blue print* to the implementation of the Rio Conventions (1992) puts it, a healthy environment, including the provision of a safe water supply and sanitation and the promotion of a safe food supply and proper nutrition underscores human health in diverse ways. This can be realized by shifting global attention towards food safety especially with greater emphases laid on the need to eliminate food contamination, and to ensuring safe water for drinking to preclude both microbial and chemical contamination. For these to be possible, there is urgent need to restructure decision-making processes so that considerations of socio-economic and developmental issues including health are integrated.<sup>lxiv</sup>

***The One-Health Approach, Manhattan Principles (2004)<sup>lxv</sup>***

The term ‘One Health’ was first used in 2003–2004, and was associated with the emergence of the SARS in early 2003 and subsequently by the spread of highly pathogenic avian influenza H5N1. These principles were a vital step in recognizing the critical importance of collaborative, cross-disciplinary approaches for responding to emerging and resurging diseases, and in particular, for the inclusion of wildlife health as an essential component of global disease prevention, surveillance, control, and mitigation.<sup>lxvi</sup> As such, Principle 1 of the draft text seeks to urge world leaders, civil society, the health community and institutions of science to among other things,

*“Recognize the essential link between humans, domestic animals and wildlife health and the threat disease pose to people, their food supplies and economies, and the biodiversity essential to maintaining the healthy environments and functioning ecosystems we all require.”*

One Health seeks to bring together human health, animal health and environmental health on a common platform to build synergy for a holistic approach to the COVID-19 Pandemic and to avoid future pandemic threats. This is so given that, a well-preserved environment, together with healthy animals, plants and ecosystems are more resilient and better prepared to react against new pathogens or mitigate their impact. Nevertheless, implementation of the One Health approach to combating the COVID-19 pandemic now plaguing the world by governments is but a matter of urgency. FAO puts it thus,

*“The implementation of the One Health concept requires inter-sectoral governance mechanisms at the global, regional and national levels. All relevant institutions must work closely together, each contributing their expertise, in order to formulate the most appropriate regulatory responses, minimize gaps and clarify conflicting or overlapping mandates. This is all the more so in emergency situations, such as the current COVID-19 pandemic, where emergency needs expedited decision-making, implementation and enforcement. Only with well-established coordination mechanisms, where each institution knows its role, will a government be able to react with due consideration of all the interests and areas involved.”<sup>lxvii</sup>*

***United Nations Resolution A/RES/66/288, The Future We Want, (2012), and the Sustainable Development Goals, (SDGs), (2015)***

Illegal trade in wildlife (ITW) has not only been recognized by many governments around the world to be serious, but also as major in-root through which humans come into contact with major zoonotic diseases. This may partly explains why government leaders, civil society organizations and the international community as a whole have responded by strengthening their commitments to address the ITW already ascribed within the CITES<sup>lxviii</sup> and other international legal instruments across a range of other measures.<sup>lxix</sup> While this is so, in 2012, head of states, governments and high level representatives came together at Rio de Janeiro Brazil to renew the commitment to environmental protection linked with the promotion human wellbeing. As such, the need to mainstream sustainable development at all levels, integrating economic, social, and environmental aspects, yet recognizing further their interlinkage so as to achieve sustainable development in all dimensions.

To ensure the above, by 2015, the SDGs were adopted with some 17 goals and 169 targets. Here, statesmen assert their determination to beside other things protect the planet from degradation, through sustainable consumption and production, sustainably managing its natural resources and taking urgent actions on climate change in order to support the needs of present and future generations especially when it comes to health needs. For this to be enhanced, Goal 15 on its part ushers in the need to, *“protect, restore and promote sustainable use of terrestrial ecosystems, sustainable management of forests, combat desertification, and halt and reverse*

*land degradation and biodiversity loss.*” These are the measures required to harnessing environmental protection and human health as have been articulated in Principle 7, Rio Declaration which holds that “*states cooperate in global partnership to conserve, restore and protect the health and integrity of earth’s ecosystems...* ”<sup>lxx</sup>

***CBD, UNFCCC, Agenda 21, (1992) and the Cartagena Protocol on Biosafety, (2000), Synergy for Combating the COVID-19***

The value of biodiversity to man has been articulated within the preamble of the CBD to include: “*...intrinsic value ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values...* ” With this, it becomes clear that the conservation and sustainable use of the components of biodiversity is critical to meeting human food, health and other needs of the of the world’s growing population. With biodiversity therefore, human life and wellbeing is enforced and with its degradation and loss, the quality of human life is reduced. This is the reason why article 1, sacrosanctly holds that, “*the objectives of the Convention to be pursued are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources...* ”

On its part, the UNFCCC acknowledges in its article 1(1) that, climate change may have deleterious effects on the composition, resilience or productivity of ecosystems or on the socio-economic systems of human health and welfare. With this link established, humans are called upon to adopt adaptation measures to climate change worth ensuring food production and economic development. To this, there is need for precaution, environmental impact and social assessment as it has come to be known for the undertaking of activities which might have negative effects on the environment.<sup>lxxi</sup> This will be applied most especially when using and handling modified genetically modified organisms (GMOs) that may have negative effects to the environment and to human health. This has been considered in articles 4 and 5, Cartagena Protocol on Biosafety to the CBD.

To enable the application and implementation of the above international legal initiatives in Cameroon, the Preamble of Law No. 2008-1 of 14 April 2008, to amend and supplement some provisions of Law No. 96-6 of 18 January 1996 to amend the Constitution of 2 June 1972 upholds the country’s readiness and willingness to enhance natural resources for general



wellbeing especially as every citizen have right to what has been termed “*healthy environment*.” In line with this reasoning, the protection of the environment is yet considered “*everyone’s duty*,” as the State oversees its effectiveness by “*...ensuring the protection and improvement of the environment*.” To ensure this in concrete terms articles 43, 44 and 45 of the same law neatly address issues relating to the signing, ratification and domestication of international legal instruments, yet in areas relating to environmental protection and human health guarantee.

While the above remains true, the Constitution further stipulates in its article 4 that, the President and the Parliament have powers to initiate laws, some relating to environmental protection for the enhancement of human health as further concretized in articles 26, 27 and 28. In matters relating to urgency especially those affecting the health and wellbeing of Cameroonians including the COVID-19 pandemic, article 28(1) highlights that, “*...Parliament may empower the President of the Republic to legislate by way of Ordinance...*” As such, the article 9(1) and (2) accords in special circumstances to the President powers to decree and inform the nation by way of a message.

Furthermore, by adopting Law No. 94/10 of 20 January 1994 for the regulation of forestry and wildlife,<sup>lxxii</sup> the government of Cameroon had as one of its measure priority to classify forest products including animals, plants and medicinal species for appropriate protection and use by humans. With such protection accorded species, humans are directly and indirectly controlled in accessing, harvesting, interacting with and introducing ‘unknown species’ within human communities without due authorization. Emphasis here lies in section 11(para. 2) which articulates, “*...genetic resources belong to the state of Cameroon. No person uses...without prior authorization.*” This is in other words to ensure wild species remain in the wild, their habitat, which acts as reservoir not only for these species but also for parasitic and yet unknown pathogens which could cross on, and affect humans in diverse ways. To better harness this, the government calls upon public and private institutions to within their capacities and competence; sensitize the entire population on related environmental problems. Thus, article 7(1), of Law No. 96/12 of 5 August 1996 on environmental management considers every person to have the right to be informed on harmful environmental practices and their impacts upon their health and the environment as well as measures taken to prevent the negative effects

of such acts. With this, the population shall be encouraged to participate in environmental management; beneficial to their health.

Moreover, an Inter-Ministerial Committee to monitor the implementation of the environment and forestry sector programme exists. In accordance to Order 005/CAB/PM of 12 January 2015, this committee was reorganized to include; a representative of the Ministry of Livestock and Fisheries, representative of Ministry of Tourism, Ministry of Domains, Ministry of Scientific Research and Innovations and a representative from the Ministry of Mines. Although this Committee is charged beside other things for the implementation of transversal programmes, it however fails to include in an express manner representative from the Ministry of Health.

While Environment and Social Impact Assessment (ESIA) constitute cornerstone for environmental-health risks prevention and reduction, Decree No. 2013/0173/PM adopted in 2013 has established not only how it needs to be conducted but also on how it could be audited. This is so given that in 2003, Order No. 0010/MINEP was adopted to put in place a Divisional Committee for the same purpose. In this light, human interaction and introduction, including efforts to genetically modify species which could have negative impacts upon human health could be checked. Even so, the outbreak of the COVID-19 has taught humans in most clear manner that, current efforts in diseases avoidance and control remain insufficient. Such insufficiency and deficits may be as a result of certain lapses in the law.

## **SOME LEGAL CHALLENGES, CONCLUSION AND WAY FORWARD TOWARDS THE CONTROL OF THE COVID-19 PANDEMIC IN CAMEROON**

There are indications that the COVID-19 Pandemic has come to stay. This is so given that, the disease is mutating and new strains have been emerging in different parts of the world, with fears that that their spread may overload the already strained healthcare systems. In the United Kingdom and South Africa for example, scientists fear new variants may lead to a more rapid spread than the original virus which could lead to an exponential growth in the number of COVID-19 cases. This may further be compounded by already existing challenges some

countries are facing even with vaccine distribution. This could only lead to more fatalities as increased hospitalization could overwhelmed healthcare systems, consequently leading to inability to cater for the growing number of patients.<sup>lxxiii</sup>

Moreover, individual governments are struggling to overturn the current trend of the COVID-19 pandemic in their respective countries no doubt. Many have tended to short down their economies, encouraged social distancing, proper hygienic public interactions between citizens and the wearing of facemasks as special barrier measures, yet, little is said on how humans interact with nature at present dispensation. This is so given that nature seems to hold responses which could bail-out current rates of suffering and loss due to the ravaging effects of the COVID-19. China seemed to have had a ‘magic solution’ to the disease. This is so given that she *seemingly succeeded* to arrest its spread and infection in Wuhan, Hubei region, considered by many to be the origin of the disease. In like manner, by late September 2020, Madagascar set up the first national pharmacy for the production of her plant drug, Covids-Organic (CVO) said to be a preventive against the COVID-19 pandemic, a case similar to what obtained in Cameroon with the introduction of a drug based on two plants by Arch Bishop Samuel Kleda. Even with such claims, Cameroon still recorded some 10.000 cases of infection with some 277 deaths at the time, and considered hotspot for the diseases by the WHO. The problem here seems to hover around isolated efforts, reason why the UN Secretary General called on world leaders to come together and offer an urgent and coordinated global response as political willingness for solidarity remain hopeful way-out of the pandemic.

From the above, urgent responses to the pandemic are required. This can be attained yet, with the construction of adequate post-COVID-19 legal instruments robust enough in bringing together the environmental sector and health for a holistic approach to new emerging diseases. In this light, already existing environmental legal instruments at international and national levels be implemented interactively with health considerations constituting a main thrust.

In Cameroon for instance, the Inter-Ministerial Committee to monitor the implementation of the environment and forestry sector programme as regulated by Order 005/CAB/PM of 12 January 2015, should take into consideration in an express manner the inclusion of experts from the Ministry of Public Health. Also, COVID-19 should not be an issue exclusively handles by the Ministry of Public Health as has been seen ever since the outbreak of the disease in Cameroon.

There is need to exploit already existing platforms offered by ratified international legal instruments as anchored within the country's sustainable development agenda for 2030. In this light, the carrying out of the environment and social impact assessment for development projects to be implemented should even be more rigorous especially with the full implementation of the country's decentralization as has been concretized with the adoption of Law No. 2019/024 of 24<sup>th</sup> December 2019, instituting the General Code of Regional and Local authorities.<sup>lxxiv</sup>

Also, rather than castigating traditional or plant medicinal products claimed to be effective against the COVID-19 around the world especially by the WHO, urgent steps should be taken to integrating and embrace such traditional pharmacopoeia within classic protocols for treatment of emerging diseases, the COVID-19 inclusive. Since 2005, the 2004 Directive for traditional herbal and medicinal products for human use had been updated. This treatment method if accepted could be cost effective as greater parts of world's economy suffer from short down especially in developing countries where citizens are economically vulnerable even before the Pandemic.

World leaders must prepare to embrace the COVID-19 as new normal from now henceforth, given that, its complete eradication is proving to be uphill task for scientists the world over. In Cameroon, it was only in the middle of the pandemic that the minister of scientific research Dr. Madeleine Tchunte spoke of the need to equip scientific laboratories for the production of Chloroquine against the COVID-19. The government must put in place proactive measures aimed at diseases prevention and not adopting measures to cope with outbreaks when they are already out of hand, as such would only be 'cosmetic,' as after the disease such measures risk being abandoned, waiting for the next outbreak which usually come unexpected and often take humans by surprise.

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## ENDNOTES

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<sup>i</sup> However, in article 4(k), Law No 96/12 of August 5, 1996 relating to Environmental Management, the environment is considered as the natural and artificial elements and biogeochemical balances they participate in, as well as the economic, social, and cultural factors which are conducive to the existence, transformation and development of living organisms and human activities.

<sup>ii</sup> Millennium Ecosystem Assessment, (2005), *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington, DC. Pp. 25-40.

<sup>iii</sup> In June 1972, the United Nations convened a Conference in the Swedish town of Stockholm to ponder, trace ways out, consider the need for a common outlook and for common principles inspire and guide the peoples of the world in the preservation and enhancement of the human environment.

<sup>iv</sup> United Nations, (2019), *World Population Prospects*. Department of Economics and Social Affairs, Population division. New York.

<sup>v</sup> See World Commission on Environment and Development, (1987), *Our Common Future*. The Brundtland Report. Pp. 43-46.

<sup>vi</sup> See United Nations Thematic Report, (2016), encapsulated 'Healthy Environment, Healthy People.' Second Session of the United Nations Environment Assembly of the United Nations Environment Programme. Ministerial Policy Review Session – Nairobi.

<sup>vii</sup> World Health Organization, (2020), COVID-19 Weekly Epidemiological Update. Global Epidemiological Situation. Also available at: <https://www.who.int/publications> (consulted on the 30th of December, 2020).

<sup>viii</sup> Ibid.

<sup>ix</sup> Colborn, T. et al. (1997), *Our Stolen Future*. New York, Penguin. Pp. 50-55.

<sup>x</sup> Its outbreak was first reported in China's city of Hubei, in Wuhan region. Ecologists suspect it originates from the bat populations, casting the views of skeptics suspecting a laboratory construct as its genomic sequences do not show any trace of known elements.

<sup>xi</sup> Since 1972, the fear was born and articulated within the Preamble of the Declaration of the United Nations Conference on the Human Environment that man-made harm on the environment is today evident with the dangerous levels of pollution in water, air, earth, the living beings and the biosphere.

<sup>xii</sup> See Preamble, Paragraph 1, Declaration of the United Nations Conference on the Human Environment, (1972).

<sup>xiii</sup> In South Africa already, a variant of the SARS-COV-2 has been detected through retrospective genomic analyses of the virus. Initial analysis indicates that the variant, known as 501Y.V2 may even spread more between people. Nevertheless, investigations are still on going to determine if it is associated with any change in the severity of infection, antibody response or vaccine efficacy.

<sup>xiv</sup> Cameroon's 3<sup>rd</sup> Report on the National Biodiversity Strategy and Action Plan (NBSAP), (2005). Also available at: <http://www.biodiv.org/world/map.aspx> (visited, 5<sup>th</sup> December, 2020).

<sup>xv</sup> After the Amazon Basin, the Congo Basin is the second largest forest deposit in the world. This Basin stretched from the coast of the Gulf of Guinea in the West to the Mountains of the Albertine Rift in the East and covers about seven degree of latitude on both sides of the equator. The area of these forests nears 200 million hectares located in Cameroon, Gabon, Equatorial Guinea, Congo-Brazzaville, Democratic Republic of Congo, and the Central African Republic.

On its part, the Lake Chad Basin is located in Northern-Central Africa. It covers almost 8% of the Continent touching almost eight countries including Cameroon, Nigeria, Niger, Algeria, Sudan, and Central Africa.

<sup>xvi</sup> See more in Moutoni, L. (2019), Community Forestry in Cameroon: An Overview of the Community Perspective. Forest People Programme, UK AIDS. Available at: [www.forestpeoples.org](http://www.forestpeoples.org) (consulted on the 29<sup>th</sup> of December, 2020).

<sup>xvii</sup> See Titanji, V. (2020), Priority Research Themes in the Fight Against the COVID-19 with Particular Reference to Cameroon. *Journal of the Cameroon Academy of Science*, vol. 15, no. 3, pp. 209-213.

<sup>xviii</sup> One Health, (2018), Operational Framework for Strengthening Human, Animal and Environmental Public Health Systems at Their Interface. The World Bank: Washington DC, USA. Also available at: <http://www.doc.worldbank.org/curated> (consulted on the 5<sup>th</sup> of January, 2021).

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<sup>xx</sup> Ibid.

<sup>xxi</sup> World Charter for Nature, (1982). United Nations General Assembly 48<sup>th</sup> Plenary Meeting. A/RES/37/7. Available at: <http://www.un.org/documents/ga/res/37/a37r007> (consulted, 20<sup>th</sup> December, 2020).

<sup>xxii</sup> Genesis Chapter 2:15-18. Holy Bible, Standard edition, GNB. P. 5.

<sup>xxiii</sup> Millennium Ecosystem Assessment, (2005), op cit.

<sup>xxiv</sup> Jameel, R. (2016), Climate Change: Causes, Effects and Solutions. A with Honors Projects. 164. Available at: <http://spark.parkland.edu/ah/164> (consulted on the 20<sup>th</sup> of December 2020).

<sup>xxv</sup> See UNEP's Plan to Combat Desertification (1991), Status of Desertification and Implementation of the United Nations Plan of Action to Combat Desertification. Report of the Executive Director.

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<sup>xxviii</sup> See the very first Principle in the Rio Declaration on Environment and Development. Report of the United Nations Conference on Environment and Development, (1992).

<sup>xxix</sup> Resolutions of the World Charter for Nature adopted at the 48<sup>th</sup> Plenary Meeting of the United Nations General Assembly, (1982), op cit.

<sup>xxx</sup> The Agreement has been attached as an Annex to the Decision of Conference of Parties (CoP), opened for signature on the 22 of April 2016 at the United Nations Head Quarter in New York.

<sup>xxxi</sup> Vitousek, M. et al. (1997), Human Domination of Earth's Ecosystems. *Science*, vol. 277, pp. 494-499.

<sup>xxxii</sup> Kaspas, K. (2020), Biodiversity Conservation and Overcoming Infectious Diseases Emergence in Cameroon: A Legal Perspective. *International Journal of Innovative Research and Advanced Studies (IJIRAS)*, vol. 7, issue 8, pp. 214-220.

<sup>xxxiii</sup> See Preamble of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, (2000).

<sup>xxxiv</sup> Article 9(a), Law No. 96/12 of 5<sup>th</sup> August 1996 Relating to Environmental Management.

<sup>xxxv</sup> Egbe, S. (2001), The Law, Communities and Wildlife Management in Cameroon. Rural Development Forestry Network. Paper 25e (i), DFID, pp. 1-11.

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<sup>xxxviii</sup> *Ibid.*

<sup>xxxix</sup> See Goal 2, SDGs, (2015), *Transforming Our World: The 2030 Agenda for Sustainable Development*. United Nations, A/Res/70/1.

<sup>xl</sup> Klaus, G. et al. (2019), *Global Hunger Index (GHI): The Challenge of Hunger and Climate Change*. Pp. 5-20.

<sup>xli</sup> *Ibid.*

<sup>xlii</sup> Romain, E. et al. (2020), *Infectious Diseases and Meat Production*. *Environment and Resource Economics*, Springer, In Press, Hall. Pp. 1-26.

<sup>xliii</sup> Young, H. et al. (2014), *Declines in Large wild life Increase Landscape-Level Prevalence of Rodent-Borne Disease in Africa*. *Proceedings of the National Academy of Sciences*, Vol. 111, No. 19, pp. 7036-7041.

<sup>xliv</sup> In 2018, a science-policy assessment on biodiversity was carried out by experts from diverse background in Africa and summarized in a policy document for frontline leaders and decision-makers on biodiversity and environmental protection as well as human rights. While the policy orientation document was achieved for the African region, significant steps were identified on how to foster the attainment of the Aichi Targets for the Continent for the post 2020. This document however contributed significantly toward the compilation of the IPBES global assessment on biodiversity and ecosystem services adopted and approved at the IPBES Plenary meeting at its 7<sup>th</sup> Session at Paris, France in May 2019.

<sup>xlv</sup> See Chapter 6, *IPBES Global Assessment on Biodiversity and Ecosystem Services*, (2019), Draft.

<sup>xlvi</sup> See World Health Organization, (2019), *COVID-19. Situation Report-94, the Global Outbreak Alert and Response Network*.

<sup>xlvii</sup> *Ibid.*

<sup>xlviii</sup> *Ibid.*

<sup>lix</sup> In 1983, the Un General Assembly created the World Commission on Environment and Development as an independent body aimed at reexamining the critical issues of environment and development, formulating innovative, concrete and realistic action proposals to deal with them; strengthens international cooperation on environment and development, and assess the proposed new forms of cooperation that can break out of existing patterns and influence policies and events in the direction of needed change; and raise level of understanding and commitment to action on the part of individuals, voluntary organizations, business, institutes and governments.

<sup>1</sup> See World Commission on Environment and Development, (1983), *Our Common Future*. UNWCED, pp. 364-366; also, in the *Case concerning the Gabčíkovo-Nagymaros Project between Hungary v. Slovakia, ICJ, (1997)*, Judge Weeramantry gave an outstanding opinion on the concept, regarding it as an issue of environment and development; continuing environmental impact assessment; and the erga omnes connotation of environmental damage.

<sup>li</sup> The Declaration of the United Nations Conference on Human Environment (1972) was drawn within the background of considering a common outlook for common principles to inspire and guide peoples in preserving and enhancing human environment.

<sup>lii</sup> Also see Principle 21, *United Nations Declaration on the Human Environment*, (1972); Principle 2, *Rio Declaration*, (1992) and above all, *Preamble of the UN Charter*, (1945).

<sup>liii</sup> *Wellbeing in Developing Countries Research Group*, (2007), *Wellbeing and International Development: Research Statement*. University of Bath, Wed Research Group; Shackleton, S. et al. (2008), *Links between the Local Trade in Natural Products, Livelihoods and Poverty Alleviation in a Semi-arid Region of South Africa*. *World Development*, vol. 36, no. 3, pp. 505-526.

<sup>liv</sup> Barnard, H. (2006), *Nature, Human Nature and Value: A Study in Environmental Philosophy*. Thesis Submitted to the University of Wales in Fulfilment of the Requirements of the Degree of Doctor of Philosophy. University of Wales, Cardiff.

<sup>lv</sup> See Aldo, L. (1949), *A Sand County Almanac: Sketches Here and There*. Illustrated by Schwartz, C. New York: Oxford University Press. Pp. 224-225.

<sup>lvi</sup> WHO R&D Blue Print, (2020), *Novel Corona Virus: Prospects for Evaluating Cross-Reactivity of nCoV with SARS-CoV*. Geneva, Switzerland.

<sup>lvii</sup> See Farhana, R. et al. (2020), *Plant Metabolites: Possibilities of Natural Therapeutics Against the COVID-19 Pandemics*. *Frontiers in Medicines*. Also available at: <https://www.frontiers.org>. (Consulted on the 10<sup>th</sup> of January, 2021).

<sup>lviii</sup> See Forward to United Nations Environment Programme and International Livestock Research Institute, (2020), Preventing the Next Pandemic: Zoonotic Diseases and How to Break the Chain of Transmission. Nairobi, Kenya.

<sup>lix</sup> In response to the urgent need for a more coherent and proactive policy agenda, the World Health Organization (WHO) and the United Nations Environment Programme (UNEP) joined forces at the 2002 World Summit on Sustainable Development (WSSD) to launch the Health and Environment Linkages Initiative (HELI). Sponsored by the Government of Canada and supported by the United States Environment Protection Agency, the overriding mission remain that of *facilitating better access at country level to existing knowledge, tools and methods for making good policy decisions on environment and health*.

<sup>lx</sup> See UNEP, (2016), Healthy Environment, Healthy People. Thematic Report, Ministerial Policy Review Session. Second Session of the UNEP Assembly, Nairobi.

<sup>lxi</sup> This could be possible by replacing carbon emission energy sources by non-carbon energy sources. As such, states have to heed to the nationally determined contributions (NDCs) committed under the Paris Agreement on Climate Change engaged at the CoP 21 on climate change in Paris in 2015.

<sup>lxii</sup> Important health benefits can be gained from decoupling opportunities in the food sector, in water use, in energy consumption and through recycling and more sustainable household consumption. For example, shifts in consumption from animal to plant-based products, and improved diet composition and quality as well as increased access to urban green areas as this can greatly improve health benefits in diverse ways especially when the population is educated on medicinal plant uses.

<sup>lxiii</sup> There is need to build capacities not only of the environment but also of the economies and societies to anticipate, respond to and recover from disturbances and shocks through: protection and conservation of genetic diversity and terrestrial, coastal and marine biodiversity; strengthening ecosystem restoration, in particular of wetlands, dryland vegetation, coastal zones and water sheds including through reforestation as well as agro-ecosystem restoration and sustainable farming systems; reducing pressures from livestock production and logging on natural ecosystems to increase resilience and mitigate extreme weather conditions. Sustainable land and forest management, along with conservation and restoration, will protect and enhance biodiversity and ecosystem services.

<sup>lxiv</sup> See Paragraphs 8.3, 10.2, 35.3, Agenda 21, of the United Nations Programme of Action (1992).

<sup>lxv</sup> In September 2004, a group of strategic thinkers met in New York City and formulated some 12 Principles for the international community to adopt a holistic approach to combat 'threats to the health of life on earth' under the banner 'One World, One Health'.

<sup>lxvi</sup> Wildlife Conservation Society, (2004), One World-One Health: Building Interdisciplinary Bridges. Available at: [http://www.oneworldonehealth.org/sept2004/owoh\\_sept04.html](http://www.oneworldonehealth.org/sept2004/owoh_sept04.html) (consulted, 18<sup>th</sup> January, 2020).

<sup>lxvii</sup> FAO, (2020), One Health Legislation: Contributing to Pandemic Prevention through Law. Rome. Pp. 1-10.

<sup>lxviii</sup> According to Article II of the CITES, (1973), species have been classified into three main categories falling under Annex I (species threatened with extinction), II (species which might become threatened by trade) and III (protected migratory species) for proper identification and protection.

<sup>lxix</sup> Preamble, Convention on Biological Diversity, (CBD), (1992); article 1, International Treaty on Plant Genetic Resources for Food and Agriculture, (ITPGRFA), (2000).

<sup>lxx</sup> Also see the Preamble, Convention on Biological Diversity, (CBD), (1992).

<sup>lxxi</sup> See articles 3, FCCC, (1992); article 4, Kyoto Protocol, (1998); Principles 15 and 17, Rio Declaration, (1992); and article 14, CBD, (1992).

<sup>lxxii</sup> The implementation of this law was enforced by Decree No. 95-351-PM of August 23, 1995.

<sup>lxxiii</sup> See more in Felter, C. (2021), How Dangerous Are New COVID-19 Strains? Russian Council on Foreign Relations. News Letters, In brief. Also available at: <https://www.cfr.org/bio.claire-felter> (consulted on the 30<sup>th</sup> of January, 2021).

<sup>lxxiv</sup> Tamasang, C. and Atanga, S. (2018), Environmental Impact Assessment under Cameroonian Law. In: Ruppel, O. & Kamyogo, E. (ed.), Environmental Law and Policy in Cameroon: Toward Making Africa a Tree of Life. Presse de l'UCAC, Yaoundé, Chapter 11.