

## Research Article

**Globalization and Biodiversity: Issues in Environmental Justice**

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**Abstract:** Contemporary environmental crisis and disruptions in global biodiversity demands critical reflections. Technically characterized the age of *globalization*, the emergent social order is a networked or interconnected world of fast-paced change driven by the advances in Information and Communication Technology. The phenomenon *globalization* births opportunities and challenges for the diverse population of the world: *growth and development* and, *retardation and underdevelopment*. With particular reference to developing nations and poor communities, globalization disrupts ecosystems and impinges on environmental rights: rights to clean water, safe air and means of livelihood, among others. It is the aim of this paper to attempt a reflective analysis of the interplay between the phenomena globalization, biodiversity and environmental justice. Review of literature on the intents and contents of *globalization* generates discontentment from environmental activists and conservationists (of biodiversities and natural habitats), among others. With particular reference to generally poor and economically backward developing nations and poor communities across the globe, globalization births attendant environmental concerns - global warming, loss of biodiversity and increasing loss of environmental rights., among others. Through critical reflections the paper examines the intents and contents of the interplay between the trio of globalization, biodiversity and environmental justice with a view to seeing the implications of the underpinnings of these phenomena for sustainable development. The paper raises and seeks answers to the question: how should humanity pursue a morally sound, biodiversity-just and ecologically-balanced *interconnected* globe? In other words, ought *biodiversity* be sacrificed for an interconnected and globalised society? What are the *biodiversity* (or environmental) imperatives for constructing and sustaining a reasonably interconnected universe where the rights of human and non-human lives shall be protected? Is it just to globalize both the *costs* and *burdens* of *globalized* development? What are the necessary conditions for facilitating a global society where the environments of industrialized, post-industrialized and pre-industrialized economies shall be treated with equal respect? The paper reflectively argues: existing regional and international programmatic initiatives on environmental sustainability must be critically deepened and strengthened as part of the heuristics for constructing an ecologically just, fair and balanced global society in which developing nations and poor populations experience sustainable growth and development. The paper concludes: in the emergent global society international organizations such as the World Bank and the IMF owes it to humanity to articulate, recommend and pursue contextually-determined or nation-specific policies and frameworks for global economic stability, without having to forgo the imperatives of *sustainability* and environmental justice.

**Keywords:** globalization, biodiversity, environmental justice, sustainable development

"Globalization...doesn't affect two-thirds of the people of the world." - Jimmy Carter

**Introduction:**

Today, humanity exists in a fast-paced environment where national and international boundaries are fast becoming inconsequential and extinct (Herzog, 2014; Kinnvall 2013). With Chinese and English as emergent dominant global languages, linguistic frameworks across disciplines and nation-states are fast being re-constructed to reflect prevailing communication strategies for survival in the emergent era of globalization (Yunker, 2017, 2018). Lifestyles and philosophies, among others are constantly being shaped and reshaped by globalized patterns of behavior and forms of thought. In essence, globalization remains the defining phenomenon for humanity in the 21st century (Jeffrey Haynes et.al., 2017).

In pursuit of its objective - to examine the aspirations and contents of globalization, biodiversity and environmental

justice with the ultimate aim of seeing the implications of these phenomena for development – the paper comes in four sections. In the succeeding section we outline the philosophical underpinnings of globalization, its contents and aspirations. The third section attempts an expository analysis of the content and aspirations of biodiversity against the background of current globalist thinking. With the principle *environmental justice* as a major plank, the fourth section attempts a philosophical appraisal of the implications of globalization for biodiversity and environmental sustainability. In the fifth and concluding section, the paper analytically articulates frameworks for shaping an environmentally just and ecologically balanced global society.

**Globalization: A Philosophical Outline**

First, globalization, we submit, is a system of beliefs or a

worldview with attendant metaphysical, ethical and epistemological underpinnings (Roldán et. al. 2018). Globalization is a philosophy premised on the metaphysical belief that the world exists – and should exist – as a *system*. The globalist sees the world as a system of interdependent and interrelated parts in which occurrence in any part of the system has a causal effect on other parts of the system (Baldwin, 2016; Hans Köchler 2000).

Analogous to the spider's web, globalization is the philosophical view that the totality of existence is a *world wide web* in which activities or events in any strand (or part) of the web has the potentials of making impacts on activities or events in adjoining parts. Thus a *systems* view of the world, globalization is a *metaphysics* - a way of constructing or making intelligible sense of the world.

Ancillary to the metaphysics of globalization is an empiricist theory of knowledge. Founded on a scientific orientation – the principle of cause and effect – globalization is underpinned by an empiricist epistemology. For the globalist, for example, sense experience - or observation- is heuristic for explaining the interconnectedness of the world (Wild Web). Sensory observations or experimentations in any part of the world, according to globalist theory of knowledge, have observable and empirically testable impacts on some of its other parts. The undergirding empiricist epistemology of globalization is therefore foundational to the attendant global materialist metaphysics which globalization engenders.

Bearing intellectual affinity to the epistemic and metaphysical principles of globalization are *ethical* issues or concerns which globalization gives rise to. Concerned with the study of *rightness* or *wrongness* of human actions in general, *ethics* questions the morality of globalization: is globalization good, in itself? Is it morally right to attempt to globalize any idea, event or phenomenon? Is the pursuit of the ideals of globalization capable of birthing or promoting a just, fair and egalitarian society? In the ultimate is the pursuit of a networked or interconnected global society ethical? *Ethical globalization* provides an intellectual framework for ethical reasoning concerning globalization: to make globalization ethical the actions of those involved should be guided by values of solidarity, preferential for the poor, promotion of human dignity and the common good. It is against the background of the guiding principle of *ethical globalization* that we proceed, in subsequent sections, to analytically explore the inexorable interplay between *globalization*, *biodiversity* and *environmental justice*.

### **Biodiversity and Globalization**

Often referred to as “the globe”, by virtue of its spherical or *globe* shape, the totality of the physically observable planet *earth* is made up of diverse parts or components: seas, lands, atmospheres and living things (human and non-human), among others. Also often deployed to denote the *world*, the *universe* and planet *earth* the globe is home to diverse biological and terrestrial lives which inhabit oceans, forests and lands. Ordinarily the term biodiversity refers to the diversity of life forms or (*bios*). The earth ordinarily is made

up of *bios* (lives) in diverse forms, hence the denotation *biodiversity* (Amodu, 2017). The biodiversity of the earth encompasses, among others, birds, reptiles, apes, fishes, plants, wildlife, seas, oceans and humans.

We adopt a three-pronged conception of biodiversity: that is we conceive *biodiversity* as a science, a movement and an ethical system. As a science, biodiversity views the environment as a structured whole made of interrelated, interconnected and interdependent living and non-living things. In the views of Swingland for example, biodiversity comprises all the millions of different species that live on our planet, as well as the genetic differences within species. Accordingly *biodiversity* is scientifically deployed to refer to multitude of different ecosystems in which species form unique communities, interacting with one another and the air, water, and soil (Swingland, 2001). From etymological analysis the word *biodiversity* derives from the words *bio* (meaning *life*) and *diverse* (implying *variety*). As a science, *biodiversity* posits then that there exists in nature a variety of lives or a multiplicity of *bios* that are inextricably dependent on each other.

As an intellectual movement, environmental and human rights activists establish cross-cultural and cross-boundary organizations for *biodiversity* advocacy. Dovetailing biodiversity advocacy into the scientific view of the interdependency of lives, *biodiversity* or environmental movements advocate conservation of the environment as a means of preserving various live forms. Environmental activists continue to raise resonating awareness with regards to threats to the totality of the ecosystem: loss of species, flora and fauna.

As an ethical system, *biodiversity* refers to moral beliefs and assumptions about the rightness or wrongness of actions as they affect the variety of lives that make up the environment. Thus, *biodiversity* deploys concepts such as fair, just, right, wrong, good and bad – concepts from known moral architecture – to evaluate phenomena such as extinction, conservation and global warming, among others. It is against the background of the fact that biodiversity is value-laden that expressions such as *biodiversity ethics* (Piccard, 2006) and *environmental ethics* (Kimberly, 2018) make sense.

Complimenting, and also derivable from, our three-pronged approach to conceptualizing biodiversity is also the view that biodiversity is three-dimensional – as biodiversity is conservatory, futuristic and inter-disciplinary. Biodiversity is conservatory to the extent that it advocates the conservation and preservation of the natural interconnectedness and interdependency of the variety or forms of lives in the ecosystem (Rothertham, 2014). Biodiversity is futuristic to the extent that it seeks to protect the natural environment for forms of lives that exists now or that may come to exist in the future. Lastly, biodiversity is multidisciplinary because it has generated, and continues to generate interdisciplinary discourse among scholars: life scientists, philosophers and social scientists among others. A pragmatic and intellectual concern for the health of the earth, *biodiversity* has, through the years, birthed interdisciplinary discourse on man and his

natural environment.

Analytically deducible from our understanding of the contents of the phenomena *globalization* and *biodiversity* is the fact that both intellectual frameworks aspire for one form of *interconnectedness* or the other. While biodiversity aspires for the preservation and conservation of an *interconnected* global ecosystem, globalization aspires for the emergence and sustenance of an *interconnected* global society.

With respect to the aspirations of globalization for an interconnected world, on the one hand, and the aspirations of biodiversity, for the protection of an interconnected environment, the germane moral question then is: how should humanity pursue a morally sound, biodiversity-just and ecologically-balanced interconnected globe? In other words, ought *biodiversity* be sacrificed for an interconnected and globalised society? What are the *biodiversity* (or environmental) imperatives for constructing and sustaining a reasonably interconnected universe where the rights of human and non-human lives shall be protected? What are the necessary conditions for facilitating a global society where the environments of industrialized, post-industrialized and pre-industrialized economies shall be treated with equal respect?

The myriad of crossroad questions generated by the twin phenomena of interconnectedness – biodiversity and globalization – draws attention to the question of quest for sustainable development. In addition the interplay between biodiversity and globalization raises questions that bother on environmental justice. In the accompanying section we examine the implications of the phenomena sustainable development and environmental justice for the intents and intends of *biodiversity* and *globalization*.

### **Globalization: Implications for Environmental Justice and Sustainable Development**

From preceding sections it is reflectively plausible to submit: there is an abiding discontent in the intents and contents of globalization and biodiversity as regards *interconnectivity* (a case of global but *wired* interconnectivity versus the idea of an equally global but *ecological* interconnectivity). We note, however, an inextricable interplay between *environmental sustainability* and *environmental justice*, on one hand, and the *interconnectivity* enterprise of *globalization* and *biodiversity*, on the other hand. Environmental sustainability (EJ) refers to the idea of deploying the use of the resources of the natural environment in a manner that such usage does not deplete (or damage) the environment nor constitute threat to present or future inhabitants of the environment. For survival, man, according to EJ not only needs his environment, he also needs to understand the workings of his environment (MacShane, 2012; Amodu 2018). The *environment* refers to all the external factors influencing the life and activities of animals, plants and people. Thus just as human lives exist, and are influenced by the environment, non human lives – plants and animals – also exist and get influenced by processes and occurrences in the environment.

Studies in ecology give intellectual strength to EJ. Ecological studies continually point to the interdependency of living

organisms and their interactions with the environment (Howe and Lynn, 1990). Similarly, studies in ecology continue to point to threats to ecosystems. For example, increase in global trade and the expansion of new technologies and exploitation of natural areas in the beginning of the twenty-first century have been observed to constitute ecological challenges to species. As David Ehrenfeld observes, species losses in the beginning of the twenty-first century “have become comparable to those of the great extinctions of earlier geological epochs” (Ehrenfeld, 2003). The epochal and earlier five geological extinctions, Branen notes, puts the world on the brink of Armageddon. The abiding *fact* of the interdependency of man and other phenomena – living and non-living – in the ecosystem is suggestive of the imperative, for man, to *sustain* the natural environment for survival.

When considered against the background of the aspirations of globalization, EJ refers to “the fair treatment and meaningful involvement of all people regardless of race, color, sex, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and laws” (Schlosberg, 2007). Furthermore, and according to the South African Environmental Justice Networking Forum, environmental justice “is about social transformation directed towards meeting basic human needs and enhancing our quality of life – economic quality, health care, housing, human rights, environmental protection, and democracy” (MacDonald 2002).

From an analytical study of various definitions and conceptions of EJ, David Schlosberg came up with four basic themes in EJ discourse: “the equitable distribution of environmental risks and benefits; fair and meaningful participation in environmental decision-making; recognition of community ways of life, local knowledge, and cultural difference; and the capability of communities and individuals to function and flourish in society” (Schlosberg, 2007).

EJ is a moral principle to the effect that people everywhere - regardless of color, race or culture - should have equal access to clean, healthy and safe environment and that individuals should have the same degree of access to participate in decision making processes that affects the health of the their environment. The United States Environmental Protection Agency aptly articulates environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies”. In essence EJ advocates proportionate or fair distribution of the burdens of growth and development.

Vis-à-vis the aspirations of globalization therefore, we submit that EJ is a quest for fair treatment at two interrelated levels: fair treatment of *people* across the globe, with respect to their rights to the environment; and, fair treatment of the global *environment* itself. With reference to globalization, EJ gives rise to the normative question: how *ought* man relate with, or develop, the global environment? Should any part of the global environment be sacrificed for development in some other parts? Is it just to designate some parts of the global

environment *industrial* sites – with attendant industrial pollutions – while the industrialists themselves leave in clean and safe environments?

The normative questions of EJ as regards globalization throws up the need for developing the global environment in such a manner that developments or occurrences in any part of the globe does not impact negatively on other parts of the global environment. In essence EJ throws up the question of developing the global environment in a sustainable manner. Analytically, the quest for developing the environment in a sustainable manner is central to the concept *Sustainable Development* (SD).

Similar to the intellectual enterprise of biodiversity, SD advocates meeting of economic, environmental and sociopolitical needs of the present generation without endangering future generations (McNeil, 2001). The phenomenon SD has been identified to have three overlapping dimensions: socio-political, economic (economic sustainability) and environmental (environmental sustainability) (Amodu, 2018). Policies derived from specific socio-political frameworks, for example, impact on economic and environmental development. In the ultimate however, and among others, SD seeks socio-economic, scientific and environmental policies and practices, which promote the use of resources in such a manner that they are not depleted outright. SD enhances human development in the form of reducing poverty and engendering mental and physical well-being, among others.

The First National People of Color Environmental Leadership Summit (FNPCELS, 1991) held in Washington DC in 1991 (Merchant and Gottlieb, 1994) laid the historic foundation for SD and EJ with the production of two works – "Principles of Environmental Justice" and the "Call to Action". The FNPCELS documents an intellectual precursor to further global discussions and compacts on development and the environment, including the [Kyoto Protocol, 1997](#), [The United Nations Framework Convention on Climate Change, 1992](#) and the [2013 Minamata Convention on Mercury](#), among others.

Now, implied in the notion *sustainability* is *renewability*, *reparability* and *replace-ability*. A deployment of any part of nature – human or non-human – in such a manner that renders that part non-renewable, irreparable or irreplaceable constitutes environmental abuse and an *unsustainable* use of natural resources. It is a truism that growth and development are desirable. But it is also indubitable that growth and development come with attendant costs, burdens or discomforts. Industrialization birthed the process of mass production of goods that have enhanced human welfare. Mechanized and scientific farming has impacted positively on food production; and the tools of information and communication technology - computers - have considerably altered the way we live, work and play.

The other side - cost and burden - of growth and development calls for global concern. Development gives rise to environmental disequilibrium, creates ecological imbalances and constitutes threats to global biodiversity and global justice (Ogungbemi, 1977). The concept *development* refers to a

process – a process of *developing* or being *developed*. In terms of economic development, nation-states or countries are often characterized as developed, developing or under-developed. The characterization of a country as either developed or developing is dependent on a number of existential indexes: GDP, poverty rate, average income per head, and access to basic infrastructures (roads, telecommunications and healthcare facilities). The characterizing existential indices of development – poverty rate and basic infrastructures, among others – describe the content of human development as established by the [2016 Human Development Report](#).

The nomenclatures *developed nations*, *developing nations* and *underdeveloped nations* are often deployed to comparatively characterize degrees of development – human, economic and environmental – among nations. Regardless of the conceptual compartmentalization of nations into developed, developing or underdeveloped all of nations or nation-states exist as part of the same geographical or bio-diversified environment, often referred to as the globe. It is precisely in this sense - of a geographically bounded biodiversity- that the expression *global environment* becomes meaningful. The fear, however, is that the global environment is increasingly challenged by threats of global warming and climate change, threats largely traceable to global anthropomorphic processes and activities. With respect to the impact of climate change on global diversity, for example, the preface to Sustainable Development Goal 13 notes: "climate change is now affecting every country on every continent. It is disrupting national economies and affecting lives, costing people, communities and countries dearly today and even more tomorrow."

## Conclusion and Recommendations

Preceding reflective analysis and argumentations suggest the trajectories for *development* in the era of globalization. First, the concept of *development* that is heuristically imperative for humanity and biodiversity in the emergent global society is one founded on the notion *global environmental sustainability* (GES). A development trajectory founded on the notion of GES is characterized by the tripartite aspirations and intends of *biodiversity*, *sustainability*, and *environmental justice*.

As conceived, GES is a conceptual construct with which reference is made to the idea of protecting global biodiversity in a manner that ensures justice and fairness in the distribution of the benefits and burdens of development. GES is characterized by a growing multilayered and interdisciplinary approach to sustainable development and environmental sustainability (Turner et. al., 2007; Melville, 2010). Thus with respect to addressing the discontents of globalization – environmental inequalities and threats to biodiversities – GES remains a moral imperative.

To be just to the nations, peoples, diverse species and natural environments constitutive of the globe, the trajectories of *globalization* and *development* cannot afford to be insensitive to the questions of biodiversity (preservation and protection of species from extinction), quest for environmental justice (or eco-justice) and the dictates of sustainable development (progress or growth devoid of *destruction* or *threats* in all

ramifications). [Environmental Performance Index 2018](#) evidences the position that destructions to biodiversities across the globe are not only alarming and threatening but demands global concern.

To globalize a phenomenon or an idea is to make that phenomenon accessible to, and invariably consequential for, every part of the globe. The acknowledged driver of globalization – information and communication technology – has to large extents engendered the emergence of the *global village* - a phenomenon coined by McLuhan to describe the scenario of events or ideas in any part of the *globe* bring about causal impact on events or ideas in other parts (McLuhan, 1994).

The emergent analytical questions for humanity in the era of globalization include the following: is *development* globalize-able? Is it every form of *globalization* that ought to be globalized? Can biodiversity be protected in the face of *globalized* developments? Lastly is it just to globalize both the benefits and the burdens of *globalized* development?

Relying on the strength of preceding analysis and conceptualizations we posit that development is globalize-able with a caveat: nation-states should globalize only *developments* that meet the demands of *sustainability*: renewability and natural *replace-ability*. In the era of globalization humanity should indeed witness a conceptual shift from the concept *development* to the now more relevant and deepened concept, *sustainable development*. Indeed, any form of development – economic, scientific or environmental - devoid of *sustainability* is empty, brutish and puerile.

Now to the next question: can biodiversity be protected in the face of globalized or globalize-able developments? Again we answer with a conscious and cautious affirmation. By *globalize-able developments* we refer to emergent technologies, inventions, innovations, ideas and thinking capable of engendering inter-state impacts and influences. Genetic engineering, robotic farming and livestock technologies are paradigmatic of *globalized developments*. When taken across borders and international boundaries *globalized developments* – with various degrees of intensity – impact either positively or negatively on biodiversities. With enforceable internationally accepted regulatory pacts and action-able professional frameworks, it is possible to protect humanity, for example, from the emergent global enterprise of *tinkering* with human genes: production of *genetically engineered* but destructive anthropoids. The [current degree of unpreceded change in the ozone layer](#) - which threatens global biodiversity - not only questions global commitments to the [Kyoto Protocol](#), but also demands further strengthening of inter-state cooperation and deepening inter-governmental respect for international treaties or pacts.

We now address the last of our questions: is it just to globalize the *benefits* and *burdens* of development? Ordinarily one is tempted to answer in the affirmative: after-all, if Mr. X benefits from some kind of development *from* any part of the globe, Mr. X should be willing to bear the burden (or cost) of such benefits. Against the background of the principle of environmental justice however it will be unfair to globalize the

benefits or burdens of developments without adequately addressing the question "in what proportions?" For example and with particular reference to the biodiversities of developing nations vis-à-vis the current massive shift of industrial processes from developed nations to developing nations – in the name of globalization and outsourcing – it will not be economically fair to *export* a large chunk of emergent profits (benefits) to the developed nations, where appropriate clean technologies have not been deployed to address attendant environmental pollutions in developing nations.

The argument then is that developing nations, with fairness, should not be expected to bear the attendant huge costs of industrialization (air and marine pollution, among others) without corresponding and proportionate share in its benefits. It is tantamount to environmental injustice and an abuse of global diversities for developed nations to dump industrial toxic wastes in the backyards of developing nations. In addition it is environmentally unjust and an infringement on *fundamental human rights* to turn poor communities to production *sites* without the consent and understanding of inhabitants of those communities.

The alarming proportions at which [developing nations and poor communities around the globe bear the cost of globalisation](#) (exploitation of natural resources by MNCs and uneven participatory role in the decision-making processes that affects the biodiversity of developing nations) calls for *global balancing* and democratization of the mechanisms of international organizations.

The *invisible hand* of free market ideology remains an unreliable *hand* in ensuring global alignments and balancing for sustainable development. As noted by Stiglitz for example “most of the macroeconomic risks facing developing countries come from outside those countries” (2017). For globalization to be seen to be just to ecosystems or biodiversities – whether in developed or developing nations – conscious inter-governmental and non-governmental efforts must be geared towards further strengthening and deepening existing regional and international treaties and protocols on conservation of biodiversity. Adapting the *Stiglitzian* framework globalization will be well managed if ecological and environmental differences within and between nations, peoples and communities are duly recognized and respected. Respect is reciprocal. Developed nations must respect the environmental rights of developing nations. Developing nations must not be expected to respect international treaties where there environmental rights are threatened by developed nations. The *union of nation* humanity deserves – and the *union of nations* globalization ought to engender – is one that bears the semblance of a transformative tool for birthing, deepening and sustaining global peace and global happiness. A well managed *globalization* is therefore one founded on the Keynesian principle of equitable growth (Stiglitz, 2002). In the emergent global society, international organizations such as the World Bank and the IMF owes it to humanity to articulate, recommend and pursue contextually-determined or nation-specific policies and frameworks for global economic stability, without having to forgo the imperatives of

*sustainability* and environmental justice.

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